



Special Eurobarometer 516

# European citizens' knowledge and attitudes towards science and technology

Report

Fieldwork: April-May 2021

**Survey conducted by Kantar at the request of the European Commission,  
Directorate-General for Research and Innovation**

**Survey co-ordinated by the European Commission,  
Directorate-General for Communication (DG COMM “Media monitoring and  
Eurobarometer Unit”)**

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**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

## TABLE OF CONTENTS

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<b>INTRODUCTION</b>	<b>4</b>
<b>KEY FINDINGS</b>	<b>7</b>
1. Knowledge about science and technology	8
2. Views on the impacts of science and technology	8
3. Views on the governance of science and technology	9
4. Views of scientists	9
5. Citizens' engagement in science and technology	9
6. Young people, gender equality, and social responsibility in science and technology	10
7. Comparative advantage of the EU in science	10
<b>I. KNOWLEDGE ABOUT SCIENCE AND TECHNOLOGY</b>	<b>11</b>
1. Interest in - and awareness of - science and technology	12
2. Attitudes towards science	32
3. Sources of information about scientific and technological developments	39
4. Knowledge of natural history, demographics and geography	52
5. Knowledge of the natural and physical sciences	62
6. Belief in conspiracy theories	73
7. Overall science literacy	78
<b>II. VIEWS ON THE IMPACTS OF SCIENCE AND TECHNOLOGY</b>	<b>81</b>
1. Overall influence of science and technology on society	82
2. Effects of new technologies on society	95
3. Opinions on the benefits of science and technology	118
<b>III. VIEWS ON THE GOVERNANCE OF SCIENCE AND TECHNOLOGY</b>	<b>162</b>
1. Governance of science and technology	163
2. Public access to research results	175
<b>IV. VIEWS OF SCIENTISTS</b>	<b>177</b>
1. Characteristics of scientists	178
2. Scientists and society	196
<b>V. CITIZENS' ENGAGEMENT IN SCIENCE AND TECHNOLOGY</b>	<b>213</b>
1. Desired public involvement in decisions about science and technology	214
2. Citizens' engagement with science and technology	228
<b>VI. YOUNG PEOPLE, GENDER EQUALITY, AND SOCIAL RESPONSIBILITY IN SCIENCE AND TECHNOLOGY</b>	<b>256</b>
1. Young people and science	257
2. Gender equality and science and technology	267
3. Social responsibility in science and technology	276
<b>VII. COMPARATIVE ADVANTAGE OF THE EU IN SCIENCE</b>	<b>286</b>
1. Cooperation with the rest of the world	287
2. Comparative advantage of the EU in making scientific discoveries	290
<b>CONCLUSION</b>	<b>304</b>
<b>TECHNICAL SPECIFICATIONS</b>	
<b>QUESTIONNAIRE</b>	

# INTRODUCTION



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Fostering science and innovation is a central priority for the European Union (EU). EU support for research and innovation aims to improve the quality and quantity of research and innovation conducted, ensure that the processes and outcomes of research and innovation align with the needs, values and expectations of society, and address the many pressing issues that face us as individuals, as society, and as a planet.

Through its multiannual research and innovation framework programmes (currently Horizon Europe), the EU provides funding to:

- Strengthen the EU's position in science;
- Promote industrial innovation, including investment in key technologies, greater access to capital, and support for small businesses;
- Address major societal concerns, such as climate change, sustainable transport, and renewable energy;
- Ensure technological breakthroughs are developed into viable products with real commercial potential – by building partnerships with industry and governments;
- Step up international cooperation on research & innovation<sup>1</sup>.

Horizon Europe, the EU's major Research and Innovation programme, is the successor to Horizon 2020. It is the EU's key funding programme for research and innovation with a budget of €95.5 billion. It aims to support scientific excellence, tackle climate change, help to achieve the UN's Sustainable Development Goals, and boost the EU's competitiveness and growth<sup>2</sup>.

This Special Eurobarometer report provides an insight into perceptions of science and technology. The survey covers the following topics:

- Knowledge about science and technology, including interest and understanding in the subject, sources of information and belief in conspiracy theories;
- Views on the impacts of science and technology, including the influence of science on society, and the risks and perceived benefits of new technologies;
- Views on the governance of science and technology, and attitudes regarding public access to research results;
- Attitudes towards scientists, including their perceived characteristics, credibility, and views on the role(s) that they should play in society;
- Citizens' engagement in science and technology, including preferred level of public involvement in decision making about science and technology and current – and ideal – levels of engagement;
- The comparative advantage of the EU in science and technology compared with other parts of the world.

The survey continues in the tradition of a long line of surveys stretching back to the late 1970s. In order to show trends over time, the report includes trend comparisons with the following previous Eurobarometer surveys:

- EBS 225: Social Values, Science & Technology (2005)<sup>3</sup>;
- EBS 340: Science and Technology (2010)<sup>4</sup>;
- EBS 401: Responsible Research and Innovation (RRI), Science and Technology (2013)<sup>5</sup>.

This Eurobarometer survey, commissioned by the European Commission's Directorate-General for Research and Innovation, was carried out by the Kantar network between 13 April and 10 May 2021. Some 26,827 respondents in the 27 EU Member States were interviewed in their mother tongue and the data was weighted to be socio-demographically representative at country level. The survey was also conducted in 11 other countries or territories, where a total of 10,276 respondents were interviewed in their mother tongue: five candidate countries (Albania, Montenegro, North Macedonia, Serbia and Turkey), as well as Bosnia and Herzegovina, Iceland, Kosovo<sup>6</sup>, Norway, Switzerland and the United Kingdom. In total, 37,103 respondents from EU and non-EU countries and territories took part in the survey.

The methodology used was that of a Standard Eurobarometer survey, as carried out for the European Commission's Directorate-General for Communication ("Media monitoring and Eurobarometer" Unit). Given the impact of COVID-19 and subsequent health safety measures, face-to-face interview methodology was not always possible:

- In Austria, Bulgaria, Croatia, Cyprus, France, Germany, Greece, Hungary, Italy, Poland, Spain, as well as Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia, all interviews were conducted face to face;
- In Denmark, Malta, the Netherlands, Slovenia, Slovakia and Turkey face-to-face interviews were complemented by online interviews;
- In Belgium, Czechia, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Norway, Portugal, Sweden, Switzerland and the United Kingdom all interviews were conducted online.

A technical note on the manner in which the interviews were conducted by the institutes within the Kantar network is appended after the main text of this report. Also included are the interview methods and the confidence intervals.

<sup>1</sup> [https://europa.eu/european-union/topics/research-innovation\\_en](https://europa.eu/european-union/topics/research-innovation_en)

<sup>2</sup> [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe\\_en](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en)

<sup>3</sup> [https://data.europa.eu/data/datasets/s448\\_63\\_1\\_ebs225?locale=en](https://data.europa.eu/data/datasets/s448_63_1_ebs225?locale=en)

<sup>4</sup> [https://data.europa.eu/data/datasets/s806\\_73\\_1\\_ebs340?locale=en](https://data.europa.eu/data/datasets/s806_73_1_ebs340?locale=en)

<sup>5</sup> [https://data.europa.eu/data/datasets/s1096\\_79\\_2\\_401?locale=en](https://data.europa.eu/data/datasets/s1096_79_2_401?locale=en)

<sup>6</sup> This designation is without prejudice to positions on status, and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo declaration of independence.

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

Note: In this report, countries are referred to by their official abbreviation:

Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Czechia	CZ	Hungary	HU
Denmark	DK	Malta	MT
Germany	DE	Netherlands	NL
Estonia	EE	Austria	AT
Ireland	IE	Poland	PL
Greece	EL	Portugal	PT
Spain	ES	Romania	RO
France	FR	Slovenia	SI
Croatia	HR	Slovakia	SK
Italy	IT	Finland	FI
Republic of Cyprus	CY*	Sweden	SE
Latvia	LV		
Albania	AL	Turkey	TR
Montenegro	ME	Serbia	RS
North Macedonia	MK		
Bosnia and Herzegovina	BA	Norway	NO
Iceland	IS	Switzerland	CH
Kosovo	XK*	The United Kingdom	UK
European Union - weighted average for the 27 Member States of the European Union			EU27
BE, FR, IT, LU, DE, AT, ES, PT, IE, NL, FI, EL, EE, SI, CY, MT, SK, LV, LT			Euro area
BG, CZ, DK, HR, HU, PL, RO, SE			Outside euro area

**We would like to thank all the respondents across Europe who took their time to take part in this survey.**

**Without their active participation, this survey would not have been possible.**

\* Cyprus as a whole is one of the 27 Member States of the European Union. However, the 'Community *acquis*' is suspended in the part of the country not controlled by the Government of the Republic of Cyprus. For practical reasons, only interviews carried out in the part of the country controlled by the Government of the Republic of Cyprus are included in the category 'CY' and in the average of the EU27.

\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo declaration of independence

## KEY FINDINGS



## 1. Knowledge about science and technology

The following results refer to EU27 countries:

- Interest in scientific and technological issues is high, with 42% of respondents very interested and 47% moderately interested in environmental problems including climate change, 38% very interested and 48% moderately interested in new medical discoveries, and 33% very interested and 49% moderately interested in new scientific discoveries and technological developments. There is higher interest in these issues than the non-scientific areas of culture and arts, politics, and sports news.
- Since 2010, the proportions of respondents who say they are “very interested” in the areas relating to science and technology have increased: new medical discoveries (+6 pp), environmental problems including climate change (+5 pp), and new scientific discoveries and technological developments (+3 pp).
- While citizens have high levels of interest in science and technology, they do not feel quite so well informed: just 21% of respondents say they are very informed about environmental problems including climate change and 61% say they are moderately informed. When it comes to new medical discoveries, 13% say they are very informed and 54% moderately well informed. For new scientific discoveries and technological developments the figures are similar: 13% very well informed and 53% moderately well informed.
- Since 2010 there have been small increases in the proportions of respondents who say they are “very well informed” about areas relating to science and technology: new medical discoveries (+2 percentage points), new scientific discoveries and technological developments (+2 pp) and environmental problems (+2 pp), with small drops in the proportions who say they are “poorly informed” about new medical discoveries (-2 pp) and environmental problems (-3 pp) and a somewhat larger drop in relation to new scientific discoveries (-5 pp).
- While interest and knowledge about science and technology are high, the topics may still seem out of respondents' reach or even of little relevance: while 54% agree that they would like to learn more about scientific developments, 46% of respondents agree that science is so complicated that they do not understand much about it (28% disagree) and 33% agree that in their daily life it is not important to know about science (46% disagree).
- Television (63%) is the preferred means to obtain information about developments in science and technology, followed far behind by online social networks and blogs (29%), and online and printed newspapers (24%).
- Respondents were also presented with statements on scientific issues, which they were asked to identify as either true or false; these tested different areas of knowledge relating to natural history and geography, the natural and physical sciences, as well as beliefs in conspiracy theories.
- In terms of natural history and geography, a clear majority of respondents (82%) knows that the continents on which we live have been moving for millions of years and will continue to move in the future, and that human

beings as we know them today developed from earlier species of animals (67%). Most also say that it is false that the earliest humans lived at the same time as the dinosaurs (66%). Fewer are able to say that it is false that the world's human population is currently more than ten billion (43%).

- When it comes to citizens' knowledge of the natural and physical sciences, 82% of respondents know that the oxygen we breathe comes from plants, and 65% know it is false that climate change is for the most part caused by natural cycles rather than human activities. While a majority of respondents know that it is false that antibiotics kill viruses as well as bacteria (55%), fewer know that lasers do not work by focusing sound waves (42%). Just under half (47%) say that it is true that the methods used by the natural sciences and the social sciences are equally scientific (47%).
- When it comes to conspiracy theories, a majority know that it is false that viruses have been produced in government laboratories to control our freedom (55%) or that the cure for cancer exists but is hidden from the public by commercial interests (56%).

## 2. Views on the impacts of science and technology

- The most influential characteristics in determining the status of a country or group of countries are considered to be economic strength (51%), living and working conditions and well-being (35%), social, health and welfare services (25%), the rule of law (21%), and scientific and technological advancement (18%).
- Almost nine in ten (86%) respondents think the overall influence of science and technology on society is positive, an increase of nine percentage points since 2013. More than seven in ten respondents in every country think the influence is positive.
- Respondents are most likely to think that solar energy (92%), wind energy (87%), vaccines and combatting infectious diseases (86%), and information and communication technology (82%) will have a positive effect on our way of life in the next 20 years.
- Almost half of all respondents think health and medical care (47%) will be most affected by research and innovation in the coming years, while 40% think it will be the fight against climate change, and 32% the energy supply.
- Only a minority (25%) agree that science and technology do not really benefit people like them.
- More than half (57%) agree that science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off; the majority of respondents in every EU27 country agrees with this statement.
- Seven in ten (70%) respondents agree that science and technology could improve living conditions in less developed countries, but mostly improve living conditions in well-off countries; the majority in every country agrees.
- Almost two-thirds (65%) of respondents agree that science and technology could help improve the environment, but mostly help companies make money; the majority in every Member State also agrees.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

- Opinion is divided on whether science and technology can sort out any problem: 38% agree, 35% disagree and 25% neither agree nor disagree. However, agreement has increased 16 percentage points since 2010 and has gone from being a minority to the majority view.
- Only a minority (25%) of respondents agree that thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible. However, this is a five percentage point increase since 2010.
- More than half (56%) agree that new inventions will always be found to counteract any harmful consequences of scientific and technological development, an increase of five percentage points since 2010.
- Fewer than three in ten (29%) respondents agree that artificial intelligence and automation will create more jobs than they will eliminate.
- Across the EU almost seven in ten (69%) agree that science and technology make our lives easier, healthier and more comfortable, while 57% agree science and technology make our lives healthier – an increase of seven percentage points since 2013.
- The majority of respondents in the EU agree that science makes our ways of life change too fast (57%), and that the applications of science and technology can threaten human rights (52%).
- A minority (32%) of respondents in the EU agree that we depend too much on science and not enough on faith, a decline of seven percentage points since 2013.

### 3. Views on the governance of science and technology

- Just over half (52%) of respondents agree that we have no option but to trust those governing science and technology.
- Opinion is divided over the regulation of science and technology. Half (50%) of respondents think that science and technology should be tightly regulated by the government, while almost as many (48%) think it should be allowed to operate freely in the marketplace like a business.
- There is also no clear consensus amongst respondents about whether there should be no limit to what science is allowed to investigate – 41% agree but almost as many (38%) disagree.
- Respondents are more likely to agree that decisions about science and technology should be based primarily on the moral and ethical issues concerned (55%) than to say these decisions should be based primarily on the potential to make new scientific discoveries and develop new technologies (43%).
- Almost eight in ten (79%) respondents agree that the results of publicly funded research should be made available online free of charge; more than six in ten respondents in every Member State agrees.

### 4. Views of scientists

- Respondents have a mostly positive view of scientists, with 89% saying that “intelligent” describes scientists

well. 68% say the same of “reliable”, 66% of “collaborative”, 58% of “honest”, and 47% that scientists ‘know what is good for people’. Fewer respondents see scientists as “bad at communicating” (39%), “arrogant” (28%), “narrow minded” (23%), or “immoral” (16%).

- Asked what qualities they want to see most in scientists, respondents mention intelligence (50%), honesty (43%), reliability (39%), morality (34%) and the ability to work together (27%). Qualities like communication skills (16%), altruism (12%) and modesty (8%) are less frequently mentioned.
- Respondents tend to agree that scientists should intervene in political debate to ensure that decisions take into account scientific evidence (68%), with fewer agreeing with the opposite statement that scientists should not intervene in political debate when decisions ignore scientific evidence (39%).
- Most respondents (50%) agree that we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry (21% disagree).
- Most respondents (51%) disagree that scientists spend sufficient time meeting people like them to explain their work, with 23% agreeing.

### 5. Citizens' engagement in science and technology

- Looking at respondents' involvement in science and technology, most (52%) feel that decisions about science and technology should be made by scientists, engineers and politicians, but that the public should always be informed. About a third think that the public should be consulted and public opinion should be seriously considered (32%). Fewer think that the public does not need to be involved in decisions about science and technology (7%) or that public opinion should be the main concern when making decisions about science and technology (8%).
- Most respondents (72%) think that decisions about science and technology should be based mainly on the advice of experts.
- Most respondents agree (61%) that involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society.
- Asked about the people and organisations that are best qualified to explain the impact of scientific and technological developments on society, scientists working at public (61%) and private organisations (40%) are most cited, followed by general practitioners and specialist doctors (29%).
- Respondents were also asked how they engaged with science and technology. Respondents cite watching documentaries (59%), talking about science and technology issues with family or friends (55%), visiting science and technology museums (33%), and studying science and technology-related issues in their free time (22%) the most frequently.
- Asked why they may sometimes find it difficult to engage with science and technology, respondents most frequently mention lack of time (41%), lack of knowledge in the field

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

of science and technology (39%), and lack of interest (34%).

## 6. Young people, gender equality, and social responsibility in science and technology

- Science is considered important for young people, with 61% of respondents agreeing that science prepares the younger generation to act as well-informed citizens. In addition, 69% of respondents think that thanks to science and technology, there will be more opportunities for future generations.
- Gender equality is considered important, with 76% of respondents agreeing that promoting gender equality is important for them personally. Respondents also agree that gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society (73%) and that gender equality in the science and technology workforce would improve the outcomes of science and technology (65%). Moreover, a majority agrees that gender equality in the science and technology workforce would improve business profits and the economy (58%).
- Social responsibility is considered important for science and technology, with 78% of respondents agreeing that science and technology should consider the needs of all groups of people when developing new solutions and products. Respondents also think that the government should take responsibility to ensure that new technologies benefit everyone (72%). Almost the same proportion (79%) think that the government should make private companies tackle climate change.

## 7. Comparative advantage of the EU in science

- Seven in ten (70%) respondents think we should cooperate enthusiastically with the rest of the world and not isolate ourselves, while 29% think that our lives are threatened by organised crime and terrorism, from which we urgently need to protect ourselves. The majority in every Member State considers cooperating enthusiastically with the rest of the world - not isolating ourselves - is closest to their point of view.
- The majority of respondents think researchers in China (58%), the United States (57%), and Japan (54%) are ahead of researchers in the EU in making scientific discoveries. Three in ten (30%) say this is true for researchers in South Korea, 16% say researchers in their own country are ahead of those in the EU, and 13% think researchers in India are ahead of those in the EU.

# **I. KNOWLEDGE ABOUT SCIENCE AND TECHNOLOGY**



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

## 1. Interest in - and awareness of - science and technology

This report begins with an examination of how interested and well informed respondents are for a range of everyday activities, including areas related to science and technology. It then focuses on respondents' attitudes towards science and technology, and the most used sources of information about scientific and technological developments. The sections that follow explore respondents' actual knowledge and understanding of a range of issues, covering science in a broad sense, including some common conspiracy theories. It then summarises people's knowledge and understanding of scientific issues by looking at the number of statements that respondents correctly identified as true or false.

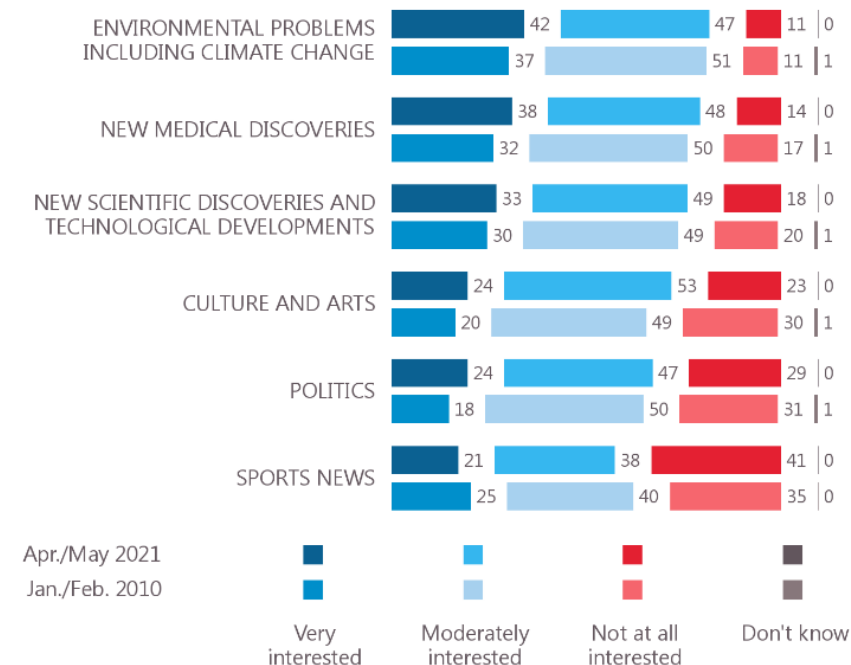
Within the EU, interest is most widespread in the areas relating to science and technology. Around nine in ten respondents (89%) say they are interested (either "very interested" or "moderately interested") in environmental problems, including climate change, with a similar proportion (86%) interested in new medical discoveries, and just over eight in ten (82%) interested in new scientific discoveries and technological developments. EU citizens are most likely to be "very interested" in environmental problems (42%) and new medical discoveries (38%), with a smaller proportion (33%) saying they are "very interested" in new scientific discoveries.

In terms of the other spheres of activity covered, more than seven in ten respondents say they are interested in culture and the arts (77%) and politics (71%), with around one in four (24%) "very interested" in each. Respondents are least likely to say that they are interested in sports news; around six in ten (59%) say they are interested, with 21% saying they are "very interested".

A similar set of questions was included in a 2010 Eurobarometer Survey (Special Eurobarometer 340). Since then, the proportions of respondents who say they are "very interested" in the areas relating to science and technology have increased: new medical discoveries (+6 pp), new scientific discoveries and technological developments (+3 pp) and environmental problems (+5 pp), with small drops in the proportion who say they are "not at all interested" in new medical discoveries (-3 pp) and new scientific discoveries (-2 pp).

In relation to other spheres of activity, there have been increases in the proportion of respondents saying they are "very interested" in politics (+6 pp) – with a small drop in the proportion "not at all interested" (-2 pp); and "very interested" in culture and the arts (+4 pp) – with a drop in the proportion "not at all interested" (-7 pp). By contrast, there has been a drop in the proportion of respondents who are "very interested" in sports news (-4 pp) and an increase in the proportion that is "not at all interested" (+6 pp).

**QA2** In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...  
 (% - EU27)



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey and looking specifically at interest in **environmental problems including climate change**, there is considerable variation between EU Member States.

The proportion of respondents who say they are “very interested” in environmental problems ranges from just 15% in Bulgaria and Lithuania to 68% in Cyprus and 71% in Portugal, compared with the EU average of 42%.

In addition to Portugal and Cyprus, a majority of respondents say they are “very interested” in environmental problems in Luxembourg (58%), Germany (56%), Belgium and France (both 55%), the Netherlands (54%), and Ireland and Malta (both 53%). The only EU Member States where more than one in five respondents say they are “not at all interested” in environmental problems are Poland (25%) and Bulgaria (23%). This compares with an average of 11% at the overall EU level.

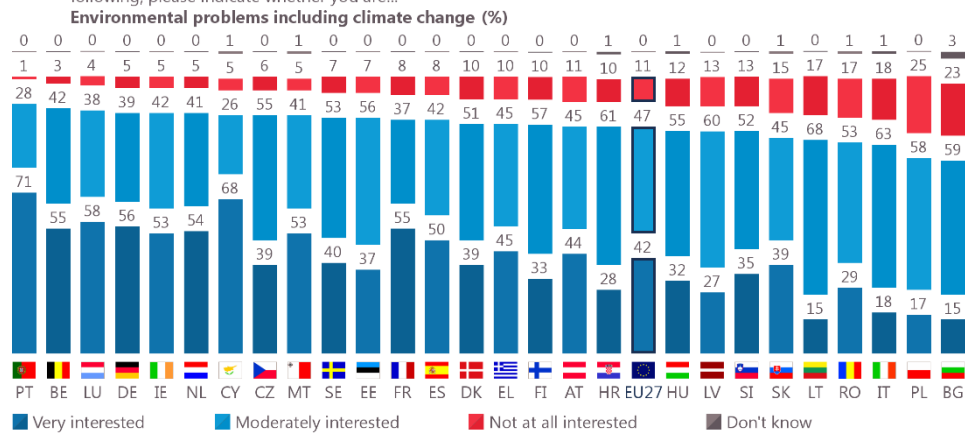
Among the non-EU countries surveyed, Switzerland is the only one where a majority of respondents (59%) say they are “very interested” in environmental problems.

More than one in five people say they are “not at all interested” in environmental problems in Serbia and Albania (both 29%) and Bosnia and Herzegovina (22%).

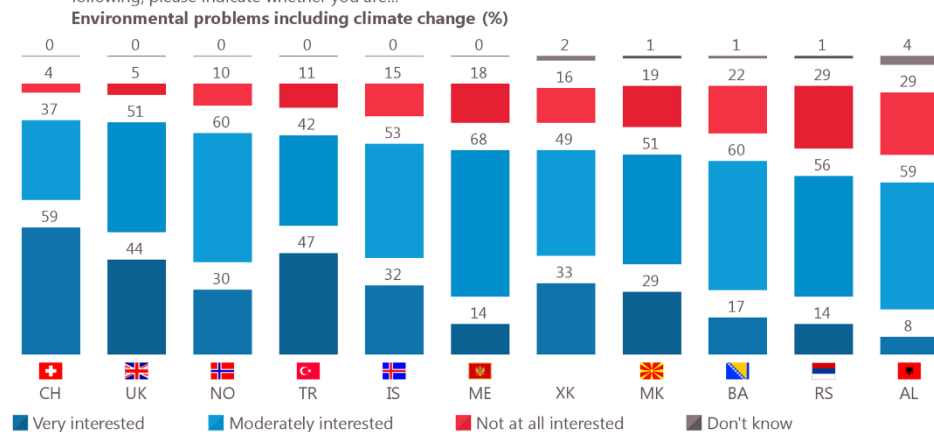
Comparing the current survey results with those of 2010, there are 14 EU Member States where the proportion of respondents saying they are “very interested” in environmental problems including tackling climate change has increased, with a particularly large increase in Portugal (+48 pp). The most notable shifts elsewhere are in Ireland (+22 points), Belgium (+16 pp), the Netherlands (+13 pp), Spain (+12 pp), Germany and Romania (both +11 pp) and Czechia (+10 pp). There are ten EU Member States where the proportion saying they are “very interested” in environmental problems has dropped, with the most notable changes in Hungary (-17 pp) and Greece (-10 pp).

Among the non-EU countries surveyed, there has been a particularly large increase in the proportion of respondents saying they are “very interested” in environmental problems in Turkey (+27 pp). Norway is the only non-EU country where the proportion saying they are “very interested” has dropped (-7 pp).

**QA2.6** In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...



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Special Eurobarometer 516

European citizens' knowledge and attitudes towards science and technology

QA2.6 In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...

Environmental problems including climate change (%)

		Very interested	Diff. April/May 2021 - January/February 2010	Moderately interested	Diff. April/May 2021 - January/February 2010	Not at all interested	Diff. April/May 2021 - January/February 2010	Don't know
EU27		42	▲ 5	47	▼ 4	11	=	0
PT		71	▲ 48	28	▼ 30	1	▼ 17	0
IE		53	▲ 22	42	▼ 11	5	▼ 10	0
BE		55	▲ 16	42	▼ 9	3	▼ 7	0
NL		54	▲ 13	41	▼ 10	5	▼ 3	0
ES		50	▲ 12	42	▼ 10	8	▼ 1	0
DE		56	▲ 11	39	▼ 10	5	▼ 1	0
RO		29	▲ 11	53	▼ 2	17	▼ 6	1
CZ		39	▲ 10	55	▼ 6	6	▼ 4	0
AT		44	▲ 6	45	▼ 3	11	▼ 3	0
SK		39	▲ 6	45	▼ 10	15	▲ 3	1
EE		37	▲ 5	56	▼ 3	7	▼ 2	0
CY		68	▲ 4	26	▼ 4	5	▼ 1	1
LT		15	▲ 4	68	▲ 3	17	▼ 6	0
FR		55	▲ 1	37	▼ 3	8	▲ 2	0
DK		39	=	51	▲ 3	10	▼ 3	0
LU		58	=	38	=	4	=	0
SI		35	=	52	▼ 5	13	▲ 5	0
PL		17	▼ 1	58	▼ 3	25	▲ 5	0
IT		18	▼ 3	63	▲ 3	18	▲ 1	1
LV		27	▼ 4	60	▲ 1	13	▲ 3	0
HR		28	▼ 5	61	▲ 12	10	▼ 7	1
BG		15	▼ 6	59	▲ 1	23	▲ 4	3
MT		53	▼ 6	41	▲ 5	5	▲ 1	1
FI		33	▼ 7	57	▲ 2	10	▲ 5	0
SE		40	▼ 9	53	▲ 7	7	▲ 2	0
EL		45	▼ 10	45	▲ 6	10	▲ 4	0
HU		32	▼ 17	55	▲ 11	12	▲ 5	1
TR		47	▼ 27	42	▼ 3	11	▼ 21	0
MK		29	N/A	51	N/A	19	N/A	1
AL		8	N/A	59	N/A	29	N/A	4
ME		14	N/A	68	N/A	18	N/A	0
RS		14	N/A	56	N/A	29	N/A	1
UK		44	▲ 5	51	▲ 2	5	▲ 7	0
CH		59	▲ 4	37	▼ 4	4	▲ =	0
IS		32	▲ 4	53	▼ 6	15	▲ 2	0
NO		30	▼ 7	60	▲ 4	10	▲ 3	0
XK		33	N/A	49	N/A	16	N/A	2
BA		17	N/A	60	N/A	22	N/A	1

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

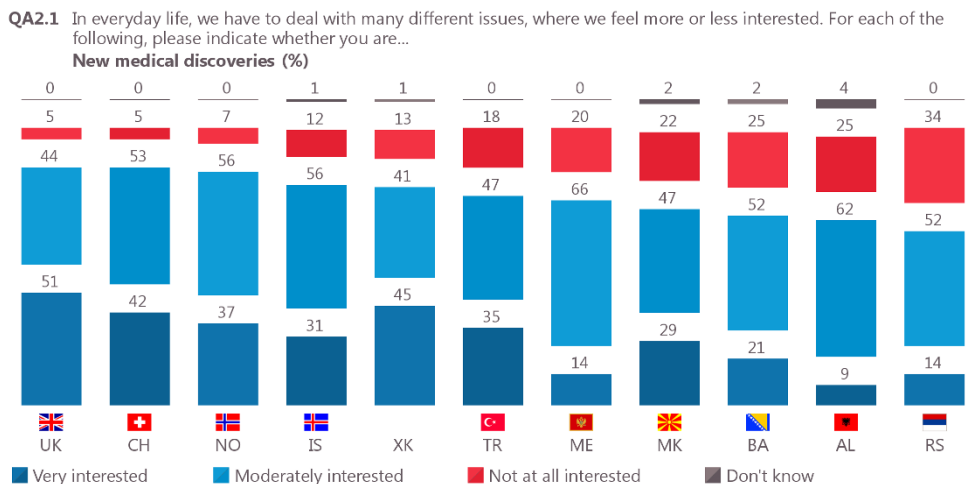
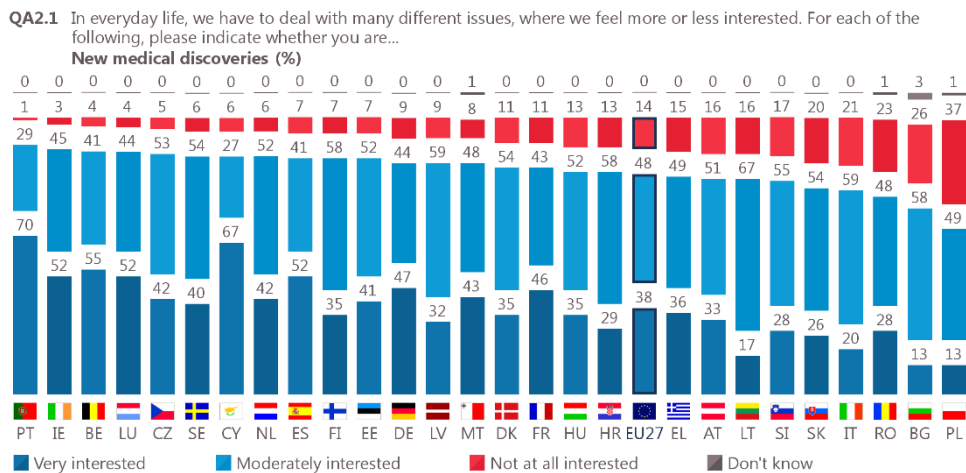
Looking at the current survey, there is also considerable variation between EU Member States in relation to interest in **new medical discoveries**.

The proportion of respondents who say they are “very interested” in new medical discoveries ranges from just 13% in Bulgaria and Poland to 67% in Cyprus and 70% in Portugal, compared with the EU average of 38%. In addition to Cyprus and Portugal, a majority of respondents say they are “very interested” in new medical discoveries in Belgium (55%), and Ireland, Luxembourg and Spain (52% in each). The EU Member States where people are most likely to say they are “not at all interested” in new medical discoveries are Poland (37%) and Bulgaria (26%). This compares with an average of 14% across the EU.

Among the non-EU countries surveyed, the UK is the only one where more than half of the respondents (51%) say they are “very interested” in new medical discoveries. The non-EU countries where people are most likely to say they are “not at all interested” in new medical discoveries are Serbia (34%), and Bosnia and Herzegovina and Albania (both 25%).

Comparing the current survey results with those reported in 2010, there are 18 EU Member States where the proportion of respondents saying they are “very interested” in new medical discoveries has increased, with Portugal, again, showing a particularly large increase (+55 pp). The most notable shifts elsewhere are in Spain (+21 pp), Ireland (+19 pp), Belgium (+17 pp), Czechia (+14 pp), Estonia (+13 pp), Romania (+12 pp) and Austria (+10 pp). There are only six EU Member States where the proportion saying they are “very interested” in new medical discoveries has dropped since 2010. As seen also in relation to the findings on interest in environmental problems, Hungary shows a notable drop (-7 pp), with the Netherlands showing a similar decrease (-7 pp).

Among the non-EU countries surveyed, Turkey again shows a particularly large increase in the proportion of respondents saying they are “very interested” in new medical discoveries (+22 pp), with Norway also showing a notable increase (+10 pp).










































## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA2.1 In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...

#### New medical discoveries (%)

		Very interested		Moderately interested		Not at all interested		Don't know
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		38	▲ 6	48	▼ 2	14	▼ 3	0
PT		70	▲ 55	29	▼ 28	1	▼ 26	0
ES		52	▲ 21	41	▼ 13	7	▼ 8	0
BE		55	▲ 19	41	▼ 6	4	▼ 13	0
IE		52	▲ 19	45	▼ 2	3	▼ 16	0
CZ		42	▲ 14	53	▼ 5	5	▼ 9	0
EE		41	▲ 13	52	▼ 4	7	▼ 9	0
RO		28	▲ 12	48	▼ 4	23	▼ 5	1
AT		33	▲ 10	51	▼ 5	16	▼ 5	0
DE		47	▲ 7	44	▼ 5	9	▼ 2	0
LU		52	▲ 7	44	▼ 2	4	▼ 5	0
CY		67	▲ 6	27	▼ 5	6	▼ 1	0
LV		32	▲ 6	59	▲ 6	9	▼ 12	0
DK		35	▲ 4	54	▲ 8	11	▼ 12	0
IT		20	▲ 4	59	▲ 6	21	▼ 7	0
LT		17	▲ 4	67	▲ 13	16	▼ 16	0
MT		43	▲ 3	48	▲ 9	8	▼ 11	1
FI		35	▲ 3	58	▲ 1	7	▼ 4	0
SI		28	▲ 1	55	▲ 1	17	▼ 2	0
FR		46	=	43	▼ 1	11	▲ 1	0
SK		26	=	54	▼ 5	20	▲ 5	0
SE		40	=	54	▲ 3	6	▼ 3	0
BG		13	▼ 1	58	▲ 3	26	▼ 1	3
HR		29	▼ 4	58	▲ 8	13	▼ 3	0
PL		13	▼ 4	49	▼ 1	37	▲ 5	1
EL		36	▼ 5	49	▲ 2	15	▲ 3	0
HU		35	▼ 7	52	▲ 2	13	▲ 5	0
NL		42	▼ 7	52	▲ 8	6	▼ 1	0
TR		35	▲ 22	47	▲ 9	18	▼ 27	0
MK		29	N/A	47	N/A	22	N/A	2
AL		9	N/A	62	N/A	25	N/A	4
ME		14	N/A	66	N/A	20	N/A	0
RS		14	N/A	52	N/A	34	N/A	0
NO		37	▲ 10	56	▼ 3	7	▼ 6	0
UK		51	▲ 7	44	▼ 2	5	▼ 5	0
IS		31	▲ 2	56	▼ 3	12	=	1
CH		42	▲ 1	53	▲ 4	5	▼ 5	0
XK		45	N/A	41	N/A	13	N/A	1
BA		21	N/A	52	N/A	25	N/A	2



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey results and interest in **new scientific discoveries and technological developments**, there is again considerable variation between EU Member States.

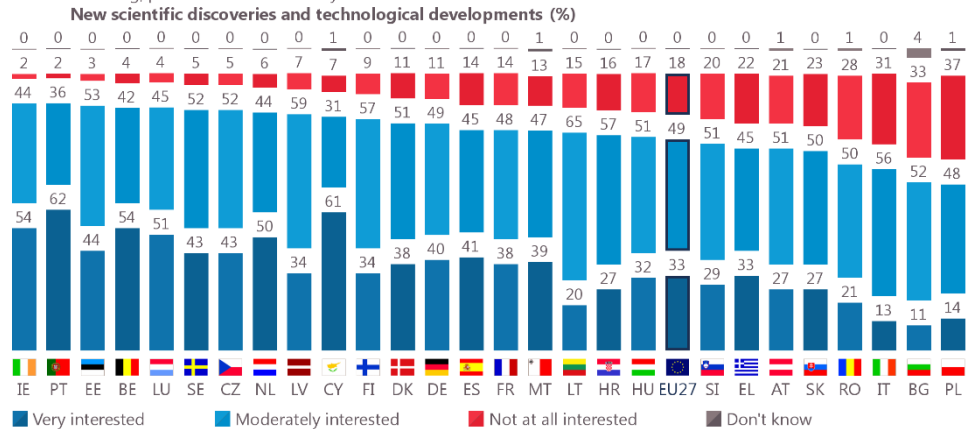
The proportion of respondents who say they are “very interested” in new scientific discoveries and technological developments ranges from 11% in Bulgaria to 61% in Cyprus and 62% in Portugal, compared with the EU average of 33%. In addition to Portugal and Cyprus, a majority of respondents say they are “very interested” in new scientific discoveries and technological developments in Ireland and Belgium (54% in each) and Luxembourg (51%). There are only four EU Member States where more than one in four people say they are “not at all interested” in new scientific discoveries and technological developments: Poland (37%), Bulgaria (33%), Italy (31%) and Romania (28%). This compares with an EU average of 18%.

Among the non-EU countries surveyed, people are most likely to be “very interested” in new scientific discoveries and technological developments in Switzerland (49%), the UK (48%) and Turkey (46%); they are least likely to say they are “very interested” in in Albania (7%), Serbia (11%), Montenegro (14%) and Bosnia and Herzegovina (17%). Respondents in Serbia (39%) are the most likely to say they are “not at all interested” in new scientific discoveries and technological developments, followed by those in Albania and North Macedonia (both 29%) and Bosnia and Herzegovina (28%).

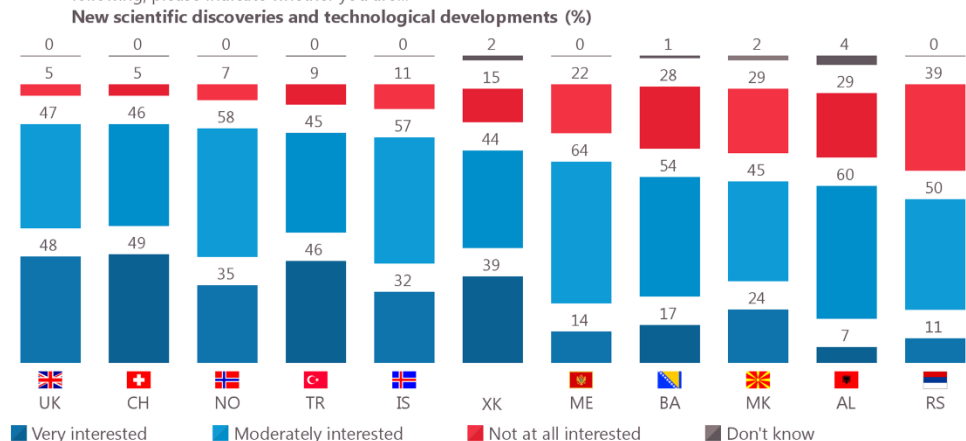
Comparing the current results with those reported in 2010, there are 18 EU Member States where the proportion of respondents saying they are “very interested” in new scientific and technological developments has increased, with Portugal, again, showing a particularly large increase (+48 pp). The most notable shifts elsewhere are in Ireland (+27 pp), Belgium (+22 pp), Czechia (+21 pp), Estonia (+14 pp) and Spain (+12 pp). As seen in relation to the findings on interest in the other two science-related areas, Hungary shows the most notable drop in the proportion saying they are “very interested” (-9 pp). In the remaining five EU Member States showing a decrease, changes are smaller (-4 pp or less).

Among the non-EU countries surveyed, Turkey again shows a particularly large increase in the proportion of respondents saying they are “very interested” in new scientific and technological developments (+30 pp), with Switzerland also showing a notable increase (+16 pp).

**QA2.2** In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...



**QA2.2** In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...



Special Eurobarometer 516

European citizens' knowledge and attitudes towards science and technology

QA2.2 In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...

New scientific discoveries and technological developments (%)

		Very interested		Moderately interested		Not at all interested		Don't know
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		33	▲ 3	49	=	18	▼ 2	0
PT		62	▲ 48	36	▼ 13	2	▼ 33	0
IE		54	▲ 27	44	=	2	▼ 24	0
BE		54	▲ 22	42	▼ 6	4	▼ 16	0
CZ		43	▲ 21	52	▼ 4	5	▼ 17	0
EE		44	▲ 14	53	▲ 3	3	▼ 16	0
ES		41	▲ 12	45	▼ 7	14	▼ 4	0
LU		51	▲ 9	45	▼ 4	4	▼ 5	0
DE		40	▲ 8	49	▼ 2	11	▼ 6	0
LT		20	▲ 8	65	▲ 15	15	▼ 22	0
DK		38	▲ 6	51	▲ 7	11	▼ 12	0
CY		61	▲ 6	31	▼ 6	7	▼ 1	1
AT		27	▲ 6	51	▼ 2	21	▼ 4	1
RO		21	▲ 6	50	▲ 7	28	▼ 9	1
SK		27	▲ 5	50	▼ 5	23	=	0
LV		34	▲ 4	59	▲ 8	7	▼ 12	0
MT		39	▲ 3	47	▲ 9	13	▼ 10	1
NL		50	▲ 2	44	▲ 3	6	▼ 5	0
SI		29	▲ 1	51	▼ 3	20	▲ 2	0
BG		11	=	52	▲ 5	33	▼ 3	4
FI		34	=	57	▲ 6	9	▼ 6	0
SE		43	=	52	▲ 5	5	▼ 5	0
FR		38	▼ 3	48	▲ 2	14	▲ 1	0
IT		13	▼ 3	56	▲ 3	31	▲ 3	0
PL		14	▼ 3	48	=	37	▲ 3	1
EL		33	▼ 4	45	▼ 4	22	▲ 8	0
HR		27	▼ 4	57	▲ 8	16	▼ 3	0
HU		32	▼ 9	51	▲ 1	17	▲ 9	0
TR		46	▲ 30	45	▲ 10	9	▼ 36	0
MK		24	N/A	45	N/A	29	N/A	2
AL		7	N/A	60	N/A	29	N/A	4
ME		14	N/A	64	N/A	22	N/A	0
RS		11	N/A	50	N/A	39	N/A	0
CH		49	▲ 16	46	▼ 4	5	▼ 11	0
UK		48	▲ 6	47	▲ 4	5	▼ 10	0
NO		35	=	58	▲ 4	7	▼ 3	0
IS		32	▼ 3	57	▲ 5	11	▼ 2	0
XK		39	N/A	44	N/A	15	N/A	2
BA		17	N/A	54	N/A	28	N/A	1

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA2.3-5 In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...

**Very interested (%)**

		Culture and arts		Politics		Sports news	
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010
EU27		24	▲ 4	24	▲ 6	21	▼ 4
BE		32	▲ 8	33	▲ 15	19	▼ 6
BG		12	▲ 3	14	▲ 2	18	=
CZ		24	▲ 4	44	▲ 27	18	▼ 12
DK		21	▲ 5	36	▲ 13	19	▼ 7
DE		23	▲ 6	42	▲ 10	19	▼ 9
EE		24	▼ 1	28	▲ 14	17	▼ 5
IE		32	▲ 13	40	▲ 21	24	▼ 16
EL		27	▼ 3	29	=	27	▲ 2
ES		34	▲ 11	16	▲ 4	23	▼ 2
FR		32	▲ 3	19	▼ 1	23	▼ 4
HR		17	▼ 4	13	▼ 4	27	▼ 1
IT		14	▲ 1	9	▲ 2	21	▲ 4
CY		47	▲ 3	22	▼ 8	37	▼ 1
LV		24	▼ 2	25	▲ 9	17	▼ 10
LT		12	▼ 2	19	▲ 7	15	▼ 1
LU		27	▼ 3	38	▲ 10	17	▼ 16
HU		20	▼ 12	13	▼ 2	23	▼ 7
MT		27	▼ 5	31	▲ 12	24	▼ 3
NL		27	▼ 3	46	▲ 10	20	▼ 6
AT		22	▲ 7	28	▲ 10	32	▲ 2
PL		14	=	9	▼ 1	21	▼ 3
PT		40	▲ 27	32	▲ 23	20	▲ 2
RO		15	▲ 5	15	▲ 4	19	▲ 1
SI		14	▼ 1	14	▲ 3	30	▼ 5
SK		20	=	26	▲ 6	26	▼ 9
FI		20	▼ 1	32	▲ 18	20	▼ 9
SE		18	▼ 12	38	▲ 7	22	▼ 9
TR		36	▲ 22	34	▲ 20	28	▲ 13
MK		18	N/A	15	N/A	23	N/A
AL		10	N/A	9	N/A	10	N/A
ME		12	N/A	16	N/A	18	N/A
RS		12	N/A	15	N/A	25	N/A
NO		17	▼ 11	35	▲ 5	15	▼ 14
CH		25	▼ 5	45	▲ 8	21	▼ 13
UK		20	=	26	▲ 11	17	▼ 12
IS		20	▼ 6	19	▼ 6	21	▲ 2
XK		32	N/A	21	N/A	32	N/A
BA		15	N/A	18	N/A	29	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Looking at differences between socio-demographic groups<sup>7</sup>, and focusing on the three areas relating to science and technology (new medical discoveries, new scientific and technological developments, and environmental problems including climate change), some consistent patterns emerge in terms of the sub-groups that are particularly likely to say they are “very interested”.

Sub-groups that are particularly likely to be “very interested” in each of the three areas are:

People who finished full-time education aged 20 or over, particularly when compared with those leaving full-time education aged 15 or under. The largest differences are in relation to new scientific discoveries and technological developments (44% of those who finished full-time education aged 20 or over are “very interested”, compared with 18% of those who finished aged 15 or under); and in relation to environmental problems: (53% vs 29% respectively);

Managers, when compared with all other occupational groups, most notably in relation to new scientific discoveries and technological developments (47% of managers are “very interested”, compared with the housepersons – 24%);

People who say they ‘never’ or ‘almost never’ have difficulties paying their household bills, particularly when compared with those who have difficulties paying their household bills ‘from time to time’. The largest differences are in relation to new scientific discoveries and technological developments (36% of those who ‘never’ or ‘almost never’ have difficulties are “very interested”, compared with 22% of those who have difficulties ‘from time to time’); and environmental problems: (46% vs 31% respectively).

People who use the internet every day, particularly when compared with those who never use it. Again, the differences are larger in relation to new scientific discoveries and technological developments (37% of everyday users, compared with 13% of non-users); and environmental problems: (45% vs 23% respectively).

In terms of gender and age, on the other hand, there are no consistent patterns. Men (40%) are much more likely than women (26%) to say they are “very interested” in new scientific discoveries and technological developments, while women (40%) are slightly more likely than men (36%) to be “very interested” in new medical discoveries. Similarly, while the proportion of people “very interested” in new scientific discoveries and technological developments declines with age, ranging from 38% among 15-24 year olds to 29% among those aged 55 or over, the opposite is true for new medical discoveries, where the proportion of “very interested” ranges from 30% among 15-24 year olds to 41% among those aged 55 or over. In relation to environmental problems, the proportions of people “very interested” are similar across gender and age groups.

In terms of the key variable groups, there are strong and unsurprising relationships between people saying they are “very interested” in these three areas and other variables that indicate engagement or involvement with the world of science and

technology. Hence, sub-groups particularly likely to say they are “very interested” in each of the three areas include: those who have, or had in the past, a professional association with research, science and innovative technology development, either through their own work or the work of a family member; people who believe that science and technology has a positive influence on society; and people who achieve high scores on the ‘science quiz’ questions. In addition, there is a strong positive association between the three topics, where interest in one of the three topics asked about is often connected to interest in the other two topics.

<sup>7</sup> Note that throughout the report socio-demographic and key variable findings are based on the EU 27 Member States.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA2T** In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...  
(% - Very interested)

	Environmental problems including climate change	New medical discoveries	New scientific discoveries and technological developments	Culture and arts	Politics	Sports news
EU27	42	38	33	24	24	21
<b>Gender</b>						
Man	41	36	40	21	30	34
Woman	43	40	26	26	19	9
<b>Age</b>						
15-24	41	30	38	22	19	27
25-39	42	35	36	24	21	23
40-54	43	39	34	24	25	23
55+	41	41	29	24	28	17
<b>Education (end of)</b>						
15-	29	32	18	14	13	16
16-19	35	34	25	18	19	23
20+	53	45	44	33	34	20
Still studying	45	33	41	25	23	27
<b>Socio-professional category</b>						
Self-employed	42	40	37	29	31	27
Managers	52	43	47	32	34	25
Other white collars	41	35	31	22	24	19
Manual workers	35	34	28	19	15	25
House persons	32	35	24	17	14	7
Unemployed	43	40	31	21	13	19
Retired	42	42	28	23	29	17
Students	45	33	41	25	23	27
<b>Difficulties paying bills</b>						
Most of the time	37	35	28	22	19	24
From time to time	31	30	22	20	16	20
Almost never/ Never	46	41	36	25	27	21
<b>Use of the Internet</b>						
Everyday	45	40	37	26	27	22
Often/Sometimes	36	35	19	18	15	21
Never	23	24	13	12	14	13
<b>Left-right political scale</b>						
Left	52	40	35	31	31	22
Centre	42	41	34	22	21	19
Right	32	35	33	20	28	25
<b>Medical discoveries</b>						
Interested	67	100	61	37	35	24
Moderately interested	31	0	18	18	20	20
Not interested	11	0	7	9	9	19
<b>Scientific discoveries</b>						
Interested	66	71	100	38	38	27
Moderately interested	36	27	0	20	21	20
Not interested	12	8	0	8	8	14
<b>Environmental problems</b>						
Interested	100	61	53	40	38	24
Moderately interested	0	24	21	13	16	20
Not interested	0	10	10	6	9	17
<b>Influence of science and technology</b>						
Positive	43	39	35	24	25	22
Negative	32	31	21	21	20	19
<b>Correct answers to questions about scientific knowledge</b>						
Less than 5 correct answers	27	28	18	15	14	18
Between 5 and 8 correct answers	40	39	32	24	22	23
More than 8 correct answers	57	43	48	30	39	21
<b>Religiosity / Spirituality</b>						
Total 'Not very or not spiritual or religious'	46	41	40	25	29	24
Total 'Neither spiritual or religious nor not spiritual or religious'	39	37	30	24	22	21
Total 'Quite or very spiritual or religious'	40	37	27	22	22	17
<b>Worked in research / science / innovative technology development</b>						
You alone do or did in the past	54	50	58	32	38	20
A family member does or did in the past	62	55	50	37	38	22
Both you and a family member do or did in the past	67	57	69	35	50	17
No	39	35	29	21	21	21

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Following the questions on interest in the six spheres of activity, respondents were asked how well informed they felt they were about each of those areas.

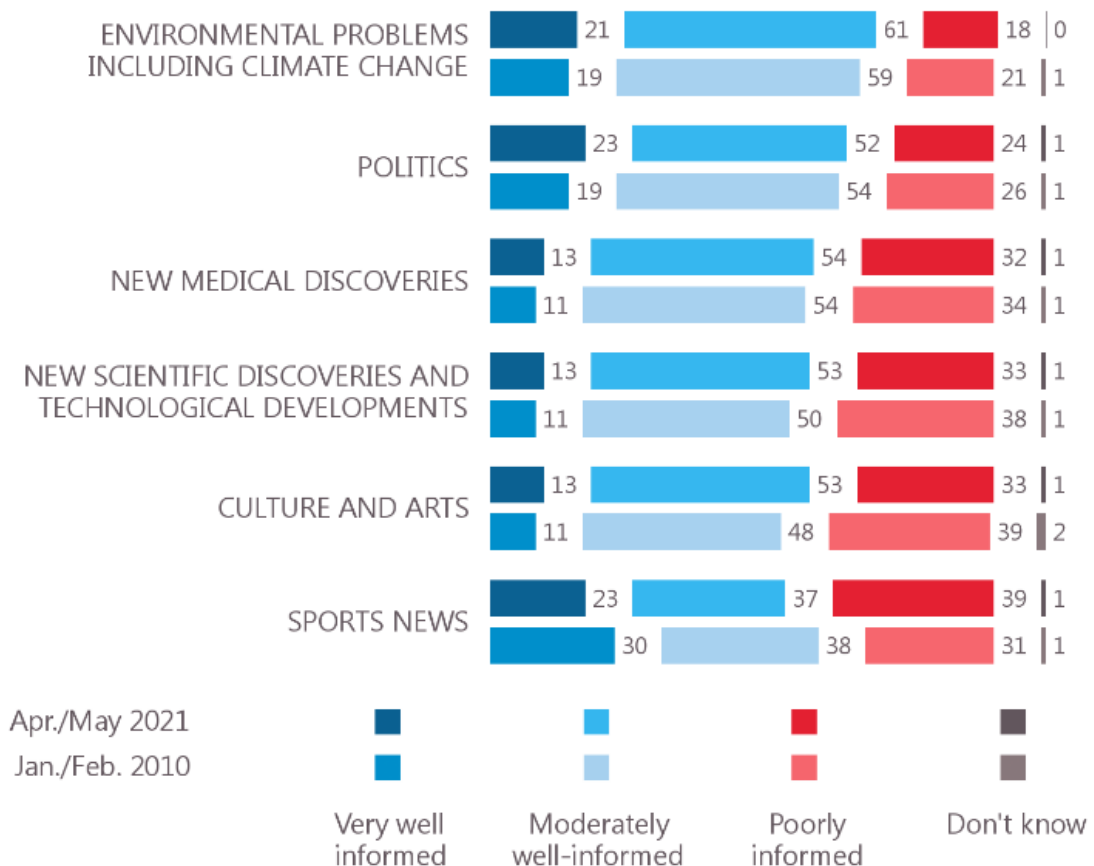
Within the EU, a majority of people say they feel well informed (either “very well” or “moderately well”) about each of the six areas of interest. People are most likely to say they feel well informed about environmental problems including climate change (82%), followed by politics (75%). Two-thirds of respondents say they are well informed about new medical discoveries (67%), new scientific discoveries and technological developments (66%) and culture and the arts (66%). A slightly lower proportion (60%) say they are well informed about sports news.

More than one in five EU citizens say they are “very well informed” about politics (23%), sports news (23%) and environmental problems (21%). Somewhat smaller proportions – 13% in each case – say they are “very well informed” about new medical discoveries, new scientific discoveries and technological developments, and culture and the arts.

A similar measure was included in an earlier Eurobarometer Survey (Special Eurobarometer 340 EB 73.1) conducted in 2010. Since then, there have been small increases in the proportions of respondents who say they are “very well informed” about areas relating to science and technology: new medical discoveries (+2 pp), new scientific discoveries and technological developments (+2 pp) and environmental problems (+2 pp), with small drops in the proportion who say they are “poorly informed” about new medical discoveries (-2 pp) and environmental problems (-3 pp), and a somewhat larger drop in relation to new scientific discoveries (-5 pp).

Regarding the other spheres of activity, there have been increases in the proportion of respondents saying they are “very well informed” about **politics** (+4 pp) – with a small drop in the proportion who say they are “poorly informed” (-2 pp). There has also been an increase in the number of respondents who say they are “very well informed” about **culture and the arts** (+2 pp) – with a drop in the proportion who feel they are “poorly informed” (-6 pp). There has been a drop in the proportion of respondents who feel “very informed” about **sports news** (-7 pp) and an increase in the proportion who say they are “poorly informed” (+8 pp).

**QA3** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...  
(% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, while there are notable variations between countries in the EU in terms of how well informed people feel about scientific and technological issues, these tend to be less marked than those in relation to respondents' level of interest in these issues.

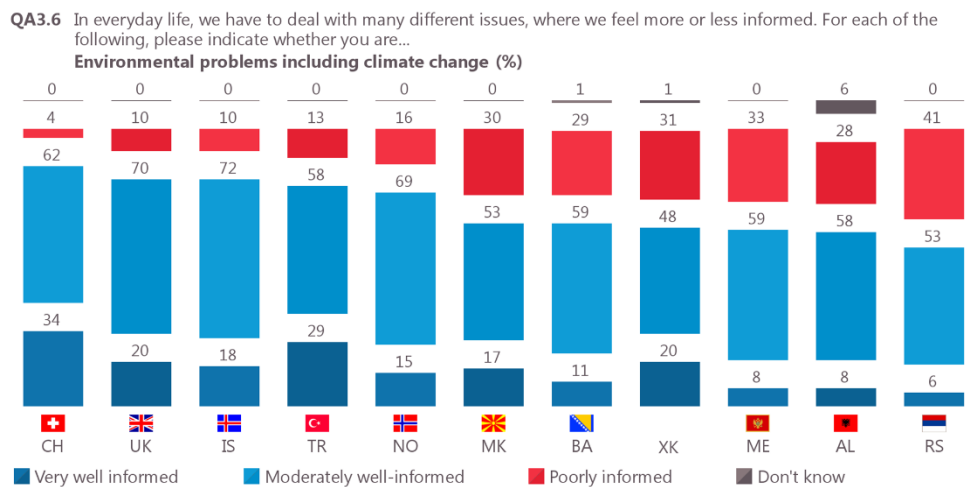
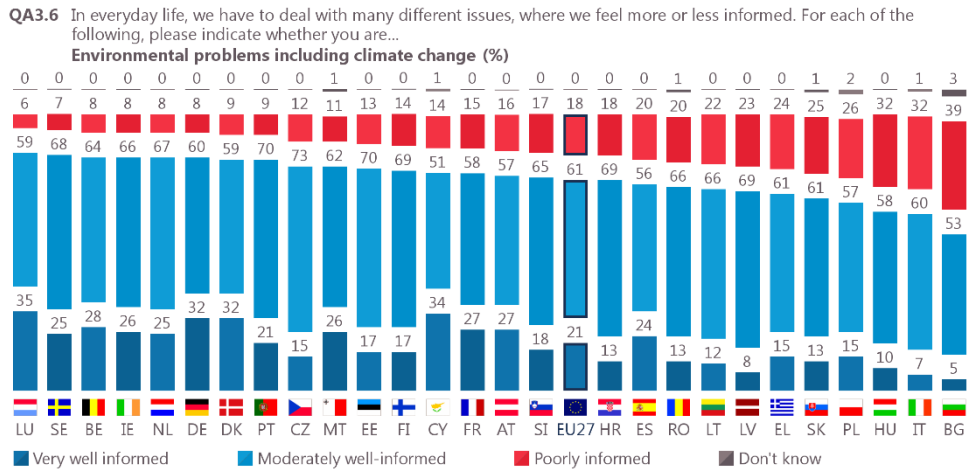
The chart below shows the variation between EU Member States in relation to how well informed people feel about **environmental problems, including climate change**.

The proportion of respondents who say they are “very well informed” about environmental problems including climate change ranges from just 5% in Bulgaria to around a third in Luxembourg (35%), Cyprus (34%) and Germany and Denmark (both 32%). This compares with an average of 21% at the EU level. The only EU Member States where more than three in ten respondents say they are “poorly informed” about environmental problems are Bulgaria (39%), and Hungary and Italy (both 32%). This compares with the EU average of 18%.

Among the non-EU countries surveyed, people are most likely to say they are “very well informed” about environmental problems in Switzerland (34%) and Turkey (29%). At least three in ten people say they are “poorly informed” about environmental problems in Serbia (41%), Montenegro (33%), Kosovo (31%) and North Macedonia (30%).

Comparing the current survey results with those reported in 2010, there are 16 EU Member States where the proportion of respondents saying they feel “very well informed” about environmental problems, including tackling climate change, has increased, with the most notable changes in Portugal and Austria (both +13 pp) and Denmark (+11 pp). There are nine EU Member States where the proportion who say they feel “very well informed” has dropped, with the most notable shift in France (-9 pp).

Among the non-EU countries surveyed, Turkey shows a notable increase in the proportion of respondents who say they feel ‘very informed’ about environmental problems (+15 pp), while Norway shows a notable decline (-10 pp).



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA3.6 In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...

#### Environmental problems including climate change (%)

		Very well informed		Moderately well-informed		Poorly informed		Don't know
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		21	▲ 2	61	▲ 2	18	▼ 3	0
AT		27	▲ 13	57	▼ 5	16	▼ 8	0
PT		21	▲ 13	70	▲ 23	9	▼ 35	0
DK		32	▲ 11	59	▼ 3	9	▼ 8	0
DE		32	▲ 9	60	▼ 7	8	▼ 2	0
IE		26	▲ 9	66	▲ 8	8	▼ 14	0
CY		34	▲ 9	51	▼ 3	14	▼ 7	1
ES		24	▲ 8	56	▲ 7	20	▼ 15	0
NL		25	▲ 8	67	=	8	▼ 8	0
RO		13	▲ 8	66	▲ 17	20	▼ 21	1
BE		28	▲ 6	64	▲ 4	8	▼ 10	0
LT		12	▲ 6	66	▲ 11	22	▼ 15	0
CZ		15	▲ 5	73	▲ 6	12	▼ 10	0
EE		17	▲ 4	70	▲ 2	13	▼ 5	0
PL		15	▲ 3	57	▲ 2	26	▼ 5	2
SK		13	▲ 3	61	=	25	▼ 4	1
HR		13	▲ 2	69	▲ 7	18	▼ 8	0
SI		18	=	65	▼ 2	17	▲ 2	0
FI		17	=	69	▼ 3	14	▲ 3	0
BG		5	▼ 1	53	▲ 3	39	▼ 2	3
EL		15	▼ 1	61	▼ 7	24	▲ 8	0
IT		7	▼ 2	60	▼ 7	32	▲ 10	1
LV		8	▼ 3	69	▲ 4	23	=	0
SE		25	▼ 4	68	▲ 5	7	▼ 1	0
LU		35	▼ 5	59	▲ 7	6	▼ 1	0
HU		10	▼ 5	58	▼ 3	32	▲ 8	0
MT		26	▼ 5	62	▲ 16	11	▼ 10	1
FR		27	▼ 9	58	▲ 7	15	▲ 3	0
TR		29	▲ 15	58	▲ 13	13	▼ 25	0
MK		17	N/A	53	N/A	30	N/A	0
AL		8	N/A	58	N/A	28	N/A	6
ME		8	N/A	59	N/A	33	N/A	0
RS		6	N/A	53	N/A	41	N/A	0
IS		18	▲ 5	72	▲ 7	10	▼ 12	0
CH		34	▲ 1	62	▲ 2	4	▼ 2	0
UK		20	▼ 5	70	▲ 12	10	▼ 6	0
NO		15	▼ 10	69	▲ 4	16	▲ 7	0
XK		20	N/A	48	N/A	31	N/A	1
BA		11	N/A	59	N/A	29	N/A	1



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, variation between EU Member States is less marked in relation to how well informed people feel about **new medical discoveries**:

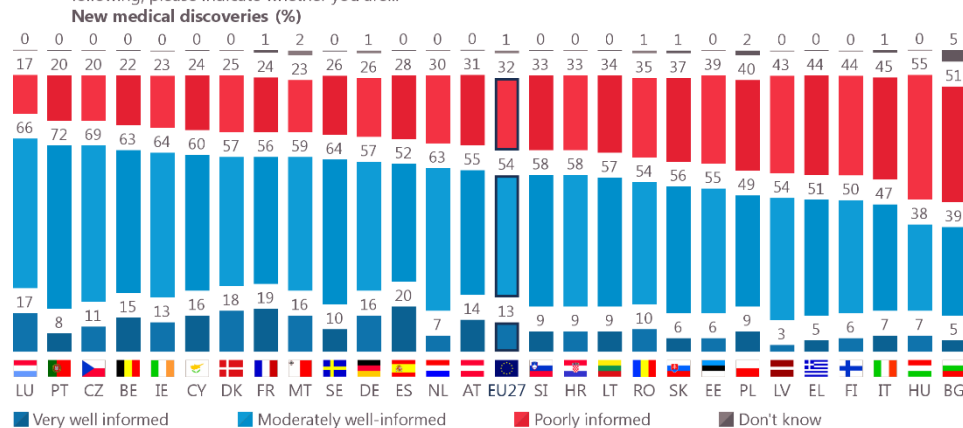
Relative to the EU average of 13%, respondents are most likely to say they feel “very well informed” about **new medical discoveries** in Spain (20%), France (19%) and Denmark (18%); they are least likely to say they are “very well informed” in Latvia (3%), Greece and Bulgaria (both 5%), and Slovakia, Estonia and Finland (6% in each). Relative to the EU average of 32%, respondents are particularly likely to say they feel “poorly informed” about new medical discoveries in Hungary (55%) and Bulgaria (51%). A further four EU Member States report more than two in five respondents saying they feel “poorly informed”: Italy (45%), Greece and Finland (both 44%) and Latvia (43%).

Among the non-EU countries surveyed, the proportion of respondents who say they are “very well informed” about new medical discoveries ranges from just 4% in Serbia and Iceland to 20% in Kosovo. The proportion of respondents saying they are “poorly informed” about new medical discoveries is particularly high in Serbia (55%), followed by Iceland (42%) and Montenegro (40%).

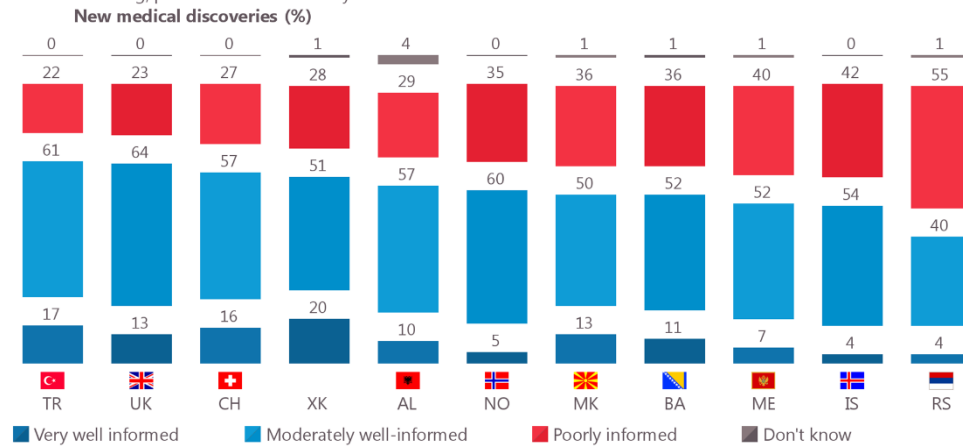
Comparing the current survey results with those reported in 2010, there are 12 EU Member States where the proportion of respondents who say they feel “very well informed” about new medical discoveries has increased, with the most notable changes in Spain (+12 pp), Denmark (+8 pp), and Austria and Romania (+6 pp). There are nine EU Member States where the proportion who say they feel “very well informed” has dropped, with the most notable declines in Greece and the Netherlands (both -5 pp).

Among the non-EU countries surveyed, Turkey again shows a notable increase in the proportion of respondents saying they feel “very well informed” about new medical discoveries (+9 pp).

**QA3.1** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...



**QA3.1** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA3.1 In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...

#### New medical discoveries (%)

		Very well informed		Moderately well-informed		Poorly informed		Don't know
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		13	▲ 2	54	=	32	▼ 2	1
ES		20	▲ 12	52	▲ 5	28	▼ 17	0
DK		18	▲ 8	57	▲ 7	25	▼ 15	0
AT		14	▲ 7	55	▲ 10	31	▼ 17	0
RO		10	▲ 6	54	▲ 14	35	▼ 15	1
BE		15	▲ 4	63	▲ 10	22	▼ 13	0
CZ		11	▲ 4	69	▲ 10	20	▼ 12	0
DE		16	▲ 4	57	=	26	▼ 5	1
LT		9	▲ 4	57	▲ 11	34	▼ 13	0
MT		16	▲ 3	59	▲ 17	23	▼ 19	2
PT		8	▲ 3	72	▲ 32	20	▼ 34	0
PL		9	▲ 2	49	▼ 1	40	=	2
BG		5	▲ 1	39	▲ 1	51	▼ 4	5
EE		6	=	55	▲ 1	39	=	0
IE		13	=	64	▲ 13	23	▼ 10	0
IT		7	=	47	▼ 10	45	▲ 12	1
CY		16	=	60	▲ 2	24	▼ 2	0
HU		7	=	38	▼ 15	55	▲ 15	0
SK		6	=	56	▲ 3	37	▼ 4	1
HR		9	▼ 1	58	=	33	▲ 1	0
SI		9	▼ 1	58	▲ 4	33	▼ 2	0
SE		10	▼ 1	64	▲ 14	26	▼ 13	0
LU		17	▼ 2	66	▲ 7	17	▼ 4	0
FI		6	▼ 2	50	▼ 4	44	▲ 6	0
FR		19	▼ 3	56	▼ 4	24	▲ 7	1
LV		3	▼ 4	54	▲ 4	43	▲ 1	0
EL		5	▼ 5	51	▼ 10	44	▲ 15	0
NL		7	▼ 5	63	▼ 6	30	▲ 11	0
TR		17	▲ 9	61	▲ 23	22	▼ 28	0
AL		10	N/A	57	N/A	29	N/A	4
ME		7	N/A	52	N/A	40	N/A	1
RS		4	N/A	40	N/A	55	N/A	1
MK		13	N/A	50	N/A	36	N/A	1
CH		16	▲ 1	57	=	27	=	0
UK		13	▼ 2	64	▲ 6	23	▼ 4	0
IS		4	▼ 2	54	▲ 14	42	▼ 12	0
NO		5	▼ 3	60	▲ 6	35	▼ 3	0
IS		4	▼ 2	54	▲ 14	42	▼ 12	0
XK		20	N/A	51	N/A	28	N/A	1
BA		11	N/A	52	N/A	36	N/A	1

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, the level of variation between EU Member States in relation to how well informed people feel about **new scientific discoveries and technological developments** is similar to that seen in relation to new medical discoveries:

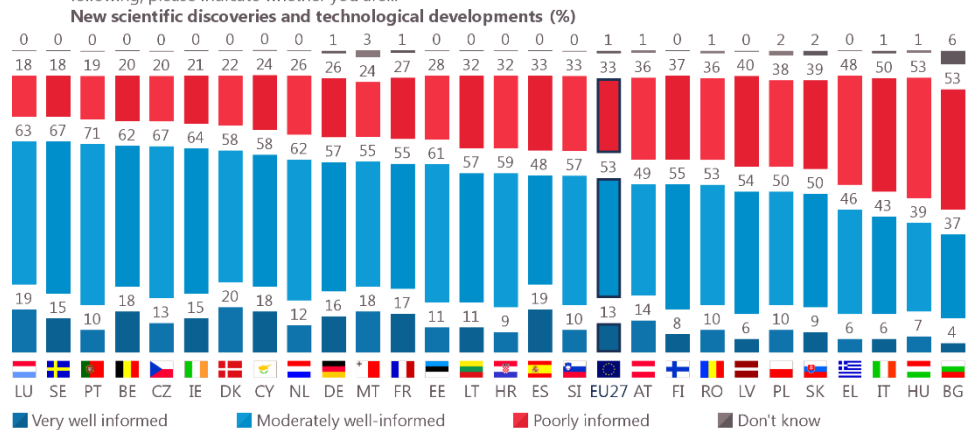
Respondents in Denmark (20%), and those in Luxembourg and Spain (both 19%), are most likely to say they are “very well informed”, compared with the EU average of 13%; those in Bulgaria (4%), and Latvia, Greece, and Italy (6% in each) are the least likely to feel “very well informed”. The EU Member States where respondents are most likely to say they are “poorly informed” are Hungary and Bulgaria (both 53%), Italy (50%) and Greece (48%). This compares with an average across the EU of 33%.

Among the non-EU countries surveyed, the proportion of respondents who say they are “very well informed” about new scientific discoveries and technological developments ranges from just 5% in Serbia to 20% in Kosovo. Respondents in Serbia (57%) are particularly likely to say they are “poorly informed” about new scientific discoveries and technological developments.

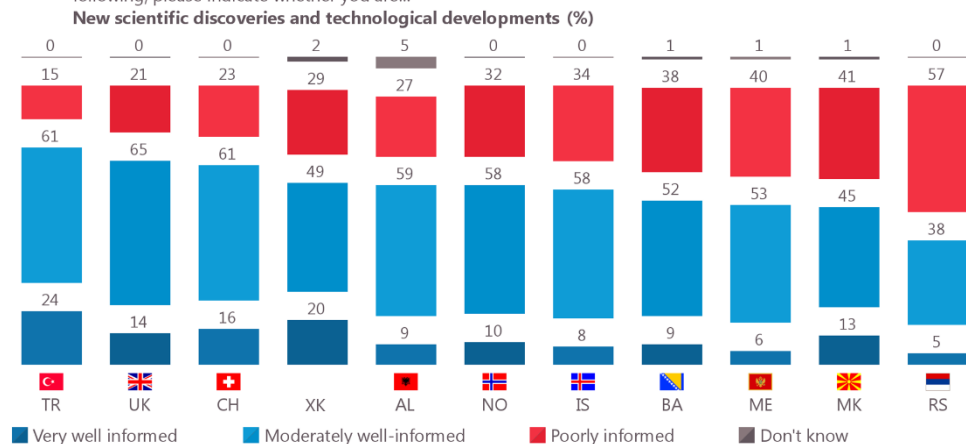
Comparing the current results compared with those reported in 2010, there are 15 EU Member States where the proportion of respondents who say they feel “very well informed” about new scientific discoveries and technological developments has increased, with the most notable shifts in Spain (+12 pp), Czechia (+8 pp), and Belgium, Denmark, Austria and Portugal (+7 pp in each). Among the nine EU Member States where the proportion who say they feel “very well informed” has dropped, the most notable change is in Luxembourg (-5 pp).

Among the non-EU countries surveyed, the most notable change is again in Turkey where the proportion of respondents saying they feel “very well informed” about new scientific discoveries and technological discoveries has increased (+14 pp).

**QA3.2** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...



**QA3.2** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA3.2 In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...

#### New scientific discoveries and technological developments (%)

		Very well informed		Moderately well-informed		Poorly informed		Don't know
			Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		13	▲ 2	53	▲ 3	33	▼ 5	1
ES		19	▲ 12	48	▲ 5	33	▼ 17	0
CZ		13	▲ 8	67	▲ 18	20	▼ 23	0
BE		18	▲ 7	62	▲ 12	20	▼ 18	0
DK		20	▲ 7	58	▲ 11	22	▼ 18	0
AT		14	▲ 7	49	▲ 8	36	▼ 15	1
PT		10	▲ 7	71	▲ 33	19	▼ 38	0
DE		16	▲ 6	57	▲ 3	26	▼ 10	1
RO		10	▲ 6	53	▲ 22	36	▼ 22	1
LT		11	▲ 5	57	▲ 12	32	▼ 15	0
MT		18	▲ 5	55	▲ 21	24	▼ 22	3
CY		18	▲ 4	58	▲ 2	24	▼ 6	0
SK		9	▲ 4	50	▲ 6	39	▼ 12	2
EE		11	▲ 3	61	▲ 10	28	▼ 12	0
IE		15	▲ 1	64	▲ 22	21	▼ 17	0
PL		10	▲ 1	50	▲ 7	38	▼ 7	2
BG		4	=	37	▲ 6	53	▼ 6	6
HU		7	=	39	▼ 14	53	▲ 13	1
SE		15	=	67	▲ 17	18	▼ 17	0
IT		6	▼ 1	43	▼ 9	50	▲ 11	1
SI		10	▼ 1	57	▲ 4	33	▼ 2	0
EL		6	▼ 2	46	▼ 7	48	▲ 9	0
HR		9	▼ 2	59	▲ 6	32	▼ 3	0
FR		17	▼ 3	55	▼ 2	27	▲ 5	1
LV		6	▼ 3	54	▲ 4	40	▼ 1	0
NL		12	▼ 3	62	=	26	▲ 3	0
FI		8	▼ 3	55	▲ 5	37	▼ 2	0
LU		19	▼ 5	63	▲ 8	18	▼ 2	0
TR		24	▲ 14	61	▲ 26	15	▼ 35	0
MK		13	N/A	45	N/A	41	N/A	1
AL		9	N/A	59	N/A	27	N/A	5
ME		6	N/A	53	N/A	40	N/A	1
RS		5	N/A	38	N/A	57	N/A	0
CH		16	=	61	▲ 13	23	▼ 12	0
UK		14	▼ 2	65	▲ 12	21	▼ 9	0
IS		8	▼ 3	58	▲ 8	34	▼ 5	0
NO		10	▼ 5	58	▲ 2	32	▲ 3	0
XK		20	N/A	49	N/A	29	N/A	2
BA		9	N/A	52	N/A	38	N/A	1

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA3.3-5 In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...

**Very well informed (%)**

		Politics		Culture and arts		Sports news	
		2021	Diff. April/May 2021 - January/February 2010	2021	Diff. April/May 2021 - January/February 2010	2021	Diff. April/May 2021 - January/February 2010
EU27		23	▲ 4	13	▲ 2	23	▼ 7
BE		30	▲ 11	13	▼ 1	26	▼ 4
BG		14	▲ 4	8	▲ 5	18	▲ 2
CZ		39	▲ 18	15	▼ 1	26	▼ 13
DK		43	▲ 18	19	▲ 7	31	▼ 4
DE		34	▲ 13	15	▲ 7	22	=
EE		22	▲ 11	9	▼ 4	16	▼ 3
IE		32	▲ 10	14	▲ 2	27	▼ 15
EL		22	▲ 4	9	▼ 2	24	=
ES		24	▲ 11	19	▲ 9	23	▼ 5
FR		31	▼ 9	22	▲ 1	38	▼ 18
HR		14	▼ 5	9	=	25	▼ 2
IT		5	▼ 3	7	▼ 1	16	▼ 1
CY		20	▼ 5	19	▲ 1	29	▼ 6
LV		16	▲ 2	8	▼ 5	13	▼ 13
LT		20	▲ 8	12	▲ 3	24	▲ 6
LU		35	▲ 4	14	▼ 9	25	▼ 20
HU		9	▼ 1	7	▼ 4	15	▼ 4
MT		37	▲ 17	15	▼ 2	27	▲ 1
NL		29	▲ 3	7	▼ 7	15	▼ 7
AT		23	▲ 10	16	▲ 4	27	▲ 1
PL		17	▼ 1	13	▲ 1	26	▼ 3
PT		15	▲ 9	6	=	15	▲ 3
RO		12	▲ 3	9	▲ 5	14	=
SI		20	▲ 1	8	▼ 3	29	▼ 13
SK		32	▲ 19	12	▲ 3	31	▲ 2
FI		21	▲ 13	5	▼ 3	13	▼ 9
SE		30	▲ 12	6	▼ 6	19	▼ 9
TR		28	▲ 17	23	▲ 12	22	▲ 8
MK		16	N/A	13	N/A	21	N/A
AL		10	N/A	8	N/A	12	N/A
ME		15	N/A	7	N/A	18	N/A
RS		15	N/A	8	N/A	23	N/A
NO		20	▼ 7	5	▼ 10	13	▼ 16
CH		36	▲ 7	11	▼ 7	23	▼ 7
UK		27	▲ 6	10	▼ 1	27	▼ 15
IS		18	▼ 3	8	▼ 5	22	▲ 2
XK		26	N/A	24	N/A	28	N/A
BA		20	N/A	12	N/A	29	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Looking at differences between socio-demographic groups across the three areas relating to science and technology (new medical discoveries, new scientific and technological developments and environmental problems), some consistent patterns emerge in terms of the sub-groups that are particularly likely to say they are “very well informed” in each of the areas.

The differences largely reflect those seen in relation to “interest” (see above) in the same three areas, with the sub-groups particularly likely to say they are “very well informed” about each of the three areas being:

People who finished full-time education aged 20 or over, particularly when compared with those leaving full-time education aged 15 or under. The largest differences are in relation to new scientific discoveries and technological developments (18% of those finishing aged 20 or over say they are “very well informed”, compared with 6% of those aged 15 or under); and in relation to environmental problems (28% vs 12% respectively);

Managers, particularly when compared with housepersons, most notably in relation to new scientific discoveries and technological developments (20% of managers say they are “very well informed”, compared with 6% of housepersons); and in relation to environmental problems (28% vs 14% respectively);

People who say they ‘never’ or ‘almost never’ have difficulties paying their household bills, when compared with those who have difficulties paying their bills either ‘most of the time’ or ‘from time to time’. The differences are somewhat smaller than for the other socio-demographic variables highlighted here. The most notable is in relation to environmental problems, with 23% of those who ‘never’ or ‘almost never’ have difficulties saying they are “very well informed”, compared with 16% of those who have difficulties ‘most of the time’ and 14% of those who have difficulties ‘from time to time’;

People who use the internet every day, particularly when compared to those who never use it, with relatively large differences across all three measures: 14% whose use the internet everyday vs 7% who never use it in relation to new medical discoveries; 14% of everyday users vs 5% who never use the internet for new scientific discoveries and technological developments; and 23% of everyday users vs 10% of those who never use the internet for environmental problems.

In terms of gender, the pattern of responses is less consistent. Men (18%) are twice as likely as women (9%) to say they are “very well informed” about new scientific discoveries and technological developments and somewhat more likely to say this in relation to environmental problems (23% vs 19%), while similar proportions (13% of men and 12% of women) say they are “very well informed” about new medical discoveries. Differences by age group across the three topics are relatively small.

In terms of the key variable groups, there are again strong and unsurprising relationships between people saying they are “very well informed” in the three areas and other variables that indicate engagement or involvement with the world of science and technology. Hence, sub-groups particularly likely to say they are “very well informed” in each of the three areas include: those who say they are very interested in the topic; those who say they are

very interested in one of the other two science-related topics asked about; and those who have, or did have in the past, a professional association with research, science and innovative technology development, either through their own work or the work of a family member.

The proportions of people who say they are “very well informed” about the three topics does not vary much according to whether they regard science and technology as having a positive or negative influence on society. However, those who think science and technology has a negative influence on society are much more likely than those who say it has a positive influence to say they are “poorly informed” about each of the topics (43% vs 30% in relation to new medical discoveries; 46% vs 31% for new scientific discoveries and technological developments; and 32% vs 15% for environmental problems).

Finally, there is a positive association between people’s own assessment of how well informed they are about each of the three topics and how well they perform in the ‘quiz’ about science-related topics:

- 16% of people who get more than eight correct answers in the quiz say they are “very well informed” about new medical discoveries, compared with 13% of those who get five to eight answers correct and 9% of those who get less than five answers correct;
- 22% of people who get more than eight correct answers in the quiz say they are “very well informed” about new scientific discoveries and technological developments, compared with 11% of those who get five to eight answers correct and 9% of those who get less than five answers correct;
- 33% of people who get more than eight correct answers in the quiz say they are “very well informed” about environmental problems, compared with 20% of those who get five to eight answers correct and 11% of those who get less than five answers correct.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA3T** In everyday life, we have to deal with many different issues, where we feel more or less informed. For each of the following, please indicate whether you are...  
(% - Very well informed)

	Environmental problems including climate change	New medical discoveries	New scientific discoveries and technological developments	Politics	Culture and arts	Sports news
EU27	21	13	13	23	13	23
<b>Gender</b>						
Man	23	13	18	29	13	34
Woman	19	12	9	19	14	13
<b>Age</b>						
15-24	23	10	16	18	12	27
25-39	21	12	15	22	13	25
40-54	22	15	14	25	14	27
55+	20	13	10	25	14	19
<b>Education (end of)</b>						
15-	12	9	6	15	7	16
16-19	17	12	10	19	12	24
20+	28	16	18	32	17	24
Still studying	25	12	18	21	14	27
<b>Socio-professional category</b>						
Self-employed	21	14	15	27	14	28
Managers	28	16	20	32	18	26
Other white collars	18	12	13	21	13	23
Manual workers	18	12	11	19	11	28
House persons	14	10	6	15	9	10
Unemployed	19	13	12	19	12	23
Retired	21	13	10	26	14	18
Students	25	12	18	21	14	27
<b>Difficulties paying bills</b>						
Most of the time	16	9	11	16	12	22
From time to time	14	11	10	16	11	20
Almost never/ Never	23	14	14	26	14	25
<b>Use of the Internet</b>						
Everyday	23	14	14	25	14	25
Often/Sometimes	18	11	10	20	12	22
Never	10	7	5	13	7	12
<b>Left-right political scale</b>						
Left	25	13	14	28	17	26
Centre	21	14	13	21	12	22
Right	19	13	15	26	12	25
<b>Medical discoveries</b>						
Interested	32	27	21	31	18	26
Moderately interested	16	5	9	21	12	23
Not interested	7	3	5	12	6	21
<b>Scientific discoveries</b>						
Interested	36	24	30	34	20	28
Moderately interested	16	9	6	21	12	23
Not interested	6	4	2	10	6	17
<b>Environmental problems</b>						
Interested	38	19	19	33	20	27
Moderately interested	10	9	10	18	9	22
Not interested	6	7	6	11	4	18
<b>Influence of science and technology</b>						
Positive	22	13	13	24	13	24
Negative	17	12	10	20	12	23
<b>Correct answers to questions about scientific knowledge</b>						
Less than 5 correct answers	11	9	8	14	8	18
Between 5 and 8 correct answers	19	13	12	22	14	24
More than 8 correct answers	33	16	21	35	17	26
<b>Religiosity / Spirituality</b>						
Total 'Not very or not spiritual or religious'	25	14	16	28	13	27
Total 'Neither spiritual or religious nor not spiritual or religious'	20	13	12	21	14	23
Total 'Quite or very spiritual or religious'	17	12	10	20	12	17
<b>Worked in research / science / innovative technology development</b>						
You alone do or did in the past	38	22	29	35	17	25
A family member does or did in the past	32	20	22	32	21	26
Both you and a family member do or did in the past	46	21	39	48	17	23
No	18	11	11	21	12	23

## 2. Attitudes towards science

The rest of this chapter focuses on attitudes towards science. Respondents were asked to say how much they agreed or disagreed with a series of nine statements about science and technology. The three statements reported in this chapter are:

- *“Science is so complicated that I do not understand much about it”;*
- *“I would like to learn more about scientific developments in places like town halls, museums and libraries”;*
- *“In my daily life, it is not important to know about science”.*

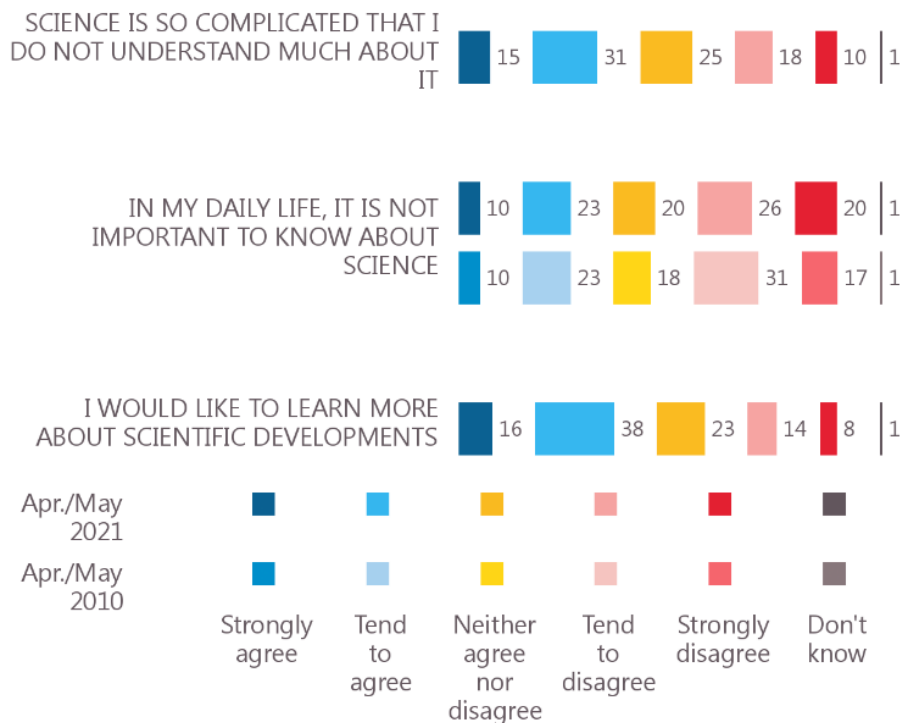
Within the EU, just over half of respondents (54%) agree that they would like to learn more about scientific developments in places like town halls, museums and libraries, with around one in six (16%) saying that they “strongly agree”. Just over one in five respondents (22%) disagree that they would like to learn more, with a small minority (8%) saying they “strongly disagree”. Just under one in four respondents (23%) say that they neither agree nor disagree.

A somewhat smaller proportion – just under half of respondents (46%) – agree that science is so complicated that they don’t understand much about it, with one in seven (15%) saying that they “strongly agree”. Just under three in ten respondents (28%) disagree, with one in ten (10%) saying that they “strongly disagree”. One in four respondents (25%) neither agree nor disagree with the statement.

Respondents are least likely to agree that it is not important in their daily lives to know about science. One-third of respondents (33%) agree that it is not important, with one in ten (10%) saying that they “strongly agree”. Just under half of all respondents (46%) disagree with the statement, with one in five (20%) saying they “strongly disagree”. One in five respondents (20%) are neutral.

Attitudes towards these statements vary considerably both within the EU and among the non-EU countries surveyed.

**QA9** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
 (% - EU)





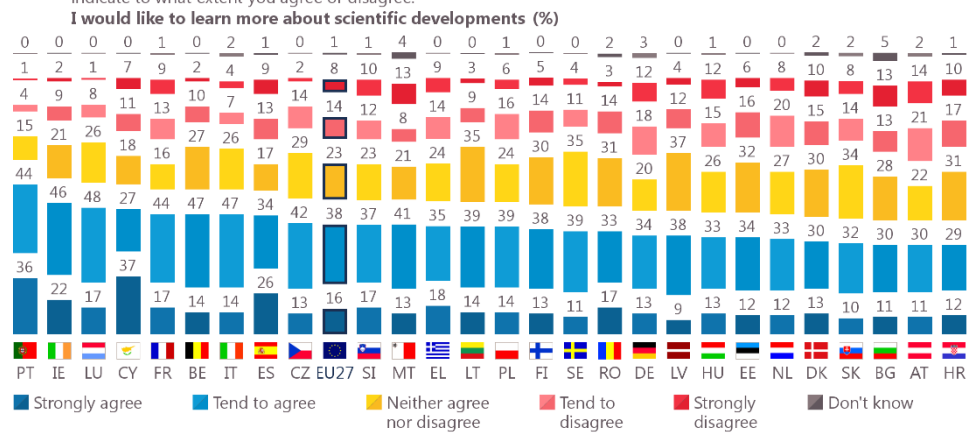
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

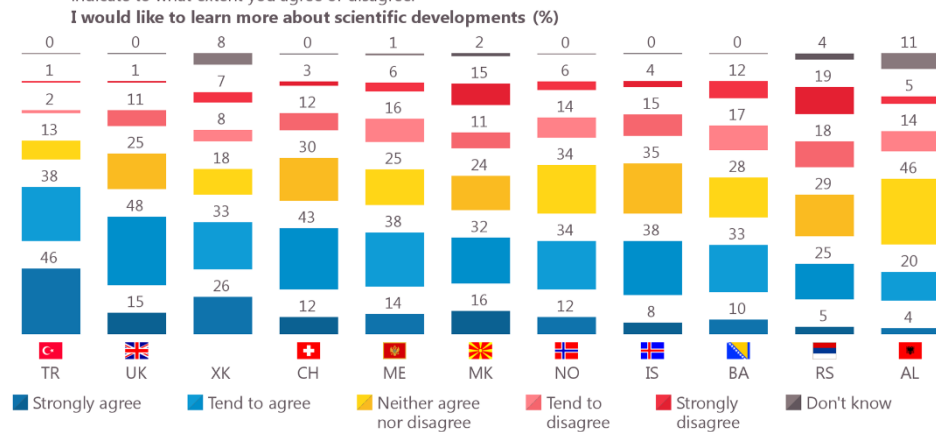
For the statement “I would like to learn more about scientific developments in places like town halls, museums and libraries”, respondents in Portugal are most likely to agree (80%) with the statement, considerably higher than the EU average of 54%. The next highest levels of agreement are found in Ireland (68%), Luxembourg (65%) and Cyprus (64%). More than a third of respondents in Portugal (36%) and Cyprus (37%) say they “strongly agree” that they would like to learn more about scientific developments. The lowest levels of agreement on this measure are seen in Bulgaria, Austria and Croatia (41% in each), Slovakia (42%) and Denmark (43%).

Among the non-EU countries surveyed, a notably high proportion of respondents in Turkey (84%) agree that they would like to learn more about scientific developments in places like town halls, museums and libraries, with close to half (46%) saying that they “strongly agree”. Respondents in Albania (24%) and Serbia (30%) are least likely to agree.

QA9.4 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



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## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

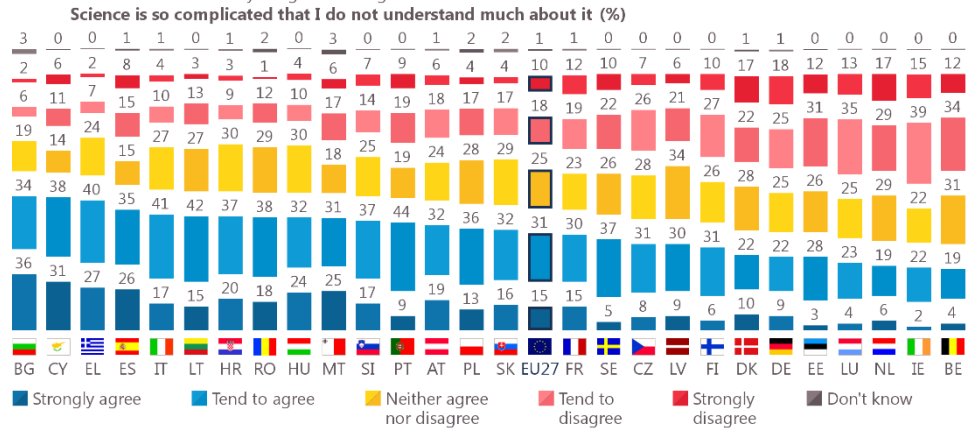
The next chart shows how attitudes vary across EU Member States in relation to the statement "Science is so complicated that I do not understand much about it".

Respondents in Bulgaria (70%), Cyprus (69%), Greece (67%) and Spain (61%) are particularly likely to agree that science is so complicated that they do not understand much about it, when compared with the EU average of 46%. A majority of respondents agree with the statement in a further nine EU countries. Respondents in Belgium (23%), Ireland (24%) and the Netherlands (25%) are the least likely to agree that science is so complicated that they do not understand much about it.

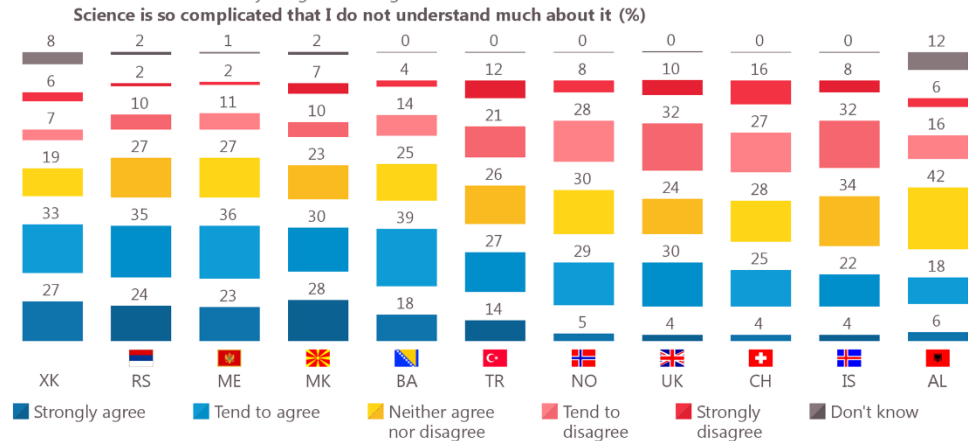
There are five EU Member States where at least one in four respondents "strongly agree" that they do not understand much about science (compared with the EU average of 15%): Bulgaria (36%), Cyprus (31%), Greece (27%), Spain (26%) and Malta (25%).

Among the non-EU countries surveyed, the proportion of respondents who agree that science is so complicated that they do not understand much about it is highest in Kosovo (60%), and Montenegro and Serbia (both 59%), and lowest in Albania (24%) and Iceland (26%).

QA9.1 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



QA9.1 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Attitudes across the EU Member States again vary considerably in relation to the statement "In my daily life it is not important to know about science".

There are three EU Member States where the majority of respondents agree that it is not important for them to know about science in their daily lives: Bulgaria (57%) and Greece and Austria (both 53%), compared with the EU average of 33%. The lowest proportions are in Czechia and Finland (both 16%), followed by Latvia, Portugal and Malta (18% in each).

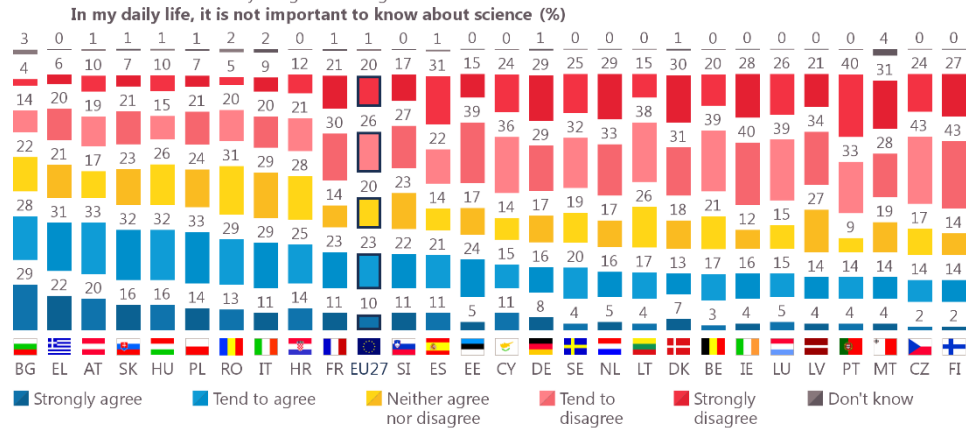
Among the non-EU countries surveyed, a majority of respondents agree that it is not important for them to know about science in their daily lives in Montenegro and Serbia (both 54%). The non-EU countries where the lowest proportion of respondents agree with this statement are Switzerland (19%) and Albania (20%).

This measure was included in an earlier Eurobarometer Survey (Special Eurobarometer 340 EB 73.1) conducted in 2010. Since then, there has been no change at the EU 27 level in the proportions of respondents who say they "strongly agree" or "tend to agree" that it is not important for them to know about science in their daily lives.

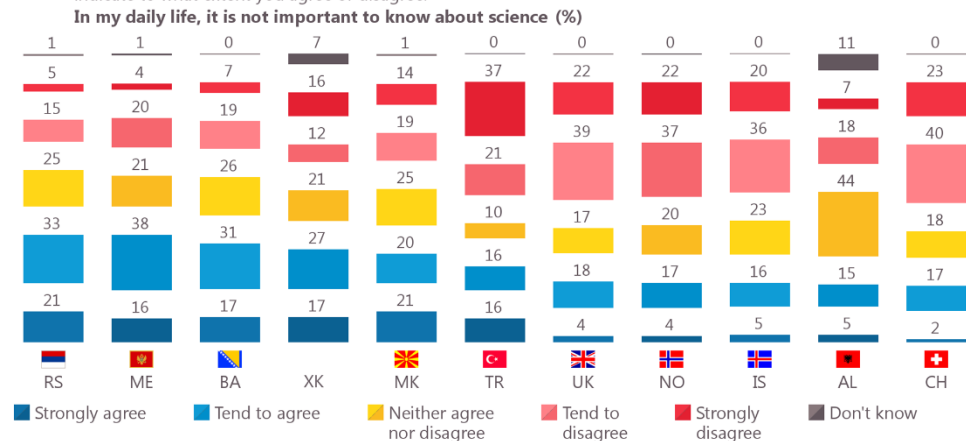
Comparing the current national level results with those reported in 2010, there are ten EU Member States where the proportion of respondents who agree that it is not important for them to know about science in their daily lives has increased, with the most notable shifts in Poland and Romania (both +15 pp), Bulgaria and Hungary (both +12 pp) and Greece and Italy (both +8 pp). There are 17 EU Member States where the proportion who agree that it is not important for them to know about science has dropped, with the most notable decreases in Portugal (-26 pp), Czechia and Estonia (both -22 pp), Belgium and Luxembourg (both -18 pp), Ireland and Finland (both -14 pp) and Latvia (-13 pp).

Among the non-EU countries surveyed, the most notable change is in Switzerland, with a marked drop in the proportion of respondents who agree that it is not important for them to know about science in their daily lives (-12 pp).

**QA9.2** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.2** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA9.2 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

**In my daily life, it is not important to know about science (%)**

		Strongly agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Strongly disagree		Don't know	Total 'Agree'		Total 'Disagree'	
		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		10	▬	23	▬	20	▲ 2	26	▼ 5	20	▲ 3	1	33	▬	46	▼ 2
PL		14	▲ 5	33	▲ 10	24	▲ 5	21	▼ 11	7	▼ 8	1	47	▲ 15	28	▼ 19
RO		13	▲ 7	29	▲ 8	31	▲ 6	20	▼ 3	5	▼ 15	2	42	▲ 15	25	▼ 18
BG		29	▲ 8	28	▲ 4	22	▼ 2	14	▼ 2	4	▼ 5	3	57	▲ 12	18	▼ 7
HU		16	▲ 4	32	▲ 8	26	▲ 4	15	▼ 11	10	▼ 6	1	48	▲ 12	25	▼ 17
EL		22	▲ 4	31	▲ 4	21	▲ 2	20	▼ 6	6	▼ 4	0	53	▲ 8	26	▼ 10
IT		11	▲ 3	29	▲ 5	29	▲ 5	20	▼ 11	9	▼ 3	2	40	▲ 8	29	▼ 14
SE		4	▼ 1	20	▲ 5	19	▲ 10	32	▼ 1	25	▼ 12	0	24	▲ 4	57	▼ 13
CY		11	▲ 1	15	▲ 2	14	▼ 9	36	▲ 3	24	▲ 8	0	26	▲ 3	60	▲ 11
ES		11	▲ 3	21	▼ 1	14	▼ 4	22	▼ 6	31	▲ 9	1	32	▲ 2	53	▲ 3
SI		11	▬	22	▲ 1	23	▲ 5	27	▼ 1	17	▼ 4	0	33	▲ 1	44	▼ 5
LT		4	▼ 4	17	▲ 2	26	▲ 12	38	▼ 1	15	▼ 8	0	21	▼ 2	53	▼ 9
FR		11	▬	23	▼ 4	14	▲ 2	30	▼ 3	21	▲ 5	1	34	▼ 4	51	▲ 2
HR		14	▼ 7	25	▲ 3	28	▲ 8	21	▼ 3	12	▲ 1	0	39	▼ 4	33	▼ 2
NL		5	▼ 4	16	▬	17	▲ 2	33	▲ 2	29	▬	0	21	▼ 4	62	▲ 2
AT		20	▼ 1	33	▼ 3	17	▬	19	▼ 1	10	▲ 5	1	53	▼ 4	29	▲ 4
MT		4	▼ 2	14	▼ 3	19	▲ 3	28	▼ 4	31	▲ 9	4	18	▼ 5	59	▲ 5
SK		16	▼ 4	32	▼ 1	23	▲ 2	21	▲ 2	7	▬	1	48	▼ 5	28	▲ 2
DK		7	▼ 2	13	▼ 5	18	▲ 6	31	▲ 3	30	▼ 2	1	20	▼ 7	61	▲ 1
DE		8	▼ 3	16	▼ 5	17	▲ 1	29	▼ 6	29	▲ 13	1	24	▼ 8	58	▲ 7
LV		4	▼ 7	14	▼ 6	27	▲ 10	34	▲ 1	21	▲ 2	0	18	▼ 13	55	▲ 3
IE		4	▼ 7	16	▼ 7	12	▼ 6	40	▲ 12	28	▲ 14	0	20	▼ 14	68	▲ 26
FI		2	▼ 4	14	▼ 10	14	▲ 3	43	▲ 11	27	▲ 1	0	16	▼ 14	70	▲ 12
BE		3	▼ 7	17	▼ 11	21	▼ 1	39	▲ 11	20	▲ 8	0	20	▼ 18	59	▲ 19
LU		5	▼ 3	15	▼ 15	15	▼ 4	39	▲ 10	26	▲ 12	0	20	▼ 18	65	▲ 22
CZ		2	▼ 9	14	▼ 13	17	▼ 8	43	▲ 15	24	▲ 15	0	16	▼ 22	67	▲ 30
EE		5	▼ 18	24	▼ 4	17	▲ 3	39	▲ 14	15	▲ 5	0	29	▼ 22	54	▲ 19
PT		4	▼ 10	14	▼ 16	9	▼ 15	33	▲ 12	40	▲ 32	0	18	▼ 26	73	▲ 44
TR		16	▼ 1	16	▲ 3	10	▼ 5	21	▲ 3	37	▲ 10	0	32	▲ 2	58	▲ 13
MK		21	N/A	20	N/A	25	N/A	19	N/A	14	N/A	1	41	N/A	33	N/A
AL		5	N/A	15	N/A	44	N/A	18	N/A	7	N/A	11	20	N/A	25	N/A
ME		16	N/A	38	N/A	21	N/A	20	N/A	4	N/A	1	54	N/A	24	N/A
RS		21	N/A	33	N/A	25	N/A	15	N/A	5	N/A	1	54	N/A	20	N/A
NO		4	▼ 2	17	▲ 7	20	▲ 10	37	▲ 7	22	▼ 22	0	21	▲ 5	59	▼ 15
IS		5	▼ 1	16	▼ 2	23	▲ 11	36	▬	20	▼ 8	0	21	▼ 3	56	▼ 8
UK		4	▼ 4	18	▼ 1	17	▲ 4	39	▲ 3	22	▼ 1	0	22	▼ 5	61	▲ 2
CH		2	▼ 7	17	▼ 5	18	▲ 7	40	▲ 8	23	▼ 2	0	19	▼ 12	63	▲ 6
XK		17	N/A	27	N/A	21	N/A	12	N/A	16	N/A	7	44	N/A	28	N/A
BA		17	N/A	31	N/A	26	N/A	19	N/A	7	N/A	0	48	N/A	26	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Looking at differences between socio-demographic groups across these three statements, some consistent patterns emerge.

Broadly speaking, groups more likely to agree with the statement *"I would like to learn more about scientific developments in places like town halls, museums and libraries"* are less likely to agree with the two other statements (*"Science is so complicated that I do not understand much about it"* and *"In my daily life, it is not important to know about science"*). This is the case for the following groups:

- Younger people, when compared with those aged 55 and over:

*"I would like to learn more about scientific developments in places like town halls, museums and libraries"* – 15-24 (61% agree), 25-39 (59%), 40-54 (56%), 55+ (48%);

*"Science is so complicated that I do not understand much about it"* – 15-24 (39% agree), 25-39 (40%), 40-54 (42%), 55+ (55%);

*"In my daily life, it is not important to know about science"* – 15-24 (25% agree), 25-39 (31%), 40-54 (31%), 55+ (40%).

- People who finished their full-time education aged 20 or over, particularly when compared with those leaving full-time education aged 15 or under:

*"I would like to learn more about scientific developments in places like town halls, museums and libraries"* (60% vs 39% agree);

*"Science is so complicated that I do not understand much about it"* (31% vs 71% agree);

*"In my daily life, it is not important to know about science"* (24% vs 51% agree).

- Managers and students, when compared with other occupational groups:

*"I would like to learn more about scientific developments in places like town halls, museums and libraries"* (60% of managers and 65% of students agree, compared with 46% of housepersons);

*"Science is so complicated that I do not understand much about it"* (26% of managers and 35% of students agree, compared with 55% of unemployed people and 57% of those who are retired),

*"In my daily life, it is not important to know about science"* (20% of managers and 22% of students agree, compared with 42% of respondents who are retired).

- People who use the internet every day, particularly when compared with those who never use it:

*"I would like to learn more about scientific developments in places like town halls, museums and libraries"* (58% vs 34% agree);

*"Science is so complicated that I do not understand much about it"* (43% vs 67% agree);

*"In my daily life, it is not important to know about science"* (30% vs 55% agree).

- People who say they 'never' or 'almost never' have difficulties paying their household bills, compared with those who do have difficulties, although the differences are small in relation to learning more about scientific developments:

*"I would like to learn more about scientific developments in places like town halls, museums and libraries"* – 'never' or 'almost never' (55% agree), 'from time to time' (54%), 'most of the time' (51%);

*"Science is so complicated that I do not understand much about it"* – 'never' or 'almost never' (42% agree), 'from time to time' (56%), 'most of the time' (62%);

*"In my daily life, it is not important to know about science"* – 'never/almost never' (30% agree), 'from time to time' (41%), 'most of the time' (44%).







In terms of gender, the pattern of answers is less consistent. Women (50%) are somewhat more likely than men (42%) to agree that *"Science is so complicated that I do not understand much about it"* and slightly more likely to agree that *"In my daily life, it is not important to know about science"* (35% vs 32% respectively). However, women and men are equally likely to agree that *"I would like to learn more about scientific developments in places like town halls, museums and libraries"* (both 54%).

In terms of the key variable groups, there are again strong relationships between variables that indicate engagement with the world of science and technology and attitudes in relation to the three statements. As with the socio-demographic groups, there is a consistent pattern for groups that are more likely to say that they would like to learn more about scientific developments in places like town halls, museums and libraries to disagree both that *"Science is so complicated that I do not understand much about it"* and *"In my daily life, it is not important to know about science"*. This is the case for: those who say they are very interested in each of the three scientific areas asked about in the survey; those who have, or did have a professional association with research, science and innovative technology development; people who believe that science and technology has a positive influence on society; and people who achieve high scores on the 'quiz' questions.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA9T** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
(% - Total 'Agree')

	I would like to learn more about scientific developments	Science is so complicated that I do not understand much about it	In my daily life, it is not important to know about science
EU27	54	46	32
 <b>Gender</b>			
Man	54	42	32
Woman	54	50	35
 <b>Age</b>			
15-24	61	39	25
25-39	59	40	31
40-54	56	42	31
55+	48	55	40
 <b>Education (end of)</b>			
15-	39	71	51
16-19	52	56	40
20+	60	31	24
Still studying	65	35	22
 <b>Socio-professional category</b>			
Self-employed	59	40	30
Managers	60	26	20
Other white collars	58	44	32
Manual workers	51	52	38
House persons	46	60	49
Unemployed	59	55	37
Retired	46	57	42
Students	65	35	22
 <b>Difficulties paying bills</b>			
Most of the time	51	62	44
From time to time	54	56	41
Almost never/ Never	55	42	30
<b>Use of the Internet</b>			
Everyday	58	43	30
Often/Sometimes	47	59	43
Never	34	67	55
 <b>Left-right political scale</b>			
Left	59	42	31
Centre	54	46	33
Right	51	49	37
<b>Medical discoveries</b>			
Interested	64	41	27
Moderately interested	51	47	35
Not interested	38	59	48
<b>Scientific discoveries</b>			
Interested	67	32	22
Moderately interested	54	48	34
Not interested	34	70	54
<b>Environmental problems</b>			
Interested	64	38	26
Moderately interested	51	51	37
Not interested	34	59	49
<b>Influence of science and technology</b>			
Positive	57	45	32
Negative	43	55	42
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	42	62	49
Between 5 and 8 correct answers	56	50	34
More than 8 correct answers	59	27	19
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	53	39	28
Total 'Neither spiritual or religious nor not spiritual or religious'	56	47	34
Total 'Quite or very spiritual or religious'	52	56	43
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	59	25	22
A family member does or did in the past	66	34	20
Both you and a family member do or did in the past	63	15	14
No	53	49	36

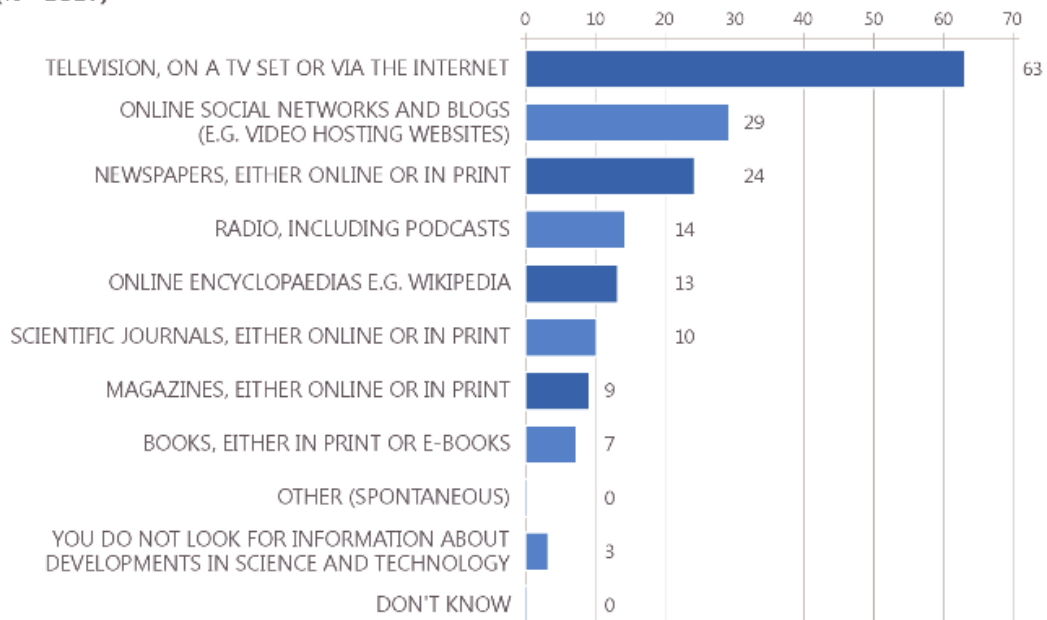
### 3. Sources of information about scientific and technological developments

This section looks at the sources of information people use to find out about developments in science and technology.

Respondents were presented with a list of different sources of information that may be used to find out about developments in science and technology and asked to choose the two main sources that they use.

Within EU Member States, television, either via a TV set or via the internet, is by far the most widely used source. Almost two-thirds of respondents (63%) say that this is one of their two main sources of information. Around three in ten respondents (29%) use online social networks and blogs as a main source of information, and around a quarter (24%) use online or printed newspapers. Much smaller proportions say that they use radio, including podcasts (14%), online encyclopaedias (13%), and online or printed scientific journals (10%). Less than one in ten respondents use the other sources that were listed as one of their two main methods for finding information about science and technology.

**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
 (% - EU27)



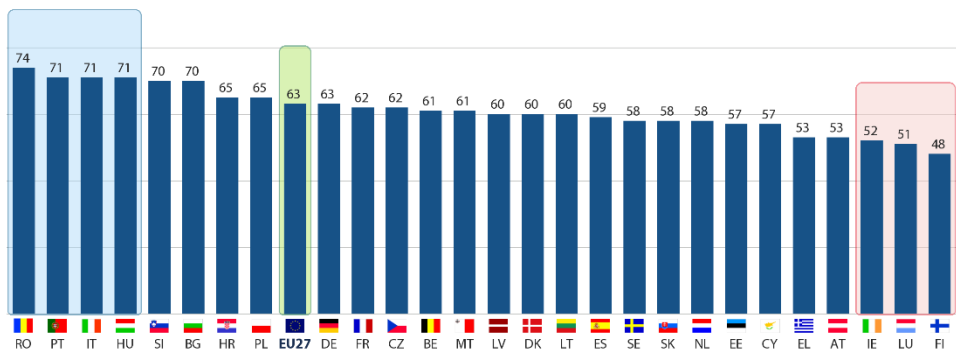
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

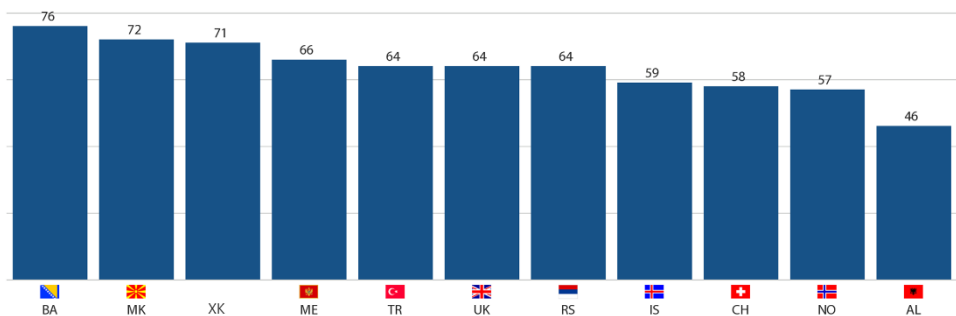
Television is the most widely cited source of information used in all EU Member States, with at least seven in ten respondents saying it is one of their two main sources in Romania (74%), Italy, Hungary, and Portugal (71% in each), and Slovenia (70%), compared with the EU average of 63%. The EU countries where respondents are least likely to mention television as a main source of information about developments in science and technology are Finland (48%), Luxembourg (51%), Ireland (52%), and Greece and Austria (both 53%).

Among the non-EU countries surveyed, respondents are most likely to mention television as a main source of information about developments in science and technology in Bosnia and Herzegovina (76%), North Macedonia (72%) and Kosovo (71%), and least likely to do so in Albania (46%).

**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
 (% - TELEVISION, ON A TV SET OR VIA THE INTERNET)



**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
 (% - TELEVISION, ON A TV SET OR VIA THE INTERNET)





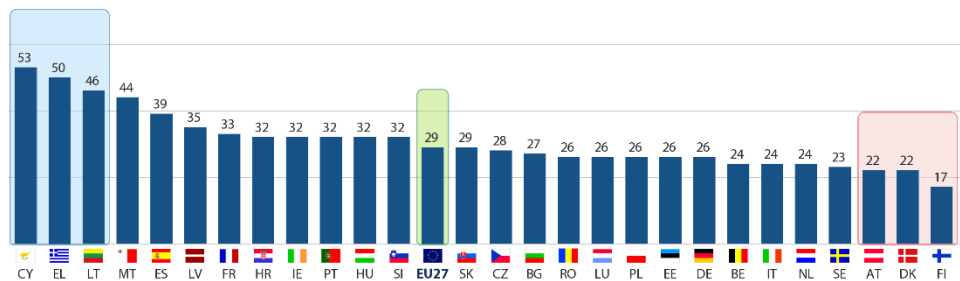
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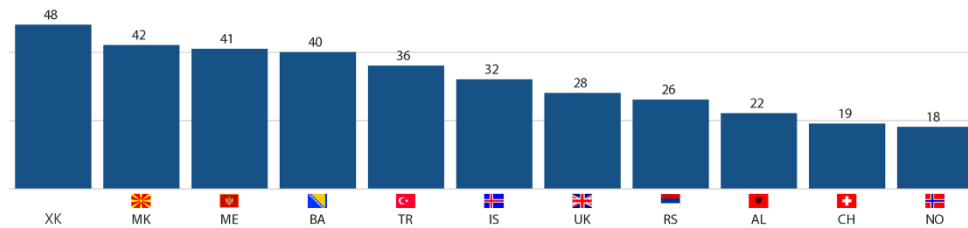
Using online social networks and blogs is the second or third most widely mentioned main source of information in all EU Member States except Finland. In Finland it ranks fifth (behind television, newspapers, scientific journals, and online encyclopaedias), with only 17% of respondents – lower than any other EU country and compared with the EU average of 29% – saying they use social networks and blogs as a main source of information. Notably high proportions of respondents (compared with the EU average of 29%) say that they use social networks and blogs in Cyprus (53%), Greece (50%), Lithuania (46%) and Malta (44%).

Among the non-EU countries surveyed, notably high proportions of respondents use social networks and blogs in Kosovo (48%), North Macedonia (42%), Montenegro (41%) and Bosnia and Herzegovina (40%). The countries where respondents are least likely to say that they use social networks and blogs are Switzerland (19%), where this source ranks fourth behind television, newspapers and radio; and Norway (18%), ranking fourth behind television, newspapers and scientific journals.

**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
(% - ONLINE SOCIAL NETWORKS AND BLOGS (E.G. VIDEO HOSTING WEBSITES))



**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
(% - ONLINE SOCIAL NETWORKS AND BLOGS (E.G. VIDEO HOSTING WEBSITES))



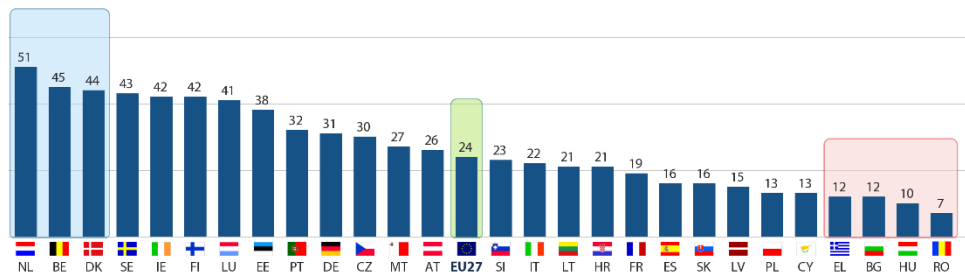
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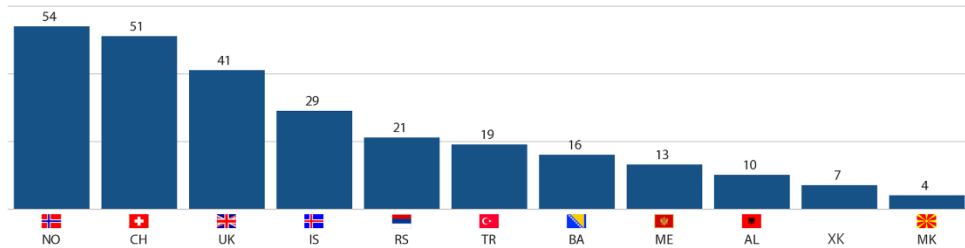
Among EU countries, the proportion of respondents mentioning newspapers (either online or in print) is highest in the Netherlands (51%), Belgium (45%), Denmark (44%), Sweden (43%), Finland and Ireland (both 42%) and Luxembourg (41%), compared with the EU average of 24%. It is lowest in Romania (7%) and Hungary (10%).

Among the non-EU countries surveyed, people in Norway (54%) and Switzerland (51%) are particularly likely to use newspapers as a main source of information, while those in North Macedonia (4%), Kosovo (7%) and Albania (10%) are least likely to do so.

**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
 (% - NEWSPAPERS, EITHER ONLINE OR IN PRINT)



**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
 (% - NEWSPAPERS, EITHER ONLINE OR IN PRINT)



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

Looking at the remaining sources of information that can be used for information about developments in science and technology, and those where at least one in ten respondents say it is one of their two main sources:

Within the EU, use of the radio, including podcasts is most widespread in Ireland (30%), France (22%), Czechia (21%) and Slovakia (20%) – compared with the EU average of 14%. It is least widely mentioned by respondents in Greece and Italy (both 5%) and Finland (6%). Within non-EU countries, radio is most widely mentioned in Iceland (23%), the UK and Switzerland (both 20%), and least widely mentioned in Kosovo (3%), Montenegro (4%), and North Macedonia and Serbia (both 5%);

The proportion of respondents in EU countries using online encyclopaedias as one of their two main sources of information ranges from a high of 26% in Finland, followed by Greece and Latvia (both 24%) to a low of 5% reported in Spain and Portugal; this compares with an EU average of 13%. In non-EU countries, the proportions range from 16% in Iceland and Switzerland to 6% in Kosovo;

EU Member States with a notably high proportion of respondents using scientific journals as one of their two main sources for information include Finland (28%), Portugal (22%) and Estonia (20%), with the lowest proportion in Bulgaria (3%); this compares with an EU average of 10%. In non-EU countries, proportions range from a high of 20% in Norway to a low of 5% in North Macedonia.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA4a Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
(%)

		Television, on a TV set or via the internet	Online social networks and blogs (e.g. video hosting websites)	Newspapers, either online or in print	Radio, including podcasts	Online encyclopaedias e.g. Wikipedia	Scientific journals, either online or in print	Magazines, either online or in print	Books, either in print or e-books	Other (SPONTANEOUS)	You do not look for information about developments in science and technology	Don't know
EU27		63	29	24	14	13	10	9	7	0	3	0
BE		61	24	45	14	17	16	10	8	0	0	0
BG		70	27	12	8	14	3	2	3	0	11	2
CZ		62	28	30	21	19	13	12	8	0	0	0
DK		60	22	44	17	12	18	9	7	0	0	0
DE		63	26	31	18	18	11	11	9	0	1	0
EE		57	26	38	18	17	20	10	10	0	0	0
IE		52	32	42	30	10	14	5	10	0	0	0
EL		53	50	12	5	24	8	3	6	0	5	0
ES		59	39	16	14	5	8	5	7	0	8	0
FR		62	33	19	22	11	11	9	9	0	3	0
HR		65	32	21	12	15	9	11	5	0	4	0
IT		71	24	22	5	10	8	8	6	0	6	0
CY		57	53	13	9	18	8	3	6	0	4	0
LV		60	35	15	14	24	15	10	10	0	0	0
LT		60	46	21	14	18	14	9	8	0	0	0
LU		51	26	41	19	14	18	11	13	0	0	0
HU		71	32	10	13	15	7	9	5	0	3	0
MT		61	44	27	11	9	8	7	7	1	4	0
NL		58	24	51	13	16	14	9	9	0	0	0
AT		53	22	26	14	18	13	14	9	0	6	0
PL		65	26	13	11	12	8	9	4	0	3	0
PT		71	32	32	11	5	22	10	12	0	0	0
RO		74	26	7	8	9	6	4	3	0	7	0
SI		70	32	23	13	13	8	5	6	0	5	0
SK		58	29	16	20	15	8	10	8	0	6	1
FI		48	17	42	6	26	28	11	8	0	0	0
SE		58	23	43	19	18	9	16	9	0	0	0
TR		64	36	19	6	12	18	6	17	0	0	0
MK		72	42	4	5	12	5	6	5	0	3	0
AL		46	22	10	7	14	8	9	9	0	0	0
ME		66	41	13	4	13	10	8	7	0	4	0
RS		64	26	21	5	12	7	9	7	0	6	1
NO		57	18	54	15	12	20	8	7	0	0	0
CH		58	19	51	20	16	13	12	7	0	0	0
UK		64	28	41	20	15	10	7	9	0	1	0
IS		59	32	29	23	16	15	6	13	0	0	0
XK		71	48	7	3	6	6	5	8	0	0	0
BA		76	40	16	10	10	6	4	4	0	0	0
		1st MOST FREQUENTLY MENTIONED ITEM		2nd MOST FREQUENTLY MENTIONED ITEM			3rd MOST FREQUENTLY MENTIONED ITEM					

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are some notable differences between socio-demographic groups in terms of the sources of information people use the most to find out about developments in science and technology.

Gender is not a key differentiator in this respect. The only notable difference between men and women in terms of the sources they use the most relates to scientific journals, which men (12%) are more likely than women (8%) to mention as one of the sources that they use the most.

Age, by contrast, has a strong relationship on the sources of information people use. This is not surprising given that internet usage in general varies considerably by age. Within the EU, the proportion of respondents in this survey who say they use the internet daily decreases as age increases – over 90% of people aged under 55 say they use the internet every day, rising to 99% of those aged 15-24 and 98% of 25-34s. Usage then decreases rapidly, falling to 80% among 55-64s, 62% among 65-74s and 34% among those aged 75 and over.

These differences are reflected in the sources people use to learn about developments in science and technology. Use of online social networks and blogs also varies considerably by age: the proportion of respondents who mention these as one of their main sources of information range from 57% of 15-24 year olds to 10% of 65-74 year olds and just 4% of those aged 75 and over. Among 15-24 year olds, social networks and blogs are the most widely mentioned source of information, followed by television. There is a similar (but less marked) pattern in relation to the use of online encyclopaedias, such as Wikipedia, with the proportion mentioning these as one of their main sources of information ranging from 19% of 15-24 year olds to 5% of those aged 75 and over.

Conversely, younger people – in particular those aged 15-24 – are much less likely than their older peers to use more traditional channels of information (whether online or not) such as television, newspapers, magazines, and radio. This is especially the case for newspapers – which 13% of 15-24 year olds mention as a main information source, compared with 24% of EU adults as a whole – and radio (7% and 14% respectively).

The survey results show that the proportion of respondents using more traditional channels of information increases with age. With the exception of 15-24 year olds, television is the most widely mentioned source among all age groups. However, social networks and blogs are the second most widely mentioned source among those aged 25-54, (with newspapers mentioned by a similar proportion of those aged 45-54). Among those aged 55 and over, however, television is particularly widely mentioned and newspapers are the second most commonly mentioned source of information. Radio is also a relatively important source of information among these older age groups.

In terms of occupational status, differences between students and those who are retired reflect those noted by age. Of note, students (18%), together with managers (19%), are particularly likely to mention scientific journals as one of the sources of information they use the most, relative to all other occupational groups. Managers are more likely than all other groups to mention newspapers, magazines, radio and scientific journals, while housepersons are the group least likely to mention books, journals and, along with students, newspapers.

People who score highly in the 'quiz' are particularly likely to mention online encyclopaedias (19% of those with more than eight correct answers vs 7% of those with less than 5 correct answers) and journals (17% vs 5%) as among the sources of information they use the most. Among the high-performing groups, only 54% mention television as one of sources they use the most, compared with 65% among those getting 5-8 correct answers and 69% among those getting less than five correct answers.

Finally, mention of books and journals as a preferred source of information – again, as might be expected – is particularly high among people who themselves and/or via a family member, work or have worked in a scientific profession. For example, among the group where both the respondent and a family member have, or did have in the past, a professional association with this area, 15% mention books as one of the sources they use the most, compared with 7% among adults as a whole, and 32% mention journals, compared with 10% among adults as a whole.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA4a** Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most. (MAX. 2 ANSWERS)  
(% - EU)

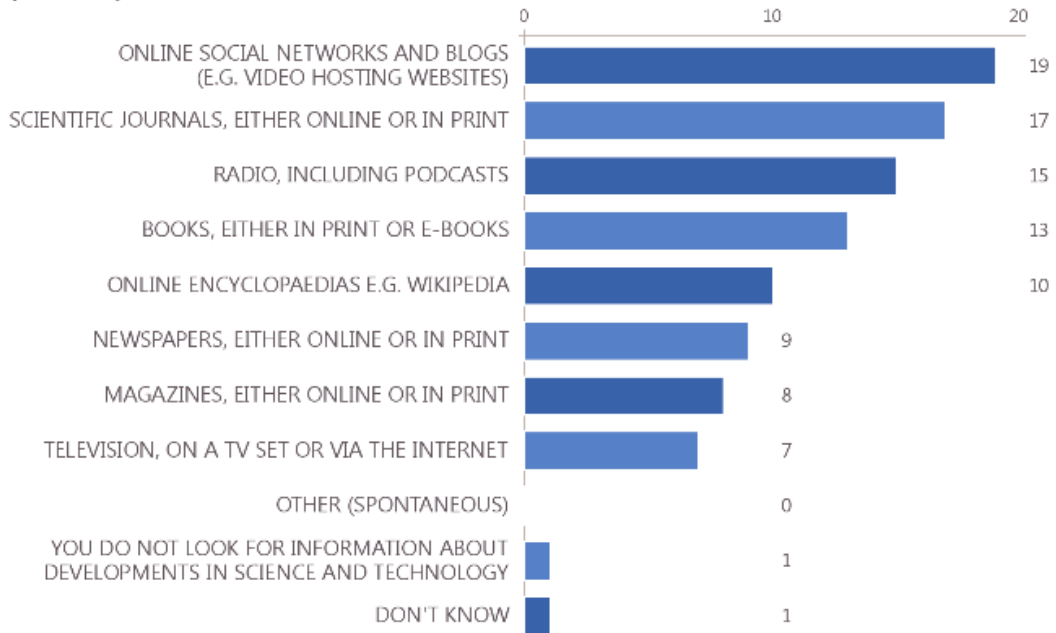
	Television, on a TV set or via the internet	Newspapers, either online or in print	Online encyclopaedias e.g. Wikipedia	Magazines, either online or in print	Radio, including podcasts	Books, either in print or e-books	Online social networks and blogs (e.g. video hosting websites)	Scientific journals, either online or in print	Other (SPONTANEOUS)	You do not look for information about developments in science and technology	Don't know
<b>EU27</b>	63	24	13	9	14	7	29	10	0	3	0
<b>Gender</b>											
Man	61	24	14	9	14	7	30	12	0	2	0
Woman	66	24	12	8	14	7	28	8	0	4	0
<b>Age</b>											
15-24	47	13	19	7	7	9	57	13	0	3	0
25-39	54	22	16	9	13	7	42	14	0	2	0
40-54	65	24	14	9	15	6	29	11	0	2	0
55+	73	28	9	9	16	7	12	7	0	5	0
<b>Education (end of)</b>											
15-	78	17	4	6	15	4	12	3	0	9	0
16-19	71	22	11	8	14	5	29	6	0	4	0
20+	56	31	17	11	16	10	29	15	0	1	0
Still studying	43	16	19	8	8	11	54	18	0	3	0
<b>Socio-professional category</b>											
Self-employed	57	29	14	9	13	8	33	12	0	3	0
Managers	52	32	17	12	18	9	27	19	0	1	0
Other white collars	64	23	16	9	13	6	32	10	0	2	0
Manual workers	68	18	11	8	15	6	35	7	0	3	0
House persons	72	16	9	7	10	3	27	3	0	9	0
Unemployed	60	18	15	7	11	8	42	9	0	5	0
Retired	75	30	8	9	17	7	10	6	0	5	0
Students	43	16	19	8	8	11	54	18	0	3	0
<b>Difficulties paying bills</b>											
Most of the time	61	13	11	5	12	7	37	9	0	5	0
From time to time	65	17	11	7	13	6	32	8	0	5	0
Almost never/ Never	63	27	14	10	15	8	28	11	0	3	0
<b>Use of the Internet</b>											
Everyday	60	25	15	9	13	8	34	12	0	2	0
Often/Sometimes	76	21	6	11	20	7	10	6	0	3	0
Never	80	15	1	5	16	3	2	2	0	10	1
<b>Left-right political scale</b>											
Left	62	28	13	10	16	8	29	11	0	2	0
Centre	65	24	13	9	14	7	30	11	0	2	0
Right	65	23	12	10	15	7	27	10	0	3	0
<b>Medical discoveries</b>											
Interested	63	28	14	10	17	9	28	15	0	1	0
Moderately interested	65	24	14	8	14	6	30	8	0	3	0
Not interested	61	13	9	6	9	5	27	5	0	13	0
<b>Scientific discoveries</b>											
Interested	56	26	17	11	16	10	32	18	0	0	0
Moderately interested	67	26	13	8	14	6	30	8	0	2	0
Not interested	67	14	7	6	10	4	21	4	0	13	0
<b>Environmental problems</b>											
Interested	60	28	15	10	17	9	30	13	0	1	0
Moderately interested	67	22	13	8	13	6	29	9	0	3	0
Not interested	60	13	8	6	8	6	25	5	0	14	1
<b>Influence of science and technology</b>											
Positive	64	25	14	9	14	7	30	11	0	2	0
Negative	60	16	9	8	15	8	27	7	0	7	0
<b>Correct answers to questions about scientific knowledge</b>											
Less than 5 correct answers	69	15	7	7	12	5	24	5	0	8	0
Between 5 and 8 correct answers	65	23	12	8	14	7	31	9	0	3	0
More than 8 correct answers	54	33	19	11	16	9	28	17	0	1	0
<b>Religiosity / Spirituality</b>											
Total 'Not very or not spiritual or religious'	58	26	15	10	16	8	33	13	0	2	0
Total 'Neither spiritual or religious nor not spiritual or religious'	66	23	13	9	13	7	29	10	0	3	0
Total 'Quite or very spiritual or religious'	68	21	10	7	13	6	23	7	0	6	0
<b>Worked in research / science / innovative technology development</b>											
You alone do or did in the past	42	26	21	13	15	14	28	25	0	0	0
A family member does or did in the past	51	31	16	13	17	11	27	20	0	1	0
Both you and a family member do or did in the past	38	36	24	11	13	15	23	32	0	0	0
No	67	23	12	8	14	6	29	8	0	4	0

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

Respondents were then asked to choose the source that they use least often for finding information about developments in science and technology.

Within the EU, respondents are most likely to say they use online social networks and blogs the least as a source of information for information about science and technology developments (19%), followed by scientific journals (17%), radio, including podcasts (15%), books, either printed or e-books (13%), and online encyclopaedias (10%). Smaller proportions still say they use online or printed newspapers (9%), online or printed magazines (8%) and television (7%) the least.

**QA4b** And now, please choose the source that you use the least.  
 (% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Across EU Member States, the countries with the highest proportions of respondents saying they use online social networks and blogs the least (compared with the EU average of 19%) are Germany and Finland (both 27%) and Luxembourg (25%), with the lowest proportions reported in Greece (8%) and Cyprus, Lithuania and Malta (9% in each). Looking across the non-EU countries, proportions range from a high of 32% in Switzerland to just 5% in Kosovo.

The EU countries with the highest proportion of respondents mentioning that they use online or printed scientific journals the least (compared with the EU average of 17%) are Slovakia (31%), Ireland (29%), Czechia (28%), Sweden (26%) and Belgium (25%). The lowest proportion is reported in Cyprus (10%). Among the non-EU countries surveyed, the highest proportions are found in the UK (30%) and Iceland (25%), with the lowest in Montenegro (7%) and Kosovo (9%).

Within the EU, the proportion of respondents saying they use radio (including podcasts) the least for finding information about science and technology developments ranges from 6% in Ireland to 23% in Malta, compared with the EU average of 15%. Within non-EU countries, the highest proportions of respondents saying they use radio the least are found in Kosovo (39%), Montenegro (36%) and Turkey (34%), with the lowest proportion in Iceland (8%).

Across the EU Member States, the highest proportion of respondents saying they use printed or e-books the least (compared with the EU average of 13%) are Croatia (24%) and Slovenia (22%), with the lowest proportion in Ireland (9%). Among the non-EU countries surveyed, proportions range from a high of 17% in Montenegro to a low of 8% in Turkey.

Looking at the remaining sources of information that can be used for information about developments in science and technology:

Within the EU, online encyclopaedias are most likely to be used the least (compared with the EU average of 10%) in Spain (16%), with the lowest proportions seen in Czechia and Sweden (both 4%). In non-EU countries, proportions range from a high of 13% in North Macedonia to a low of 4% in Switzerland;

Online or printed newspapers are most likely to be used the least within the EU in Cyprus (20%), with the lowest proportion reported in Finland (3%), compared with the EU average of 9%. In non-EU countries, newspapers are most likely to be used the least in Kosovo (16%), with the lowest proportions reported in Norway (2%) and Switzerland (3%);

Online or printed magazines are most likely to be used the least within the EU in Ireland (15%), with the lowest proportions seen in Estonia, Luxembourg and Slovakia (5% in each), compared with the EU average of 8%. In non-EU countries, Iceland (14%) has the highest proportion and Switzerland (5%) the lowest;

Within the EU, television (on a TV set or via the internet) is most likely to be used the least (compared with the EU average of 7%) in Greece (16%), with the lowest proportion reported in Bulgaria (2%). In non-EU countries, television is most likely to be used the least in Albania (18%), with the lowest proportions seen in the UK, Montenegro, Serbia and Bosnia and Herzegovina (3% in each).



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA4b And now, please choose the source that you use the least.  
 (%)

		Online social networks and blogs (e.g. video hosting websites)	Scientific journals, either online or in print	Radio, including podcasts	Books, either in print or e-books	Online encyclopaedias e.g. Wikipedia	Newspapers, either online or in print	Magazines, either online or in print	Television, on a TV set or via the internet	Other (SPONTANEOUS)	You do not look for information about developments in science and technology	Don't know
EU27		19	17	15	13	10	9	8	7	0	1	1
BE		22	25	15	13	8	5	7	5	0	0	0
BG		16	19	12	15	10	11	9	2	0	3	3
CZ		21	28	14	14	4	7	6	6	0	0	0
DK		21	15	16	15	10	7	11	5	0	0	0
DE		27	17	12	14	9	7	7	6	0	0	1
EE		22	16	20	18	7	5	5	7	0	0	0
IE		20	29	6	9	11	5	15	5	0	0	0
EL		8	15	17	10	7	16	8	16	1	2	0
ES		12	19	14	12	16	8	8	8	0	1	2
FR		22	14	15	10	10	11	8	8	0	1	1
HR		11	18	18	24	8	8	8	4	0	1	0
IT		20	15	18	12	11	9	7	5	0	2	1
CY		9	10	20	14	7	20	12	5	0	1	2
LV		12	24	17	15	6	14	7	5	0	0	0
LT		9	20	17	17	8	11	10	8	0	0	0
LU		25	16	17	13	7	5	5	12	0	0	0
HU		14	15	14	18	9	14	9	5	0	2	0
MT		9	13	23	15	8	9	11	6	0	1	5
NL		19	24	16	14	8	6	8	5	0	0	0
AT		21	17	13	13	12	8	6	6	1	1	2
PL		12	13	15	16	10	12	11	9	0	1	1
PT		17	16	18	14	13	8	10	4	0	0	0
RO		14	11	16	16	10	14	10	5	0	3	1
SI		12	20	11	22	9	10	9	5	1	0	1
SK		14	31	12	13	11	5	5	7	0	1	1
FI		27	13	21	16	5	3	10	5	0	0	0
SE		24	26	14	16	4	4	7	5	0	0	0
TR		9	12	34	8	10	13	9	5	0	0	0
MK		10	11	21	11	13	13	9	8	1	3	0
AL		19	12	10	14	7	11	9	18	0	0	0
ME		12	7	36	17	12	7	6	3	0	0	0
RS		17	19	22	14	9	8	6	3	0	1	1
NO		26	18	17	15	6	2	12	4	0	0	0
CH		32	23	13	14	4	3	5	6	0	0	0
UK		17	30	11	11	9	8	11	3	0	0	0
IS		13	25	8	16	10	9	14	5	0	0	0
XK		5	9	39	9	10	16	8	4	0	0	0
BA		13	14	21	16	12	11	10	3	0	0	0
		1st MOST FREQUENTLY MENTIONED ITEM		2nd MOST FREQUENTLY MENTIONED ITEM			3rd MOST FREQUENTLY MENTIONED ITEM					

## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

As would be expected, differences between socio-demographic and key variable groups in terms of the sources of information that they use the least to find out about developments in science and technology reflect the findings in relation to the sources that different groups use the most.

This is particularly evident in relation to age, a key determinant of the sources of information that people use. For instance, while only 2% of those aged 75 and over and 3% of 65-74 year olds choose television as the source that they use the least, this stands at 10% among 15-24 year olds and 11% among 25-34 year olds; conversely, while only 4% of 15-24 year olds and 8% of 25-34 year olds choose social networks and blogs as the source that they use the least, this rises to 25% of 55-64 year olds, 35% of 65-74 year olds and 43% of those aged 75 and over.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA4b** And now, please choose the source that you use the least.  
(% - EU)

	Television, on a TV set or via the internet	Newspapers, either online or in print	Online encyclopaedias e.g. Wikipedia	Magazines, either online or in print	Radio, including podcasts	Books, either in print or e-books	Online social networks and blogs (e.g. video hosting websites)	Scientific journals, either online or in print	Other (SPONTANEOUS)	You do not look for information about developments in science and technology	Don't know
EU27	7	9	10	8	15	13	19	17	0	1	1
Gender											
Man	7	10	10	7	15	15	20	14	0	1	1
Woman	6	9	11	8	14	12	19	19	0	1	1
Age											
15-24	10	14	7	10	21	17	4	15	0	1	1
25-39	10	10	10	9	18	15	9	17	0	1	1
40-54	6	9	10	8	15	14	17	19	0	1	1
55+	4	7	11	6	11	10	32	16	0	2	1
Education (end of)											
15-	2	7	12	7	9	13	30	14	0	4	2
16-19	4	11	12	7	13	15	18	18	0	1	1
20+	9	7	9	8	15	11	22	18	0	0	1
Still studying	11	13	7	11	23	14	5	14	0	1	1
Socio-professional category											
Self-employed	10	6	12	8	15	14	17	17	0	0	1
Managers	9	8	9	7	15	13	22	16	0	0	1
Other white collars	6	10	9	10	16	15	15	19	0	0	0
Manual workers	6	10	12	8	15	16	12	20	0	1	0
House persons	3	10	11	8	14	15	19	16	0	3	1
Unemployed	9	13	9	9	17	12	10	19	0	1	1
Retired	3	7	11	6	10	9	36	15	0	2	1
Students	11	13	7	11	23	14	5	14	0	1	1
Difficulties paying bills											
Most of the time	8	12	12	8	14	15	13	16	0	1	1
From time to time	7	11	11	8	15	14	15	16	0	2	1
Almost never/ Never	6	9	10	8	14	13	21	17	0	1	1
Use of the Internet											
Everyday	7	9	10	8	16	14	16	18	0	1	1
Often/Sometimes	4	10	12	6	9	12	31	14	0	1	1
Never	2	9	11	6	8	9	38	10	0	5	2
Left-right political scale											
Left	7	8	10	7	15	12	21	18	0	1	1
Centre	6	9	11	9	14	13	20	17	0	1	0
Right	6	10	10	8	15	15	18	16	0	1	1
Medical discoveries											
Interested	7	9	11	8	15	11	23	15	0	0	1
Moderately interested	6	9	9	8	15	14	18	19	0	1	1
Not interested	6	12	9	9	13	16	14	17	0	3	1
Scientific discoveries											
Interested	9	9	10	8	16	12	22	13	0	0	1
Moderately interested	5	9	10	8	15	14	18	19	0	1	1
Not interested	4	10	11	8	11	14	19	18	0	4	1
Environmental problems											
Interested	8	8	10	8	15	11	22	17	0	0	1
Moderately interested	6	10	10	8	15	15	17	17	0	1	1
Not interested	6	12	11	8	12	15	16	15	0	3	2
Influence of science and technology											
Positive	6	9	10	8	15	13	19	18	0	1	1
Negative	8	12	9	10	14	13	18	13	0	2	1
Correct answers to questions about scientific knowledge											
Less than 5 correct answers	5	11	12	8	13	14	17	17	0	2	1
Between 5 and 8 correct answers	7	10	11	8	15	13	17	17	0	1	1
More than 8 correct answers	8	7	7	7	16	12	27	16	0	0	0
Religiosity / Spirituality											
Total 'Not very or not spiritual or religious'	8	9	9	8	15	14	20	17	0	0	0
Total 'Neither spiritual or religious nor not spiritual or religious'	6	9	11	8	15	13	18	18	0	1	1
Total 'Quite or very spiritual or religious'	6	10	11	7	14	12	21	16	0	2	1
Worked in research / science / innovative technology development											
You alone do or did in the past	14	7	10	8	16	10	25	9	0	1	0
A family member does or did in the past	11	10	8	7	14	9	24	16	0	0	1
Both you and a family member do or did in the past	18	6	8	7	18	7	25	11	0	0	0
No	6	9	10	8	15	14	18	18	0	1	1

## 4. Knowledge of natural history, demographics and geography

The remaining sections of this chapter explore people's actual knowledge and understanding of science in a broad sense. This was done via a 'quiz' format, where respondents were presented with a set of 11 statements – some factual and others non-factual – and asked to say whether they believed each statement to be true or false. The findings are reported in three broad topic areas: natural history, demographics and geography; the natural and physical sciences; and common conspiracy theories. The final section of this chapter summarises people's knowledge and understanding of scientific issues by looking at the number of correct answers that respondents gave.

Respondents were presented with four statements that relate to natural history, demographics and geography, and asked to say whether they believed them to be true or false. For each statement, respondents could also say they did not know if they were unsure of their answer (the "don't know" answer option was read out loud in face-to-face interviewing and immediately visible in online interviewing). The four statements were:

- *"The earliest humans lived at the same time as the dinosaurs"* (FALSE);
- *"The continents on which we live have been moving for millions of years and will continue to move in the future"* (TRUE);
- *"The world's human population is currently more than 10 billion"* (FALSE);
- *"Human beings, as we know them today, developed from earlier species of animals"* (TRUE).

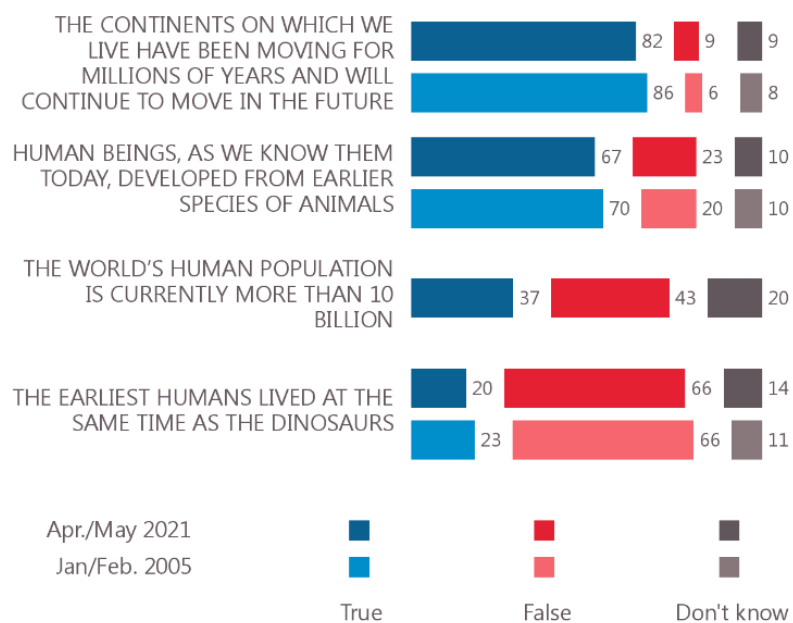
Across the four questions, people are most likely to be able to correctly say that it is true that *"The continents on which we live have been moving for millions of years and will continue to move in the future"*. The large majority of respondents in the EU (82%) correctly identify this statement as true. Only 9% of respondents incorrectly say that it is false, and 9% unable to say if it is true or false.

Two-thirds of respondents (67%) correctly say that it is true that *"Human beings, as we know them today, developed from earlier species of animals"*. Just under one in four respondents (23%) incorrectly identify this as false, with one in ten respondents (10%) unable to say if this statement is true or false.

A similar proportion of respondents (66%) correctly say that it is false that *"The earliest humans lived at the same time as the dinosaurs"*. One in five respondents (20%) incorrectly identify it as true. One in seven respondents (14%) say they don't know whether the statement is true or false.

Respondents in the EU are less likely to know what the world's population is: just over two-fifths (43%) of respondents correctly say that it is false that *"The world's human population is currently more than 10 billion"*. A slightly smaller proportion (37%) of respondents incorrectly identify it as true, with one in five (20%) unable to say if it is true or false.

**QA20** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
(% - EU)



Three of these questions were included in an earlier Eurobarometer Survey (Special Eurobarometer 224 EB 63.1) conducted in 2005. Since then, there has been a small drop in the proportions correctly saying that it is true that continents have been moving for millions of years and will continue to move in the future (-4 pp); and correctly saying that it is true that human beings developed from earlier species of animals (-3 pp), with corresponding increases in the proportions incorrectly thinking each statement is false (both +3 pp). In relation to whether the earliest humans lived at the same time as the dinosaurs, there has been no change in the proportion correctly identifying this as false, though there has been a small drop in the proportion incorrectly thinking that it is true (-3 pp) and a corresponding increase in the proportion who don't know whether the statement is true or false (+3 pp).

<sup>9</sup> This item is new and was not asked in 2005.

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Looking at the current survey results, in most EU Member States (22/27) the majority of respondents correctly say that it is false that *"The earliest humans lived at the same time as the dinosaurs"*<sup>9</sup>:

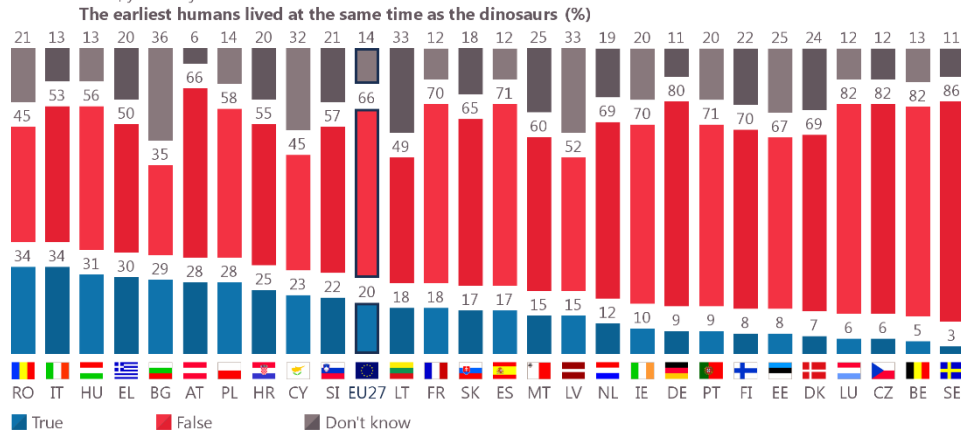
Respondents are most likely to correctly say that it is false that the earliest humans lived at the same time as the dinosaurs in Sweden (86%), Luxembourg, Czechia and Belgium (82% in each) and Germany (80%). This compares with the EU average of 66%. A minority of respondents correctly say this is false in Bulgaria (35%), Romania and Cyprus (both 45%) and Lithuania (49%). Around a third or more of respondents say they don't know whether the statement is true or false in Bulgaria (36%), Lithuania and Latvia (both 33%) and Cyprus (32%) – compared with the EU average of 14%.

Among the non-EU countries surveyed, the proportion of respondents who correctly say that it is false that the earliest humans lived at the same time as the dinosaurs is highest in Switzerland (80%), followed by Iceland (73%), with only a minority of respondents correct in Albania (26%), Kosovo (34%) and Turkey (42%). Kosovo has a notably high proportion (48%) of respondents unable to say if this statement is true or false.

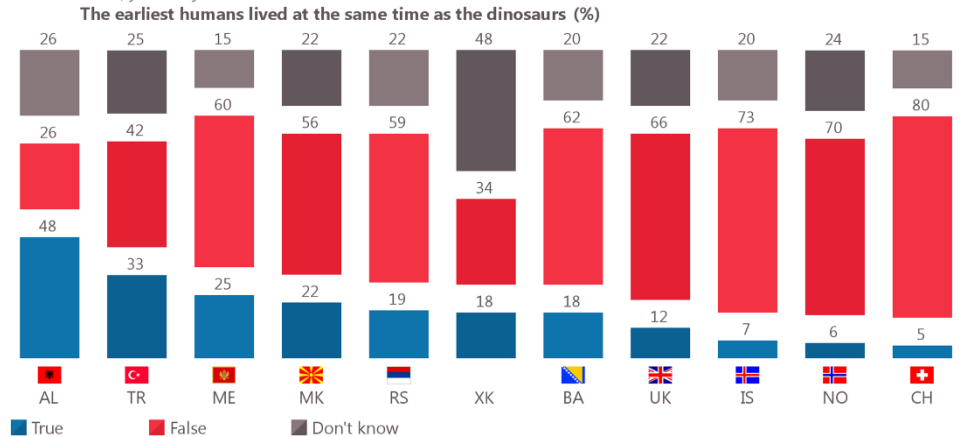
Comparing the 2021 findings with those of 2005, there are 12 EU Member States where the proportion of respondents who correctly say that it is false that the earliest humans lived at the same time as the dinosaurs has increased, with the most notable shifts in Portugal (+18 pp), Spain (+15 pp), Ireland (+14 pp) and Belgium and Malta (both +12 pp). Among the 11 EU Member States where the proportion who correctly say this statement is false has dropped, the most notable decreases are in Slovenia (-14 percentage points), Hungary (-13 pp) and Bulgaria and Denmark (both -10 pp).

Among the non-EU countries surveyed, the most notable changes are in Turkey, where the proportion of respondents who correctly say that it is false that the earliest humans lived at the same time as the dinosaurs has increased (+12 pp); and in Norway, where the proportion who correctly say this statement is false has dropped (-10 pp).

**QA20.1** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.1** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.









































<sup>9</sup> In this question "True" is incorrect and "False" is correct.

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA20.1 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

**The earliest humans lived at the same time as the dinosaurs (%)**

		True		False		Don't know
			Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005	
EU27		20	▼ 3	66	=	14
BG		29	▲ 13	35	▼ 10	36
HU		31	▲ 13	56	▼ 13	13
RO		34	▲ 13	45	▲ 3	21
AT		28	▲ 12	66	▼ 3	6
HR		25	▲ 2	55	▼ 5	20
IT		34	▲ 2	53	▼ 2	13
SI		22	▲ 2	57	▼ 14	21
EL		30	▲ 1	50	=	20
SK		17	▼ 1	65	=	18
DE		9	▼ 2	80	=	11
FR		18	▼ 3	70	=	12
NL		12	▼ 3	69	▼ 6	19
LT		18	▼ 5	49	▼ 9	33
PL		28	▼ 5	58	▲ 5	14
SE		3	▼ 6	86	▼ 1	11
DK		7	▼ 8	69	▼ 10	24
CZ		6	▼ 9	82	▲ 4	12
CY		23	▼ 9	45	▲ 5	32
LU		6	▼ 9	82	▲ 5	12
EE		8	▼ 12	67	▲ 1	25
ES		17	▼ 12	71	▲ 15	12
LV		15	▼ 12	52	▲ 1	33
FI		8	▼ 13	70	▼ 2	22
MT		15	▼ 14	60	▲ 12	25
IE		10	▼ 17	70	▲ 14	20
PT		9	▼ 17	71	▲ 18	20
BE		5	▼ 19	82	▲ 12	13
TR		33	▼ 9	42	▲ 12	25
MK		22	N/A	56	N/A	22
AL		48	N/A	26	N/A	26
ME		25	N/A	60	N/A	15
RS		19	N/A	59	N/A	22
IS		7	▼ 5	73	▲ 1	20
CH		5	▼ 4	80	▲ 1	15
NO		6	▼ 7	70	▼ 10	24
UK		12	▼ 16	66	▲ 3	22
XK		18	N/A	34	N/A	48
BA		18	N/A	62	N/A	20

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, in almost all EU Member States (24/27) the majority of respondents correctly say that it is true that "Human beings, as we know them today, developed from earlier species of animals"<sup>10</sup>:

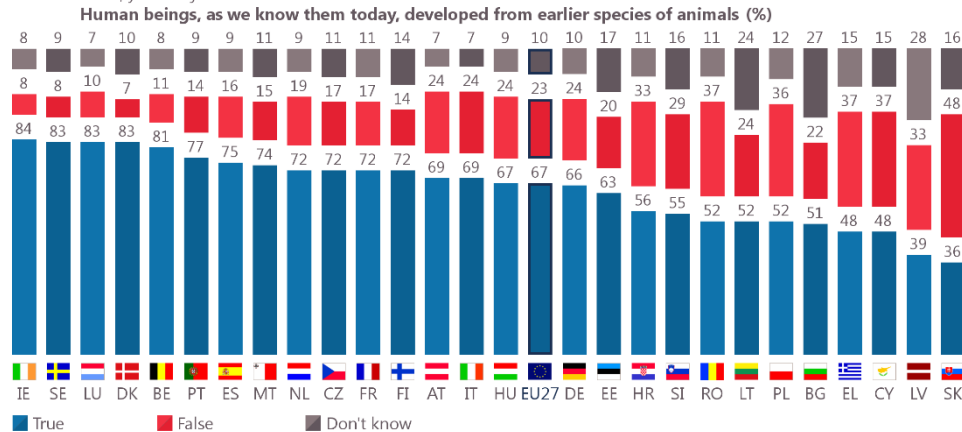
Respondents are most likely to correctly say that human beings developed from earlier species of animals in Ireland (84%), Sweden, Luxembourg and Denmark (83% in each) and Belgium (81%). This compares with the EU average of 67%. The exceptions, where only a minority correctly say that this is true are Slovakia (36%), Latvia (39%) and Greece and Cyprus (both 48%). Latvia has a markedly high proportion of respondents (28%) unable to say if this statement is true or false, along with Bulgaria (27%) and Lithuania (24%) – compared with the EU average of 10%.

Among the non-EU countries surveyed, respondents in Iceland (86%), and the UK and Norway (both 79%) are most likely to correctly say that it is true that human beings developed from earlier species of animals, while those in Kosovo (22%), Turkey (37%), Montenegro (40%), Bosnia and Herzegovina (40%), and Albania (49%) are the least likely. Kosovo has an exceptionally high proportion of respondents (48%) who don't know whether the statement is true or false.

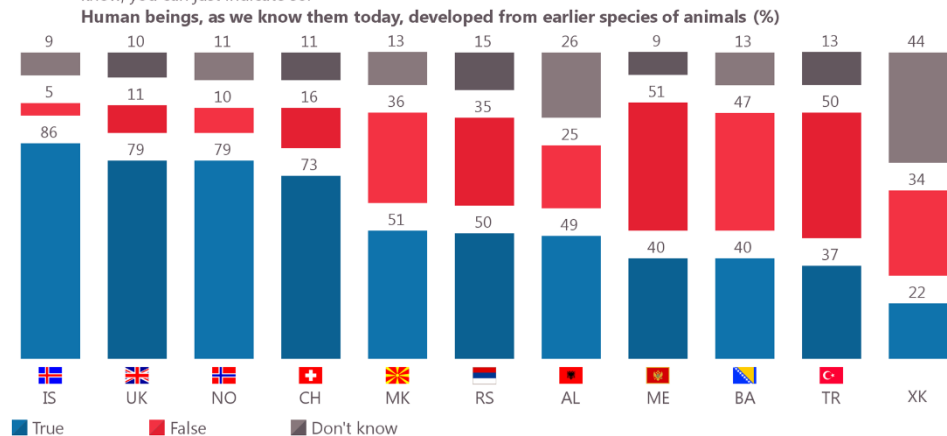
Comparing the current survey findings with those of 2005, there are 14 EU Member States where the proportion of respondents correctly saying that it is true that human beings developed from earlier species of animals has increased, with the most notable changes in Ireland (+17 pp), Luxembourg (+15 pp), Portugal (+13 pp) and Malta and Austria (both +12 pp). Among the ten EU Member States where the proportion who correctly say this statement is true has dropped, Slovakia has a particularly large decline (-24 pp), followed by Slovenia (-12 pp) and Latvia (-10 pp).

Among the non-EU countries surveyed, the most notable changes are again in Turkey, along with Switzerland, where the proportion of respondents who give a correct answer has increased (+10 and +11 pp respectively).

**QA20.8** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.8** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.







































<sup>10</sup> In this question "True" is correct and "False" is incorrect.

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA20.8 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

**Human beings, as we know them today, developed from earlier species of animals (%)**

		True	Diff. April/May 2021 - January/February 2005	False	Diff. April/May 2021 - January/February 2005	Don't know
EU27		67	▼ 3	23	▲ 3	10
IE		84	▲ 17	8	▼ 13	8
LU		83	▲ 15	10	▼ 13	7
PT		77	▲ 13	14	▼ 7	9
MT		74	▲ 12	15	▼ 10	11
AT		69	▲ 12	24	▼ 4	7
BE		81	▲ 7	11	▼ 10	8
CZ		72	▲ 6	17	▼ 10	11
FI		72	▲ 6	14	▼ 13	14
NL		72	▲ 4	19	▼ 4	9
LT		52	▲ 3	24	▼ 6	24
ES		75	▲ 2	16	=	9
CY		48	▲ 2	37	▲ 1	15
BG		51	▲ 1	22	▲ 1	27
SE		83	▲ 1	8	▼ 5	9
DK		83	=	7	▼ 6	10
IT		69	=	24	▲ 4	7
HU		67	=	24	▲ 3	9
EE		63	▼ 1	20	▲ 1	17
HR		56	▼ 2	33	▲ 5	11
DE		66	▼ 3	24	▲ 1	10
RO		52	▼ 3	37	▲ 12	11
EL		48	▼ 6	37	▲ 5	15
PL		52	▼ 7	36	▲ 9	12
FR		72	▼ 8	17	▲ 5	11
LV		39	▼ 10	33	▲ 6	28
SI		55	▼ 12	29	▲ 4	16
SK		36	▼ 24	48	▲ 19	16
TR		37	▲ 10	50	▼ 1	13
MK		51	N/A	36	N/A	13
AL		49	N/A	25	N/A	26
ME		40	N/A	51	N/A	9
RS		50	N/A	35	N/A	15
CH		73	▲ 11	16	▼ 12	11
NO		79	▲ 5	10	▼ 8	11
UK		79	▲ 4	11	▼ 6	10
IS		86	▲ 1	5	▼ 2	9
XK		22	N/A	34	N/A	44
BA		40	N/A	47	N/A	13



## Special Eurobarometer 516

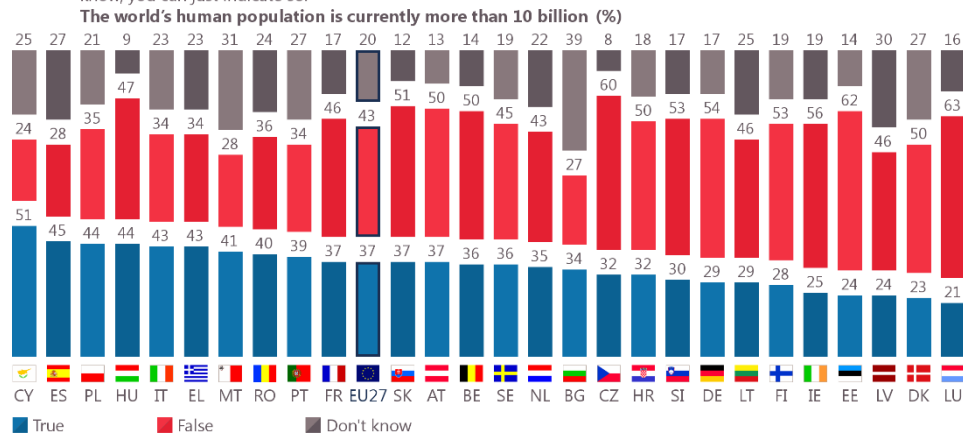
### European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, there are 12 EU Member States where at least half of respondents correctly say it is false that *"The world's human population is currently more than 10 billion"*<sup>11</sup>:

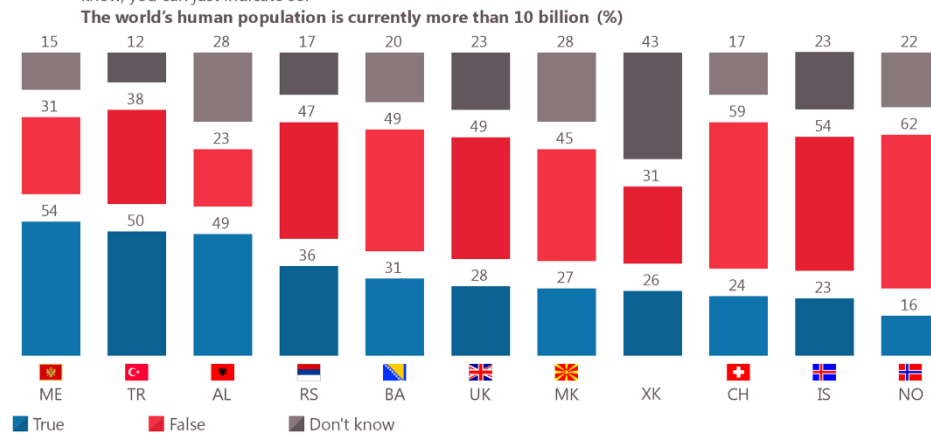
Respondents are most likely to correctly say that it is false that the world's population is more than 10 billion in Luxembourg (63%), Estonia (62%) and Czechia (60%), with the lowest proportions reported in Cyprus (24%), Bulgaria (27%), and Spain and Malta (both 28%). This compares with the EU average of 43%. A notably high proportion of respondents in Bulgaria (39%) and Malta (31%) don't know whether the statement is true or false, compared with the EU average of 20%.

Among the non-EU countries surveyed, Norway (62%) and Switzerland (59%) have the highest proportions of respondents correctly saying it is false that the world's human population is more than 10 billion, with the lowest in Albania (23%). As seen in relation to measures already reported on in this section, Kosovo has an exceptionally high proportion of respondents (48%) who are unable to say if it is true or false that the world's population is more than 10 billion.

**QA20.6** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.6** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



<sup>11</sup> In this question "True" is incorrect and "False" is correct.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The majority of respondents across all EU Member States correctly say that it is true that “The continents on which we live have been moving for millions of years and will continue to move in the future”<sup>12</sup>:

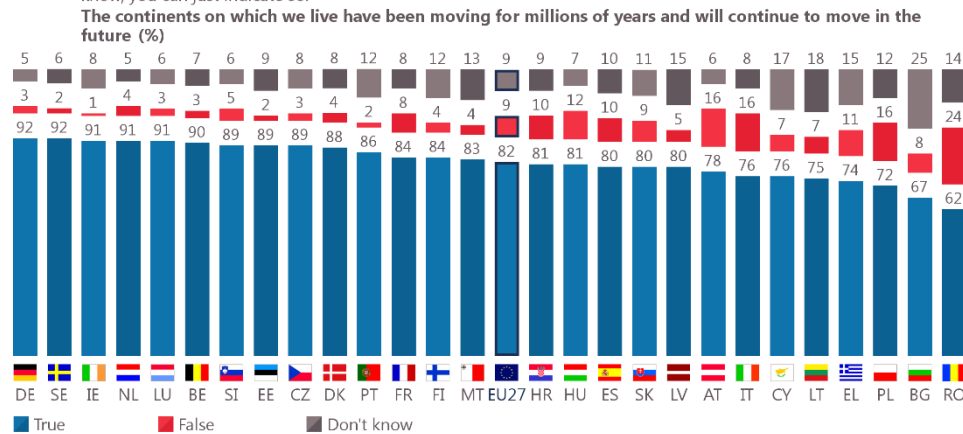
There are six EU Member States where at least nine in ten respondents correctly say that it is true that continents have been moving for millions of years and will continue to do so: Germany and Sweden (both 92%), Ireland, the Netherlands and Luxembourg (91% in each) and Belgium (90%). The lowest proportion is in Romania (62%), followed by Bulgaria (67%). This compares with the EU average of 82%.

Among the non-EU countries surveyed, at least nine in ten respondents correctly say that it is true that continents have been moving for millions of years and will continue to do so in Switzerland (94%) and Norway (91%), with the lowest proportions saying that this is correct in Kosovo (35%), Albania (54%), North Macedonia (60%), and Serbia (65%). Again, as seen on earlier measures in this section, Kosovo has an exceptionally high proportion of respondents (47%) unable to say if it is true or false that continents have been moving for millions of years and will continue to do.

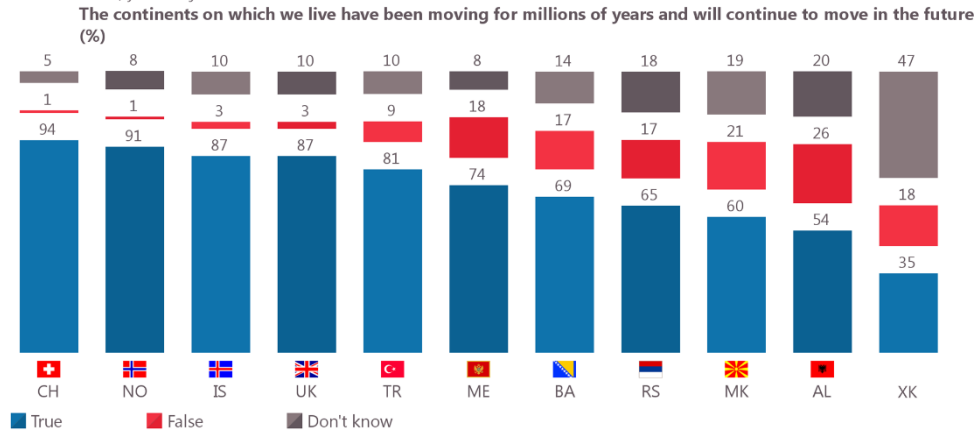
Comparing current survey findings with those of 2005, there are eight EU Member States where the proportion of respondents correctly saying that it is true that continents have been moving for millions of years and will continue to do so has increased, with the most notable shifts in Ireland (+14 pp) and Portugal (+10 pp). Among the 16 EU Member States where the proportion who correctly say this statement is true has dropped, the most notable changes are in Austria (-10 pp), France (-9 pp), and Poland and Finland (both -8 pp).

Among the non-EU countries surveyed, the most notable change is again in Turkey, where the proportion of respondents who give a correct answer has increased (+15 pp).

**QA20.2** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.2** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.










































<sup>12</sup> In this question “True” is correct and “False” is incorrect.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA20.2 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

**The continents on which we live have been moving for millions of years and will continue to move in the future (%)**

		True	Diff. April/May 2021 - January/February 2005	False	Diff. April/May 2021 - January/February 2005	Don't know
EU27		82	▼ 4	9	▲ 3	9
IE		91	▲ 14	1	▼ 9	8
PT		86	▲ 10	2	▼ 5	12
LV		80	▲ 6	5	▼ 2	15
CY		76	▲ 5	7	▼ 1	17
MT		83	▲ 5	4	▼ 1	13
SK		80	▲ 5	9	▼ 4	11
BG		67	▲ 4	8	▲ 1	25
EE		89	▲ 3	2	▼ 4	9
ES		80	=	10	▲ 1	10
IT		76	=	16	▲ 6	8
HU		81	=	12	▲ 3	7
DE		92	▼ 1	3	▼ 1	5
HR		81	▼ 1	10	▲ 3	9
LT		75	▼ 1	7	▼ 1	18
LU		91	▼ 1	3	▼ 1	6
BE		90	▼ 2	3	▼ 3	7
CZ		89	▼ 2	3	▼ 2	8
SE		92	▼ 2	2	▼ 1	6
EL		74	▼ 3	11	▲ 4	15
NL		91	▼ 3	4	▲ 2	5
RO		62	▼ 5	24	▲ 15	14
SI		89	▼ 5	5	▲ 2	6
DK		88	▼ 7	4	▲ 2	8
PL		72	▼ 8	16	▲ 8	12
FI		84	▼ 8	4	▼ 2	12
FR		84	▼ 9	8	▲ 5	8
AT		78	▼ 10	16	▲ 11	6
TR		81	▲ 15	9	▼ 4	10
MK		60	N/A	21	N/A	19
AL		54	N/A	26	N/A	20
ME		74	N/A	18	N/A	8
RS		65	N/A	17	N/A	18
IS		87	▼ 5	3	▲ 1	10
CH		94	▼ 1	1	▼ 1	5
UK		87	▼ 5	3	▼ 1	10
NO		91	▼ 1	1	▼ 3	8
XK		35	N/A	18	N/A	47
BA		69	N/A	17	N/A	14

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Some consistent patterns emerge in terms of the extent to which people in different socio-demographic groups are able to answer the four questions correctly. The following groups are more likely than their counterparts to give the correct answer to all four questions:

Men, compared with women, with the most marked difference seen in relation to the size of the world's human population (men 51% correct, women 34% correct);

People who have stayed in education longer, with the most marked differences seen in relation to whether the earliest humans lived at the same time as dinosaurs – those who completed full-time education aged 20 or over (75% correct), aged 16-19 (61%), and aged 15 or under (53%); and the size of the world's population – those who completed full-time education aged 20 or over (50%), aged 16-19 (38%), and aged 15 or under (28%);

Managers and students, particularly when compared with housepersons, with the most marked differences on the questions about the size of the world's population: managers (55% correct), students (54%) and housepersons (30%); and whether human beings developed from earlier animal species: managers (77% correct), students (75%) and housepersons (54%);

People who tend not to be in financial difficulty, with the most marked differences in relation to the question about whether the earliest humans lived at the same time as dinosaurs – those who 'never' or 'almost never' have difficulties paying their household bills (70% correct); those who have difficulties 'from time to time' (58%); and those who have difficulties 'most of the time' (50%);

People who use the internet, particularly those who use it every day, with the most marked differences in relation to the questions about whether human beings developed from earlier animal species – use the internet every day (70% correct), use it sometimes/often (55%), never use it (49%); and whether the continents have been moving for millions of years and will continue to do so – use the internet every day (85% correct), use it sometimes/often (73%), never use it (64%).







In relation to age, younger people are more likely than older people to give correct answers on three of the quiz questions. The exception is the question about whether the continents have been moving for millions of years and will continue to do so, where there are no notable differences across the age groups among those who correctly say that this is true.

There are also some consistent patterns in relation to some of the key variable groups. Most notably, the proportion of respondents who answer all four questions correctly is higher among people who think that the overall influence of science and technology on society is positive; those who are more interested in new scientific discoveries and developments, new medical discoveries and environmental problems; and those who have, or did have in the past, a professional association with research, science and innovative technology development, either through their own work or the work of a family member.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA20.1-2/6/8** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
(% - Correct answer)

	The earliest humans lived at the same time as the dinosaurs	Human beings, as we know them today, developed from earlier species of animals	The world's human population is currently more than 10 billion	The continents on which we live have been moving for millions of years and will continue to move in the future
EU27	66	67	43	82
 <b>Gender</b>				
Man	69	70	51	84
Woman	64	64	34	80
 <b>Age</b>				
15-24	72	73	52	81
25-39	69	72	45	84
40-54	67	67	43	84
55+	62	62	38	80
 <b>Education (end of)</b>				
15-	53	57	28	70
16-19	61	64	38	81
20+	75	73	50	87
Still studying	73	75	54	83
 <b>Socio-professional category</b>				
Self-employed	67	69	47	82
Managers	77	77	55	90
Other white collars	67	70	40	85
Manual workers	65	64	39	80
House persons	58	54	30	73
Unemployed	61	67	36	79
Retired	60	61	37	79
Students	73	75	54	83
 <b>Difficulties paying bills</b>				
Most of the time	50	57	31	69
From time to time	58	62	36	74
Almost never/ Never	70	69	46	85
<b>Use of the Internet</b>				
Everyday	69	70	45	85
Often/ Sometimes	62	55	38	73
Never	50	49	30	64
 <b>Left-right political scale</b>				
Left	72	73	47	86
Centre	67	65	40	83
Right	61	63	44	78
<b>Medical discoveries</b>				
Interested	70	71	44	86
Moderately interested	67	67	44	81
Not interested	55	55	36	72
<b>Scientific discoveries</b>				
Interested	74	75	51	90
Moderately interested	66	66	42	81
Not interested	53	56	29	69
<b>Environmental problems</b>				
Interested	72	72	47	88
Moderately interested	64	65	41	80
Not interested	51	57	33	68
<b>Influence of science and technology</b>				
Positive	68	69	44	84
Negative	59	54	38	69
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	25	38	13	55
Between 5 and 8 correct answers	69	67	39	84
More than 8 correct answers	95	91	76	99
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	76	77	51	88
Total 'Neither spiritual or religious nor not spiritual or religious'	64	66	39	81
Total 'Quite or very spiritual or religious'	56	52	36	73
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	76	72	58	85
A family member does or did in the past	77	74	52	88
Both you and a family member do or did in the past	78	84	64	91
No	64	66	40	81

## 5. Knowledge of the natural and physical sciences

This section of the report focuses on five statements that relate to science:

- “Antibiotics kill viruses as well as bacteria” (FALSE);
- “The oxygen we breathe comes from plants” (TRUE);
- “Lasers work by focusing sound waves” (FALSE);
- “Climate change is for the most part caused by natural cycles rather than human activities” (FALSE);
- “The methods used by the natural sciences and the social sciences are equally scientific” (TRUE).

Across the five statements about science covered in this section, people are most likely to be able to correctly say that it is true that “The oxygen we breathe comes from plants”. The large majority of respondents in the EU (82%) correctly say that this statement is true. One in eight respondents (13%) incorrectly say that it is false. A very small minority (5%) are unable to say if it is true or false.

Two-thirds (65%) of respondents correctly say that it is false that “Climate change is for the most part caused by natural cycles rather than human activities”<sup>13</sup>. A quarter of respondents (26%) incorrectly say that the statement is true. One in eleven respondents (9%) are unable to say whether it is true or false.

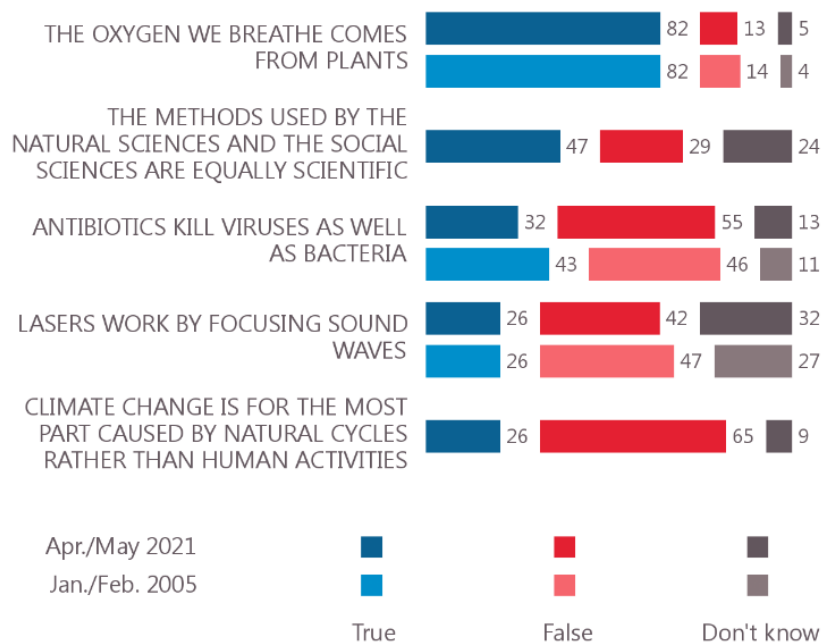
More than half of respondents (55%) correctly say that it is false that “Antibiotics kill viruses as well as bacteria”. A third of respondents (32%) incorrectly think that the statement is true. One in eight respondents (13%) are unable to say if it is true or false.

Nearly half (47%) of respondents think that “The methods used by the natural sciences and the social sciences are equally scientific”<sup>14</sup> is true. Three in ten respondents (29%) incorrectly say that this is false; and around one in four (24%) are unable to express an opinion.

Respondents are least likely to know that that “Lasers work by focusing sound waves” (42%). A quarter of respondents (26%) incorrectly think that this is true, and a notably large proportion of respondents (32%) are unable to give an answer.

Three of these questions were included in an earlier Eurobarometer Survey (Special Eurobarometer 224 EB 63.1) conducted in 2005. Since then, there has been a notable increase in the proportion correctly saying that it is false that antibiotics kill viruses as well as bacteria (+9 pp), with a somewhat greater drop in the proportion incorrectly thinking that it is true (-11 pp), and a small increase in the proportion unable to say if it is true or false (+2 pp). In relation to whether lasers work by focusing on sound waves, there has been a drop in the proportion correctly saying that this is false (-5 pp), no change in the proportion incorrectly saying that this is true, and an increase in the proportion unable to express an opinion (+5 pp). The results for the question about whether the oxygen we breathe

**QA20** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
 (% - EU)



comes from plants are very similar across the two surveys (no more than +/-1 pp difference).

<sup>13</sup> This is a new item that was not asked in 2005.

<sup>14</sup> This is a new item that was not asked in 2005.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, the majority of respondents across all EU Member States correctly say that it is true that *"The oxygen we breathe comes from plants"*<sup>15</sup>:

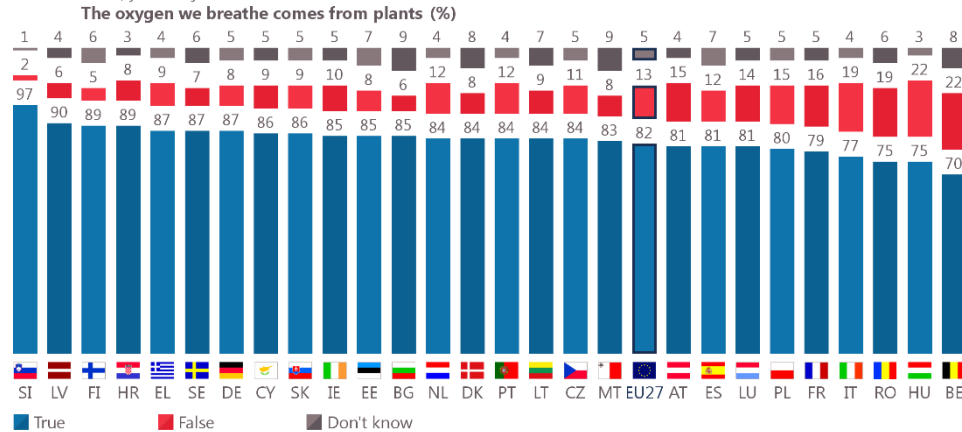
The proportion of respondents correctly saying that it is true that the oxygen we breathe comes from plants ranges from 97% in Slovenia, and 90% in Latvia, to 70% in Belgium. This compares with the EU average of 82%.

Among the non-EU countries surveyed, Albania has a very low proportion of respondents (52%) correctly saying that it is true that the oxygen we breathe come from plants. As seen in relation to measures reported earlier, Kosovo also has a notably high proportion of respondents (22%) who don't know whether the statement is true or false, as does Albania (19%).

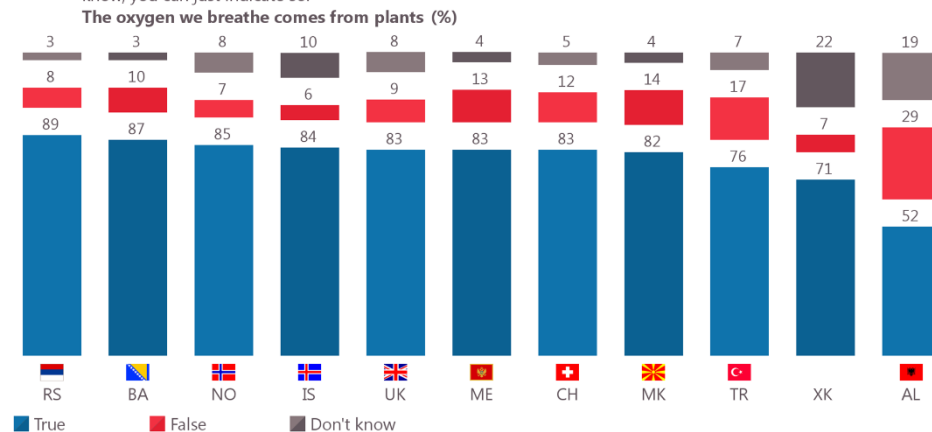
Comparing the current results with those from 2005, there are 13 EU Member States where the proportion of respondents who correctly saying that it true that the oxygen we breathe comes from plants has increased, with the most notable changes in Malta (+16 pp), Cyprus (+14 pp) and Ireland (+10 pp). There are 12 EU Member States where the proportion who correctly say this statement is true has dropped, with the most notable shifts in Hungary (-17 pp), Estonia (-12 pp) and Romania (-11 pp).

Among the non-EU countries surveyed, the largest change is in Turkey where, in line with findings reported in the previous section, the proportion of respondents who give a correct answer has increased (+6 pp).

QA20.4 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



QA20.4 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.










































<sup>15</sup> In this question "True" is correct and "False" is incorrect.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA20.4 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

#### The oxygen we breathe comes from plants (%)

		True	Diff. April/May 2021 - January/February 2005	False	Diff. April/May 2021 - January/February 2005	Don't know
EU27		82	=	13	▼ 1	5
MT		83	▲ 16	8	▼ 13	9
CY		86	▲ 14	9	▼ 14	5
IE		85	▲ 10	10	▼ 5	5
ES		81	▲ 8	12	▼ 9	7
SI		97	▲ 7	2	▼ 7	1
FI		89	▲ 7	5	▼ 9	6
BE		70	▲ 6	22	▼ 11	8
BG		85	▲ 5	6	▼ 4	9
EL		87	▲ 5	9	▼ 6	4
LV		90	▲ 5	6	▼ 2	4
LT		84	▲ 3	9	▼ 3	7
DE		87	▲ 2	8	▼ 4	5
FR		79	▲ 1	16	▼ 3	5
HR		89	=	8	▲ 1	3
IT		77	=	19	▲ 2	4
PT		84	▼ 1	12	▲ 3	4
SE		87	▼ 1	7	▼ 2	6
CZ		84	▼ 2	11	=	5
NL		84	▼ 2	12	▼ 1	4
SK		86	▼ 2	9	=	5
AT		81	▼ 3	15	▲ 5	4
DK		84	▼ 6	8	=	8
PL		80	▼ 6	15	▲ 6	5
LU		81	▼ 7	14	▲ 4	5
RO		75	▼ 11	19	▲ 14	6
EE		85	▼ 12	8	▲ 6	7
HU		75	▼ 17	22	▲ 18	3
TR		76	▲ 6	17	▼ 3	7
MK		82	N/A	14	N/A	4
AL		52	N/A	29	N/A	19
ME		83	N/A	13	N/A	4
RS		89	N/A	8	N/A	3
IS		84	▼ 3	6	=	10
UK		83	▲ 1	9	▼ 4	8
NO		85	▼ 1	7	▼ 5	8
CH		83	▼ 1	12	=	5
XK		71	N/A	7	N/A	22
BA		87	N/A	10	N/A	3



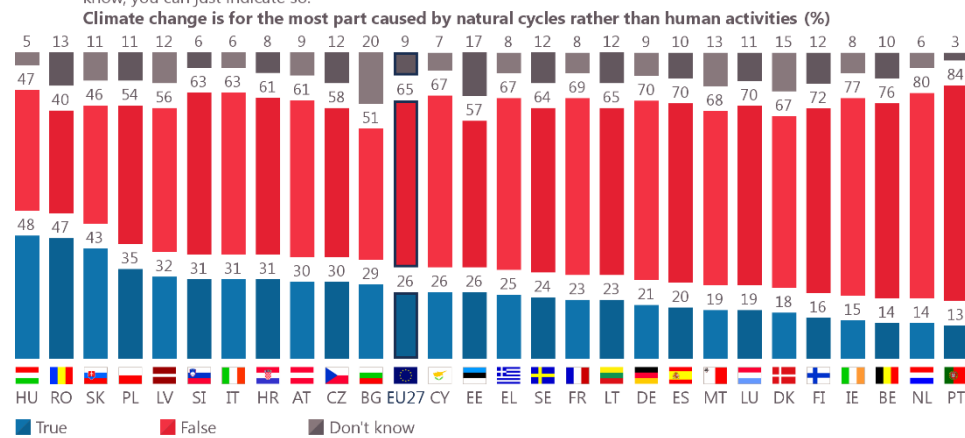
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, in almost all EU Member States (24/27), the majority of respondents correctly say it is false that “Climate change is for the most part caused by natural cycles rather than human activities”<sup>16</sup>.

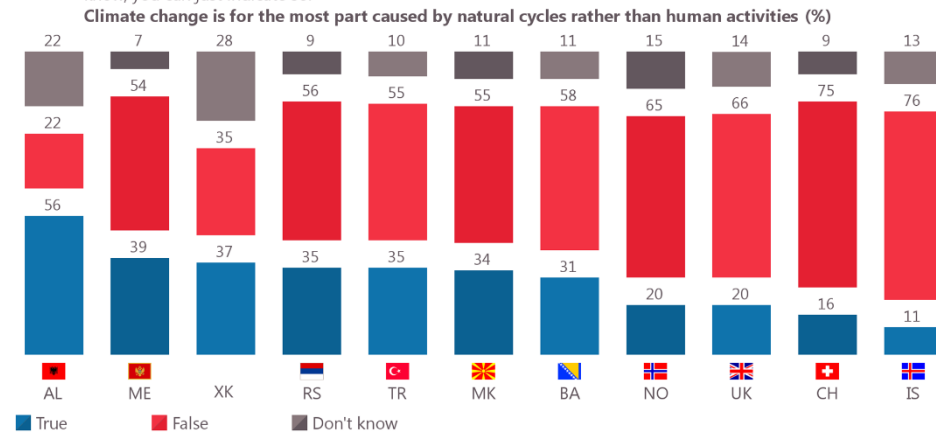
At least three-quarters of respondents correctly say it is false that climate change is for the most part caused by natural cycles rather than human activities in four countries: Portugal (84%), the Netherlands (80%), Ireland (77%) and Belgium (76%). This compares with the EU average of 65%. By contrast, there are three countries where only a minority of respondents correctly say that this statement is false: Romania (40%), Slovakia (46%) and Hungary (47%). The proportion of respondents unable to give an answer is highest in Bulgaria (20%), compared with the EU average of 9%.

Among the non-EU countries, the highest proportion of respondents saying that it is false that climate change is for the most part caused by natural cycles rather than human activities is found in Switzerland (75%). The only non-EU countries where a minority of respondents correctly say that it is false that climate change is mostly caused by natural cycles rather than human activities are Albania (22%) and Kosovo (35%). The proportion of respondents unable to give an answer is highest in Kosovo (28%), followed by Albania (22%).

**QA20.9** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.9** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



<sup>16</sup> For this question “True” is incorrect and “False” is correct.

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In just over half of the EU Member States (14/27), the majority of respondents correctly say it is false that “Antibiotics kill viruses as well as bacteria”<sup>17</sup>:

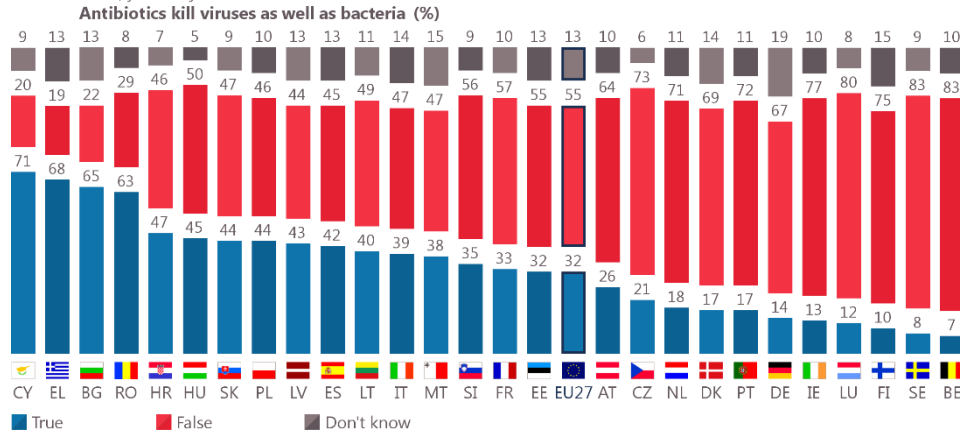
There are five EU Member States where at least three-quarters of respondents correctly say that it is false that antibiotics kill viruses as well as bacteria: Sweden and Belgium (both 83%), Luxembourg (80%), Ireland (77%) and Finland (75%). This compares with the EU average of 55%. The lowest proportions of respondents correctly saying that this is false are in Greece (19%), Cyprus (20%), Bulgaria (22%) and Romania (29%).

Among the non-EU countries surveyed, respondents in Switzerland and Norway (both 79%) are the most likely to correctly say that it is false that antibiotics kill viruses as well as bacteria, with the lowest proportions of respondents correctly saying this is false in Kosovo (15%), Albania (22%), North Macedonia (32%) and Bosnia and Herzegovina (38%). Once again, Kosovo has a high proportion (25%) of respondents unable to say if the statement is true or false (compared with the EU average of 13%), although it is lower than the proportions reported on other measures.

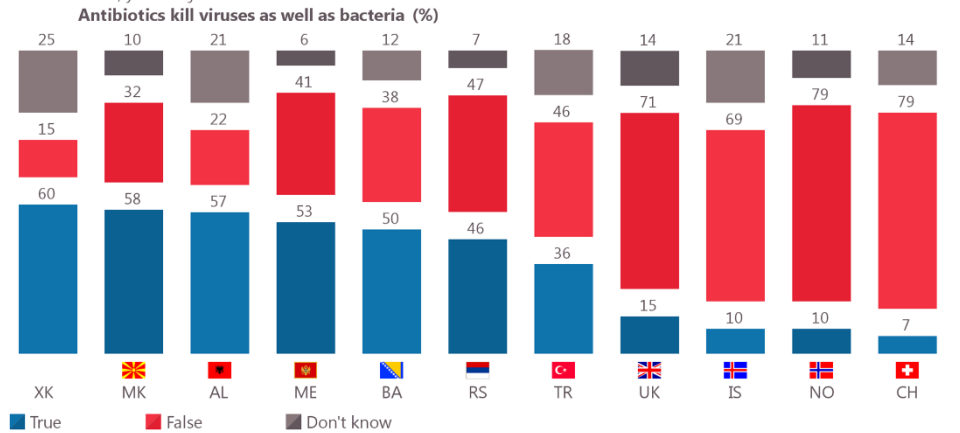
Comparing the 2021 survey results with those from 2005, there are 24 EU Member States where the proportion of respondents correctly saying that it is false that antibiotics kill viruses as well as bacteria has increased, with a particularly large increase in Portugal (+43 pp), followed by Estonia (+32 pp), Latvia (+30 pp), Lithuania and Malta (both +28 pp), Czechia (+26 pp), Austria and Poland (both +24 pp), Belgium, Germany and Slovakia (+22 pp in each) and Ireland (+21 pp). Among the three EU Member States where the proportion who correctly say this statement is false has dropped, the most notable change is in Greece (-13 pp).

Among the non-EU countries surveyed, the largest change is again in Turkey, where the proportion of respondents who correctly say that it is false that antibiotics kill viruses as well as bacteria has increased (+24 pp). Switzerland and the UK also show big increases in the proportions who answer correctly (+18 and +14 pp respectively).

**QA20.3** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.3** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



<sup>17</sup> For this question “True” is incorrect and “False” is correct.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA20.3 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

#### Antibiotics kill viruses as well as bacteria (%)

		True	Diff. April/May 2021 - January/February 2005	False	Diff. April/May 2021 - January/February 2005	Don't know
EU27		32	▼ 11	55	▲ 9	13
EL		68	▲ 21	19	▼ 13	13
BG		65	▲ 10	22	▲ 4	13
RO		63	▲ 10	29	▲ 4	8
HU		45	▲ 4	50	▲ 2	5
HR		47	▲ 2	46	▲ 1	7
FR		33	▼ 1	57	▼ 2	10
IT		39	▼ 1	47	▲ 1	14
CY		71	▼ 3	20	▲ 5	9
ES		42	▼ 4	45	▲ 9	13
NL		18	▼ 8	71	▲ 2	11
FI		10	▼ 8	75	▼ 2	15
SI		35	▼ 9	56	▲ 6	9
SE		8	▼ 10	83	▲ 5	9
AT		26	▼ 14	64	▲ 24	10
LU		12	▼ 17	80	▲ 16	8
IE		13	▼ 19	77	▲ 21	10
CZ		21	▼ 23	73	▲ 26	6
SK		44	▼ 23	47	▲ 22	9
PL		44	▼ 24	46	▲ 24	10
DK		17	▼ 25	69	▲ 16	14
PT		17	▼ 27	72	▲ 43	11
LV		43	▼ 28	44	▲ 30	13
LT		40	▼ 28	49	▲ 28	11
BE		7	▼ 29	83	▲ 22	10
MT		38	▼ 31	47	▲ 28	15
DE		14	▼ 32	67	▲ 22	19
EE		32	▼ 36	55	▲ 32	13
TR		36	▼ 13	46	▲ 24	18
MK		58	N/A	32	N/A	10
AL		57	N/A	22	N/A	21
ME		53	N/A	41	N/A	6
RS		46	N/A	47	N/A	7
IS		10	▼ 9	69	=	21
NO		10	▼ 12	79	▲ 6	11
UK		15	▼ 20	71	▲ 14	14
CH		7	▼ 22	79	▲ 18	14
XK		60	N/A	15	N/A	25
BA		50	N/A	38	N/A	12

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, there are only nine EU countries where at least half of respondents correctly say that it is false that “Lasers work by focusing on sound waves”<sup>18</sup>:

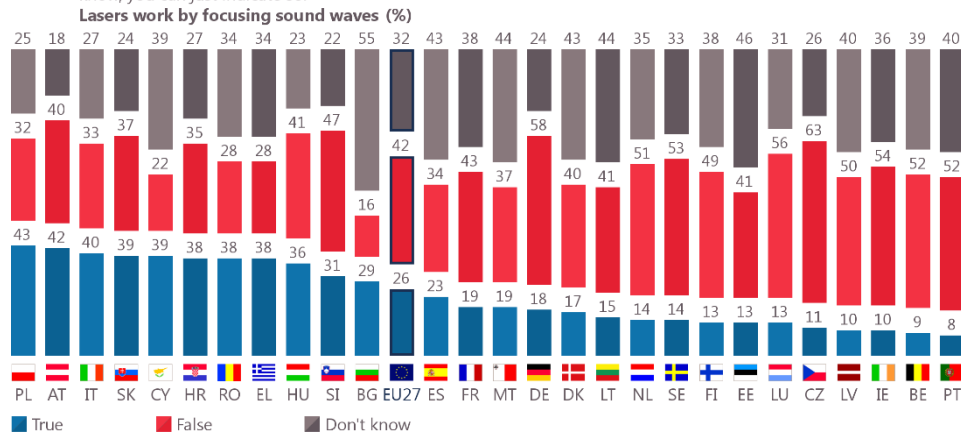
The proportion of respondents correctly saying that it is false that lasers work by focusing on sound waves is highest in Czechia (63%), followed by Germany (58%) and Luxembourg (56%), with the lowest proportions reported in Bulgaria (16%) and Cyprus (22%). This compares with the EU average of 42%. Bulgaria (55%), along with Estonia (46%), Malta and Lithuania (both 44%) and Spain and Denmark (both 43%) have notably high proportions of respondents unable to say if it is true or false that lasers work by focusing on sound waves, compared with the EU average of 32%.

Among the non-EU countries surveyed, Switzerland is the only one where a majority of respondents (56%) correctly say that it is false that lasers work by focusing on sound waves. The countries with the lowest proportion of respondents correctly saying that this is false are Kosovo (20%), Turkey (23%) and Montenegro (25%). Kosovo, once again, has an exceptionally high proportion of respondents (55%) unable to give an answer, as has Iceland (49%).

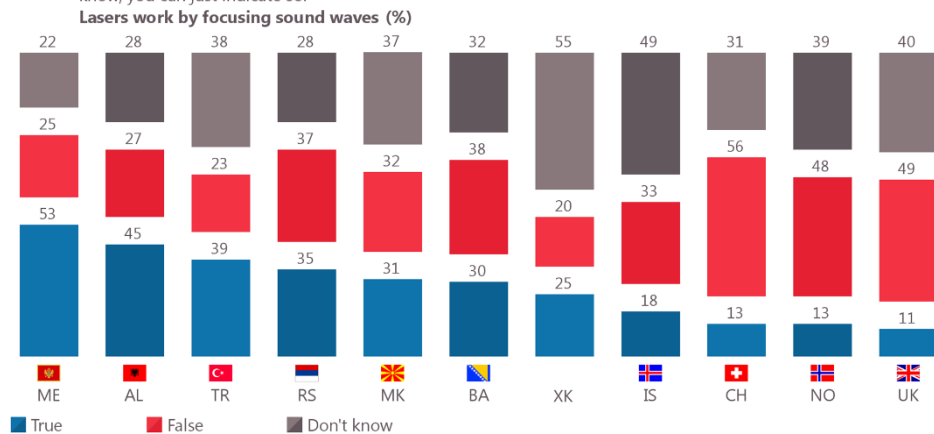
Comparing the current results with the 2005 findings, there are 11 EU Member States where the proportion of respondents who correctly say that it is false that lasers work by focusing on soundwaves has increased, with the most notable increases in Portugal (+26 pp), Latvia (+24 pp), Lithuania (+19 pp), and Ireland (+15 pp). Among the 12 EU Member States where the proportion who correctly say this statement is false has dropped, the most notable changes are in Slovakia (-20 pp), Poland (-16 pp), Sweden (-14 pp), Denmark and Slovenia (both -12 pp) and Croatia (-11 pp).

Among the non-EU countries surveyed, the most notable changes are in Switzerland, where the proportion of respondents who correctly say that it is false that lasers work by focusing on soundwaves has increased (+9 pp); and in Norway, where the proportion who correctly say this statement is false has dropped (-11 pp).

**QA20.5** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.5** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.


































<sup>18</sup> In this question “True” is incorrect and “False” is correct.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA20.5 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.

#### Lasers work by focusing sound waves (%)

		True		False		Don't know
			Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005	
EU27		26	=	42	▼ 5	32
RO		38	▲ 19	28	▼ 6	34
SK		39	▲ 19	37	▼ 20	24
HU		36	▲ 17	41	▼ 2	23
PL		43	▲ 17	32	▼ 16	25
IT		40	▲ 16	33	▼ 11	27
EL		38	▲ 14	28	▼ 4	34
HR		38	▲ 13	35	▼ 11	27
CY		39	▲ 12	22	▼ 3	39
AT		42	▲ 9	40	▲ 1	18
SI		31	▲ 8	47	▼ 12	22
BG		29	▲ 6	16	▼ 4	55
FR		19	▲ 1	43	▼ 7	38
MT		19	▼ 4	37	▲ 10	44
LU		13	▼ 6	56	▲ 13	31
SE		14	▼ 7	53	▼ 14	33
ES		23	▼ 9	34	▼ 2	43
NL		14	▼ 9	51	▼ 7	35
PT		8	▼ 13	52	▲ 26	40
DK		17	▼ 14	40	▼ 12	43
DE		18	▼ 14	58	▲ 12	24
FI		13	▼ 14	49	▼ 3	38
CZ		11	▼ 15	63	▲ 8	26
EE		13	▼ 16	41	▲ 4	46
LV		10	▼ 16	50	▲ 24	40
LT		15	▼ 16	41	▲ 19	44
BE		9	▼ 19	52	▼ 3	39
IE		10	▼ 19	54	▲ 15	36
TR		39	▲ 12	23	▼ 6	38
MK		31	N/A	32	N/A	37
AL		45	N/A	27	N/A	28
ME		53	N/A	25	N/A	22
RS		35	N/A	37	N/A	28
IS		18	▼ 9	33	=	49
NO		13	▼ 7	48	▼ 11	39
UK		11	▼ 11	49	▼ 3	40
CH		13	▼ 11	56	▲ 9	31
XK		25	N/A	20	N/A	55
BA		30	N/A	38	N/A	32

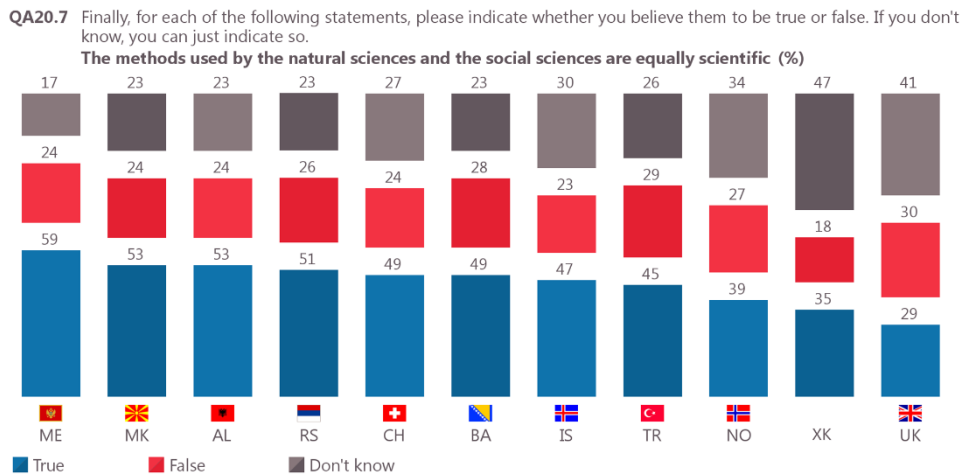
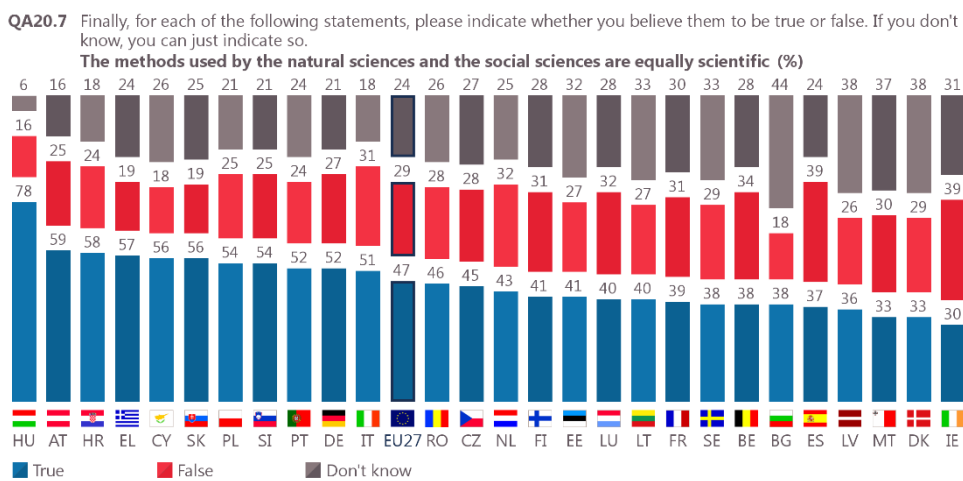
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Looking at the current survey findings, at least half of respondents across 11 EU Member States correctly say that it is true that *"The methods used by the natural sciences and the social sciences are equally scientific"*<sup>19</sup>.

The proportion of respondents correctly saying that it is true that methods used by the natural sciences and the social sciences are equally scientific is highest in Hungary (78%), followed by Austria (59%), Croatia (58%), and Greece (57%). The lowest proportions are in Ireland (30%), Denmark and Malta (both 33%) and Latvia (36%). This compares with the EU average of 47%. A notably high proportion of respondents say they don't know whether the statement is true or false in Bulgaria (44%), Latvia and Denmark (both 38%) and Malta (37%), compared with the EU average of 24%.

Among the non-EU countries surveyed, the proportion of respondents correctly saying it is true that methods used by the natural sciences and the social sciences are equally scientific is highest in Montenegro (59%), followed Albania and North Macedonia (both 53%), and lowest in the United Kingdom (29%). Again, as seen in relation to other measures reported in this section, Kosovo has an exceptionally high proportion of respondents (47%) unable to give an answer, as has the UK (41%).



<sup>19</sup> In this question "True" is correct and "False" is incorrect.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In terms of the extent to which people in different socio-demographic groups are able to answer the five questions correctly, there are less consistent patterns. The following groups are more likely than their counterparts to give the correct answer to questions:

Men, compared with women, in relation to whether the oxygen we breathe comes from plants and if lasers work by focusing sound waves, with the most marked difference seen in relation to how lasers work (men 51% correct, women 35% correct). There are only very small gender differences on the other two questions;

People who have stayed in education longer, across all five questions, with the most marked in relation to whether antibiotics kill viruses as well as bacteria – those who completed full-time education aged 20 or over (67% correct), aged 16-19 (50%), and aged 15 or under (37%); and the least marked in relation to whether the oxygen we breathe comes from plants – those who completed full-time education aged 20 or over (83% correct), aged 16-19 and aged 15 or under (80% in each group);

Managers, students, and self-employed people, particularly when compared with housepersons and unemployed people. Across four of the measures the most notable differences are in relation to the questions about lasers, with the proportion of respondents giving correct answers ranging from 31% among housepersons to 56% among managers; and whether antibiotics kill viruses as well as bacteria, with the proportion giving correct answers ranging from 46% of unemployed people and 47% of housepersons to 69% of managers. In relation to the fifth measure – whether the methods used by natural sciences and social sciences are equally scientific – the sub-group differences are much smaller, with managers (54%) most likely to correctly say that this is true and unemployed people (41%), housepersons (42%), and retired people (43%);

Across four of the questions, people who tend not to be in financial difficulty, with the most marked differences in relation to the question about whether antibiotics kill viruses as well as bacteria – those who 'never' or 'almost never' have difficulties paying their household bills (60% correct); those who have difficulties 'from time to time' (44%); and those who have difficulties 'most of the time' (38%);

People who use the internet, particularly those who use it every day, with the most marked differences in relation to the questions about whether antibiotics kill viruses as well as bacteria – use the internet every day (59% correct), use it sometimes/often (43%), never use it (33%); and how lasers work – use it every day (46% correct), use it sometimes/often (37%), never use it (22%);

In relation to age, there are no consistent patterns across the five questions, and differences tend to be small. The most notable are in relation to the question about climate change, with people under the age of 55 more likely to correctly say that it is false that climate change is for the most part caused by natural cycles rather than human activities – 70% of 15-24 years old compared to 62% of those aged 55 and over; and the question about lasers, with people under 55 also more likely to correctly say that it is false that lasers work by focusing on sound waves – 44% of 15-54 years old compared to 39% of those aged 55 and over.

There are some consistent patterns in relation to some of the key variable groups. Most notably, the proportion of respondents who answer all five questions correctly is higher among people who are more interested in new scientific discoveries and developments and new medical discoveries; and people who say they are not very or not at all spiritual or religious.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA20.3-5/7/9** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
(% - Correct answers)

	The oxygen we breathe comes from plants	Climate change is for the most part caused by natural cycles rather than human activities	Antibiotics kill viruses as well as bacteria	Lasers work by focusing sound waves	The methods used by the natural sciences and the social sciences are equally scientific
<b>EU27</b>	82	65	55	42	47
<b>Gender</b>					
Man	83	65	54	51	47
Woman	80	66	56	35	46
<b>Age</b>					
15-24	83	70	52	44	48
25-39	83	66	57	44	50
40-54	80	67	58	45	48
55+	81	62	53	39	44
<b>Education (end of)</b>					
15-	80	57	37	26	39
16-19	80	61	50	39	46
20+	83	71	67	52	50
Still studying	85	72	56	46	52
<b>Socio-professional category</b>					
Self-employed	82	67	60	45	46
Managers	83	73	69	56	54
Other white collars	81	67	59	40	50
Manual workers	81	61	51	41	45
House persons	80	57	47	31	42
Unemployed	78	64	46	37	41
Retired	81	61	51	38	43
Students	85	72	56	46	52
<b>Difficulties paying bills</b>					
Most of the time	75	58	38	30	36
From time to time	78	58	44	36	47
Almost never/ Never	83	68	60	45	47
<b>Use of the Internet</b>					
Everyday	82	68	59	46	49
Often/Sometimes	78	55	43	37	41
Never	78	52	33	22	39
<b>Left-right political scale</b>					
Left	84	73	62	46	52
Centre	82	65	55	42	47
Right	79	57	53	42	44
<b>Medical discoveries</b>					
Interested	82	69	62	46	45
Moderately interested	82	65	54	42	49
Not interested	78	55	42	35	44
<b>Scientific discoveries</b>					
Interested	83	70	64	55	49
Moderately interested	82	66	55	40	48
Not interested	77	55	41	28	41
<b>Environmental problems</b>					
Interested	84	76	62	48	49
Moderately interested	81	60	52	40	47
Not interested	75	46	43	33	40
<b>Influence of science and technology</b>					
Positive	83	66	57	43	49
Negative	70	60	49	38	38
<b>Correct answers to questions about scientific knowledge</b>					
Less than 5 correct answers	66	32	17	10	27
Between 5 and 8 correct answers	82	67	54	38	46
More than 8 correct answers	94	89	89	79	66
<b>Religiosity / Spirituality</b>					
Total 'Not very or not spiritual or religious'	83	70	64	52	47
Total 'Neither spiritual or religious nor not spiritual or religious'	81	63	54	41	47
Total 'Quite or very spiritual or religious'	81	61	43	30	46
<b>Worked in research / science / innovative technology development</b>					
You alone do or did in the past	81	67	71	63	52
A family member does or did in the past	81	74	70	55	47
Both you and a family member do or did in the past	84	84	74	68	54
No	82	64	52	39	47



## 6. Belief in conspiracy theories

The final set of statements covered in this chapter looks at beliefs in conspiracy theories using two measures:

- *“The cure for cancer exists but is hidden from the public by commercial interests” (FALSE);*
- *“Viruses have been produced in government laboratories to control our freedom” (FALSE).*

Within the EU27, more than half of respondents (55%) correctly say that it is false that *“Viruses have been produced in government laboratories to control our freedom”*. Just under three in ten respondents (28%) incorrectly say that it is true, with one in six (17%) unable to express an opinion.

More than half of respondents (56%) also correctly say that it is false that *“The cure for cancer exists but is hidden from the public by commercial interests”*. One in four respondents (26%) incorrectly say that this is true. Less than one in five respondents (18%) is unable to say whether it is true or false.

**QA20** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
 (% - EU)



■ True

■ False

■ Don't know

## Special Eurobarometer 516

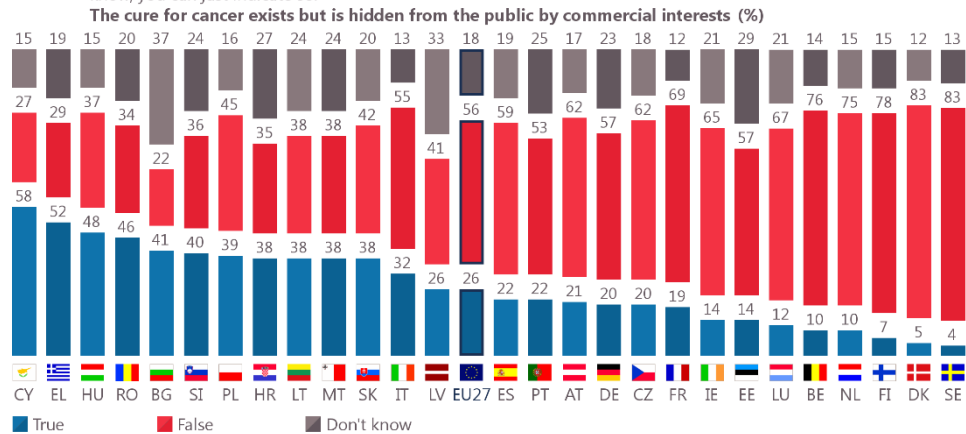
### European citizens' knowledge and attitudes towards science and technology

There are 15 EU Member States where the majority of respondents correctly say that it is false that *"The cure for cancer exists but is hidden from the public by commercial interests"*<sup>20</sup>.

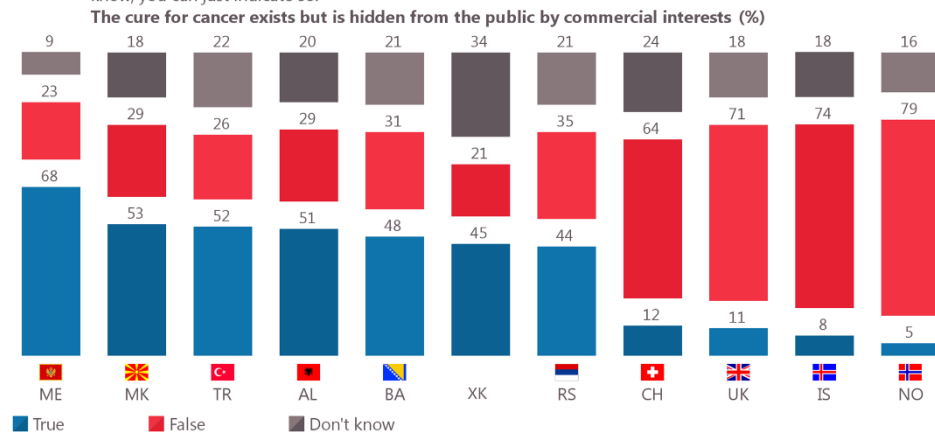
There are five EU Member States where at least three-quarters of respondents correctly say that it is false that a cancer cure exists but is hidden from the public by commercial interests: Denmark and Sweden (both 83%), Finland (78%), Belgium (76%) and the Netherlands (75%). Countries where the fewest respondents correctly say that it is false that a cancer cure exists but is hidden from the public for commercial interests are Bulgaria (22%), Cyprus (27%), Greece (29%) and Romania (34%). This compares with the EU average of 56%. Bulgaria has an exceptionally high proportion of respondents (37%) unable to give an answer, as has Latvia (33%), with high proportions also reported in Estonia (29%) and Croatia (27%), compared with the EU average of 18%.

Among the non-EU countries surveyed, Norway is the only one where more than three-quarters of respondents (79%) correctly say that it is false that the cure for cancer exists but is hidden from the public by commercial interests. It is followed by the UK (71%). Less than one in four respondents correctly say that this is false in Kosovo (21%) and Montenegro (23%). As seen in relation to other measures reported in this chapter, the proportion of respondents unable to give an answer on this measure is high in Kosovo (34%).

**QA20.10** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



**QA20.10** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



<sup>20</sup> In this question "True" is incorrect and "False" is correct.

## Special Eurobarometer 516

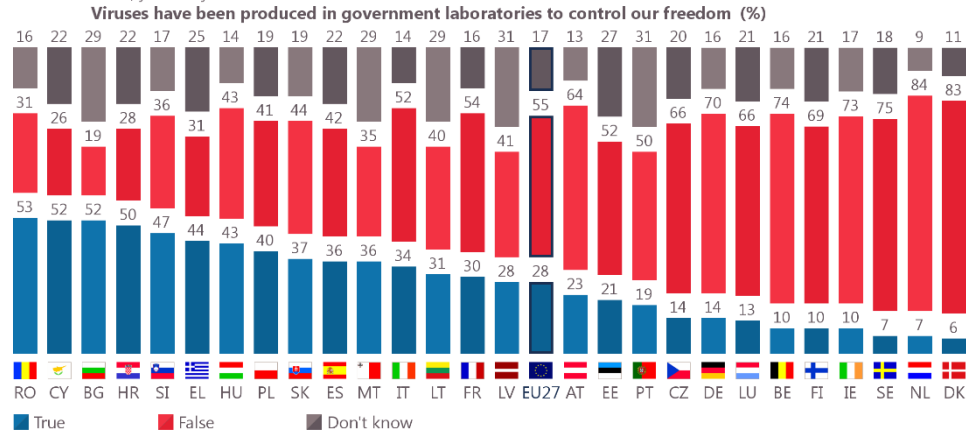
### European citizens' knowledge and attitudes towards science and technology

There are 13 EU Member States where the majority of respondents correctly say that it is false that “Viruses have been produced in government laboratories to control our freedom”<sup>21</sup>.

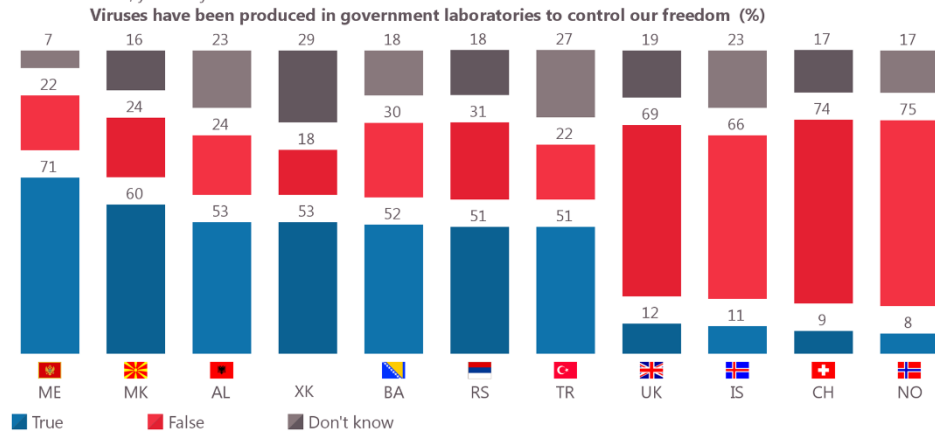
There are six EU Member States where at least seven in ten respondents correctly say that it is false that viruses have been produced in government laboratories to control our freedom: the Netherlands (84%), Denmark (83%), Sweden (75%), Belgium (74%), Ireland (73%) and Germany (70%). By contrast, less than three in ten respondents correctly say this statement is false in Bulgaria (19%), Cyprus (26%) and Croatia (28%). This compares with the EU average of 55%. The countries with the highest proportions of respondents unable to give an answer are Latvia and Portugal (both 31%), Bulgaria, Malta and Lithuania (29% in each), and Estonia (27%), compared with the EU average of 17%.

Among the non-EU countries surveyed, at least seven in ten respondents correctly say that it is false that viruses have been produced in government laboratories to control our freedom in Norway (75%) and Switzerland (74%). By contrast, less than three in ten respondents correctly say that this is false in Kosovo (18%), Turkey and Montenegro (both 22%) and North Macedonia and Albania (both 24%). Again, Kosovo has a high proportion of respondents (29%) who are unable to give an answer, as has Turkey (27%).

QA20.11 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



QA20.11 Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.



<sup>21</sup> In this question “True” is incorrect and “False” is correct.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Some consistent patterns emerge in terms of the extent to which people in different socio-demographic groups are able to answer both questions correctly. The following groups are more likely than their counterparts to give the correct answer to the two questions:

Men, when compared with women (6 pp. more men give the correct answer for both questions);

People who have stayed in education longer, with the most marked differences seen in relation to whether viruses have been produced in government laboratories to control our freedom – those who completed full-time education aged 20 or over (66% correct), aged 16-19 (48%), and aged 15 or under (38%);

Managers and, to a lesser extent, students, particularly when compared with housepersons and unemployed people, with, again, the most marked differences seen for the question about viruses being produced in government laboratories – managers (71% correct), students (62%) compared with housepersons (40%) and unemployed people (41%);

People who tend not to be in financial difficulty, with somewhat more marked differences in relation to the question about viruses being produced in government laboratories – those who 'never' or 'almost never' have difficulties paying their household bills (60% correct); those who have difficulties 'from time to time' (43%); and those who have difficulties 'most of the time' (31%);

People who use the internet, particularly those who use it every day, with similar differences across both questions.







In relation to age, differences are not particularly marked and not consistent across the two questions. People aged 15-24 and 40-54 are somewhat more likely than other age groups to give a correct answer in relation to whether a cancer cure exists – 15-24 year olds (59%), 40-54 year olds (58%), 25-39 year olds (56%), those aged 55 and over (55%). Young people aged 15-24 are somewhat more likely than those aged 25 and over to give a correct answer in relation to whether viruses are produced in government laboratories – 15-24 year olds (58%), compared with those aged 25 and over (53%-55%).

There are more consistent patterns in relation to some of the other key variable groups. Most notably, the proportion of respondents who answer both questions correctly is higher among people who think that the overall influence of science and technology on society is positive; those who are more interested in new scientific discoveries and developments, new medical discoveries and environmental problems; those who say they are not very or not at all spiritual or religious; and those who have, or did have in the past, a professional association with research, science and innovative technology development, through both their own work and that of a family member.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA20.10-11** Finally, for each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can just indicate so.  
(% - Correct answers)

	The cure for cancer exists but is hidden from the public by commercial interests	Viruses have been produced in government laboratories to control our freedom
EU27	56	55
 <b>Gender</b>		
Man	60	58
Woman	54	52
 <b>Age</b>		
15-24	59	58
25-39	56	55
40-54	58	55
55+	55	53
 <b>Education (end of)</b>		
15-	45	38
16-19	49	48
20+	68	66
Still studying	61	62
 <b>Socio-professional category</b>		
Self-employed	56	57
Managers	71	71
Other white collars	58	57
Manual workers	51	47
House persons	48	40
Unemployed	48	41
Retired	54	52
Students	61	62
 <b>Difficulties paying bills</b>		
Most of the time	36	31
From time to time	44	43
Almost never/ Never	62	60
<b>Use of the Internet</b>		
Everyday	60	58
Often/Sometimes	46	44
Never	40	37
 <b>Left-right political scale</b>		
Left	64	65
Centre	55	54
Right	53	50
<b>Medical discoveries</b>		
Interested	61	59
Moderately interested	57	55
Not interested	44	41
<b>Scientific discoveries</b>		
Interested	65	63
Moderately interested	56	55
Not interested	43	38
<b>Environmental problems</b>		
Interested	63	63
Moderately interested	54	52
Not interested	41	35
<b>Influence of science and technology</b>		
Positive	59	58
Negative	40	35
<b>Correct answers to questions about scientific knowledge</b>		
Less than 5 correct answers	15	12
Between 5 and 8 correct answers	56	53
More than 8 correct answers	92	94
<b>Religiosity / Spirituality</b>		
Total 'Not very or not spiritual or religious'	65	64
Total 'Neither spiritual or religious nor not spiritual or religious'	55	54
Total 'Quite or very spiritual or religious'	45	41
<b>Worked in research / science / innovative technology development</b>		
You alone do or did in the past	67	68
A family member does or did in the past	70	69
Both you and a family member do or did in the past	81	78
No	54	52

## 7. Overall science literacy

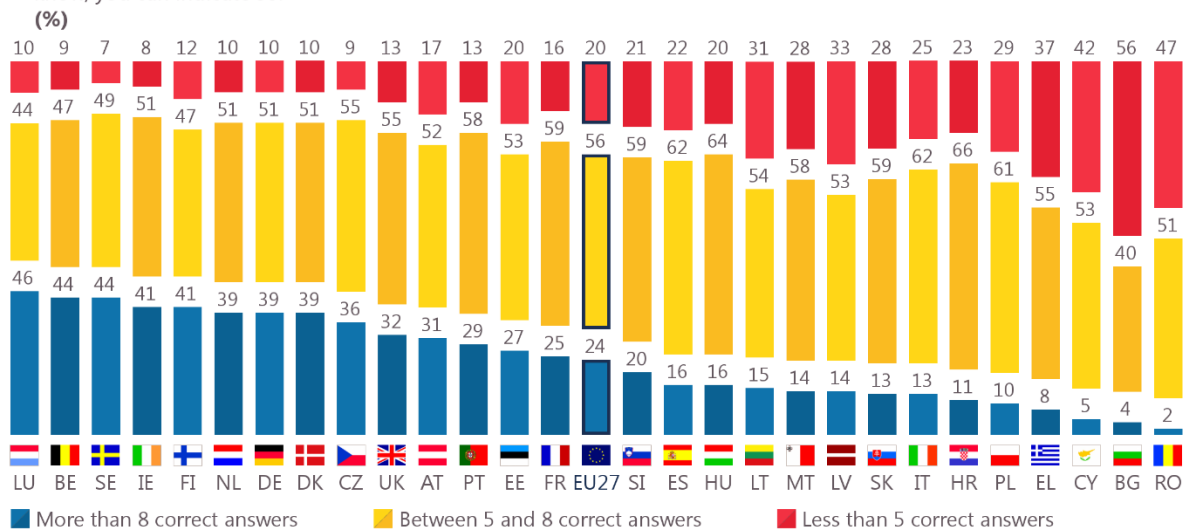
The final section of this chapter presents an overview looking at the number of correct and incorrect answers respondents gave across all 11 'quiz' questions that were included in the survey.

Within the EU, around one-fifth of respondents (24%) correctly answered more than eight out of 11 questions, over half (56%) give between five and eight correct answers, and around one in five (20%) are able to provide less than five correct answers.

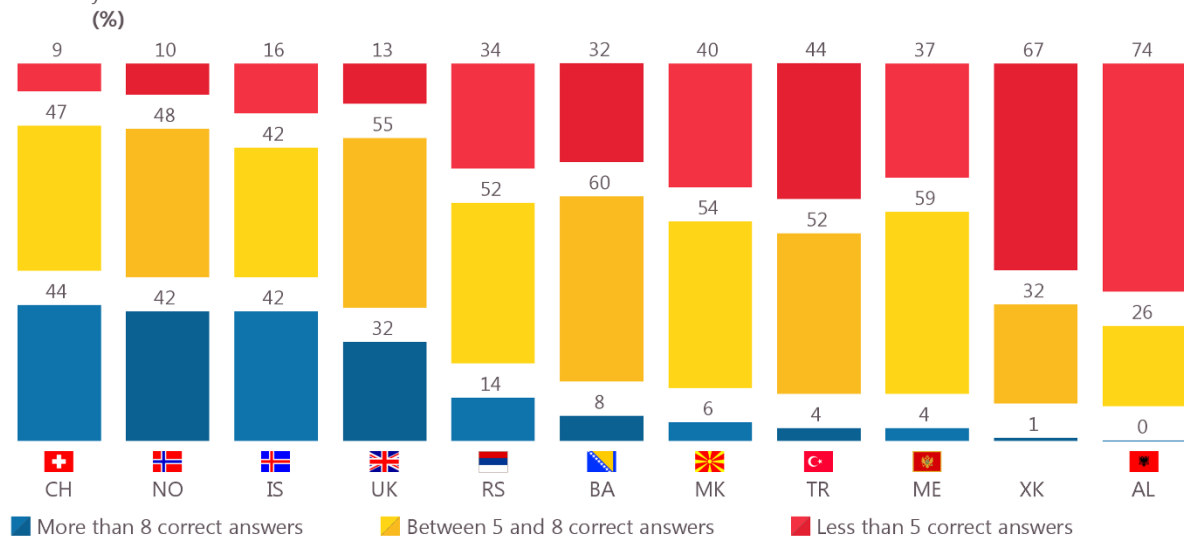
In the EU, respondents are most likely to be able to give more than eight correct answers in Luxembourg (46%), Belgium and Sweden (both 44%), Ireland and Finland (both 41%), Denmark, the Netherlands and Germany (all 39%). The countries where respondents are most likely to give less than five correct answers are Bulgaria (56%), Romania (47%) and Cyprus (42%).

Among the non-EU countries surveyed, respondents are most likely to be able to give more than eight correct answers in Switzerland (44%), Norway and Iceland (both 42%), and most likely to be able to provide less than five correct answers in Albania (74%), Kosovo (67%) and Turkey (44%).

QA20T. For each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can indicate so.



QA20T For each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can indicate so.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic differences, in terms of the number of correct and incorrect answers respondents gave across the 11 questions, reflect the survey findings already described in section 3 of this chapter. Thus, the groups more likely to give correct answers across all the quiz questions are:

Men, who are more likely than women to give more than eight correct answers (29% vs 19%). Women are somewhat more likely than men to give between five and eight correct answers (58% vs 54%) and to provide less than five correct answers (23% vs 17%);

People aged 54 and under are more likely than those aged 55 and over to give more than eight correct answers (25%-29% of those aged 54 and under vs 20% of those aged 55 and over), and less likely to give less than five correct answers (16%-18% of those 54 and younger vs 24% of those 55 and older);

People who finished full-time education aged 20 or over (36%) are more likely to give more than eight correct answers than those who completed their full-time education aged 15 and under (9%) or 16-19 (16%). Conversely, those who finished full-time education aged 15 and under are more likely to give less than five correct answers (39%) or 16-19 (23%) than those finishing aged 20 and over (11%);

Managers (41%) and students (33%) are more likely than those in other occupational groups, particularly unemployed people (16%) and housepersons (12%) to give eight or more correct answers; and less likely to give less than five correct answers (managers 8% and students 13% compared to unemployed people 28% and housepersons 34%);

People who rarely or never have difficulties paying their household bills (28%) are more likely to give more than eight correct answers than those who have difficulties 'from time to time' (13%) or 'most of the time' (9%); and less likely to provide less than five correct answers ('most of the time' 40%, 'from time to time' 29%, 'almost never' or 'never' (16%));







The likelihood of scoring well on the quiz is associated with greater internet usage. Among people who use the internet every day, 27% give more than eight correct answers, compared with 11% of those who use the internet often or sometimes and 6% of those who do not use the internet. Conversely, almost half of non-users of the internet (44%) give fewer than five correct answers, compared with 28% of those using the internet often or sometimes and 16% of daily internet users.

In terms of differences across key variable groups, it is not surprising to find that people who say they are interested in the three areas of science (new medical discoveries, new scientific discoveries and technological developments, and environmental problems) are more likely to score highly in the quiz e.g. in relation to interest in new scientific discoveries: 35% of those who say they are "very interested" give more than eight correct answers; 22% of those who are "moderately interested"; and 9% of those who are "not at all interested". Conversely, those who say they are "not at all interested" in new scientific discoveries are more likely to give less than five correct answers (37%), compared with those who are "moderately interested" (19%) and "very interested" (11%). It is also not surprising that people who think science and technology has a positive influence on society and people who have some connection with work in a scientific profession, particularly those who have a personal and family member connection are more likely to score highly.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA20T** For each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can indicate so.  
(% - EU)

	Less than 5 correct answers	Between 5 and 8 correct answers	More than 8 correct answers
EU27	20	56	24
 <b>Gender</b>			
Man	17	54	29
Woman	23	58	19
 <b>Age</b>			
15-24	16	55	29
25-39	17	57	26
40-54	18	57	25
55+	24	56	20
 <b>Education (end of)</b>			
15-	39	52	9
16-19	23	61	16
20+	11	53	36
Still studying	13	54	33
 <b>Socio-professional category</b>			
Self-employed	18	56	26
Managers	8	51	41
Other white collars	17	60	23
Manual workers	22	60	18
House persons	34	54	12
Unemployed	28	56	16
Retired	26	55	19
Students	13	54	33
 <b>Difficulties paying bills</b>			
Most of the time	40	51	9
From time to time	29	58	13
Almost never/ Never	16	56	28
<b>Use of the Internet</b>			
Everyday	16	57	27
Often/Sometimes	28	61	11
Never	44	50	6
 <b>Left-right political scale</b>			
Left	15	54	31
Centre	23	57	20
Right	25	58	17
<b>Medical discoveries</b>			
Interested	15	58	27
Moderately interested	20	55	25
Not interested	34	54	12
<b>Scientific discoveries</b>			
Interested	11	54	35
Moderately interested	19	59	22
Not interested	37	54	9
<b>Environmental problems</b>			
Interested	13	54	33
Moderately interested	21	53	20
Not interested	39	53	8
<b>Influence of science and technology</b>			
Positive	18	56	26
Negative	32	59	9
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	13	54	33
Total 'Neither spiritual or religious nor not spiritual or religious'	23	58	19
Total 'Quite or very spiritual or religious'	36	53	11
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	12	45	43
A family member does or did in the past	10	51	39
Both you and a family member do or did in the past	4	40	56
No	22	58	20



## **II. VIEWS ON THE IMPACTS OF SCIENCE AND TECHNOLOGY**



## 1. Overall influence of science and technology on society

Respondents were asked for up to two characteristics that they think are the most influential in determining the status of a country or group of countries. The majority of EU respondents mention economic strength (51%), with living and working conditions and well-being (35%) the only other characteristic mentioned by more than one-third.

A quarter of respondents think social, health and welfare services (25%) are the most influential, one-fifth the rule of law (21%), and 18% mention scientific and technological advancement. At least one in ten also mention military and defence capabilities (13%) or the availability of natural resources (10%). Protection of the environment (9%) and the export of cultural works (4%) are least likely to be considered influential characteristics in determining the status of a country or group of countries.

**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
 (% - EU27)



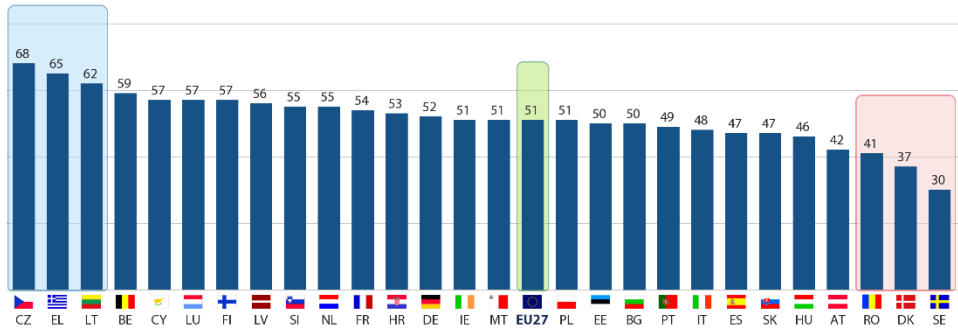
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

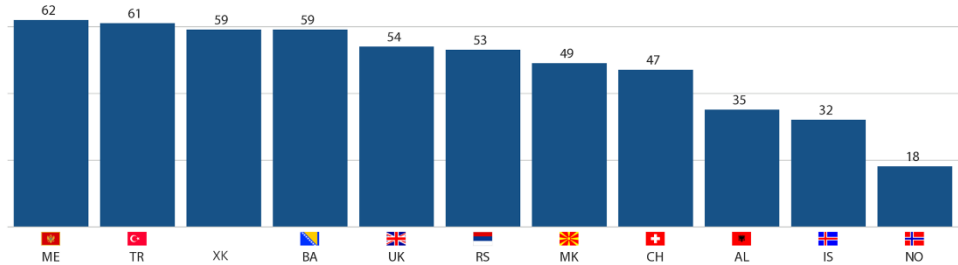
Across the EU, economic strength is seen as the most influential, but at a country level the proportions vary from 68% in Czechia, 65% in Greece and 62% in Lithuania to 30% in Sweden, 37% in Denmark and 41% in Romania. This is the most mentioned characteristic by respondents in 24 countries, the second most mentioned feature in Portugal (51%), and the third most mentioned in Denmark (37%) and Sweden (30%).

Outside of the EU, in eight countries the most common answer is **economic strength**, with the highest proportion seen in Montenegro (62%).

**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
(% - **ECONOMIC STRENGTH**)



**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
(% - **ECONOMIC STRENGTH**)



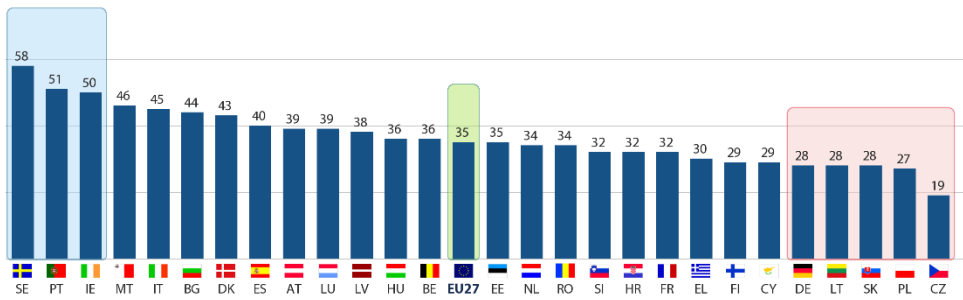
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

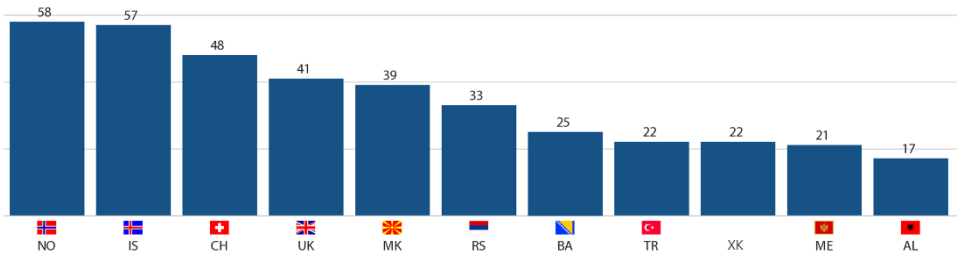
There are three countries where at least half of respondents mention living and working conditions and well-being: Sweden (58%), Portugal (51%) and Ireland (50%). In contrast this is least likely to be considered the most influential feature by respondents in Czechia (19%), Poland (27%), Slovakia, Germany and Lithuania (all 28%). Living and working conditions and well-being is the most mentioned feature in Sweden, Portugal and Denmark (43%), and either the second or third most mentioned characteristic in each other Member State.

In three non-EU countries—Norway, Switzerland, and Iceland, living and working conditions and well-being is the most mentioned item – particularly by those in Norway (58%).

**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
 (% - LIVING AND WORKING CONDITIONS AND WELL-BEING)



**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
 (% - LIVING AND WORKING CONDITIONS AND WELL-BEING)



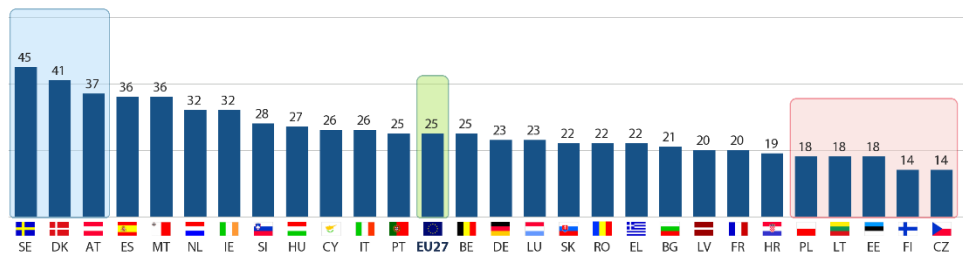
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

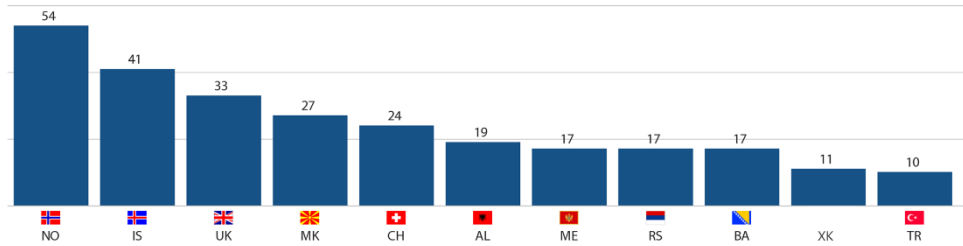
Social, health and welfare services are most often mentioned by respondents in Sweden (45%), Denmark (41%) and Austria (37%) and least mentioned by those in Czechia and Finland (both 14%), Poland, Lithuania and Estonia (all 18%). This is the second most mentioned characteristic in 15 countries and the third most mentioned characteristic in two countries.

Looking at the 11 non-EU countries, social, health and welfare services is the second most mentioned issue in Norway (54%) and Iceland (41%), and the third most mentioned issue in the United Kingdom (33%).

**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
(% - SOCIAL, HEALTH AND WELFARE SERVICES)



**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
(% - SOCIAL, HEALTH AND WELFARE SERVICES)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The rule of law is mentioned by no more than one-third of respondents in any country, with proportions ranging from 33% in Germany and 31% in Denmark and Slovakia to 10% in Lithuania, 12% in Italy and 13% in Hungary and Latvia. This is the second most mentioned characteristic in four countries, and the third most mentioned in one.

Respondents in Estonia (25%), Germany, Belgium and Hungary (all 23%) are the most likely to say scientific and technological advancement is the most influential characteristic in determining the status of a country or group of countries, while those in Malta (9%), Ireland (11%) and Romania (12%) are the least likely to do so. It is the third most mentioned characteristic in Estonia (25%).

There are only three countries where at least one in five respondents mention military and defence capabilities: Lithuania (29%), Latvia (24%) and Finland (23%). This contrasts with 4% of respondents in Malta, 5% in Spain and 6% in Denmark and Sweden who think the same way. This is the second most mentioned characteristic by respondents in Lithuania (29%), and the third most mentioned by those in Latvia, Czechia and Finland.

The availability of natural resources is most likely to be mentioned by respondents in Poland (20%), Latvia, Hungary and Italy (all 14%), and least likely to be mentioned by respondents in Denmark (2%), Sweden (3%) and Ireland (4%). It is the third most mentioned characteristic in Poland.

There are six countries where at least one in ten think protection of the environment is the most influential characteristic in determining the status of a country or group of countries: Austria, France (both 14%), Poland (13%), Romania and Malta (both 12%) and Germany (10%). At the other end of the scale, 2% of respondents in Czechia, Finland and Latvia think the same way.

Finally, fewer than one in ten respondents in each country think the export of cultural works is the most influential characteristic, with the highest proportions observed in Austria and Romania (both 8%).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA1 In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
 (%)

		Economic strength	Living and working conditions and well-being	Social, health and welfare services	Rule of law	Scientific and technological advancement	Military and defence capabilities	Availability of natural resources	Protection of the environment	Export of cultural works (films, novels, language, etc.)	Other (SPONTANEOUS)	Don't know
EU27		51	35	25	21	18	13	10	9	4	0	1
BE		59	36	25	18	23	16	8	4	3	0	0
BG		50	44	21	20	17	13	10	5	2	0	2
CZ		68	19	14	27	18	19	8	2	1	0	0
DK		37	43	41	31	17	6	2	7	3	0	1
DE		52	28	23	33	23	9	7	10	3	0	1
EE		50	35	18	22	25	19	5	5	3	0	0
IE		51	50	32	16	11	9	4	7	5	0	0
EL		65	30	22	21	18	19	7	5	7	0	0
ES		47	40	36	17	20	5	6	5	2	0	1
FR		54	32	20	19	16	19	9	14	5	0	1
HR		53	32	19	22	20	16	12	5	3	0	1
IT		48	45	26	12	18	10	14	9	4	0	1
CY		57	29	26	26	16	19	6	7	3	0	0
LV		56	38	20	13	14	24	14	2	2	0	0
LT		62	28	18	10	19	29	10	4	1	0	0
LU		57	39	23	26	15	15	6	7	3	0	0
HU		46	36	27	13	23	14	14	7	3	0	1
MT		51	46	36	17	9	4	6	12	2	0	1
NL		55	34	32	30	20	7	8	4	4	0	0
AT		42	39	37	19	13	9	12	14	8	0	0
PL		51	27	18	16	14	18	20	13	6	0	0
PT		49	51	25	25	18	8	5	4	2	0	0
RO		41	34	22	20	12	19	12	12	8	0	1
SI		55	32	28	19	13	10	11	6	3	0	0
SK		47	28	22	31	19	16	13	9	3	0	0
FI		57	29	14	29	14	23	10	2	5	0	0
SE		30	58	45	28	13	6	3	3	2	0	0
TR		61	22	10	29	29	16	9	5	4	0	0
MK		49	39	27	27	17	6	6	9	2	0	0
AL		35	17	19	27	9	8	7	6	6	0	0
ME		62	21	17	29	13	16	20	10	3	0	0
RS		53	33	17	16	17	29	11	5	3	0	1
NO		18	58	54	41	9	2	3	3	1	0	0
CH		47	48	24	35	17	6	5	4	2	0	0
UK		54	41	33	22	16	13	3	5	3	0	0
IS		32	57	41	8	11	4	9	6	4	0	1
XK		59	22	11	51	9	4	4	14	1	0	0
BA		59	25	17	22	17	18	7	6	3	0	0
		1st MOST FREQUENTLY MENTIONED ITEM		2nd MOST FREQUENTLY MENTIONED ITEM			3r+A1:Q46d MOST FREQUENTLY MENTIONED ITEM					

## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

The socio-demographic analysis shows that women are more likely to think social, health and welfare services are the most influential characteristics (29% compared with 21% of men), and are less likely to mention military and defence capabilities (15% compared with 10%).

It also illustrates that the older the respondent, the more likely they are to mention the rule of law, and the less likely they are to mention scientific and technological advancement. For example, 25% of 15-24 year olds mention scientific and technological advancement, compared to 16% of those aged 55+.

The longer a respondent remained in education, the more likely they are to mention the rule of law and scientific/technological advancement, and the less likely they are to mention living and working conditions and well-being, or social, health and welfare services. For instance, 26% who stayed in education until age 20 or older mention the rule of law, compared with 13% who completed education aged 15 or younger. In addition, students (26%) are more likely than other occupation groups to mention scientific and technological advancement.

The less financial difficulties respondents experience, the more likely they are to mention economic strength, the rule of law and scientific/technological advancement, and the less likely they are to mention living and working conditions and well-being. For example, 52% with the least financial difficulties mention economic strength, compared to 44% of those who experience the most difficulties.

Finally, respondents who think the influence of science and technology is positive are more likely to mention economic strength (51%) compared to those who think the influence is negative (45%), the rule of law (22% vs 17%), and scientific and technological advancement (19% vs 12%).



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA1** In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world? (MAX. 2 ANSWERS)  
(% - EU)

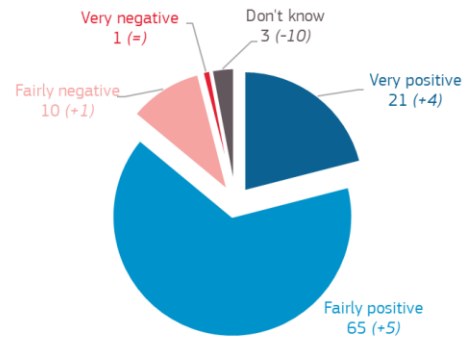
	Military and defence capabilities	Export of cultural works (films, novels, language, etc.)	Scientific and technological advancement	Economic strength	Availability of natural resources	Living and working conditions and well-being	Social, health and welfare services	Protection of the environment	Rule of law	Other (SPONTANEOUS)	Don't know
<b>EU27</b>	13	4	18	51	10	35	25	9	21	0	1
<b>Gender</b>											
Man	15	4	20	53	10	33	21	8	22	0	0
Woman	10	4	17	49	10	37	29	10	21	0	1
<b>Age</b>											
15-24	13	6	25	50	8	33	22	9	17	0	1
25-39	14	5	20	52	11	35	24	8	19	0	0
40-54	13	3	18	51	11	37	24	8	22	0	0
55+	11	3	16	50	10	35	27	10	23	0	1
<b>Education (end of)</b>											
15-	12	3	12	51	9	39	30	11	13	0	2
16-19	13	4	16	50	11	36	25	10	21	0	0
20+	12	4	21	52	10	33	23	7	26	0	0
Still studying	14	6	26	50	7	34	25	9	16	0	1
<b>Socio-professional category</b>											
Self-employed	12	4	22	51	12	36	25	6	21	0	0
Managers	13	4	21	55	10	34	22	6	26	0	0
Other white collars	12	4	21	52	12	34	24	9	21	0	0
Manual workers	14	4	16	51	11	37	24	9	18	0	0
House persons	9	3	13	51	8	40	30	9	19	0	1
Unemployed	12	5	16	50	7	36	30	9	21	0	0
Retired	12	3	15	48	10	34	27	11	24	0	1
Students	14	6	26	50	7	34	25	9	16	0	1
<b>Difficulties paying bills</b>											
Most of the time	16	3	13	44	10	39	28	8	18	0	1
From time to time	13	5	16	49	12	37	26	10	18	0	0
Almost never/ Never	12	4	19	52	9	34	25	9	23	0	1
<b>Use of the Internet</b>											
Everyday	13	4	20	51	10	35	25	8	22	0	0
Often/Sometimes	12	3	13	53	12	32	22	11	21	0	1
Never	14	5	11	47	12	36	26	11	15	0	3
<b>Left-right political scale</b>											
Left	11	4	18	48	10	37	28	9	24	0	0
Centre	12	4	19	51	10	34	25	9	21	0	0
Right	16	4	18	54	11	33	22	7	22	0	0
<b>Medical discoveries</b>											
Interested	11	4	22	48	9	34	27	9	24	0	0
Moderately interested	13	4	17	52	10	36	25	9	21	0	0
Not interested	16	5	13	52	12	34	20	10	15	0	2
<b>Scientific discoveries</b>											
Interested	13	4	26	50	9	32	22	8	25	0	0
Moderately interested	13	4	16	51	10	37	26	9	21	0	0
Not interested	12	3	10	51	11	38	27	10	16	0	2
<b>Environmental problems</b>											
Interested	11	4	21	48	9	34	26	11	25	0	0
Moderately interested	13	4	18	53	10	36	25	8	20	0	1
Not interested	17	4	12	52	13	33	23	6	15	0	2
<b>Influence of science and technology</b>											
Positive	12	4	19	51	10	36	25	8	22	0	0
Negative	15	6	12	45	13	33	23	13	17	0	1
<b>Correct answers to questions about scientific knowledge</b>											
Less than 5 correct answers	12	4	13	48	12	35	25	12	16	0	2
Between 5 and 8 correct answers	13	4	18	50	10	36	27	9	20	0	0
More than 8 correct answers	13	4	24	54	8	33	20	6	28	0	0
<b>Religiosity / Spirituality</b>											
Total 'Not very or not spiritual or religious'	13	4	21	53	9	34	25	8	23	0	0
Total 'Neither spiritual or religious nor not spiritual or religious'	12	4	18	50	11	36	24	9	21	0	0
Total 'Quite or very spiritual or religious'	14	4	15	48	11	35	27	10	19	0	1
<b>Worked in research / science / innovative technology development</b>											
You alone do or did in the past	13	5	25	46	13	31	21	7	24	0	0
A family member does or did in the past	14	5	21	47	7	33	27	9	25	0	0
Both you and a family member do or did in the past	17	4	26	48	9	29	22	6	29	0	0
No	12	4	17	51	10	36	25	9	21	0	1

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked if they thought the overall influence of science and technology in society is positive or negative. Across the EU almost nine in ten (86%) respondents think the overall influence is positive, with 21% saying it is 'very positive'. Just over one in ten (11%) think science and technology has a negative influence, with 1% saying it is 'very negative'. Fewer than one in twenty (3%) say they don't know.

Opinion is more positive than it was in 2013, with a nine percentage point increase in the proportion who think science and technology has a positive influence on society. This has been driven by a decline in the proportion that say they don't know (-10 pp), as the proportion that think the influence is negative has remained stable (+1 pp).

**QA6** Do you think that the overall influence of science and technology on society is...?  
(% - EU27)



(Apr./May 2021 - Apr./May 2013)

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

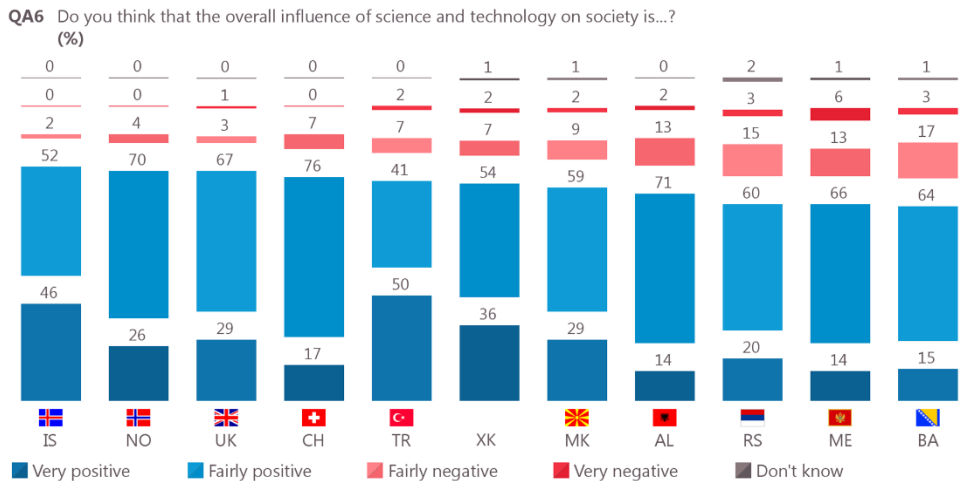
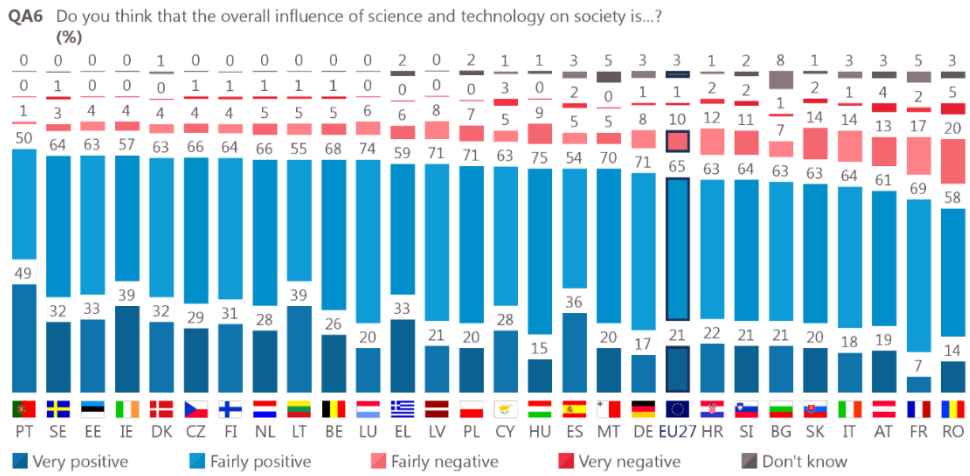
More than seven in ten respondents in every EU Member State think the overall influence of science and technology on society is positive, with proportions ranging from 99% in Portugal, and 96% in Estonia, Ireland and Sweden, to 72% in Romania, 76% in France and 80% in Austria. Romania is the only country where at least one in five respondents think the overall influence is negative.

The proportion of respondents who think the overall influence is 'very positive' is highest in Portugal (49%), Ireland and Lithuania (both 39%) and Spain (36%).

More than three-quarters of respondents in every non-EU country also think the overall influence of science and technology is positive. Almost all respondents in Iceland think this way (96%), as do 79% in Bosnia and Herzegovina.

In every Member State, opinion is more likely to be positive than it was in 2013, with the largest increases observed in Portugal (+30 pp), Czechia (+20 pp) and Malta (+19 pp). The proportion that thinks the overall influence of science and technology is 'very positive' has increased considerably in Portugal (+40 pp), Czechia (+17 pp), Spain (+14 pp) and Belgium (+12 pp).

Outside the EU, respondents in the United Kingdom are now much more likely to say the influence is positive than they were in 2013 (+19 pp).



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA6 Do you think that the overall influence of science and technology on society is...?  
(%)

		Very positive		Fairly positive		Fairly negative		Very negative		Don't know	Total 'Positive'		Total 'Negative'	
		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013
EU27		21	▲ 4	65	▲ 5	10	▲ 1	1	▬	3	86	▲ 9	11	▲ 1
PT		49	▲ 40	50	▼ 10	1	▼ 6	0	▼ 1	0	99	▲ 30	1	▼ 7
CZ		29	▲ 17	66	▲ 3	4	▼ 10	1	▼ 1	0	95	▲ 20	5	▼ 11
MT		20	▬	70	▲ 19	5	▬	0	▬	5	90	▲ 19	5	▬
LV		21	▲ 7	71	▲ 11	8	▼ 4	0	▼ 1	0	92	▲ 18	8	▼ 5
IE		39	▲ 5	57	▲ 12	4	▼ 3	0	▼ 1	0	96	▲ 17	4	▼ 4
HU		15	▲ 3	75	▲ 14	9	▼ 1	0	▼ 3	1	90	▲ 17	9	▼ 4
LU		20	▲ 10	74	▲ 3	6	▲ 2	0	▬	0	94	▲ 13	6	▲ 2
PL		20	▲ 8	71	▲ 4	7	▬	0	▼ 1	2	91	▲ 12	7	▼ 1
DE		17	▲ 2	71	▲ 10	8	▲ 1	1	▬	3	88	▲ 12	9	▲ 1
ES		36	▲ 14	54	▼ 3	5	▼ 4	2	▲ 1	3	90	▲ 11	7	▼ 3
HR		22	▲ 7	63	▲ 4	12	▬	2	▼ 2	1	85	▲ 11	14	▼ 2
IT		18	▲ 3	64	▲ 8	14	▲ 2	1	▼ 2	3	82	▲ 11	15	▬
BE		26	▲ 12	68	▼ 2	5	▼ 4	1	▼ 1	0	94	▲ 10	6	▼ 5
SI		21	▲ 7	64	▲ 3	11	▬	2	▲ 1	2	85	▲ 10	13	▲ 1
DK		32	▲ 8	63	▲ 1	4	▬	0	▬	1	95	▲ 9	4	▬
BG		21	▲ 2	63	▲ 6	7	▲ 2	1	▲ 1	8	84	▲ 8	8	▲ 3
FI		31	▲ 8	64	▼ 1	4	▼ 2	1	▲ 1	0	95	▲ 7	5	▼ 1
NL		28	▬	66	▲ 6	5	▬	1	▲ 1	0	94	▲ 6	6	▲ 1
EE		33	▲ 9	63	▼ 4	4	▲ 2	0	▬	0	96	▲ 5	4	▲ 2
LT		39	▲ 5	55	▼ 1	5	▲ 2	1	▬	0	94	▲ 4	6	▲ 2
CY		28	▼ 2	63	▲ 6	5	▼ 2	3	▲ 2	1	91	▲ 4	8	▬
SK		20	▲ 9	63	▼ 5	14	▲ 5	2	▲ 1	1	83	▲ 4	16	▲ 6
RO		14	▼ 2	58	▲ 6	20	▲ 13	5	▲ 3	3	72	▲ 4	25	▲ 16
EL		33	▲ 10	59	▼ 7	6	▼ 1	0	▼ 1	2	92	▲ 3	6	▼ 2
SE		32	▼ 8	64	▲ 10	3	▼ 1	1	▲ 1	0	96	▲ 2	4	▬
AT		19	▲ 6	61	▼ 4	13	▲ 1	4	▲ 3	3	80	▲ 2	17	▲ 4
FR		7	▬	69	▲ 2	17	▲ 6	2	▲ 1	5	76	▲ 2	19	▲ 7
TR		50	N/A	41	N/A	7	N/A	2	N/A	0	91	N/A	9	N/A
MK		29	N/A	59	N/A	9	N/A	2	N/A	1	88	N/A	11	N/A
AL		14	N/A	71	N/A	13	N/A	2	N/A	0	85	N/A	15	N/A
ME		14	N/A	66	N/A	13	N/A	6	N/A	1	80	N/A	19	N/A
RS		20	N/A	60	N/A	15	N/A	3	N/A	2	80	N/A	18	N/A
UK		29	▲ 6	67	▲ 13	3	▼ 6	1	▼ 1	0	96	▲ 19	4	▼ 7
NO		26	N/A	70	N/A	4	N/A	0	N/A	0	96	N/A	4	N/A
CH		17	N/A	76	N/A	7	N/A	0	N/A	0	93	N/A	7	N/A
XK		36	N/A	54	N/A	7	N/A	2	N/A	1	90	N/A	9	N/A
BA		15	N/A	64	N/A	17	N/A	3	N/A	1	79	N/A	20	N/A
IS		46	N/A	52	N/A	2	N/A	0	N/A	0	98	N/A	2	N/A

## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

The socio-demographic analysis reveals little difference based on gender (88% of men agree compared to 85% of women), but opinions do vary by the following characteristics:

Similarly, there is little difference by age - respondents aged 55 and over are less likely to agree that the influence of science and technology is positive (83%) than younger respondents (88% of those aged 15-24, 90% of those aged 25-39 and 87% of those aged 40-54);

However, differences are more significant by education. The longer a respondent remained in education, the more likely they are to think the influence of science and technology is positive: 92% of those who completed education aged 20 or older think this way, compared to 76% who completed aged 15 or younger;

Looking at occupation, managers (92%), students (90%), the self-employed and other white-collar workers (both 89%) are more likely than other occupation groups, especially retired people (82%), to think the influence is positive;

Analysis also shows that the fewer difficulties a respondent has paying household bills, the more likely they are to think the influence of science and technology is positive: 89% of those who experience the least financial difficulties think this way, compared to 76% who experience difficulties most of the time;

Respondents who answers more 'science quiz' questions correctly are also more likely to think that the overall influence of science and technology on society is positive: 95% of those who give eight or more correct answers say the influence is positive compared to 76% of those who give less than five correct answers.

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

**QA6** Do you think that the overall influence of science and technology on society is...?  
(% - EU)

	Very positive	Fairly positive	Fairly negative	Very negative	Don't know	Total 'Positive'	Total 'Negative'
EU27	21	65	10	1	3	86	11
<b>Gender</b>							
Man	24	64	9	1	2	88	10
Woman	18	67	10	1	4	85	11
<b>Age</b>							
15-24	26	62	9	1	2	88	10
25-39	23	67	8	1	1	90	9
40-54	22	65	10	1	2	87	11
55+	18	65	11	2	4	83	13
<b>Education (end of)</b>							
15-	14	62	15	2	7	76	17
16-19	16	67	12	2	3	83	14
20+	26	66	6	1	1	92	7
Still studying	30	60	7	1	2	90	8
<b>Socio-professional category</b>							
Self-employed	26	63	8	2	1	89	10
Managers	28	64	6	0	2	92	6
Other white collars	20	69	8	1	2	89	9
Manual workers	17	67	12	2	2	84	14
House persons	15	64	14	3	4	79	17
Unemployed	22	61	10	3	4	83	13
Retired	16	66	11	2	5	82	13
Students	30	60	7	1	2	90	8
<b>Difficulties paying bills</b>							
Most of the time	18	58	17	3	4	76	20
From time to time	19	62	15	2	2	81	17
Almost never/ Never	22	67	7	1	3	89	8
<b>Use of the Internet</b>							
Everyday	23	66	8	1	2	89	9
Often/Sometimes	14	66	14	2	4	80	16
Never	10	63	17	3	7	73	20
<b>Left-right political scale</b>							
Left	24	65	8	1	2	89	9
Centre	19	68	10	1	2	87	11
Right	23	63	10	2	2	86	12
<b>Medical discoveries</b>							
Interested	27	62	8	1	2	89	9
Moderately interested	19	69	9	1	2	88	10
Not interested	13	62	16	3	6	75	19
<b>Scientific discoveries</b>							
Interested	33	59	6	1	1	92	7
Moderately interested	17	71	9	1	2	88	10
Not interested	10	62	18	3	7	72	21
<b>Environmental problems</b>							
Interested	27	63	7	1	2	90	8
Moderately interested	18	69	10	1	2	87	11
Not interested	13	59	18	3	7	72	21
<b>Influence of science and technology</b>							
Positive	24	76	0	0	0	100	
Negative	0	0	88	12	0		100
<b>Correct answers to questions about scientific knowledge</b>							
Less than 5 correct answers	13	63	15	3	6	76	18
Between 5 and 8 correct answers	20	67	10	1	2	87	11
More than 8 correct answers	31	64	4	1	1	95	4
<b>Religiosity / Spirituality</b>							
Total 'Not very or not spiritual or religious'	25	64	8	1	2	89	9
Total 'Neither spiritual or religious nor not spiritual or religious'	20	67	9	1	3	87	10
Total 'Quite or very spiritual or religious'	17	64	13	2	4	81	15
<b>Worked in research / science / innovative technology development</b>							
You alone do or did in the past	32	60	6	1	1	92	7
A family member does or did in the past	26	62	10	1	1	88	11
Both you and a family member do or did in the past	37	60	2	1	0	97	3
No	20	66	10	1	3	86	11

## 2. Effects of new technologies on society

Respondents were asked about the effect of different technologies being developed in the next 20 years on our way of life.

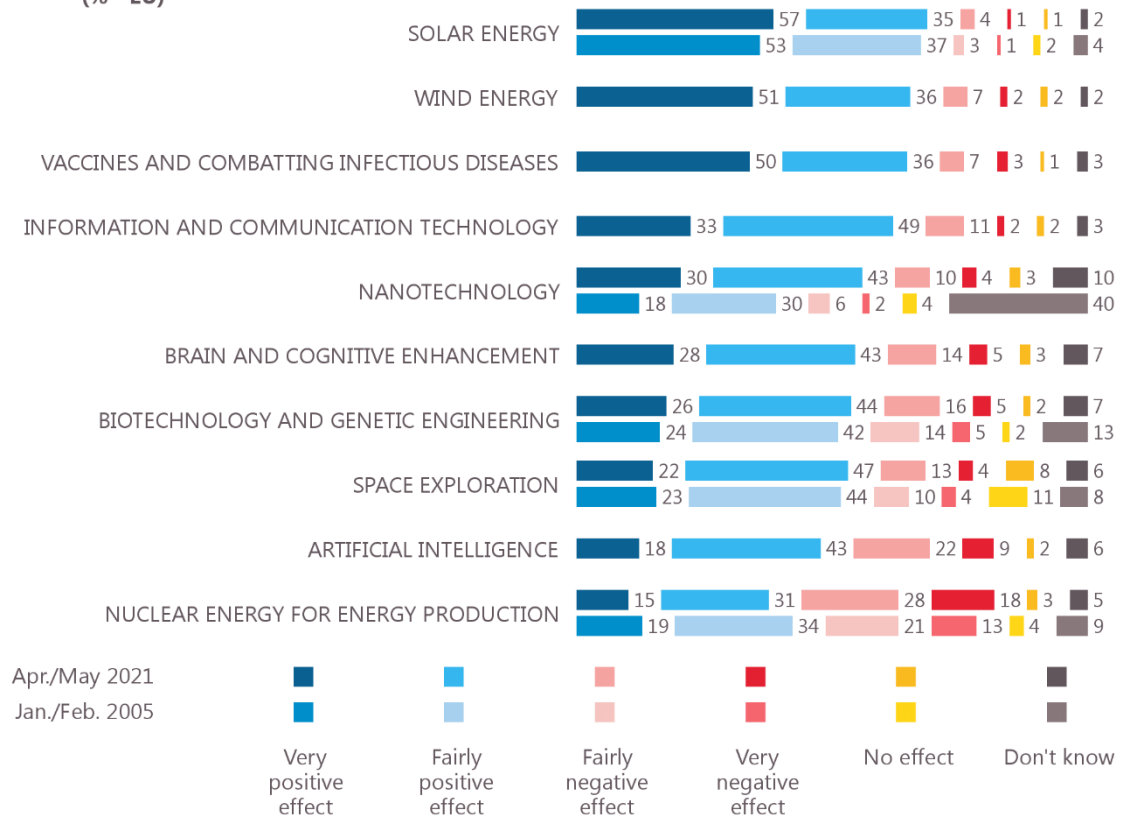
Almost all respondents think solar energy (92%) will have a positive effect, while 87% say this about wind energy<sup>22</sup>. More than eight in ten think vaccines and combatting infectious diseases<sup>23</sup> (86%) or information and communication technology<sup>24</sup> (82%) will have a positive impact.

Almost three-quarters (73%) of respondents think nanotechnology will have a positive impact on life in the next 20 years, while 71% say this about brain and cognitive enhancements<sup>25</sup>, 70% say this about biotechnology and genetic engineering, and 69% say this about space exploration.

Respondents are least likely to think new technologies in artificial intelligence<sup>26</sup> (61%) or nuclear energy for energy production (46%) will have a positive impact. Nuclear energy is the only area where the positive view does not have a majority (46% positive, 46% negative).

Compared to 2005, respondents are now much more likely to say new technologies in nanotechnology (+25 pp) will have a positive effect. As a result, the positive view has gone from being a minority to a majority position. There has also been a 12-point increase in the proportion that thinks the effect will be 'very positive'. Conversely, respondents are now less likely to be positive about nuclear energy for energy production (-7 pp).

**QA8a** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years? (% - EU)



<sup>22</sup> This item is a new item and was not asked in 2005.  
<sup>23</sup> This item is a new item and was not asked in 2005.  
<sup>24</sup> This item is a new item and was not asked in 2005.

<sup>25</sup> This item is a new item and was not asked in 2005.  
<sup>26</sup> This item is a new item and was not asked in 2005.

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

At least three-quarters of respondents in each EU country think solar energy will have a positive effect on our way of life in the next 20 years. This view is almost universal in Malta and Portugal (99%) and Ireland (98%). By contrast, it is also held by 75% in Romania, 86% in Poland and 90% in Latvia, Croatia and Czechia (countries with the lowest number of respondents agreeing that solar energy will have a positive impact on our way of life). In 22 countries more than half of respondents say solar will have a 'very positive' effect.

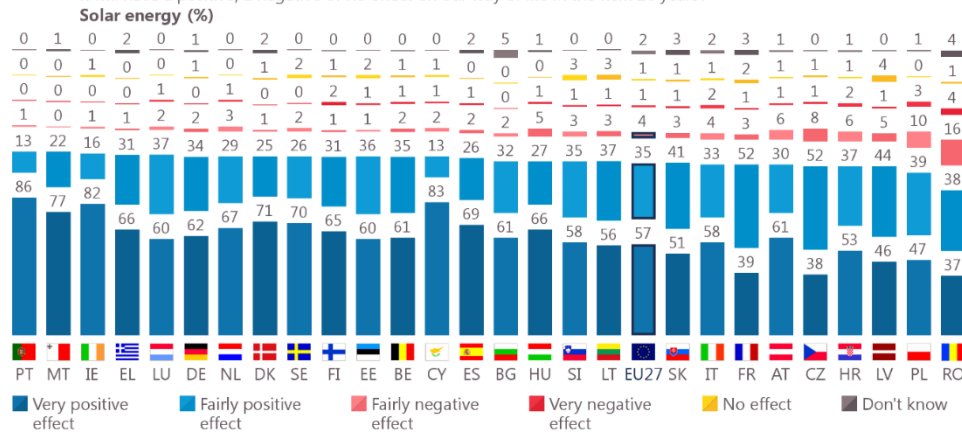
The majority of respondents in every non-EU country also think solar energy will have a positive effect, with proportions ranging from 97% in Switzerland and Iceland to 58% in Albania.

Compared to 2005, respondents in 20 countries are now more likely to think the influence of solar energy will be positive, with the largest increases seen in Greece (+23 pp), Lithuania (+20 pp) and Cyprus (+19 pp). There are only five countries where the positive view has declined but the changes are small (1-3 pp), for instance Austria and Czechia (-2 pp) and France (-1 pp). There has been no change in opinion in Belgium and Slovenia.

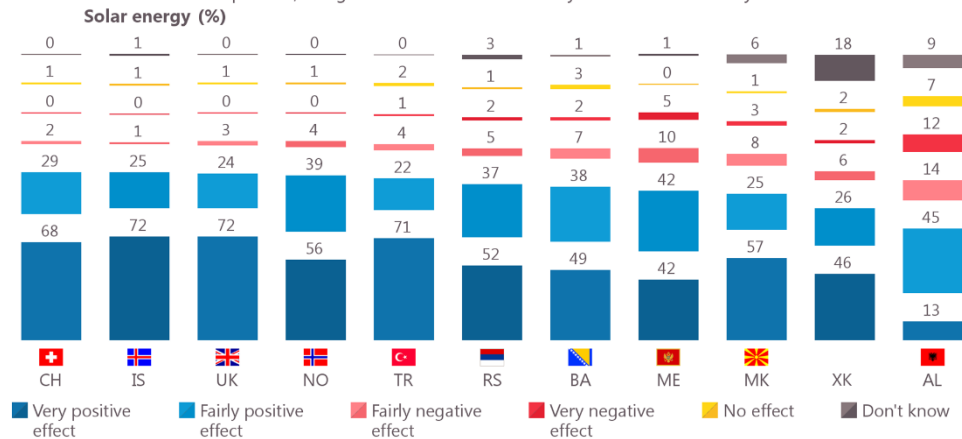
It is worth noting that there are 15 countries where the proportion that think the effect will be 'very positive' has increased by more than 10 points, with the largest increases in Portugal (+46 pp), Ireland (+40 pp) and Cyprus (+39 pp). By contrast, this view has declined 19 percentage points in Czechia and 10 percentage points in France.

In the four non-EU countries included in both 2005 and 2021 (United Kingdom, Turkey, Norway, Switzerland) respondents are now more likely to say the influence of new technologies in solar energy will be positive, with the largest increase in Turkey (+14 pp).

**QA8a.1** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.1** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?





**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA8a.1 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

**Solar energy (%)**

		Very positive effect		Fairly positive effect		Fairly negative effect		Very negative effect		No effect	Don't know	Total 'Positive effect'		Total 'Negative effect'		Total 'No effect'	
		2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005
		Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.	Diff.
EU27		57	▲ 4	35	▼ 2	4	▲ 1	1	●	1	▼ 1	92	▲ 2	5	▲ 1	1	▼ 1
EL		66	▲ 16	31	▲ 7	1	▼ 10	0	▼ 7	0	▼ 1	97	▲ 23	1	▼ 17	0	▼ 1
LT		56	▲ 23	37	▼ 3	3	▼ 2	1	▼ 1	3	●	93	▲ 20	4	▼ 3	3	●
CY		83	▲ 39	13	▼ 20	2	▼ 5	1	▼ 4	1	▼ 1	96	▲ 19	3	▼ 9	1	▼ 1
MT		77	▲ 30	22	▼ 12	0	▼ 5	0	▼ 3	0	▼ 1	99	▲ 18	0	▼ 8	0	▼ 1
BG		61	▲ 23	32	▼ 6	2	▼ 1	0	●	0	▼ 4	93	▲ 17	2	▼ 1	0	▼ 4
IE		82	▲ 40	16	▼ 23	1	▼ 2	0	●	1	▼ 4	98	▲ 17	1	▼ 2	1	▼ 4
PT		86	▲ 46	13	▼ 29	1	▼ 2	0	▼ 1	0	▼ 1	99	▲ 17	1	▼ 3	0	▼ 1
EE		60	▲ 19	36	▼ 4	1	▼ 2	1	●	2	▼ 1	96	▲ 15	2	▼ 2	2	▼ 1
LV		46	●	44	▲ 10	5	▲ 2	1	▼ 1	4	▲ 2	90	▲ 10	6	▲ 1	4	▲ 2
LU		60	▲ 4	37	▲ 4	2	▼ 3	1	▼ 1	0	▼ 2	97	▲ 8	3	▼ 4	0	▼ 2
SK		51	▲ 13	41	▼ 5	3	▼ 3	1	▼ 1	1	▼ 1	92	▲ 8	4	▼ 4	1	▼ 1
HU		66	▲ 10	27	▼ 3	5	▲ 1	1	●	0	▼ 2	93	▲ 7	6	▲ 1	0	▼ 2
HR		53	▼ 1	37	▲ 5	6	▲ 3	2	▲ 1	1	▼ 1	90	▲ 4	8	▲ 4	1	▼ 1
IT		58	▲ 11	33	▼ 7	4	▲ 1	2	▲ 1	1	▼ 2	91	▲ 4	6	▲ 2	1	▼ 2
ES		69	▲ 13	26	▼ 10	2	●	1	●	0	▼ 1	95	▲ 3	3	●	0	▼ 1
SE		70	▲ 20	26	▼ 17	2	●	0	▼ 1	2	▼ 1	96	▲ 3	2	▼ 1	2	▼ 1
DK		71	▲ 13	25	▼ 11	1	●	0	●	1	▼ 2	96	▲ 2	1	●	1	▼ 2
FI		65	▲ 11	31	▼ 9	1	▼ 1	2	▲ 2	1	▼ 2	96	▲ 2	3	▲ 1	1	▼ 2
DE		62	▲ 4	34	▼ 3	2	●	0	●	1	●	96	▲ 1	2	●	1	●
NL		67	▲ 6	29	▼ 5	3	▲ 1	1	●	0	▼ 1	96	▲ 1	4	▲ 1	0	▼ 1
BE		61	▲ 1	35	▼ 1	2	●	1	▲ 1	1	●	96	●	3	▲ 1	1	●
SI		58	▼ 5	35	▲ 5	3	●	1	●	3	▲ 2	93	●	4	●	3	▲ 2
FR		39	▼ 10	52	▲ 9	3	▲ 1	1	●	2	●	91	▼ 1	4	▲ 1	2	●
CZ		38	▼ 19	52	▲ 17	8	▲ 6	1	▲ 1	1	▼ 1	90	▼ 2	9	▲ 7	1	▼ 1
AT		61	▼ 6	30	▲ 3	6	▲ 5	1	●	1	●	91	▼ 3	7	▲ 5	1	●
PL		47	▼ 2	39	▼ 1	10	▲ 8	3	▲ 2	0	▼ 1	86	▼ 3	13	▲ 10	0	▼ 1
RO		37	▼ 6	38	▲ 3	16	▲ 11	4	▲ 3	1	▼ 2	75	▼ 3	20	▲ 14	1	▼ 2
TR		71	▲ 11	22	▲ 3	4	▼ 2	1	▼ 3	2	●	93	▲ 14	5	▼ 5	2	●
MK		57	N/A	25	N/A	8	N/A	3	N/A	1	N/A	82	N/A	11	N/A	1	N/A
AL		13	N/A	45	N/A	14	N/A	12	N/A	7	N/A	58	N/A	26	N/A	7	N/A
ME		42	N/A	42	N/A	10	N/A	5	N/A	0	N/A	84	N/A	15	N/A	0	N/A
RS		52	N/A	37	N/A	5	N/A	2	N/A	1	N/A	89	N/A	7	N/A	1	N/A
IS		72	▲ 35	25	▼ 20	1	▼ 2	0	●	1	▼ 10	97	▲ 15	1	▼ 2	1	▼ 10
UK		72	▲ 16	24	▼ 11	3	▲ 1	0	●	1	▼ 2	96	▲ 5	3	▲ 1	1	▼ 2
NO		56	▲ 3	39	▼ 1	4	▲ 3	0	▼ 1	1	▼ 2	95	▲ 2	4	▲ 2	1	▼ 2
CH		68	▲ 8	29	▼ 6	2	▲ 1	0	●	1	▼ 1	97	▲ 2	2	▲ 1	1	▼ 1
XK		46	N/A	26	N/A	6	N/A	2	N/A	2	N/A	72	N/A	8	N/A	2	N/A
BA		49	N/A	38	N/A	7	N/A	2	N/A	3	N/A	87	N/A	9	N/A	3	N/A

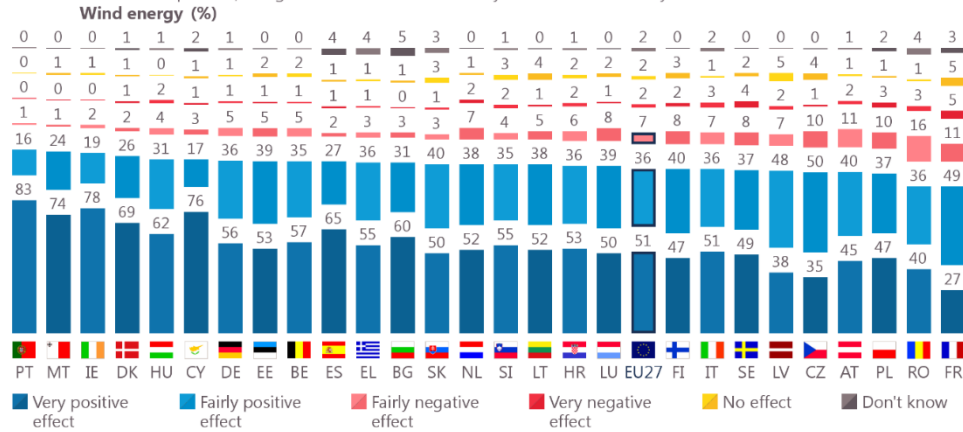
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

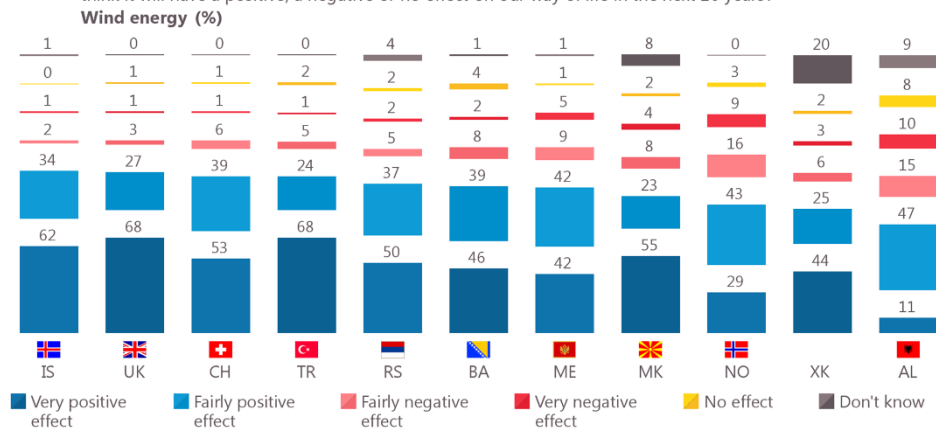
More than three-quarters of respondents in every EU country think wind energy will have a positive effect, with proportions ranging from 99% of respondents in Portugal, 98% in Malta and 97% in Ireland, to 76% in France and Romania, and 84% in Poland. In 19 countries at least half of all respondents think new technologies in wind energy will have a 'very positive' effect.

In each non-EU country, the majority of respondents think wind energy will have a positive effect, with the largest proportion in Iceland (96%) and the smallest in Albania (58%).

**QA8a.2** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.2** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

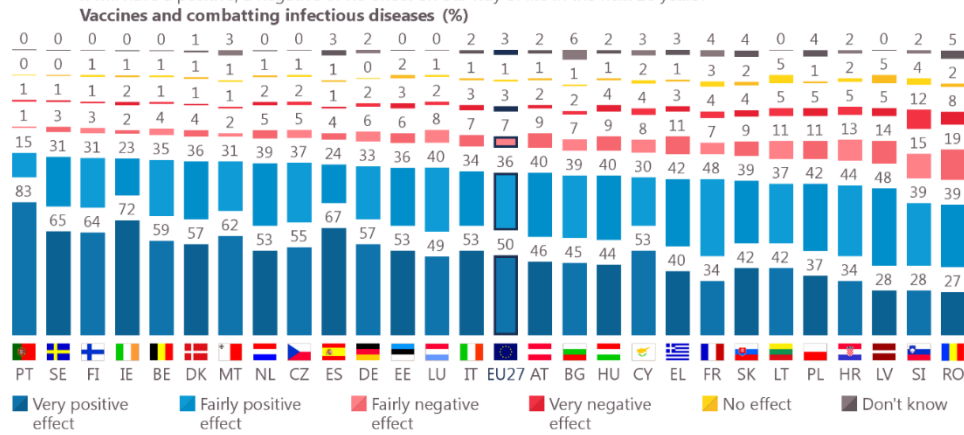


## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

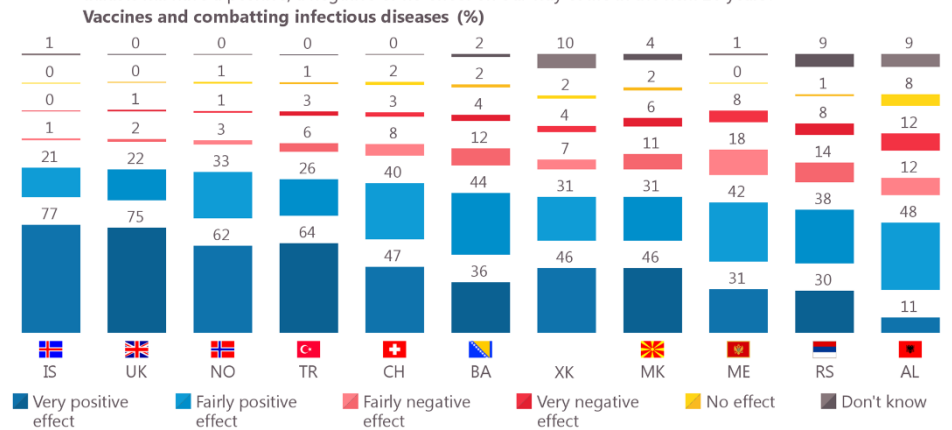
At least two-thirds of respondents in every EU Member State think new technologies in vaccines and combatting infectious diseases will have a positive impact in the next 20 years. Almost all respondents in Portugal (98%), Sweden (96%), Ireland and Finland (both 95%) think this way, as do 66% in Romania, 67% in Slovenia and 76% in Latvia (which have the lowest proportion of respondents agreeing that the impact will be positive). There are 14 countries where at least half of respondents think new technologies for vaccines and combatting infectious diseases will have a 'very positive' effect.

Outside the EU, the proportion of respondents who think new technologies in vaccines and combatting infection diseases will have a positive effect range from 98% in Iceland and 97% in the UK to 59% in Albania.

**QA8a.5** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.5** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516

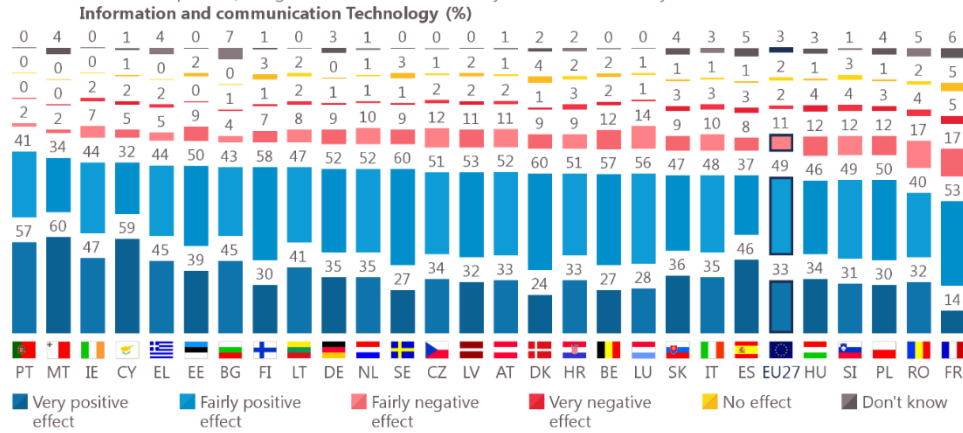
### European citizens' knowledge and attitudes towards science and technology

The majority of respondents in every EU country think new technologies in information and communication technology will have a positive effect on life in the next 20 years. This opinion is most widespread in Portugal (98%), Malta (94%), and Ireland and Cyprus (both 91%), but is also held by 67% in France, 72% in Romania and 80% in Slovenia, Poland and Hungary (the countries with the lowest proportion of respondents agreeing that the impact will be positive).

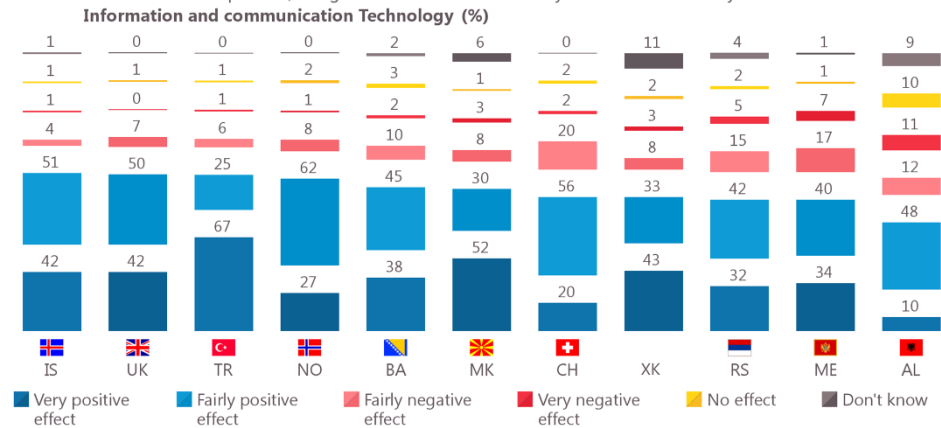
There are three countries where at least half of respondents think the effect will be 'very positive': Malta (60%), Cyprus (59%) and Portugal (57%).

The majority of respondents in every non-EU country surveyed also think new technologies in this area will have a positive effect, with proportions ranging from 93% in Iceland and 92% in the UK to 58% in Albania.

**QA8a.3** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.3** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In all but one EU country more than six in ten respondents think nanotechnology will have a positive effect on our way of life in the next 20 years, with respondents in Portugal (96%), Czechia (94%) and Estonia (92%) the most likely to think this way. At the other end of the scale, 46% in Romania, and 65% in Poland, Austria, France and Bulgaria also think the effect will be positive.

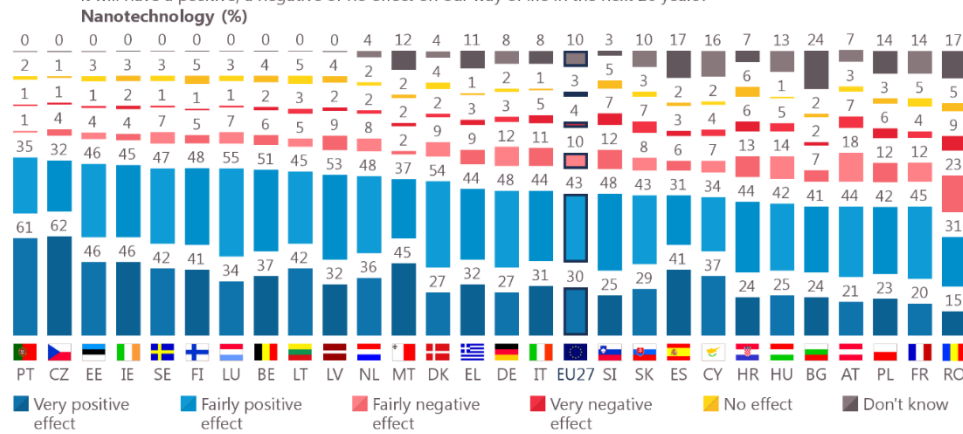
Czechia (62%) and Portugal (61%) are the only countries where at least half think the effect will be 'very positive'.

There is a broad range of opinion in non-EU countries, where the proportion that think nanotechnology will have a positive effect ranges from 91% of respondents in Norway to 38% in Kosovo. However, in spite of this range a positive effect is the most common answer in all non-EU countries.

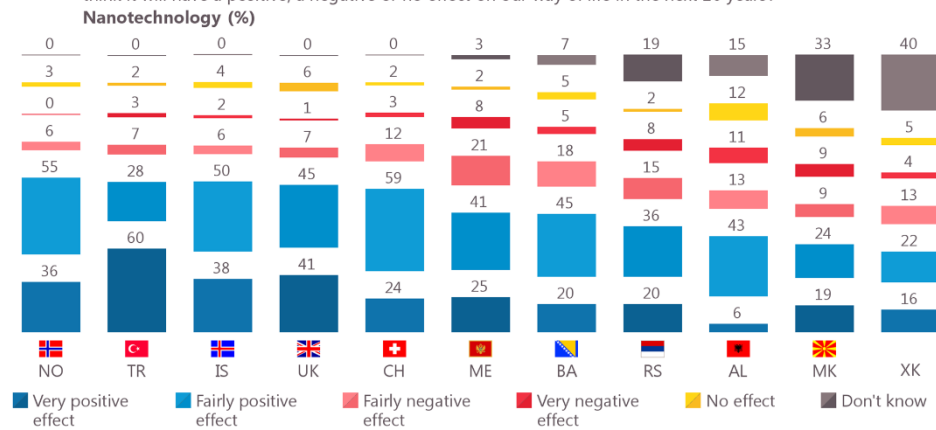
Respondents in every Member State are now more likely than those in 2005 to say nanotechnology will have a positive effect on our way of life. In fact, Romania (+4 pp) is the only country where the increase has been less than 15 percentage points. There are six countries where the positive view has increased by more than 50 points, with the largest seen in Malta (+67 pp), Latvia (+63 pp) and Lithuania (+57 pp). In addition, the proportion that think the effect will be 'very positive' has increased by more than 10 percentage points in 16 countries, with the largest increases seen in Portugal (+45 pp), Czechia (+41 pp) and Malta (+36 pp).

This positive trend is also seen in non-EU countries, with increases in the proportion that think the effect will be positive of between 61 points in Turkey and 37 points in Switzerland.

QA8a.8 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



QA8a.8 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

QA8a.8 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

### Nanotechnology (%)

		Very positive effect		Fairly positive effect		Fairly negative effect		Very negative effect		No effect	Don't know		Total 'Positive effect'		Total 'Negative effect'		Total 'No effect'	
		2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	2021	2005	
EU27		30	▲ 12	43	▲ 13	10	▲ 4	4	▲ 2	3	▼ 1	10	73	▲ 25	14	▲ 6	3	▼ 1
MT		45	▲ 36	37	▲ 31	2	▲ 2	2	▲ 1	2	▲ 1	12	82	▲ 67	4	▲ 3	2	▲ 1
LV		32	▲ 24	53	▲ 39	9	▲ 4	2	=	4	▲ 2	0	85	▲ 63	11	▲ 4	4	▲ 2
LT		42	▲ 31	45	▲ 26	5	▲ 3	3	▲ 3	5	▲ 2	0	87	▲ 57	8	▲ 6	5	▲ 2
PT		61	▲ 45	35	▲ 11	1	▼ 4	1	=	2	▲ 1	0	96	▲ 56	2	▼ 4	2	▲ 1
IE		46	▲ 29	45	▲ 26	4	▼ 2	2	▼ 1	3	▲ 1	0	91	▲ 55	6	▼ 3	3	▲ 1
EE		46	▲ 33	46	▲ 20	4	▲ 1	1	=	3	=	0	92	▲ 53	5	▲ 1	3	=
SE		42	▲ 29	47	▲ 16	7	▲ 2	1	=	3	▼ 1	0	89	▲ 45	8	▲ 2	3	▼ 1
EL		32	▲ 16	44	▲ 25	9	▲ 3	3	▼ 1	1	=	11	76	▲ 41	12	▲ 2	1	=
NL		36	▲ 22	48	▲ 18	8	=	2	▼ 1	2	▼ 3	4	84	▲ 40	10	▼ 1	2	▼ 3
CZ		62	▲ 41	32	▼ 3	4	▼ 2	1	=	1	▼ 3	0	94	▲ 38	5	▼ 2	1	▼ 3
FI		41	▲ 31	48	▲ 5	5	▼ 6	1	▼ 3	5	▼ 5	0	89	▲ 36	6	▼ 9	5	▼ 5
LU		34	▲ 14	55	▲ 18	7	=	1	▼ 3	3	=	0	89	▲ 32	8	▼ 3	3	=
BG		24	▲ 9	41	▲ 22	7	▲ 5	2	▲ 1	2	▼ 3	24	65	▲ 31	9	▲ 6	2	▼ 3
AT		21	▲ 8	44	▲ 23	18	▲ 5	7	▼ 2	3	▼ 4	7	65	▲ 31	25	▲ 3	3	▼ 4
SK		29	▲ 15	43	▲ 14	8	▼ 4	7	▲ 5	3	▼ 1	10	72	▲ 29	15	▲ 1	3	▼ 1
BE		37	▲ 13	51	▲ 14	6	▼ 2	2	=	4	▼ 3	0	88	▲ 27	8	▼ 2	4	▼ 3
FR		20	▲ 9	45	▲ 15	12	▲ 8	4	▲ 2	5	▲ 1	14	65	▲ 24	16	▲ 10	5	▲ 1
HR		24	▲ 6	44	▲ 18	13	▲ 4	6	▲ 3	6	▲ 3	7	68	▲ 24	19	▲ 7	6	▲ 3
SI		25	▲ 5	48	▲ 19	12	▲ 2	7	▲ 3	5	▲ 2	3	73	▲ 24	19	▲ 5	5	▲ 2
DE		27	▲ 7	48	▲ 15	12	▲ 3	3	▲ 1	2	▼ 2	8	75	▲ 22	15	▲ 4	2	▼ 2
HU		25	▲ 8	42	▲ 14	14	▲ 4	5	▲ 3	1	▼ 2	13	67	▲ 22	19	▲ 7	1	▼ 2
PL		23	▲ 9	42	▲ 11	12	▲ 8	6	▲ 6	3	▲ 2	14	65	▲ 20	18	▲ 14	3	▲ 2
ES		41	▲ 19	31	▼ 1	6	=	3	▲ 2	2	▼ 6	17	72	▲ 18	9	▲ 2	2	▼ 6
IT		31	▲ 6	44	▲ 12	11	▲ 7	5	▲ 3	1	▼ 3	8	75	▲ 18	16	▲ 10	1	▼ 3
CY		37	▲ 14	34	▲ 3	7	▲ 2	4	▲ 2	2	▼ 2	16	71	▲ 17	11	▲ 4	2	▼ 2
DK		27	▲ 4	54	▲ 11	9	▲ 5	2	▲ 1	4	▼ 1	4	81	▲ 15	11	▲ 6	4	▼ 1
RO		15	▼ 6	31	▲ 10	23	▲ 19	9	▲ 9	5	▲ 2	17	46	▲ 4	32	▲ 28	5	▲ 2
TR		60	▲ 43	28	▲ 18	7	=	3	=	2	▼ 1	0	88	▲ 61	10	=	2	▼ 1
MK		19	N/A	24	N/A	9	N/A	9	N/A	6	N/A	33	43	N/A	18	N/A	6	N/A
AL		6	N/A	43	N/A	13	N/A	11	N/A	12	N/A	15	49	N/A	24	N/A	12	N/A
ME		25	N/A	41	N/A	21	N/A	8	N/A	2	N/A	3	66	N/A	29	N/A	2	N/A
RS		20	N/A	36	N/A	15	N/A	8	N/A	2	N/A	19	56	N/A	23	N/A	2	N/A
IS		38	▲ 23	50	▲ 28	6	▲ 3	2	▲ 1	4	▼ 10	0	88	▲ 51	8	▲ 4	4	▼ 10
UK		41	▲ 25	45	▲ 19	7	▲ 4	1	▼ 1	6	▲ 2	0	86	▲ 44	8	▲ 3	6	▲ 2
NO		36	▲ 20	55	▲ 19	6	=	0	▼ 1	3	▼ 1	0	91	▲ 39	6	▼ 1	3	▼ 1
CH		24	▲ 10	59	▲ 27	12	▲ 2	3	=	2	▼ 3	0	83	▲ 37	15	▲ 2	2	▼ 3
XK		16	N/A	22	N/A	13	N/A	4	N/A	5	N/A	40	38	N/A	17	N/A	5	N/A
BA		20	N/A	45	N/A	18	N/A	5	N/A	5	N/A	7	65	N/A	23	N/A	5	N/A

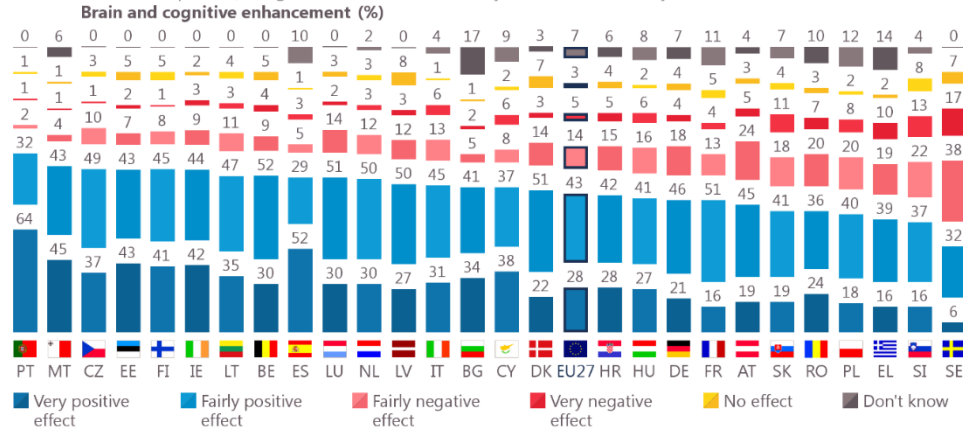
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Opinion is more varied about the effect of new technologies in brain and cognitive enhancement. Almost all respondents in Portugal (96%) think these will have a positive effect, as do 88% in Malta and 86% in Czechia, Estonia, Ireland and Finland. At the other end of the scale, 38% in Sweden think the impact will be positive, as do 53% in Slovenia and 55% in Greece.

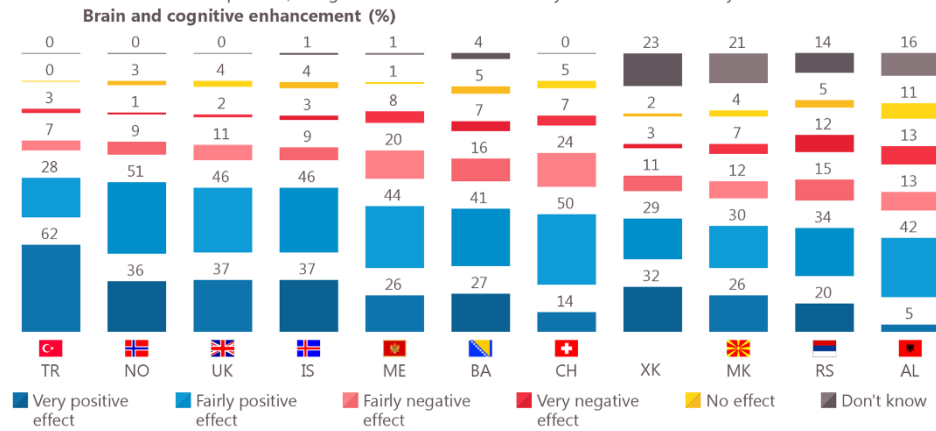
Sweden is the only country where the majority think the effects of brain and cognitive enhancement will be negative (55%) – in fact 17% say the effects will be 'very negative'.

Outside the EU, the view that the effect of new technologies in brain and cognitive enhancement will be positive is dominant in every country, although proportions range from 90% in Turkey to 47% in Albania.

**QA8a.4** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.4** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In every EU Member State the majority of respondents think the effect of new technologies in biotechnology and genetic engineering will be positive. Proportions range from 93% in Portugal, 90% in Estonia, and 82% in Finland and Sweden, to 55% in Romania and Austria and 60% in Croatia.

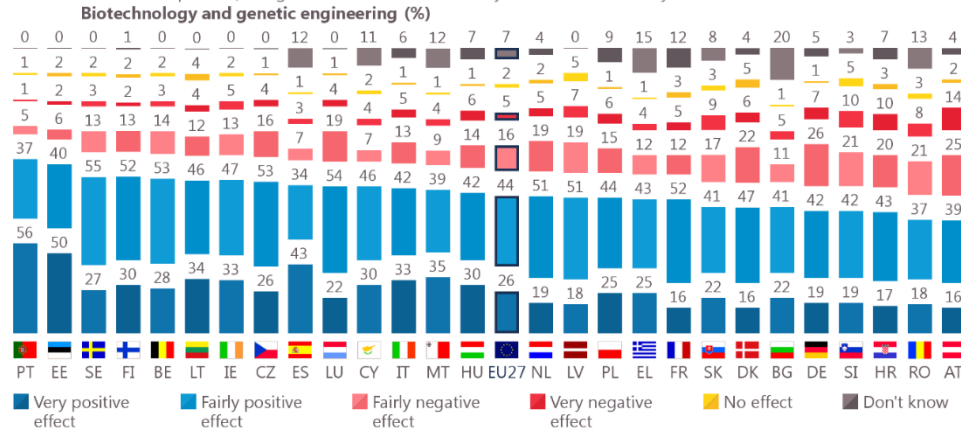
More than one in ten respondents in every country think the effects will be 'very positive'.

In countries outside the EU, the proportion of respondents who think the effect will be positive ranges from 93% in Iceland to 40% in Serbia.

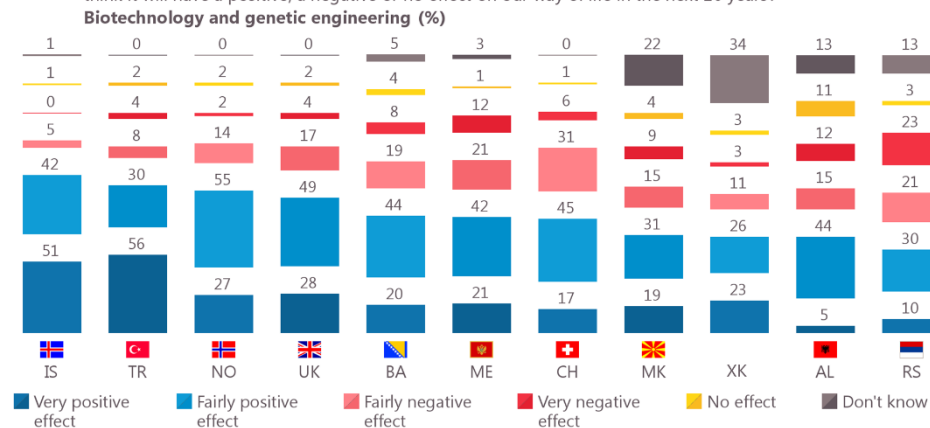
Opinion has become more positive in 21 countries since 2005, with the largest increases observed in Portugal (+31 pp), Belgium (+23 pp) and Malta (+21 pp). In fact, in six countries there has been an increase of at least ten points in the proportion that say the effect will be 'very positive', and this is the case in Portugal (+28 pp), Estonia (+21 pp) and Finland (+15 pp). By contrast, the proportion that think biotechnology and genetic engineering will have a positive effect has declined in six countries, and particularly amongst respondents in Romania (-10 pp) and Denmark (-9 pp). The proportions that think the effect will be 'very positive' has also declined notably in Romania (-17 pp), Denmark and Luxembourg (both -11 pp).

Outside of the EU, the positive view has increased in all four countries that were included in both surveys, but the only notable increases are in Turkey (+23 pp) and the United Kingdom (+12 pp).

**QA8a.6** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.6** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?





**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA8a.6 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

**Biotechnology and genetic engineering (%)**

		Very positive effect		Fairly positive effect		Fairly negative effect		Very negative effect		No effect		Don't know		Total 'Positive effect'		Total 'Negative effect'		Total 'No effect'	
		2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.
EU27		26	▲ 2	44	▲ 2	16	▲ 2	5	▬	2	▬	7		70	▲ 4	21	▲ 2	2	▬
PT		56	▲ 28	37	▲ 3	5	▼ 2	1	▼ 1	1	▬	0		93	▲ 31	6	▼ 3	1	▬
BE		28	▲ 9	53	▲ 14	14	▼ 9	3	▼ 6	2	▼ 2	0		81	▲ 23	17	▼ 15	2	▼ 2
MT		35	▲ 12	39	▲ 9	9	▲ 2	4	▲ 2	1	▲ 1	12		74	▲ 21	13	▲ 4	1	▲ 1
EE		50	▲ 21	40	▼ 2	6	▼ 1	2	▲ 1	2	▼ 1	0		90	▲ 19	8	▬	2	▼ 1
IE		33	▲ 8	47	▲ 11	13	▲ 1	5	▬	2	▬	0		80	▲ 19	18	▲ 1	2	▬
LT		34	▲ 10	46	▲ 8	12	▲ 5	4	▲ 2	4	▲ 1	0		80	▲ 18	16	▲ 7	4	▲ 1
FI		30	▲ 15	52	▲ 3	13	▼ 8	2	▼ 3	2	▼ 3	1		82	▲ 18	15	▼ 11	2	▼ 3
EL		25	▬	43	▲ 15	12	▬	4	▼ 4	1	▼ 1	15		68	▲ 15	16	▼ 4	1	▼ 1
LV		18	▬	51	▲ 15	19	▲ 8	7	▲ 2	5	▲ 2	0		69	▲ 15	26	▲ 10	5	▲ 2
AT		16	▼ 1	39	▲ 14	25	▲ 1	14	▼ 7	2	▬	4		55	▲ 13	39	▼ 6	2	▬
SE		27	▲ 6	55	▲ 6	13	▼ 5	3	▼ 2	2	▲ 1	0		82	▲ 12	16	▼ 7	2	▲ 1
CZ		26	▼ 2	53	▲ 10	16	▲ 2	4	▼ 1	1	▬	0		79	▲ 8	20	▲ 1	1	▬
CY		30	▲ 1	46	▲ 7	7	▲ 1	4	▲ 1	2	▲ 1	11		76	▲ 8	11	▲ 2	2	▲ 1
NL		19	▲ 4	51	▲ 4	19	▼ 2	5	▼ 3	2	▬	4		70	▲ 8	24	▼ 5	2	▬
LU		22	▼ 11	54	▲ 18	19	▲ 4	4	▼ 1	1	▼ 1	0		76	▲ 7	23	▲ 3	1	▼ 1
PL		25	▲ 5	44	▲ 2	15	▲ 2	6	▲ 2	1	▼ 1	9		69	▲ 7	21	▲ 4	1	▼ 1
IT		33	▲ 7	42	▼ 1	13	▲ 3	5	▲ 1	1	▼ 2	6		75	▲ 6	18	▲ 4	1	▼ 2
ES		43	▲ 14	34	▼ 9	7	▼ 2	3	▼ 1	1	▼ 2	12		77	▲ 5	10	▼ 3	1	▼ 2
BG		22	▼ 4	41	▲ 8	11	▲ 6	5	▲ 4	1	▼ 7	20		63	▲ 4	16	▲ 10	1	▼ 7
FR		16	▼ 2	52	▲ 6	12	▼ 1	5	▬	3	▬	12		68	▲ 4	17	▼ 1	3	▬
HR		17	▼ 8	43	▲ 11	20	▲ 1	10	▲ 1	3	▲ 1	7		60	▲ 3	30	▲ 2	3	▲ 1
HU		30	▼ 6	42	▲ 4	14	▲ 3	6	▲ 1	1	▬	7		72	▼ 2	20	▲ 4	1	▬
SI		19	▼ 7	42	▲ 5	21	▲ 3	10	▼ 1	5	▲ 3	3		61	▼ 2	31	▲ 2	5	▲ 3
SK		22	▼ 1	41	▼ 2	17	▬	9	▲ 5	3	▲ 1	8		63	▼ 3	26	▲ 5	3	▲ 1
DE		19	▼ 6	42	▲ 2	26	▲ 6	7	▲ 1	1	▼ 1	5		61	▼ 4	33	▲ 7	1	▼ 1
DK		16	▼ 11	47	▲ 2	22	▲ 6	6	▲ 2	5	▲ 2	4		63	▼ 9	28	▲ 8	5	▲ 2
RO		18	▼ 17	37	▲ 7	21	▲ 13	8	▲ 6	3	▲ 2	13		55	▼ 10	29	▲ 19	3	▲ 2
TR		56	▲ 12	30	▲ 11	8	▬	4	▲ 2	2	▼ 1	0		86	▲ 23	12	▲ 2	2	▼ 1
MK		19	N/A	31	N/A	15	N/A	9	N/A	4	N/A	22		50	N/A	24	N/A	4	N/A
AL		5	N/A	44	N/A	15	N/A	12	N/A	11	N/A	13		49	N/A	27	N/A	11	N/A
ME		21	N/A	42	N/A	21	N/A	12	N/A	1	N/A	3		63	N/A	33	N/A	1	N/A
RS		10	N/A	30	N/A	21	N/A	23	N/A	3	N/A	13		40	N/A	44	N/A	3	N/A
UK		28	▲ 5	49	▲ 7	17	▲ 6	4	▼ 2	2	▼ 1	0		77	▲ 12	21	▲ 4	2	▼ 1
IS		51	▲ 10	42	▼ 3	5	▲ 3	0	▼ 1	1	▼ 6	1		93	▲ 7	5	▲ 2	1	▼ 6
CH		17	▲ 1	45	▲ 3	31	▲ 6	6	▼ 1	1	▬	0		62	▲ 4	37	▲ 5	1	▬
NO		27	▲ 2	55	▼ 1	14	▲ 5	2	▬	2	▲ 1	0		82	▲ 1	16	▲ 5	2	▲ 1
XK		23	N/A	26	N/A	11	N/A	3	N/A	3	N/A	34		49	N/A	14	N/A	3	N/A
BA		20	N/A	44	N/A	19	N/A	8	N/A	4	N/A	5		64	N/A	27	N/A	4	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

More than half of respondents in every EU country think space exploration will have a positive effect on life in the next 20 years. This view is held by at least eight in ten respondents in Portugal (86%), Czechia (85%) and Bulgaria and Estonia (both 80%), and by 55% in Romania and 65% in Malta, Cyprus, France and Spain, which have the lowest proportion of respondents agreeing that the impact will be positive.

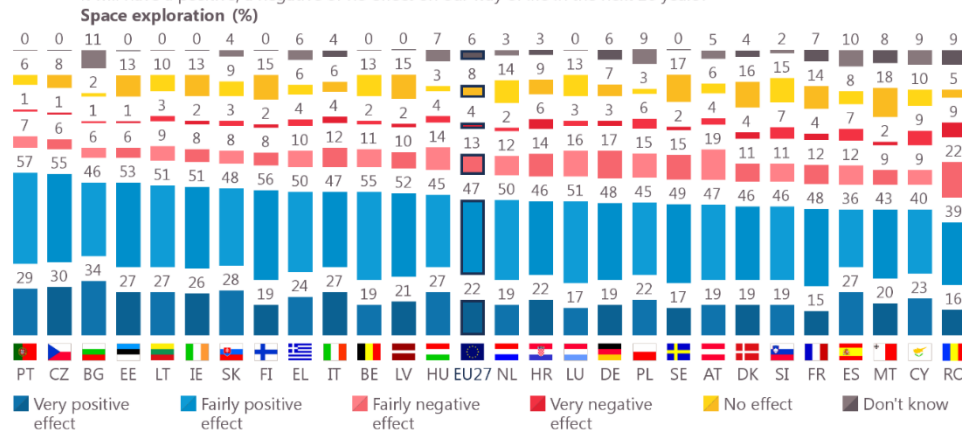
In 16 countries at least one in five respondents think the effect of space exploration will be 'very positive', with the highest levels in Bulgaria (34%), Czechia (30%) and Portugal (29%).

In each non-EU country, the majority of respondents think space exploration will have a positive effect. The largest proportion is seen in Turkey (86%) and the smallest in Albania (56%).

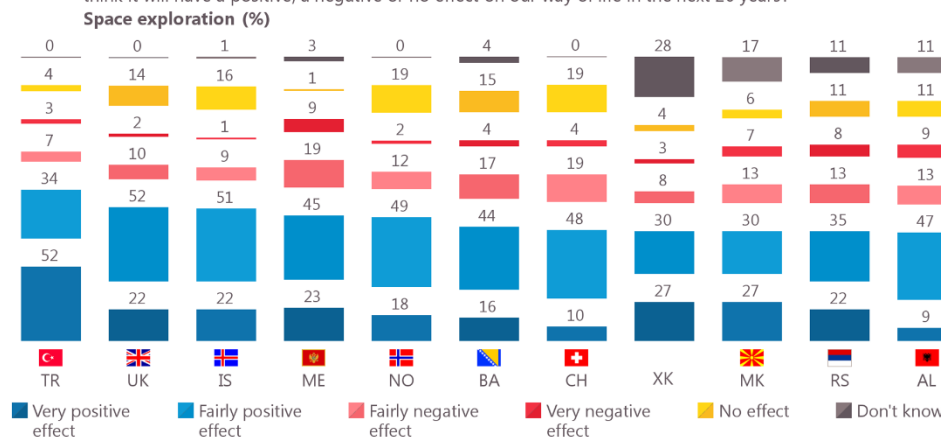
The proportion that think space exploration will have a positive effect has increased in 17 countries since 2005, with the largest seen in Portugal (+23 pp), and Ireland and the Netherlands (+17 pp each). The positive view has declined in eight countries, and particularly amongst respondents in Romania (-17 pp), Slovenia (-11 pp) and Cyprus (-10 pp). There has been no change in opinion in Denmark or France.

The positive view has also increased in all four non-EU countries surveyed in 2021 and 2005, with the largest in Turkey (+13 pp), the United Kingdom (+11 pp) and Switzerland (+10 pp).

**QA8a.7** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.7** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA8a.7 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

#### Space exploration (%)

		Very positive effect	Fairly positive effect	Fairly negative effect	Very negative effect	No effect	Don't know	Total 'Positive effect'	Total 'Negative effect'	Total 'No effect'
		Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005
EU27		22	47	13	4	8	6	69	17	8
PT		29	57	7	1	6	0	86	8	6
IE		26	51	8	2	13	0	77	10	13
NL		19	50	12	2	14	3	69	14	14
EE		27	53	6	1	13	0	80	7	13
BG		34	46	6	1	2	11	80	7	2
LV		21	52	10	2	15	0	73	12	15
FI		19	56	8	2	15	0	75	10	15
LT		27	51	9	3	10	0	78	12	10
AT		19	47	19	4	6	5	66	23	6
BE		19	55	11	2	13	0	74	13	13
CZ		30	55	6	1	8	0	85	7	8
EL		24	50	10	4	6	6	74	14	6
SE		17	49	15	2	17	0	66	17	17
LU		17	51	16	3	13	0	68	19	13
MT		20	43	9	2	18	8	63	11	18
DE		19	48	17	3	7	6	67	20	7
SK		28	48	8	3	9	4	76	11	9
DK		19	46	11	4	16	4	65	15	16
FR		15	48	12	4	14	7	63	16	14
IT		27	47	12	4	6	4	74	16	6
HU		27	45	14	4	3	7	72	18	3
HR		22	46	14	6	9	3	68	20	9
ES		27	36	12	7	8	10	63	19	8
PL		22	45	15	6	3	9	67	21	3
CY		23	40	9	9	10	9	63	18	10
SI		19	46	11	7	15	2	65	18	15
RO		16	39	22	9	5	9	55	31	5
TR		52	34	7	3	4	0	86	10	4
MK		27	30	13	7	6	17	57	20	6
AL		9	47	13	9	11	11	56	22	11
ME		23	45	19	9	1	3	68	28	1
RS		22	35	13	8	11	11	57	21	11
IS		22	51	9	1	16	1	73	10	16
UK		22	52	10	2	14	0	74	12	14
CH		10	48	19	4	19	0	58	23	19
NO		18	49	12	2	19	0	67	14	19
XK		27	30	8	3	4	28	57	11	4
BA		16	44	17	4	15	4	60	21	15

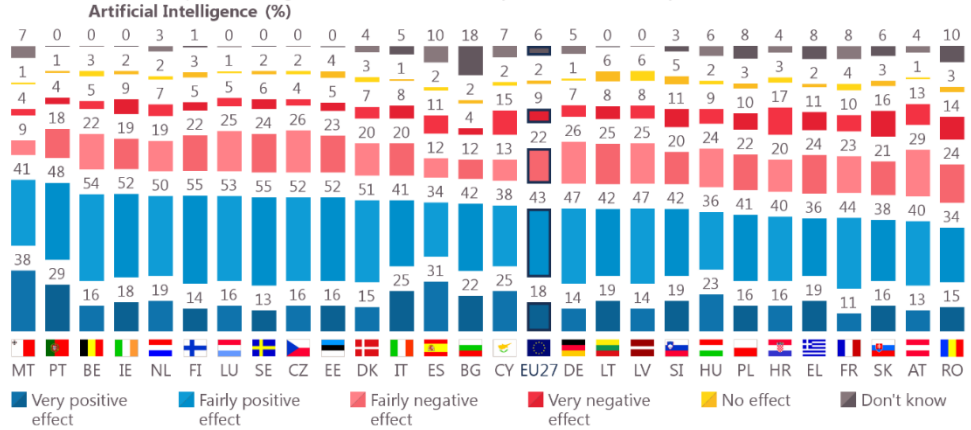
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

The majority of respondents in every Member State think artificial intelligence will have a positive effect on our way of life in the next 20 years. At least seven in ten respondents in Malta (79%), Portugal (77%), Belgium and Ireland (both 70%), Portugal (77%), Belgium and Ireland (both 70%) think this way (highest proportions), as do 49% in Romania, 53% in Austria and 54% in Slovakia (lowest proportions).

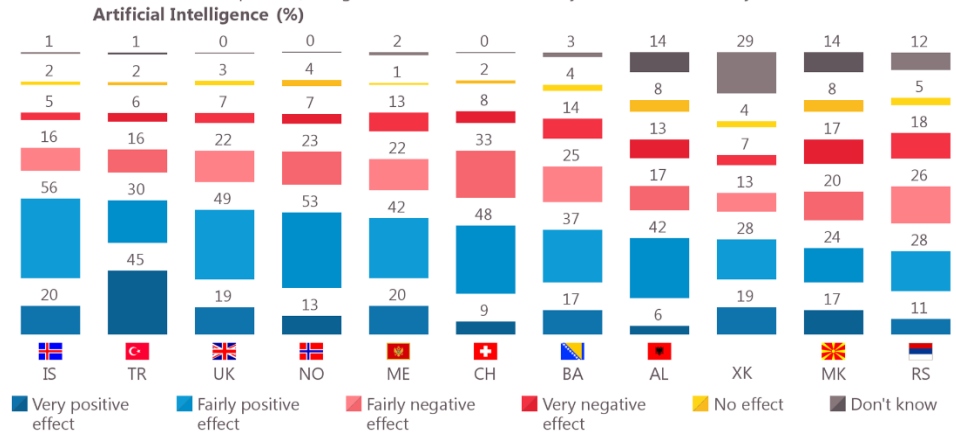
The proportion of respondents in non-EU countries who think the effect of these new technologies will be positive varies from 76% in Iceland to 39% in Serbia.

The largest proportions of respondents who think there will be a 'very positive' effect are seen in Malta (38%), Portugal (29%) and Italy and Cyprus (both 25%).

**QA8a.10** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.10** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There is a broad range of opinions about the effect of nuclear energy. In 20 countries the majority think the effect will be positive, with respondents in Czechia (79%), Bulgaria (69%) and Slovakia (66%) the most likely to do so. This compares to 25% in Germany, 30% in Austria and 35% in Greece; in these three countries and in Luxembourg, Denmark and Portugal the majority think the effect will be negative, while in France opinion is divided (positive 45%, negative 45%).

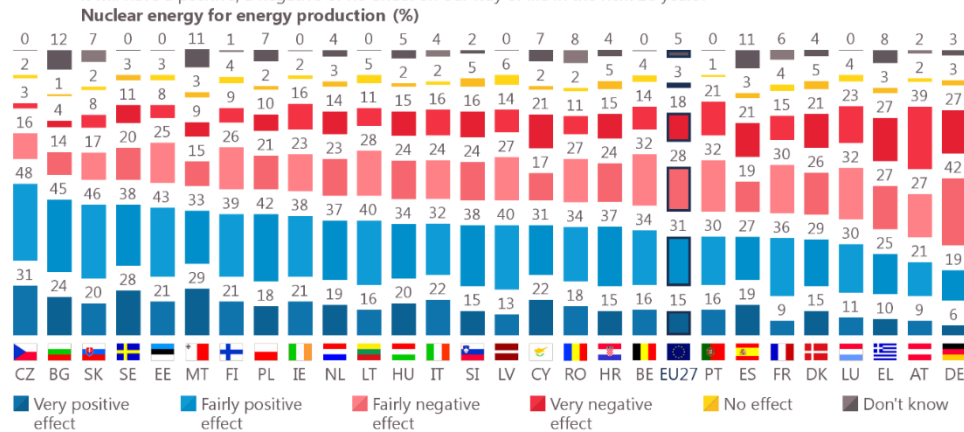
The largest proportions of respondents who think the effect will be 'very positive' are seen in Czechia (31%), Malta (29%) and Sweden (28%).

Opinion in countries outside the EU also varies considerably, with the proportion that think the effect will be positive ranging from 70% in Turkey to 34% in Switzerland. The negative view is held by the majority in Switzerland (63%), Iceland (57%) and Serbia (55%), while in Montenegro opinion is divided (40% positive, 40% negative).

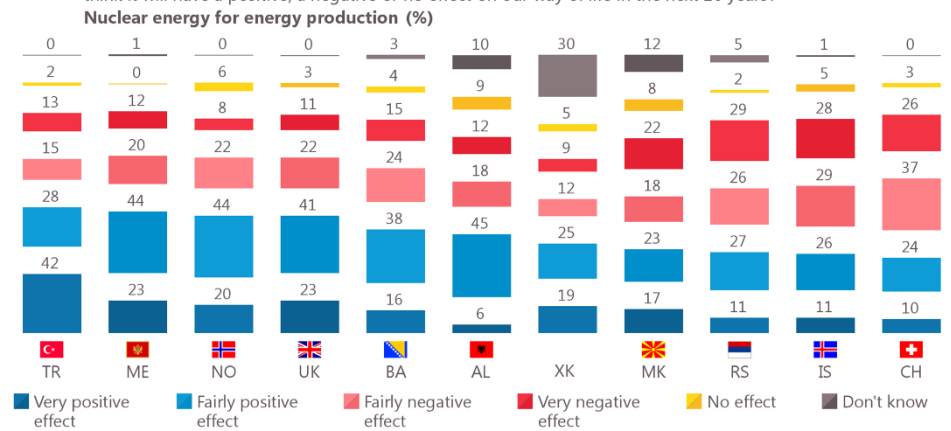
The trends since 2005 are mixed. In 15 countries the proportion that thinks the effects of new technologies in nuclear energy will be positive has increased, with the largest seen in Czechia (+22 pp), Estonia (+19 pp) and the Netherlands (+17 pp). On the other hand, in 12 countries respondents are now less likely to be positive, with the largest declines seen in Romania (-21 pp), Germany (-19 pp) and Italy (-10 pp). The proportion that thinks the effect will be 'very positive' has increased by ten points in Finland, but has declined in Romania (-24 pp), Greece and Cyprus (-10 pp each).

Outside of the EU, respondents in Norway are now much more likely to hold a positive view in general (+30 pp), and they are also more likely to say the effects of new technologies in nuclear energy will 'very positive' (+10 pp).

**QA8a.9** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**QA8a.9** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA8a.9 The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?

**Nuclear energy for energy production (%)**

		Very positive effect	Fairly positive effect	Fairly negative effect	Very negative effect	No effect	Don't know	Total 'Positive effect'	Total 'Negative effect'	Total 'No effect'
		Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005	Diff. April/May 2021 - January/February 2005
EU27		15 ▼ 4	31 ▼ 3	28 ▲ 7	18 ▲ 5	3 ▼ 1	5	46 ▼ 7	46 ▲ 12	3 ▼ 1
CZ		31 ▲ 9	48 ▲ 13	16 ▼ 7	3 ▼ 6	2 =	0	79 ▲ 22	19 ▼ 13	2 =
EE		21 ▲ 8	43 ▲ 11	25 ▲ 2	8 ▼ 1	3 =	0	64 ▲ 19	33 ▲ 1	3 =
NL		19 ▲ 8	37 ▲ 9	23 ▼ 3	14 ▼ 11	3 ▼ 2	4	56 ▲ 17	37 ▼ 14	3 ▼ 2
LV		13 ▼ 1	40 ▲ 15	27 ▲ 7	14 ▼ 2	6 ▲ 4	0	53 ▲ 14	41 ▲ 5	6 ▲ 4
SE		28 ▲ 9	38 ▲ 1	20 ▼ 1	11 ▲ 1	3 ▼ 1	0	66 ▲ 10	31 =	3 ▼ 1
HR		15 ▼ 3	37 ▲ 12	24 ▼ 1	15 ▼ 5	5 ▲ 3	4	52 ▲ 9	39 ▼ 6	5 ▲ 3
MT		29 ▲ 3	33 ▲ 6	15 ▲ 7	9 ▼ 1	3 =	11	62 ▲ 9	24 ▲ 6	3 =
SK		20 ▼ 1	46 ▲ 9	17 ▼ 7	8 ▼ 2	2 =	7	66 ▲ 8	25 ▼ 9	2 =
DK		15 ▲ 4	29 ▲ 3	26 ▲ 3	21 ▼ 2	5 ▼ 5	4	44 ▲ 7	47 ▲ 1	5 ▼ 5
SI		15 ▼ 3	38 ▲ 10	24 ▲ 1	16 ▼ 8	5 ▲ 2	2	53 ▲ 7	40 ▼ 7	5 ▲ 2
IE		21 ▼ 1	38 ▲ 7	23 ▲ 9	16 ▼ 1	2 =	0	59 ▲ 6	39 ▲ 8	2 =
FI		21 ▲ 10	39 ▼ 4	26 ▼ 1	9 ▼ 2	4 ▼ 1	1	60 ▲ 6	35 ▼ 3	4 ▼ 1
PL		18 =	42 ▲ 5	21 ▲ 4	10 ▼ 1	2 =	7	60 ▲ 5	31 ▲ 3	2 =
LU		11 ▼ 5	30 ▲ 9	32 ▲ 5	23 ▼ 3	4 ▼ 1	0	41 ▲ 4	55 ▲ 2	4 ▼ 1
AT		9 ▼ 1	21 ▲ 5	27 ▲ 6	39 ▲ 2	2 ▼ 3	2	30 ▲ 4	66 ▲ 8	2 ▼ 3
BG		24 ▼ 7	45 ▲ 5	14 ▲ 7	4 ▲ 2	1 ▼ 2	12	69 ▼ 2	18 ▲ 9	1 ▼ 2
LT		16 ▼ 3	40 ▲ 1	28 ▲ 15	11 ▲ 6	5 ▲ 3	0	56 ▼ 2	39 ▲ 21	5 ▲ 3
HU		20 ▼ 3	34 ▲ 1	24 ▲ 6	15 ▲ 6	2 ▼ 3	5	54 ▼ 2	39 ▲ 12	2 ▼ 3
BE		16 =	34 ▼ 3	32 ▲ 3	14 ▲ 2	4 ▲ 1	0	50 ▼ 3	46 ▲ 5	4 ▲ 1
CY		22 ▼ 10	31 ▲ 6	17 =	21 ▲ 10	2 ▲ 2	7	53 ▼ 4	38 ▲ 10	2 ▲ 2
ES		19 ▼ 1	27 ▼ 4	19 ▼ 2	21 ▲ 5	3 =	11	46 ▼ 5	40 ▲ 3	3 =
PT		16 ▼ 7	30 ▲ 2	32 ▲ 20	21 ▲ 10	1 ▼ 1	0	46 ▼ 5	53 ▲ 30	1 ▼ 1
FR		9 ▼ 3	36 ▼ 3	30 ▲ 4	15 ▲ 4	4 =	6	45 ▼ 6	45 ▲ 8	4 =
EL		10 ▼ 10	25 ▲ 3	27 ▲ 8	27 ▼ 5	3 ▼ 2	8	35 ▼ 7	54 ▲ 13	3 ▼ 2
IT		22 ▼ 5	32 ▼ 5	24 ▲ 10	16 ▲ 7	2 ▼ 1	4	54 ▼ 10	40 ▲ 17	2 ▼ 1
DE		6 ▼ 9	19 ▼ 10	42 ▲ 13	27 ▲ 10	3 ▼ 2	3	25 ▼ 19	69 ▲ 23	3 ▼ 2
RO		18 ▼ 24	34 ▲ 3	27 ▲ 20	11 ▲ 8	2 ▲ 1	8	52 ▼ 21	38 ▲ 28	2 ▲ 1
TR		42 ▼ 7	28 ▲ 10	15 ▲ 6	13 ▲ 8	2 ▼ 1	0	70 ▲ 3	28 ▲ 14	2 ▼ 1
MK		17 N/A	23 N/A	18 N/A	22 N/A	8 N/A	12	40 N/A	40 N/A	8 N/A
AL		6 N/A	45 N/A	18 N/A	12 N/A	9 N/A	10	51 N/A	30 N/A	9 N/A
ME		23 N/A	44 N/A	20 N/A	12 N/A	0 N/A	1	67 N/A	32 N/A	0 N/A
RS		11 N/A	27 N/A	26 N/A	29 N/A	2 N/A	5	38 N/A	55 N/A	2 N/A
NO		20 ▲ 10	44 ▲ 20	22 ▼ 4	8 ▼ 19	6 =	0	64 ▲ 30	30 ▼ 23	6 =
IS		11 ▲ 5	26 ▲ 12	29 ▲ 3	28 ▲ 7	5 ▼ 20	1	37 ▲ 17	57 ▲ 10	5 ▼ 20
UK		23 ▲ 1	41 ▲ 2	22 ▲ 4	11 ▲ 3	3 =	0	64 ▲ 3	33 ▲ 7	3 =
CH		10 ▲ 1	24 ▲ 1	37 ▲ 2	26 ▲ 3	3 =	0	34 ▲ 2	63 ▲ 5	3 =
XK		19 N/A	25 N/A	12 N/A	9 N/A	5 N/A	30	44 N/A	21 N/A	5 N/A
BA		16 N/A	38 N/A	24 N/A	15 N/A	4 N/A	3	54 N/A	39 N/A	4 N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows a few patterns:

Men are more likely than women to have a positive opinion about the impact of several technological areas on life in the next 20 years. For example, 66% think the impact of artificial intelligence will be positive, compared to 57% of women. Other areas where men are more likely to be positive are nanotechnology (77% vs 70%), biotechnology and genetic engineering (73% vs 67%), space exploration (72% vs 64%) and nuclear energy for energy production (51% vs 43%).

Respondents aged 15-54 are more likely than their older counterparts to think there will be a positive impact from nanotechnology, brain and cognitive enhancements, biotechnology and genetic engineering, space exploration, artificial intelligence or nuclear energy for energy production. For example, 75% of those aged 15-39 and 72% of 40-54 year olds think new technologies in biotechnology and genetic engineering will have a positive impact, compared to 64% of those aged 55 and older.

The longer a respondent remained in education, the more likely they are to think each of these areas will have a positive impact on life in the next 20 years. The effect is most pronounced in the case of nanotechnology: 81% who stayed in education the longest think new technologies in this area will have a positive effect, compared to 55% who completed education aged 15 or younger.

The fewer the difficulties a respondent experiences paying bills, the more likely they are to think new technologies in each of these areas will have a positive impact. For example, 46% who experience the least financial difficulties are positive about the potential impact of nuclear energy for energy production, compared to 39% of those who experience the most difficulties. The exception is space exploration, where there is little difference.

The analysis also shows respondents who live in towns are more likely to be positive about the effect of new technologies in nanotechnology, brain and cognitive enhancements, biotechnology and genetic engineering, space exploration or artificial intelligence. For instance, 64% in large towns think the effect of new technologies in artificial intelligence will be positive, compared to 55% of those living in rural villages.

Respondents who place themselves to the right of the political spectrum (58%) much more likely to think new technologies in nuclear energy will be positive, compared to those in the centre (45%) or on the left (42%). The other technologies are generally favoured more by people who place themselves on the left of the political spectrum.

Finally, and perhaps not surprisingly, respondents who think the influence of science and technology is positive are much more likely to say new technologies in each of these areas will have a positive impact, compared to those who think the influence is negative.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA8aT** The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?  
(% - Total 'Positive effect')

	Solar energy	Wind energy	Vaccines and combating infectious diseases	Information and communication Technology	Nanotechnology	Brain and cognitive enhancement	Biotechnology and genetic engineering	Space exploration	Artificial intelligence	Nuclear energy for energy production
EU27	92	87	86	82	73	71	70	69	61	46
<b>Gender</b>										
Man	93	88	87	83	77	72	73	72	66	51
Woman	92	87	85	81	70	70	67	64	57	43
<b>Age</b>										
15-24	93	89	86	85	78	74	75	79	69	52
25-39	92	89	85	84	78	73	75	75	66	50
40-54	93	90	86	83	75	72	72	69	64	48
55+	91	85	87	79	67	67	64	61	54	43
<b>Education (end of)</b>										
15-	87	82	84	73	55	63	55	54	45	35
16-19	92	87	85	82	70	69	67	67	59	48
20+	94	89	89	84	81	73	76	72	69	49
Still studying	94	91	89	87	81	78	77	80	72	49
<b>Socio-professional category</b>										
Self-employed	95	91	89	84	77	74	73	72	63	50
Managers	95	90	89	84	84	75	78	74	72	50
Other white collars	93	90	88	86	80	74	74	74	66	52
Manual workers	91	86	82	81	70	68	67	68	59	48
House persons	89	84	80	80	60	63	62	57	52	41
Unemployed	92	87	82	78	70	72	66	67	58	44
Retired	90	83	87	77	63	64	62	60	52	43
Students	94	91	89	87	81	78	77	80	72	49
<b>Difficulties paying bills</b>										
Most of the time	86	80	77	72	63	63	56	64	48	39
From time to time	89	84	81	79	69	68	68	69	59	52
Almost never/ Never	94	89	89	83	75	71	71	68	63	46
<b>Subjective urbanisation</b>										
Rural village	92	85	85	81	69	67	64	64	55	44
Small/ mid size town	92	87	86	81	73	72	71	69	63	47
Large town	94	89	88	84	77	73	74	72	64	50
<b>Use of the Internet</b>										
Everyday	94	89	87	84	78	73	73	72	65	48
Often/ Sometimes	88	81	84	78	62	66	62	62	50	44
Never	82	77	79	66	44	50	49	49	37	36
<b>Left-right political scale</b>										
Left	95	91	89	83	76	73	73	70	63	42
Centre	93	88	87	84	74	72	70	68	62	45
Right	90	84	84	81	72	69	70	70	62	58
<b>Medical discoveries</b>										
Interested	95	90	91	85	80	77	76	72	66	48
Moderately interested	92	88	86	82	73	70	69	69	61	47
Not interested	86	81	74	72	56	55	56	58	49	45
<b>Scientific discoveries</b>										
Interested	94	90	91	86	83	78	80	75	72	51
Moderately interested	93	88	87	85	75	71	69	69	61	46
Not interested	86	82	77	70	52	56	53	55	44	41
<b>Environmental problems</b>										
Interested	96	91	90	84	78	73	74	71	65	41
Moderately interested	92	87	86	84	73	72	70	70	62	52
Not interested	81	74	72	68	53	56	53	57	47	48
<b>Influence of science and technology</b>										
Positive	94	91	90	86	78	74	75	72	66	49
Negative	78	69	62	56	47	49	44	50	33	34
<b>Correct answers to questions about scientific knowledge</b>										
Less than 5 correct answers	85	81	75	75	56	60	58	60	49	46
Between 5 and 8 correct answers	93	87	86	83	74	73	71	69	62	48
More than 8 correct answers	96	93	96	86	85	74	76	74	72	44
<b>Worked in research / science / innovative technology development</b>										
You alone do or did in the past	89	85	85	80	78	69	78	70	70	52
A family member does or did in the past	95	87	90	81	84	74	74	74	69	47
Both you and a family member do or did in the past	96	87	93	86	80	75	77	71	74	39
No	92	88	86	82	71	70	68	68	60	47



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

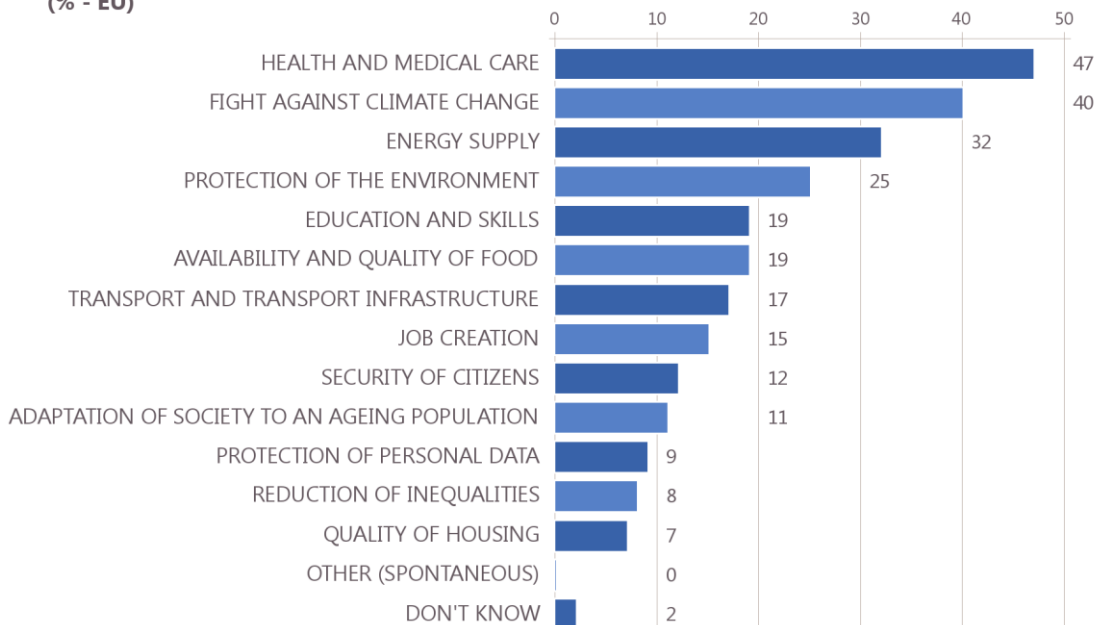
Respondents were provided with a list of areas and asked which they thought would be affected most by research and innovation in the coming years.

Almost half of all respondents think health and medical care (47%) will be most affected by research and innovation. This is the most mentioned area, followed by the fight against climate change (40%) and the energy supply (32%).

One quarter (25%) think protection of the environment will be affected the most by research and innovation, while almost one in five respondents mention the availability and quality of food (19%), education and skills (19%), or transport and transport infrastructure (17%).

More than one in ten respondents think job creation (15%), the security of citizens (12%) or the adaption of society to an ageing population (11%) will be most affected. Finally, fewer than one in ten think the protection of personal data (9%), a reduction of inequalities (8%) or quality of housing (7%) will be most affected by research and innovation in the coming years.

**QA8b** In the coming years, which of the following areas do you think will be affected most by research and innovation? (MAX. 3 ANSWERS)  
(% - EU)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Across the EU, 47% of respondents think health and medical care will be most affected by research and innovation, but at a country level the proportions that think this way range from at least six in ten in Malta (70%), Czechia (66%), Greece (61%) and Belgium (60%) to no more than four in ten in Romania (33%), Slovenia (38%), Spain and Denmark (both 40%). In the non-EU countries surveyed the variation is even wider: from 64% of respondents in the UK to 17% in Albania. In the EU, this is the most mentioned area by respondents in 20 countries and is the also most mentioned in Slovenia along with energy supply, and in France along with the fight against climate change. It is the second most mentioned area in Portugal and Germany, and the third most mentioned in Finland, Sweden and Denmark.

Respondents in Sweden (62%), Denmark (57%) and the Netherlands (55%) are the most likely to say the fight against climate change will be most affected, particularly when compared to those in Romania (13%), Greece (25%) and Spain (28%). This is the most mentioned area by respondents in Denmark, Portugal (52%), France (49%, equal to health and medical care) and Germany (47%). It is the second most mentioned area in 14 countries, and the third most mentioned in seven others. Amongst the non-EU countries surveyed, respondents in Iceland (58%) are most likely to mention the fight against climate change, with those in Albania (6%) the least likely to do so.

The proportion of respondents who think energy supply will be the most affected by research and innovation varies considerably between countries: from 67% in Sweden and 55% in the Netherlands and Belgium to 11% in Romania, 13% in Cyprus and 14% in Spain. This is also the most mentioned area in Sweden and Finland (52%) and is the most mentioned in Slovenia along with health and medical care (both 38%). It is the second most mentioned area in seven countries, and the third most mentioned in ten others. In the 11 non-EU countries surveyed, energy supply is most often mentioned by those in Norway (54%) and is least mentioned by those in Albania (5%).

Only a minority of respondents in each country think protection of the environment will be most affected by research and innovation, with the highest proportions observed in France (35%), Czechia (34%) and Ireland (31%). At the other end of the scale 10% of respondents in Sweden, 14% in the Netherlands and 17% in Romania mention environmental protection. This is the second most mentioned item in France and Czechia, and the third most mentioned in Slovenia and Slovakia. Except for Albania (4%), more than one in ten respondents in the other non-EU countries surveyed mention protection of the environment as being most affected, with the highest proportion seen in Iceland (33%).

The Netherlands (27%) is the only country where at least one-quarter think the availability and quality of food will be the most affected by research and innovation in the coming years, although 24% in Hungary, Poland and Croatia also mention this area. This contrasts with 8% of respondents in Malta and 12% in Lithuania who also mention this area. The results from non-EU countries fall within a similar range, with the highest proportion of mentions observed in Turkey (24%) and the lowest in Albania and Kosovo (both 6%).

Education and skills are most often mentioned by respondents in Cyprus and Greece (both 42%) and Czechia (32%), and least often mentioned by those in Sweden (10%), Belgium and Austria (both 15%). This is the second most mentioned area in two countries, and the third most mentioned in three. The proportion of respondents in non-EU countries mentioning this area ranges from 44% in Kosovo (the highest of any country surveyed) to 10% in Albania.

More than one-quarter of respondents in Sweden (36%), Latvia (27%) and Germany (26%) think transport and transport infrastructure will be the most affected by research and innovation in coming years. At the other end of the scale 3% in Cyprus, 10% in Greece and 11% in Croatia think the same way. Outside of the EU, respondents in Switzerland (27%) are the most likely to mention transport and transport infrastructure, while those in North Macedonia and Kosovo (both 4%) are the least likely to do so.

Job creation is most often mentioned by respondents in Cyprus (26%), and Greece and Romania (both 25%), and least mentioned by those in the Netherlands and Sweden (both 5%) and Denmark (6%). However, the largest proportion of respondents mentioning this are observed outside of the EU in Kosovo (36%), compared to 6% in Switzerland. Within the EU this is the second most mentioned area in Romania, and the third most mentioned in Greece and Spain.

Cyprus and Romania (both 22%) are the only EU countries where at least one in five mention the security of citizens, followed by 19% in Greece. This compares to 4% of respondents in Ireland and 5% in Germany that also mention this area. This is the third most mentioned area in Romania. Amongst non-EU countries the proportion of respondents mentioning security ranges from 24% in Albania to 4% in Switzerland.

Portugal (23%) is the only country where more than one in five think the adaption of society to an ageing population will be most affected by research and innovation, followed by 14% of respondents in Slovenia, Malta, Estonia, Luxembourg and Belgium. At the other end of the scale, 6% of respondents in Bulgaria, 7% in Cyprus and 8% in Hungary and Sweden also mention this area. In countries outside of EU adaption of society to an ageing population is most mentioned by respondents in Norway and Iceland (17% each) and least mentioned by those in Albania (5%).

The proportion of respondents who mention the protection of personal data ranges from 18% in Portugal, and 15% in Lithuania and Spain, to 5% in Sweden and Hungary, and 6% in Germany and Slovakia. In non-EU countries the proportion ranges from 18% of respondents in Turkey to 6% in Serbia.

France (13%) and Romania (10%) are the only countries where at least one in ten thinks the reduction of inequalities will be most affected by research and innovation. This compares to 2% of respondents in Sweden and Czechia. The highest proportion of respondents mentioning this area is actually found outside of the EU in Albania (29%).

Finally, quality of housing is mentioned by at least one in ten respondents in Austria (12%), Romania and Poland (both 11%) and

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

France (10%), but by only 2% in Sweden. In countries outside the EU proportions range from 16% in North Macedonia to 3% in Bosnia and Herzegovina, the United Kingdom, Norway and Switzerland.

QA8b In the coming years, which of the following areas do you think will be affected most by research and innovation? (MAX. 3 ANSWERS)  
(%)

		Health and medical care	Fight against climate change	Energy supply	Protection of the environment	Availability and quality of food	Education and skills	Transport and transport infrastructure	Job creation	Security of citizens	Adaptation of society to an ageing population	Protection of personal data	Reduction of inequalities	Quality of housing	Other (SPONTANEOUS)	Don't know	
EU27		47	40	32	25	19	19	17	15	12	11	9	8	7	0	2	
BE		60	54	55	21	18	15	14	8	7	14	11	4	4	0	1	
BG		48	29	24	22	21	26	17	12	14	6	8	6	6	1	5	
CZ		66	29	32	34	15	32	24	12	10	9	7	2	3	0	0	
DK		40	57	50	29	22	17	17	6	7	9	10	5	4	0	0	
DE		46	47	39	30	19	18	26	8	5	12	6	6	4	1	1	
EE		59	37	50	23	15	27	17	12	7	14	9	5	5	0	0	
IE		58	50	51	31	20	16	18	10	4	13	11	5	4	0	0	
EL		61	25	18	20	17	42	16	25	19	9	9	7	4	0	2	
ES		40	28	14	18	15	16	10	24	12	11	15	8	8	0	6	
FR		49	49	22	35	21	18	14	13	12	12	9	13	10	0	0	
HR		51	39	27	19	24	19	11	20	13	10	10	9	8	0	0	
IT		46	35	37	26	17	16	16	20	18	11	8	8	5	0	2	
CY		51	31	13	25	17	42	3	26	22	7	11	6	5	0	2	
LV		56	32	31	22	19	20	27	11	8	12	8	7	5	0	0	
LT		56	36	34	19	12	19	23	17	10	13	15	7	6	0	0	
LU		56	52	47	29	15	16	19	8	7	14	10	7	8	0	0	
HU		49	30	33	22	24	19	20	10	12	8	5	9	8	0	1	
MT		70	42	25	26	8	28	13	23	9	14	10	4	3	0	1	
NL		56	55	55	14	27	18	13	5	8	13	11	6	6	0	0	
AT		44	38	32	26	23	15	24	15	11	10	10	8	12	1	2	
PL		43	29	26	21	24	23	13	15	17	9	8	8	11	0	1	
PT		48	52	32	25	15	18	15	15	12	23	18	9	3	0	0	
RO		33	13	11	17	18	21	12	25	22	12	12	10	11	0	5	
SI		38	34	38	27	22	19	15	16	13	14	12	5	4	0	1	
SK		56	34	20	29	22	26	21	17	15	9	6	5	7	0	0	
FI		47	48	52	19	21	22	17	14	10	9	7	6	3	0	0	
SE		43	62	67	10	21	10	36	5	8	8	5	2	2	0	0	
TR		45	33	29	22	24	25	16	22	13	9	18	10	6	0	0	
MK		42	28	18	24	19	19	4	23	22	9	15	9	16	0	1	
AL		17	6	5	4	6	10	10	10	24	5	8	29	8	0	0	
ME		32	23	25	26	16	16	10	26	23	9	17	13	7	0	0	
RS		51	34	34	27	20	16	8	13	12	10	6	6	4	0	1	
NO		38	52	54	22	17	14	25	11	5	17	17	4	3	0	0	
CH		51	50	53	30	16	12	27	6	4	14	14	5	3	0	0	
UK		64	49	47	28	16	16	20	9	8	15	10	4	3	0	0	
IS		27	58	34	33	16	29	6	20	5	17	8	11	5	0	1	
XK		36	14	11	20	6	44	4	36	23	4	12	5	7	0	0	
BA		49	25	21	16	17	20	11	17	16	8	11	6	3	0	0	
		1st MOST FREQUENTLY MENTIONED ITEM				2nd MOST FREQUENTLY MENTIONED ITEM				3r+A1:U46d MOST FREQUENTLY MENTIONED ITEM							

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis illustrates that men are more likely than women to mention energy supply (34% vs 29%) or transport and transport infrastructure (20% vs 15%) as the most affected by research and innovation in coming years.

It also shows that the older the respondent, the more likely they are to mention health and medical care, and the less likely they are to mention the protection of personal data, though the effect is not large. For example, 50% of those aged 50 and older mention health and medical care, compared to 43% of those aged 15-24.

The longer a respondent remained in education, the more likely they are to mention the fight against climate change, energy supply or transport and transport infrastructure. For instance, 45% who completed education aged 20 or older mention climate change, compared to 32% who completed education aged 15 or younger.

The analysis also reveals managers (47%) are more likely to mention the fight against climate change than those in other occupation groups. In addition, the fewer difficulties a respondent has in paying bills, the more likely they are to mention the fight against climate change or energy supply, and the less likely they are to mention job creation or the security of citizens. For example, 34% of those who experience the least financial difficulties mention energy supply, compared to 24% who experience the most difficulties.

Respondents who think the influence of science and technology is positive are more likely than those who think the influence is negative to mention health and medical care (49% vs 36%), the fight against climate change (41% vs 29%) or energy supply (33% vs 22%), but less likely to mention the security of citizens (11% vs 17%). Finally, respondents who place themselves on the left (45%) or in the centre (41%) of the political spectrum are more likely to mention the fight against climate change than those on the right (34%).



### 3. Opinions on the benefits of science and technology

Respondents were asked how strongly they agreed or disagreed with the statement "Science and technology do not really benefit people like you".

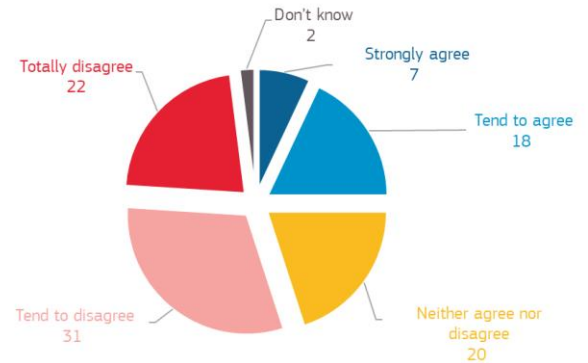
One quarter (25%) of respondents agree that science and technology do not really benefit people like them, but the majority (53%) disagree. One in five (20%) neither agree nor disagree, while 2% say they 'don't know'.

At a country level, the proportions that agree with this statement are highest in Poland and Romania (both 39%) and Italy (37%), and lowest in Sweden (5%), Ireland (7%), and Finland and Denmark (both 9%). It is worth noting that Romania and Bulgaria (34%) are the only countries where agreement is the dominant position, while in Poland the proportion that agree and disagree is the same (both 39%).

There are seven countries where at least one in ten 'strongly agree', with the largest proportions in Romania (16%), Bulgaria and Poland (both 12%).

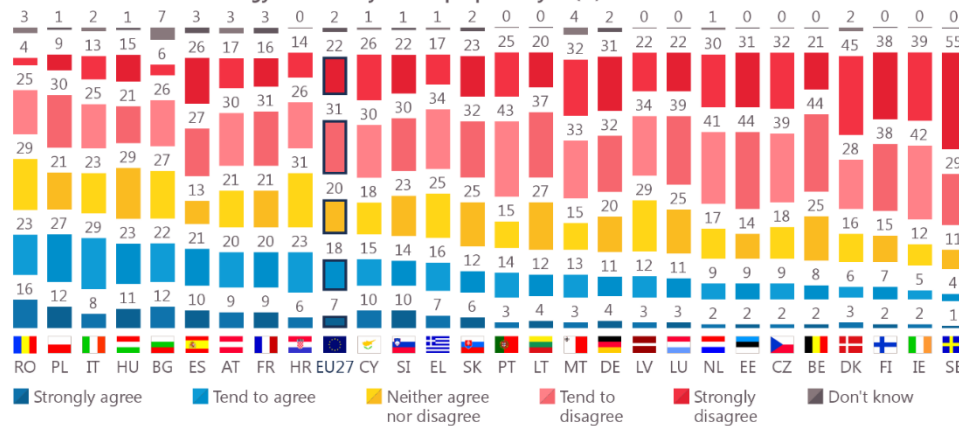
The largest share of respondents who agree science and technology do not really benefit people like them are observed in two non-EU countries: Montenegro (48%) and Kosovo (43%). By contrast, 6% of respondents in Iceland and Norway also agree. Disagreement is the majority view in Iceland (78%), Norway (79%) and Switzerland (66%), while in North Macedonia opinion is almost evenly divided (36% positive, 37% negative).

QA17.1 How strongly do you agree or disagree with the following statements?  
Science and technology do not really benefit people like you (% - EU27)

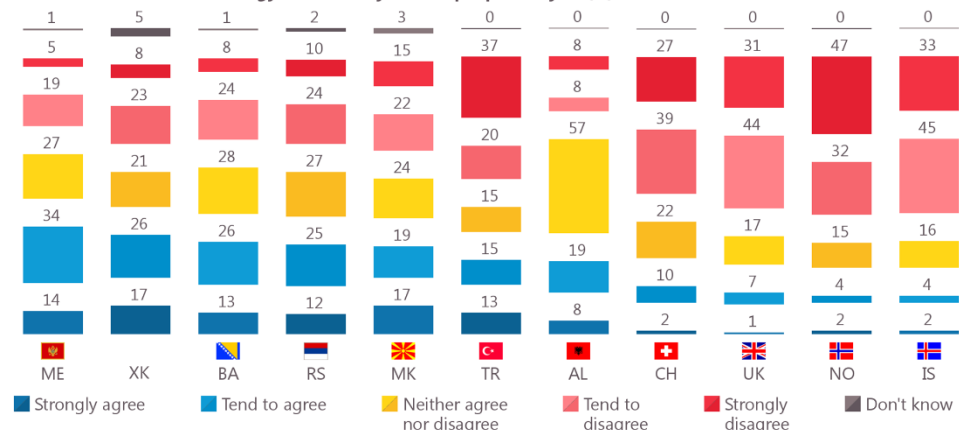


(Apr./May 2021)

QA17.1 How strongly do you agree or disagree with the following statements?  
Science and technology do not really benefit people like you (%)



QA17.1 How strongly do you agree or disagree with the following statements?  
Science and technology do not really benefit people like you (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows no notable differences based on gender or age. It does, however, illustrate some other differences:

Respondents who completed education younger are the most likely to agree with the statement. For instance, 36% of those who finished education aged 15 or younger agree, compared to 18% of those who completed aged 20 or older.

The analysis shows managers (16%) are much less likely to agree than other occupation groups, in particular manual workers (31%). It also highlights that those who experience more financial difficulties are the most likely to agree: around one-third who experience financial difficulties from time to time (34%) or most of the time (33%) agree, compared to 22% who rarely or never experience financial problems.

Perhaps not surprisingly, respondents who think the impact of science and technology on society is negative are more likely to agree than those who think the influence is positive (39% vs 24%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA17.1** How strongly do you agree or disagree with the following statements?  
**Science and technology do not really benefit people like you** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	7	18	20	31	22	2	25	53
<b>Gender</b>								
Man	7	18	19	30	24	2	25	54
Woman	7	19	22	31	19	2	26	50
<b>Age</b>								
15-24	6	15	20	29	28	2	21	57
25-39	7	17	19	33	23	1	24	56
40-54	7	19	19	31	23	1	26	54
55+	8	20	22	29	18	3	28	47
<b>Education (end of)</b>								
15-	11	25	24	25	10	5	36	35
16-19	9	23	24	28	14	2	32	42
20+	5	13	16	36	30	0	18	66
Still studying	5	13	17	29	34	2	18	63
<b>Socio-professional category</b>								
Self-employed	7	19	17	33	23	1	26	56
Managers	4	12	14	35	34	1	16	69
Other white collars	6	18	20	34	21	1	24	55
Manual workers	10	21	23	29	15	2	31	44
House persons	9	20	24	29	15	3	29	44
Unemployed	11	18	23	27	19	2	29	46
Retired	8	21	22	29	16	4	29	45
Students	5	13	17	29	34	2	18	63
<b>Difficulties paying bills</b>								
Most of the time	12	21	26	26	13	2	33	39
From time to time	9	25	25	26	13	2	34	39
Almost never/ Never	6	16	19	32	25	2	22	57
<b>Use of the Internet</b>								
Everyday	7	17	19	32	24	1	24	56
Often/Sometimes	8	23	27	28	11	3	31	39
Never	13	28	26	19	7	7	41	26
<b>Left-right political scale</b>								
Left	6	16	18	32	27	1	22	59
Centre	7	18	23	31	19	2	25	50
Right	8	21	20	30	20	1	29	50
<b>Medical discoveries</b>								
Interested	7	15	17	31	29	1	22	60
Moderately interested	6	19	22	32	19	2	25	51
Not interested	11	25	25	23	11	5	36	34
<b>Scientific discoveries</b>								
Interested	6	12	15	31	35	1	18	66
Moderately interested	6	20	22	33	18	1	26	51
Not interested	12	26	26	23	8	5	38	31
<b>Environmental problems</b>								
Interested	6	14	16	33	30	1	20	63
Moderately interested	7	20	23	31	17	2	27	48
Not interested	13	25	26	21	10	5	38	31
<b>Influence of science and technology</b>								
Positive	6	18	19	32	23	2	24	55
Negative	15	24	27	22	10	2	39	32
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	13	26	28	20	7	6	39	27
Between 5 and 8 correct answers	7	19	22	32	19	1	26	51
More than 8 correct answers	3	8	11	36	41	1	11	77
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	6	14	18	31	29	2	20	60
Total 'Neither spiritual or religious nor not spiritual or religious'	7	20	21	31	19	2	27	50
Total 'Quite or very spiritual or religious'	10	21	22	28	16	3	31	44
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	6	14	14	28	38	0	20	66
A family member does or did in the past	5	11	13	34	36	1	16	70
Both you and a family member do or did in the past	4	5	5	37	48	1	9	85
No	8	20	22	30	18	2	28	48



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked how strongly they agreed or disagreed with the statement "Science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off".

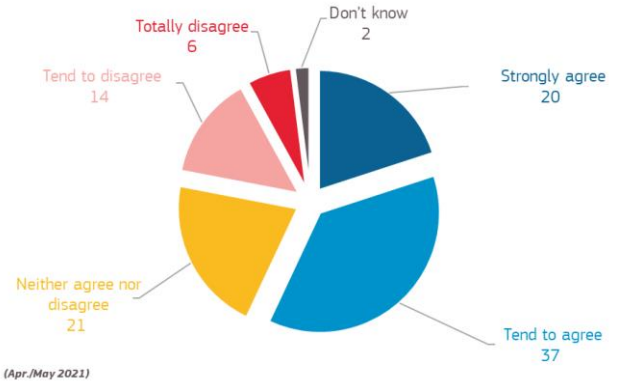
The majority of respondents (57%) agree, with 20% saying they 'strongly agree'. One in five (20%) disagree, while 21% are neutral and 2% say they 'don't know'.

In every country, respondents are most likely to agree science and technology could improve everyone's lives but mostly improves the lives of people who are already better off, with the highest proportions seen in Cyprus (75%), Hungary (71%) and Bulgaria (70%). This compares to 41% of respondents in the Netherlands, 42% in Belgium and 43% in Estonia.

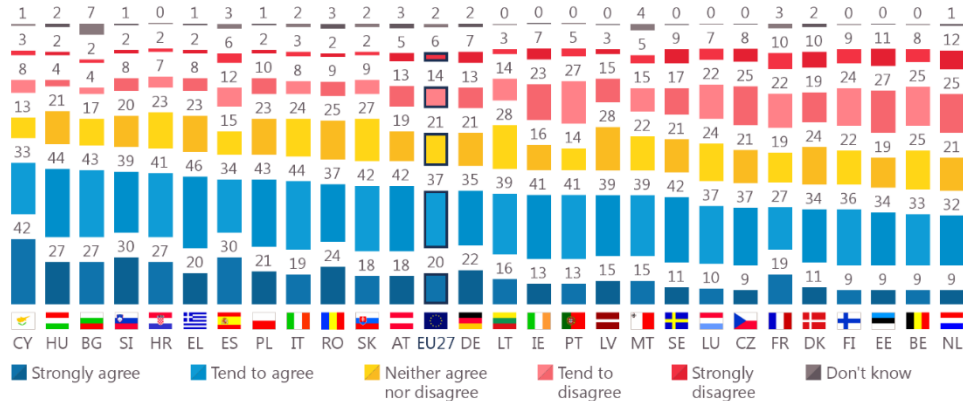
There are 10 countries where at least one in five 'strongly agree' with this statement, with the highest proportions in Cyprus (42%), and Spain and Slovenia (both 30%).

In countries outside the EU, the proportions that agree range from 73% in Montenegro to 28% in Albania, but in all of them respondents are more likely to agree than disagree.

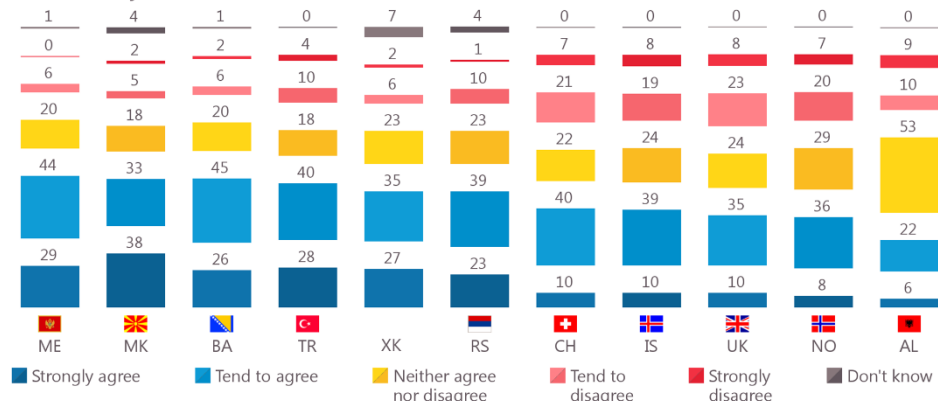
**QA17.2** How strongly do you agree or disagree with the following statements?  
Science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off (% - EU27)



**QA17.2** How strongly do you agree or disagree with the following statements?  
Science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off (%)



**QA17.2** How strongly do you agree or disagree with the following statements?  
Science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows next to no difference in agreement based on gender or age but does show differences based on educational level, socio-professional category, and difficulty paying bills:

More than six in ten respondents who completed education aged 19 or younger agree (65% who ended education when they were 15 or younger and 62% who ended education between the ages of 16 and 19), compared to 51% of those who finished aged 20 or older.

Unemployed persons (64%) are the most likely to agree with this statement, particularly compared to managers (49%).

Financial situation is also influential, with more than six in ten respondents who experience difficulties at least from time to time agreeing (61% from time to time and 65% most of the time), compared to 55% who rarely or never have difficulties paying bills.

While opinion on the influence of science and technology seems to have no influence on responses to this statement, respondents who correctly answer less than five questions (61%) in the quiz are more likely to agree with the statement than those who answered more than eight questions correctly (50%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA17.2 How strongly do you agree or disagree with the following statements?

**Science and technology could improve everyone's lives, but mostly improve the lives of people who are already better off (% - EU)**

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	20	37	21	14	6	2	57	20
Gender								
Man	20	37	20	15	7	1	57	22
Woman	20	37	21	15	5	2	57	20
Age								
15-24	18	38	22	14	6	2	56	20
25-39	19	37	21	16	6	1	56	22
40-54	21	37	20	15	6	1	58	21
55+	21	37	20	14	5	3	58	19
Education (end of)								
15-	25	40	19	8	3	5	65	11
16-19	23	39	21	11	4	2	62	15
20+	16	35	20	20	8	1	51	28
Still studying	18	36	21	16	7	2	54	23
Socio-professional category								
Self-employed	18	38	22	15	6	1	56	21
Managers	14	35	18	21	11	1	49	32
Other white collars	16	38	23	15	6	2	54	21
Manual workers	22	39	22	11	4	2	61	15
House persons	22	36	22	14	3	3	58	17
Unemployed	29	35	18	13	3	2	64	16
Retired	22	38	20	12	5	3	60	17
Students	18	36	21	16	7	2	54	23
Difficulties paying bills								
Most of the time	26	39	19	12	2	2	65	14
From time to time	23	38	23	11	3	2	61	14
Almost never/ Never	19	36	20	16	7	2	55	23
Use of the Internet								
Everyday	19	37	21	16	6	1	56	22
Often/Sometimes	20	41	24	9	4	2	61	13
Never	23	37	23	8	2	7	60	10
Left-right political scale								
Left	21	38	19	15	6	1	59	21
Centre	19	38	22	13	6	2	57	19
Right	18	37	21	16	7	1	55	23
Medical discoveries								
Interested	22	35	18	16	8	1	57	24
Moderately interested	18	39	22	14	5	2	57	19
Not interested	21	37	24	11	3	4	58	14
Scientific discoveries								
Interested	21	34	18	17	9	1	55	26
Moderately interested	19	39	22	14	5	1	58	19
Not interested	23	37	24	10	2	4	60	12
Environmental problems								
Interested	21	35	18	17	8	1	56	25
Moderately interested	18	40	22	13	5	2	58	18
Not interested	21	34	26	10	3	6	55	13
Influence of science and technology								
Positive	19	38	21	15	6	1	57	21
Negative	28	30	23	12	4	3	58	16
Correct answers to questions about scientific knowledge								
Less than 5 correct answers	22	39	22	9	2	6	61	11
Between 5 and 8 correct answers	21	37	22	14	5	1	58	19
More than 8 correct answers	15	35	18	20	11	1	50	31
Religiosity / Spirituality								
Total 'Not very or not spiritual or religious'	19	34	20	18	8	1	53	26
Total 'Neither spiritual or religious nor not spiritual or religious'	19	39	22	14	5	1	58	19
Total 'Quite or very spiritual or religious'	24	38	20	11	4	3	62	15
Worked in research / science / innovative technology development								
You alone do or did in the past	17	32	19	21	10	1	49	31
A family member does or did in the past	18	29	18	23	11	1	47	34
Both you and a family member do or did in the past	16	37	9	24	14	0	53	38
No	20	38	22	13	5	2	58	18

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

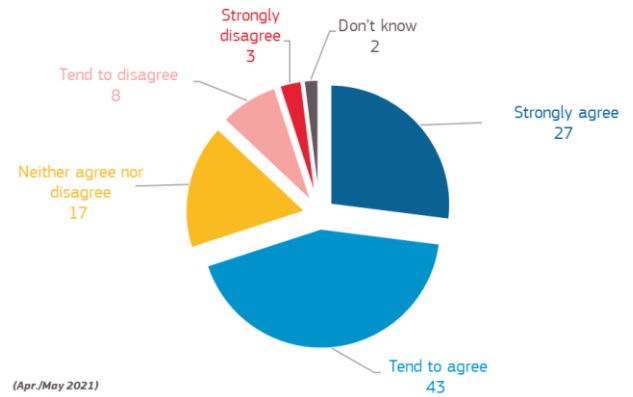
Respondents were asked how strongly they agreed or disagreed with the statement "Science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries".

Seven in ten (70%) respondents agree with this statement, with 27% saying they 'strongly agree'. Just over one in ten (11%) disagree, while 17% are neutral and 2% say they 'don't know'.

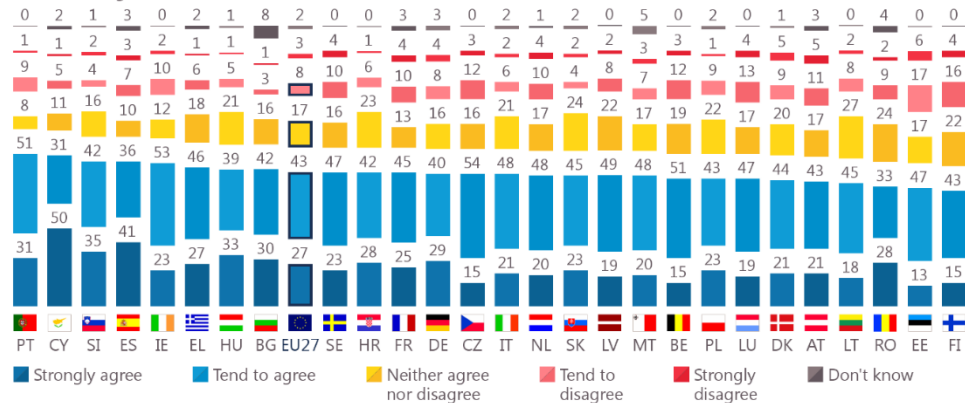
Echoing the EU-level results, a majority of respondents in each country also agree that science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries. Proportions range from 82% of respondents in Portugal, 81% in Cyprus and 77% in Spain and Slovenia to 58% in Finland, 60% in Estonia, and 61% in Romania. It is worth noting that in 20 countries at least one in five respondents 'strongly agree'.

Across non-EU countries, Albania (29%) is the only country where fewer than six in ten respondents agree, but agreement is still the majority position (vs 19% who disagree).

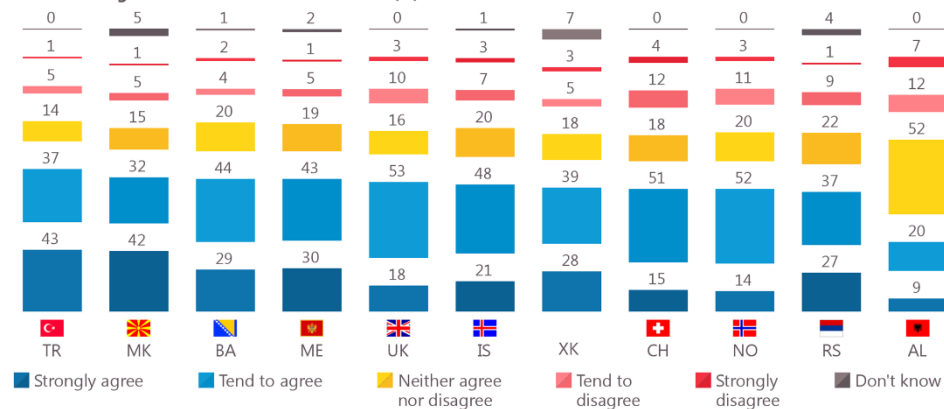
**QA17.3** How strongly do you agree or disagree with the following statements?  
Science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries (% - EU27)



**QA17.3** How strongly do you agree or disagree with the following statements?  
Science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries (%)



**QA17.3** How strongly do you agree or disagree with the following statements?  
Science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis reveals slight differences in opinion based on age, gender, educational level and financial situation.

There are only small differences based on occupation, with unemployed respondents (75%) the most likely to agree, particularly when compared to the self-employed (68%).

The further to the left a respondent places themselves on the political spectrum, the more likely they are to agree: 75% on the left do so, compared to 70% in the centre and 65% on the right.

The analysis also illustrates that respondents who think the influence of science and technology is positive are more likely to agree (71% vs 63% who think the influence is negative).

**QA17.3** How strongly do you agree or disagree with the following statements?

**Science and technology could improve living conditions in less developed countries, but they mostly improve living conditions in well-off countries (% - EU)**

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	27	43	17	8	3	2	70	11
<b>Gender</b>								
Man	27	42	16	9	4	2	69	13
Woman	26	44	17	8	2	3	70	10
<b>Age</b>								
15-24	25	43	17	8	4	3	68	12
25-39	25	44	17	9	3	2	69	12
40-54	27	43	17	9	3	1	70	12
55+	27	43	17	8	2	3	70	10
<b>Education (end of)</b>								
15-	28	42	17	6	2	5	70	8
16-19	29	43	17	7	2	2	72	9
20+	24	45	16	10	4	1	69	14
Still studying	27	42	16	9	4	2	69	13
<b>Socio-professional category</b>								
Self-employed	24	44	18	9	4	1	68	13
Managers	21	48	14	12	4	1	69	16
Other white collars	24	46	17	8	3	2	70	11
Manual workers	29	41	18	8	2	2	70	10
House persons	28	40	18	8	2	4	68	10
Unemployed	33	42	15	6	2	2	75	8
Retired	28	42	17	7	2	4	70	9
Students	27	42	16	9	4	2	69	13
<b>Difficulties paying bills</b>								
Most of the time	31	39	18	7	1	4	70	8
From time to time	26	42	21	7	2	2	68	9
Almost never/ Never	26	44	16	9	3	2	70	12
<b>Left-right political scale</b>								
Left	30	45	14	8	2	1	75	10
Centre	25	45	18	7	3	2	70	10
Right	23	42	18	11	4	2	65	15
<b>Medical discoveries</b>								
Interested	31	42	15	8	3	1	73	11
Moderately interested	24	46	17	8	3	2	70	11
Not interested	24	39	21	8	3	5	63	11
<b>Scientific discoveries</b>								
Interested	30	41	14	10	4	1	71	14
Moderately interested	25	46	17	8	2	2	71	10
Not interested	25	40	21	7	2	5	65	9
<b>Environmental problems</b>								
Interested	31	43	13	9	3	1	74	12
Moderately interested	24	45	18	9	2	2	69	11
Not interested	23	36	25	7	3	6	59	10
<b>Influence of science and technology</b>								
Positive	26	45	16	8	3	2	71	11
Negative	32	31	22	9	3	3	63	12
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	25	40	19	7	2	6	66	9
Between 5 and 8 correct answers	28	44	17	8	3	1	71	11
More than 8 correct answers	25	46	13	11	4	1	71	15
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	27	42	16	9	4	2	69	13
Total 'Neither spiritual or religious nor not spiritual or religious'	25	45	18	8	2	2	70	10
Total 'Quite or very spiritual or religious'	29	43	17	6	2	3	72	8
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	28	40	17	10	4	1	68	14
A family member does or did in the past	28	40	14	12	5	1	68	17
Both you and a family member do or did in the past	19	42	19	14	4	2	61	18
No	26	44	17	8	3	2	70	11

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

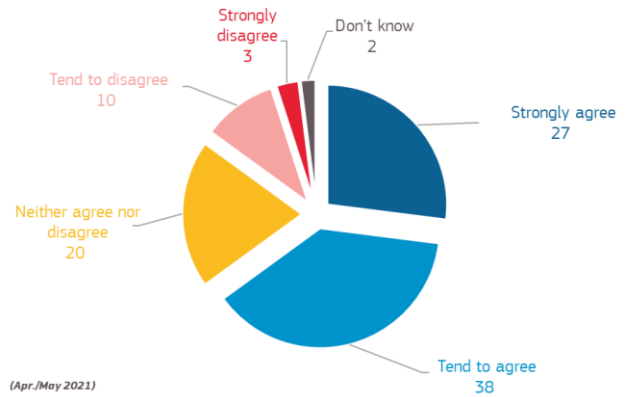
Respondents were asked how strongly they agreed or disagreed with the statement "Science and technology could help improve the environment but they mostly help companies make money".

Almost two-thirds (65%) of respondents in the EU agree, with 27% saying they 'strongly agree'. Just over one in ten (13%) disagree, while 20% are neutral and 2% say they 'don't know'.

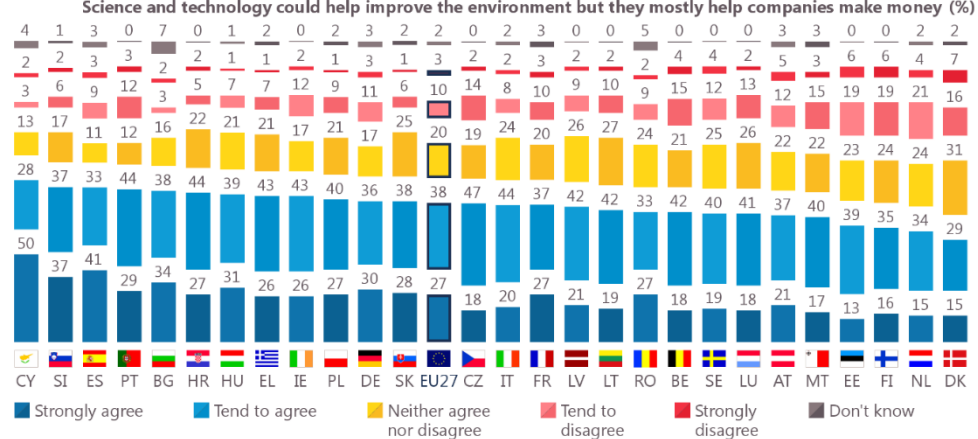
In every EU country, respondents are most likely to agree with this statement, although proportions range from 78% in Cyprus and 74% in Spain and Slovenia to 44% in Denmark, 49% in the Netherlands and 51% in Finland. In 17 countries at least one in five respondents 'strongly agree'.

In the non-EU countries, Albania (30%) is the only country where fewer than half of all respondents agree, but this still represents a majority (vs 19% who disagree).

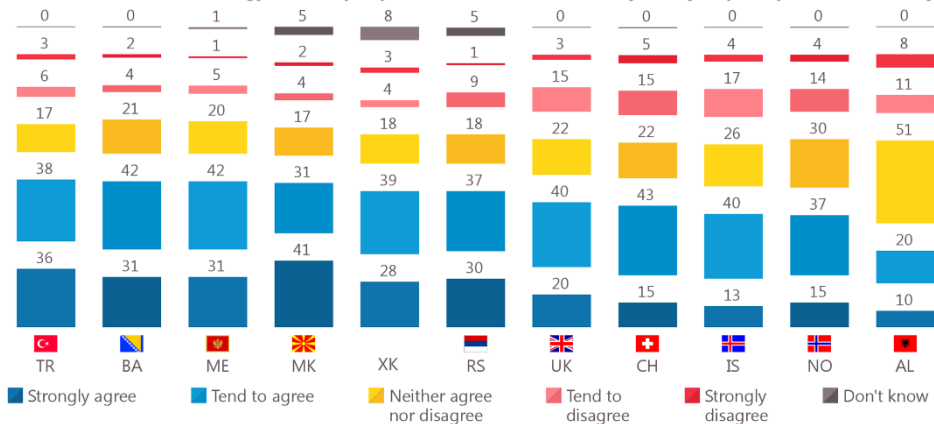
QA17.4 How strongly do you agree or disagree with the following statements?  
**Science and technology could help improve the environment but they mostly help companies make money (% - EU27)**



QA17.4 How strongly do you agree or disagree with the following statements?  
**Science and technology could help improve the environment but they mostly help companies make money (%)**



QA17.4 How strongly do you agree or disagree with the following statements?  
**Science and technology could help improve the environment but they mostly help companies make money (%)**



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

As with the other statements in this section, the socio-demographic analysis shows only slight differences in opinion based on gender or age. There are however some differences in other socio-demographic groupings:

There is a small difference based on education level, with those who finished education younger more likely to agree (68% vs 62% who finished aged 20+).

Managers (60%) are less likely to agree than other occupation groups, in particular the unemployed (68%).

The analysis also shows those who place themselves on the left (69%) or in the centre (65%) of the political spectrum are more likely to agree than those who place themselves on the right (59%).

Perhaps logically, respondents who are very interested (67%) or moderately interested (65%) in environmental problems and climate change are more likely to agree that science and technology could help improve the environment but mostly help companies make money than respondents who are not interested in environmental problems (58%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA17.4 How strongly do you agree or disagree with the following statements?

**Science and technology could help improve the environment but they mostly help companies make money (% - EU)**

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	27	38	20	10	3	2	65	13
<b>Gender</b>								
Man	28	37	19	11	3	2	65	14
Woman	25	39	21	10	2	3	64	12
<b>Age</b>								
15-24	25	38	21	11	3	2	63	14
25-39	26	38	20	11	3	2	64	14
40-54	27	39	19	10	3	2	66	13
55+	27	38	20	10	2	3	65	12
<b>Education (end of)</b>								
15-	29	39	18	6	2	6	68	8
16-19	28	40	19	8	2	3	68	10
20+	25	37	20	14	3	1	62	17
Still studying	26	37	20	11	4	2	63	15
<b>Socio-professional category</b>								
Self-employed	24	41	19	11	3	2	65	14
Managers	21	39	21	15	3	1	60	18
Other white collars	24	41	20	11	2	2	65	13
Manual workers	29	38	20	9	2	2	67	11
House persons	28	37	19	9	2	5	65	11
Unemployed	34	34	18	9	2	3	68	11
Retired	28	38	19	9	2	4	66	11
Students	26	37	20	11	4	2	63	15
<b>Difficulties paying bills</b>								
Most of the time	34	33	20	7	2	4	67	9
From time to time	26	39	22	9	2	2	65	11
Almost never/ Never	26	39	19	11	3	2	65	14
<b>Left-right political scale</b>								
Left	29	40	17	10	2	2	69	12
Centre	26	39	21	10	2	2	65	12
Right	22	37	21	14	4	2	59	18
<b>Medical discoveries</b>								
Interested	31	36	17	11	3	2	67	14
Moderately interested	24	41	21	10	2	2	65	12
Not interested	24	37	23	9	2	5	61	11
<b>Scientific discoveries</b>								
Interested	30	35	17	13	4	1	65	17
Moderately interested	25	41	20	10	2	2	66	12
Not interested	25	38	22	7	2	6	63	9
<b>Environmental problems</b>								
Interested	31	36	17	12	3	1	67	15
Moderately interested	24	41	21	10	2	2	65	12
Not interested	22	36	26	7	3	6	58	10
<b>Influence of science and technology</b>								
Positive	25	40	19	11	3	2	65	14
Negative	35	29	23	9	2	2	64	11
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	27	38	21	6	2	6	65	8
Between 5 and 8 correct answers	28	39	19	10	2	2	67	12
More than 8 correct answers	24	37	19	15	4	1	61	19
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	26	36	20	13	3	2	62	16
Total 'Neither spiritual or religious nor not spiritual or religious'	26	40	20	10	2	2	66	12
Total 'Quite or very spiritual or religious'	30	38	19	7	2	4	68	9
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	26	34	19	17	3	1	60	20
A family member does or did in the past	29	33	18	14	5	1	62	19
Both you and a family member do or did in the past	24	29	18	24	5	0	53	29
No	27	39	20	9	2	3	66	11



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked whether they agreed that science and technology can sort out any problem. Opinions are mixed, with little difference between the proportions that agree (38%) or disagree (35%) with this statement. One quarter (25%) say their neither agree nor disagree.

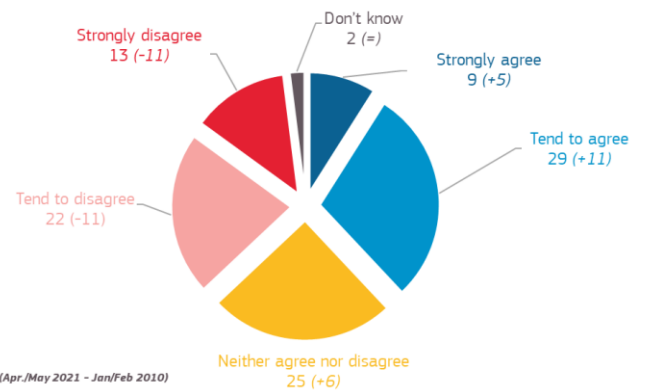
Confidence that science and technology can sort out any problem has increased considerably since 2010. The proportion of respondents who agree has increased 16 percentage points, with agreement going from being the minority view in 2010 to the majority opinion in 2021.

There is considerable variation in opinion across Member States. Respondents in Portugal (71%), Lithuania (68%) and Hungary (59%) are the most likely to agree science and technology can sort out any problem, particularly compared to those in Germany (21%), France (26%) and the Netherlands (27%). Agreement is the majority view in 20 countries, and in four countries at least one in five 'strongly agrees': Cyprus (25%), Romania (21%), Lithuania and Hungary (both 20%).

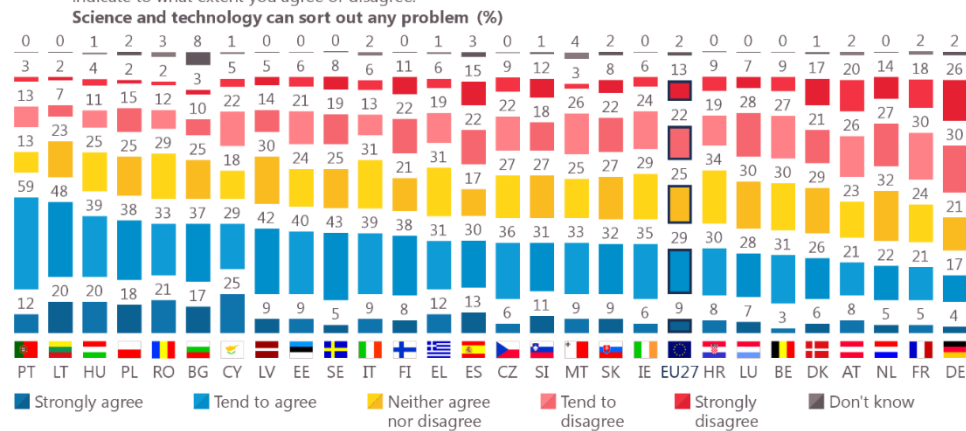
Germany is the only country where more than half of respondents disagree (56%), but disagreement is the dominant opinion in six countries overall. In Luxembourg, the proportion that agree and disagree are the same (35% each).

Opinion in non-EU countries is also extremely variable, ranging from 89% in Turkey who agree to 26% in Albania. Switzerland is the only country where respondents are more likely to disagree (39% vs 27% who agree).

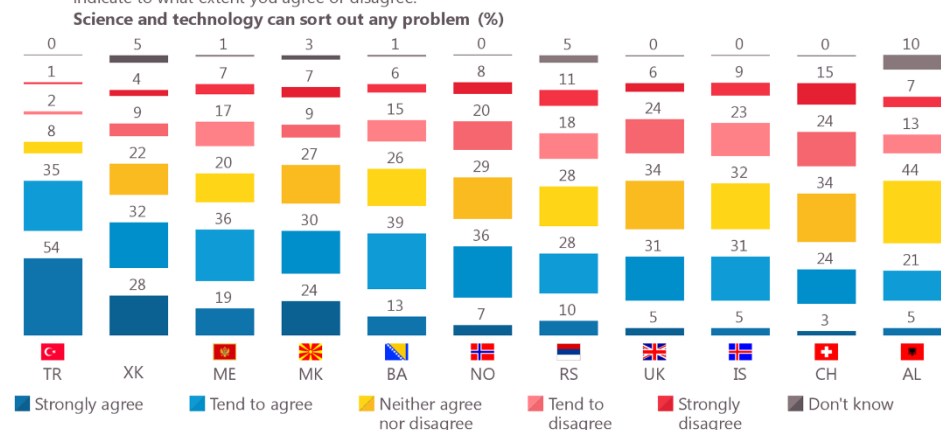
**QA9.7** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
**Science and technology can sort out any problem (% - EU27)**



**QA9.7** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.7** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

Comparing the current country results with those from 2010 shows agreement has increased in every Member State – sometimes considerably. For example, there are 13 countries where agreement has increased by at least 20 percentage points, with the largest increases seen in Portugal (+43 pp), Sweden (+36 pp) and Cyprus (+34 pp). The smallest increase is observed in Croatia (+5 pp). It is worth noting that the proportion that strongly agrees has increased considerably in Cyprus (+20 pp), Hungary (+13 pp), Poland and Bulgaria (+11 pp each) and Lithuania (+10 pp).

Of the non-EU countries surveyed, the proportion that agrees has also increased considerably in each country, with the largest seen in Turkey (+26 pp), Norway (+25 pp) and Iceland (+24 pp).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA9.7 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

**Science and technology can sort out any problem (%)**

		Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'							
		Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010	Diff. April/May 2021 - January/February 2010							
EU27		9	▲ 5	29	▲ 11	25	▲ 6	22	▼ 11	13	▼ 11	2	38	▲ 16	35	▼ 22
PT		12	▲ 9	59	▲ 34	13	▼ 12	13	▼ 17	3	▼ 7	0	71	▲ 43	16	▼ 24
SE		5	▲ 4	43	▲ 32	25	▲ 12	19	▼ 8	8	▼ 39	0	48	▲ 36	27	▼ 47
CY		25	▲ 20	29	▲ 14	18	▼ 4	22	▼ 6	5	▼ 18	1	54	▲ 34	27	▼ 24
FI		8	▲ 7	38	▲ 25	21	▲ 14	22	▼ 17	11	▼ 28	0	46	▲ 32	33	▼ 45
LT		20	▲ 10	48	▲ 21	23	▲ 5	7	▼ 25	2	▼ 8	0	68	▲ 31	9	▼ 33
EE		9	▲ 5	40	▲ 24	24	▲ 10	21	▼ 16	6	▼ 22	0	49	▲ 29	27	▼ 38
MT		9	▲ 5	33	▲ 24	25	▲ 8	26	▼ 8	3	▼ 23	4	42	▲ 29	29	▼ 31
LV		9	▲ 4	42	▲ 24	30	▲ 13	14	▼ 25	5	▼ 15	0	51	▲ 28	19	▼ 40
HU		20	▲ 13	39	▲ 14	25	▲ 2	11	▼ 17	4	▼ 12	1	59	▲ 27	15	▼ 29
IE		6	▲ 4	35	▲ 20	29	▲ 11	24	▼ 9	6	▼ 15	0	41	▲ 24	30	▼ 24
PL		18	▲ 11	38	▲ 13	25	▲ 7	15	▼ 17	2	▼ 12	2	56	▲ 24	17	▼ 29
DK		6	▲ 4	26	▲ 17	29	▲ 14	21	▼ 12	17	▼ 23	1	32	▲ 21	38	▼ 35
LU		7	▲ 5	28	▲ 16	30	▲ 14	28	▼ 11	7	▼ 21	0	35	▲ 21	35	▼ 32
SI		11	▲ 5	31	▲ 14	27	▲ 10	18	▼ 12	12	▼ 17	1	42	▲ 19	30	▼ 29
BE		3	▲ 1	31	▲ 17	30	▲ 9	27	▼ 10	9	▼ 16	0	34	▲ 18	36	▼ 26
BG		17	▲ 11	37	▲ 6	25	▲ 1	10	▼ 11	3	▼ 7	8	54	▲ 17	13	▼ 18
FR		5	▲ 4	21	▲ 13	24	▲ 13	30	▼ 7	18	▼ 23	2	26	▲ 17	48	▼ 30
IT		9	▲ 4	39	▲ 13	31	▼ 1	13	▼ 14	6	▼ 3	2	48	▲ 17	19	▼ 17
CZ		6	▲ 1	36	▲ 15	27	▲ 3	22	▼ 8	9	▼ 11	0	42	▲ 16	31	▼ 19
NL		5	▲ 3	22	▲ 13	32	▲ 17	27	▼ 9	14	▼ 24	0	27	▲ 16	41	▼ 33
RO		21	▲ 9	33	▲ 6	29	▲ 3	12	▼ 5	2	▼ 9	3	54	▲ 15	14	▼ 14
SK		9	▲ 4	32	▲ 9	27	▲ 1	22	▼ 8	8	▼ 7	2	41	▲ 13	30	▼ 15
ES		13	▲ 7	30	▲ 4	17	▲ 4	22	▼ 6	15	▼ 8	3	43	▲ 11	37	▼ 14
DE		4	▲ 3	17	▲ 7	21	▲ 7	30	▼ 10	26	▼ 8	2	21	▲ 10	56	▼ 18
EL		12	▲ 4	31	▲ 4	31	▲ 5	19	▼ 12	6	▼ 2	1	43	▲ 8	25	▼ 14
AT		8	▲ 4	21	▲ 3	23	▲ 3	26	▼ 12	20	▲ 4	2	29	▲ 7	46	▼ 8
HR		8	▼ 1	30	▲ 6	34	▲ 13	19	▼ 8	9	▼ 8	0	38	▲ 5	28	▼ 16
TR		54	▲ 15	35	▲ 11	8	▼ 7	2	▼ 5	1	▼ 5	0	89	▲ 26	3	▼ 10
MK		24	N/A	30	N/A	27	N/A	9	N/A	7	N/A	3	54	N/A	16	N/A
AL		5	N/A	21	N/A	44	N/A	13	N/A	7	N/A	10	26	N/A	20	N/A
ME		19	N/A	36	N/A	20	N/A	17	N/A	7	N/A	1	55	N/A	24	N/A
RS		10	N/A	28	N/A	28	N/A	18	N/A	11	N/A	5	38	N/A	29	N/A
NO		7	▲ 4	36	▲ 21	29	▲ 16	20	▼ 5	8	▼ 36	0	43	▲ 25	28	▼ 41
IS		5	▲ 4	31	▲ 20	32	▲ 19	23	▼ 20	9	▼ 23	0	36	▲ 24	32	▼ 43
UK		5	▲ 2	31	▲ 16	34	▲ 18	24	▼ 13	6	▼ 21	0	36	▲ 18	30	▼ 34
CH		3	▲ 1	24	▲ 14	34	▲ 22	24	▼ 9	15	▼ 28	0	27	▲ 15	39	▼ 37
XK		28	N/A	32	N/A	22	N/A	9	N/A	4	N/A	5	60	N/A	13	N/A
BA		13	N/A	39	N/A	26	N/A	15	N/A	6	N/A	1	52	N/A	21	N/A

## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

The socio-demographic analysis illustrates a few differences:

The younger the respondent, the more likely they are to agree that science and technology can sort out any problem: 43% of those aged 15-24 think this way, compared to 36% of those aged 55 and older.

The analysis also shows students (44%), the self-employed and other white-collar workers (both 43%) are more likely to agree, particularly compared to housepersons and retired persons (both 35%).







Finally, respondents who place themselves on the right (46%) of the political spectrum are more likely to agree than those in the centre (37%) or on the left (38%).

Respondents who think that the influence of science and technology is positive (42%) are also more likely to agree that science and technology can sort out any problem than those who see its influence as negative (25%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA9.7** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
**Science and technology can sort out any problem** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	9	29	25	22	13	2	38	35
 <b>Gender</b>								
Man	11	30	24	21	13	1	41	34
Woman	8	29	25	23	13	2	37	36
 <b>Age</b>								
15-24	12	31	22	22	11	2	43	33
25-39	11	31	25	21	12	0	42	33
40-54	9	29	26	21	13	2	38	34
55+	8	28	24	23	14	3	36	37
 <b>Education (end of)</b>								
15-	8	26	25	22	14	5	34	36
16-19	9	31	25	21	12	2	40	33
20+	9	29	24	23	14	1	38	37
Still studying	13	31	22	21	12	1	44	33
 <b>Socio-professional category</b>								
Self-employed	10	33	24	19	13	1	43	32
Managers	8	30	24	25	13	0	38	38
Other white collars	10	33	27	19	10	1	43	29
Manual workers	10	29	26	20	13	2	39	33
House persons	9	26	29	20	13	3	35	33
Unemployed	8	29	23	25	13	2	37	38
Retired	8	27	24	24	14	3	35	38
Students	13	31	22	21	12	1	44	33
 <b>Difficulties paying bills</b>								
Most of the time	10	29	25	23	11	2	39	34
From time to time	10	31	28	19	10	2	41	29
Almost never/ Never	9	29	24	22	14	2	38	36
 <b>Left-right political scale</b>								
Left	9	29	24	23	14	1	38	37
Centre	9	28	26	22	13	2	37	35
Right	12	34	24	20	9	1	46	29
<b>Medical discoveries</b>								
Interested	12	30	22	22	13	1	42	35
Moderately interested	8	30	26	22	12	2	38	34
Not interested	10	28	26	19	14	3	38	33
<b>Scientific discoveries</b>								
Interested	12	32	22	21	12	1	44	33
Moderately interested	8	29	26	23	13	1	37	36
Not interested	8	26	26	21	14	5	34	35
<b>Environmental problems</b>								
Interested	10	27	22	24	16	1	37	40
Moderately interested	9	32	27	20	10	2	41	30
Not interested	10	26	26	21	12	5	36	33
<b>Influence of science and technology</b>								
Positive	10	32	25	21	11	1	42	32
Negative	7	18	26	25	22	2	25	47
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	11	29	28	17	10	5	40	27
Between 5 and 8 correct answers	10	31	25	21	12	1	41	33
More than 8 correct answers	7	28	21	27	16	1	35	43
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	8	28	23	25	15	1	36	40
Total 'Neither spiritual or religious nor not spiritual or religious'	10	32	26	20	10	2	42	30
Total 'Quite or very spiritual or religious'	11	29	24	19	15	2	40	34
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	12	29	21	23	14	1	41	37
A family member does or did in the past	7	30	25	23	14	1	37	37
Both you and a family member do or did in the past	9	32	14	33	12	0	41	45
No	9	30	25	21	13	2	39	34

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

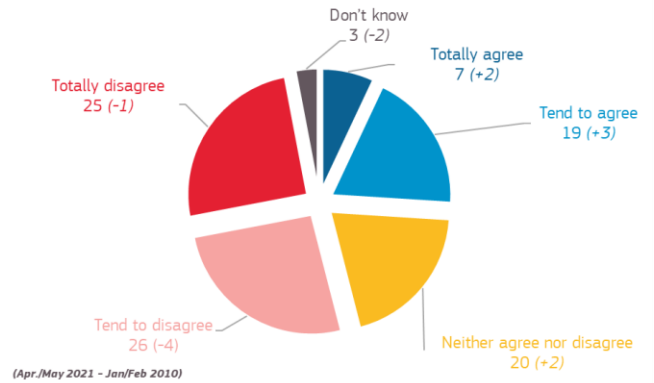
Respondents were asked about the extent to which they agreed or disagreed with the statement "Thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible".

Just over one-quarter (26%) agree, with 7% saying they 'totally agree'. The majority (51%) disagree, while 20% are neutral and 3% say they don't know. Respondents are now more likely to agree with this statement than they were in 2013 (+5 pp).

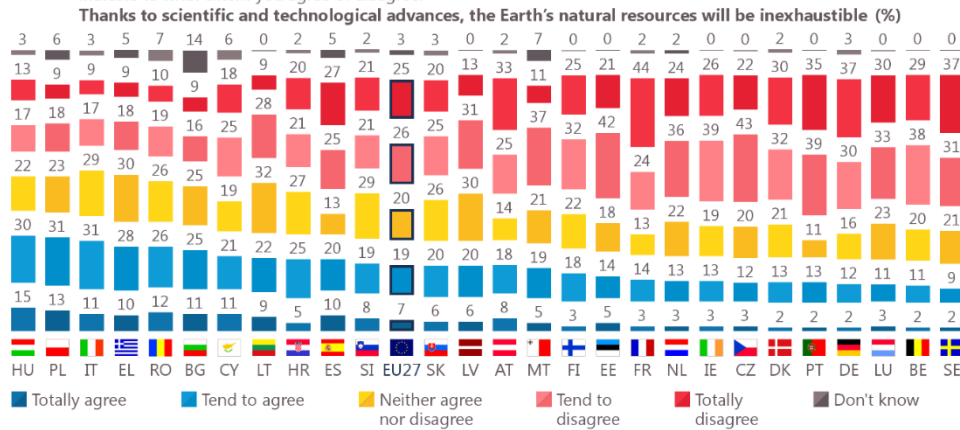
Although fewer than half of the respondents in each country agree that thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible, this is the most common opinion in six countries: Hungary (45%), Poland (44%), Italy (42%), Greece and Romania (both 38%) and Bulgaria (36%). By contrast, 11% of respondents in Sweden, 13% in Belgium and 14% in Germany and Luxembourg agree. The largest proportions of respondents who disagree are observed in Portugal (74%), Sweden (68%), and Belgium and Germany (both 67%);

In non-EU countries, agreement is highest amongst respondents in Kosovo (59%) and lowest in Switzerland and the United Kingdom (both 14%). There are four countries where disagreement outweighs agreement: the UK, Switzerland, Norway and Serbia.

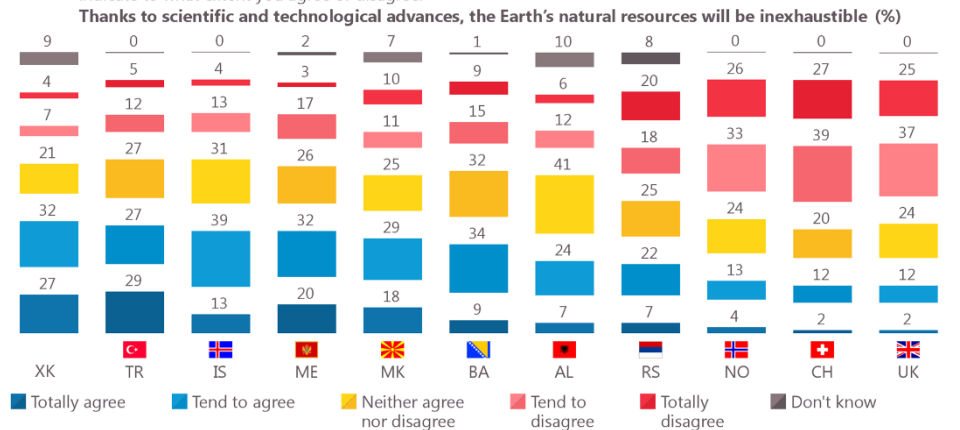
**QA10.4** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree. **Thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible (% - EU27)**



**QA10.4** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.4** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Respondents in 12 countries are now more likely to agree than they were in 2013, with the largest increases seen amongst those in Poland (23%) and Hungary (22%). In 14 countries agreement has declined, with the largest decrease seen in Luxembourg (-9 pp) and Portugal (-8 pp). There has been no change in Slovakia.

Agreement has increased in four non-EU countries, with the largest in Iceland (+13 pp). In contrast agreement has declined slightly in Switzerland (-4 pp).

QA10.4 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know	Total 'Agree'		Total 'Disagree'	
		2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	2021	Diff.	2021	Diff.
		Jan/Feb 2010		Jan/Feb 2010		Jan/Feb 2010		Jan/Feb 2010		Jan/Feb 2010		Jan/Feb 2010	Jan/Feb 2010		Jan/Feb 2010	
EU27		7	▲ 2	19	▲ 3	20	▲ 2	26	▼ 4	25	▼ 1	3	26	▲ 5	51	▼ 5
PL		13	▲ 9	31	▲ 14	23	▲ 3	18	▼ 16	9	▼ 9	6	44	▲ 23	27	▼ 25
HU		15	▲ 9	30	▲ 13	22	▲ 5	17	▼ 9	13	▼ 19	3	45	▲ 22	30	▼ 28
CY		11	▲ 6	21	▲ 8	19	▲ 2	25	▼ 3	18	▼ 8	6	32	▲ 14	43	▼ 11
IT		11	▲ 6	31	▲ 7	29	▲ 3	17	▼ 9	9	▼ 7	3	42	▲ 13	26	▼ 16
MT		5	▲ 1	19	▲ 9	21	▲ 11	37	▲ 4	11	▼ 12	7	24	▲ 10	48	▼ 8
FI		3	▲ 1	18	▲ 9	22	▲ 13	32	▼ 4	25	▼ 18	0	21	▲ 10	57	▼ 22
EL		10	▲ 1	28	▲ 8	30	▲ 5	18	▼ 11	9	▼ 4	5	38	▲ 9	27	▼ 15
LT		9	▲ 3	22	▲ 6	32	▲ 13	28	▼ 5	9	▼ 12	0	31	▲ 9	37	▼ 17
RO		12	▲ 3	26	▲ 6	26	▲ 5	19	▼ 3	10	▼ 6	7	38	▲ 9	29	▼ 9
LV		6	▲ 1	20	▲ 7	30	▲ 14	31	▼ 5	13	▼ 14	0	26	▲ 8	44	▼ 19
ES		10	▲ 6	20	▲ 1	13	▲ 1	25	=	27	▼ 3	5	30	▲ 7	52	▼ 3
FR		3	=	14	▲ 5	13	▲ 1	24	▼ 10	44	▲ 6	2	17	▲ 5	68	▼ 4
SK		6	▲ 2	20	▼ 2	26	▲ 4	25	▼ 5	20	▲ 2	3	26	=	45	▼ 3
BG		11	▲ 4	25	▼ 5	25	▲ 2	16	=	9	▼ 2	14	36	▼ 1	25	▼ 2
SI		8	▲ 2	19	▼ 3	29	▲ 8	21	▼ 7	21	▲ 2	2	27	▼ 1	42	▼ 5
SE		2	▼ 1	9	▼ =	21	▲ 6	31	▲ 6	37	▼ 9	0	11	▼ 1	68	▼ 3
CZ		3	=	12	▼ 2	20	=	43	▲ 8	22	▼ 5	0	15	▼ 2	65	▲ 3
DE		2	▼ 2	12	=	16	▼ 2	30	▼ 4	37	▲ 8	3	14	▼ 2	67	▲ 4
HR		5	▼ 5	25	▲ 3	27	▲ 4	21	▼ 3	20	▲ 2	2	30	▼ 2	41	▼ 1
NL		3	▼ 3	13	▲ 1	22	▲ 6	36	▼ 1	24	▼ 3	2	16	▼ 2	60	▼ 4
BE		2	▼ 1	11	▼ 3	20	▲ 1	38	▲ 3	29	▲ 2	0	13	▼ 4	67	▲ 5
IE		3	▼ 1	13	▼ 3	19	▼ 5	39	▲ 14	26	▲ 15	0	16	▼ 4	65	▲ 29
AT		8	▲ 2	18	▼ 6	14	▼ 5	25	▼ 6	33	▲ 18	2	26	▼ 4	58	▲ 12
DK		2	▼ 3	13	▼ 2	21	▲ 2	32	▲ 1	30	▲ 2	2	15	▼ 5	62	▲ 3
EE		5	▼ 1	14	▼ 5	18	▲ 2	42	▲ 12	21	▼ 3	0	19	▼ 6	63	▲ 9
PT		2	=	13	▼ 8	11	▼ 12	39	▲ 10	35	▲ 20	0	15	▼ 8	74	▲ 30
LU		3	▼ 1	11	▼ 8	23	▲ 2	33	▲ 5	30	▲ 7	0	14	▼ 9	63	▲ 12
TR		29	▼ 1	27	▲ 8	27	▲ 8	12	▲ 2	5	▼ 6	0	56	▲ 7	17	▼ 4
MK		18	N/A	29	N/A	25	N/A	11	N/A	10	N/A	7	47	N/A	21	N/A
AL		7	N/A	24	N/A	41	N/A	12	N/A	6	N/A	10	31	N/A	18	N/A
ME		20	N/A	32	N/A	26	N/A	17	N/A	3	N/A	2	52	N/A	20	N/A
RS		7	N/A	22	N/A	25	N/A	18	N/A	20	N/A	8	29	N/A	38	N/A
IS		13	▲ 5	39	▲ 8	31	=	13	▼ 7	4	▼ 5	0	52	▲ 13	17	▼ 12
NO		4	▲ 2	13	▼ 1	24	▲ 7	33	▲ 3	26	▼ 9	0	17	▲ 1	59	▼ 6
CH		2	=	12	▼ 4	20	▲ 8	39	▲ 5	27	▼ 5	0	14	▼ 4	66	=
UK		2	▼ 3	12	▼ 5	24	▲ 6	37	▲ 10	25	▼ 1	0	14	▼ 8	62	▲ 9
XK		27	N/A	32	N/A	21	N/A	7	N/A	4	N/A	9	59	N/A	11	N/A
BA		9	N/A	34	N/A	32	N/A	15	N/A	9	N/A	1	43	N/A	24	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows no notable differences in opinion based on gender, educational level, occupation or age, although those aged 55 and older are slightly less likely to agree. However some differences can be seen in other grouping:

Respondents who place themselves on the right of the political spectrum (31%) are more likely to agree than those in the centre (25%) or on the left (24%).

In addition, respondents who think the influence of science and technology is positive are more likely to agree than those who think the influence is negative (27% vs 19%).

Respondents who do better on the quiz questions or have some involvement in research and innovative technology development are less likely to agree with the statement that the earth's natural resources will be inexhaustible thanks to scientific and technological advances.

**QA10.4** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**Thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible (% - EU)**

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	7	19	20	26	25	3	26	51
<b>Gender</b>								
Man	7	20	18	26	26	3	27	52
Woman	6	19	21	25	25	4	25	50
<b>Age</b>								
15-24	8	21	20	26	22	3	29	48
25-39	8	20	20	26	24	2	28	50
40-54	7	20	19	26	26	2	27	52
55+	5	18	20	25	27	5	23	52
<b>Education (end of)</b>								
15-	6	20	21	24	22	7	26	46
16-19	8	22	22	23	22	3	30	45
20+	6	17	17	28	30	2	23	58
Still studying	8	19	20	25	25	3	27	50
<b>Socio-professional category</b>								
Self-employed	6	23	19	25	26	1	29	51
Managers	5	17	17	29	31	1	22	60
Other white collars	7	22	21	26	21	3	29	47
Manual workers	9	20	20	24	24	3	29	48
House persons	8	19	24	24	21	4	27	45
Unemployed	6	21	19	24	27	3	27	51
Retired	5	18	20	25	26	6	23	51
Students	8	19	20	25	25	3	27	50
<b>Difficulties paying bills</b>								
Most of the time	8	18	20	27	23	4	26	50
From time to time	9	24	24	22	18	3	33	40
Almost never/ Never	6	18	18	27	28	3	24	55
<b>Left-right political scale</b>								
Left	6	18	17	26	31	2	24	57
Centre	6	19	21	27	24	3	25	51
Right	9	22	22	25	20	2	31	45
<b>Medical discoveries</b>								
Interested	8	17	18	26	29	2	25	55
Moderately interested	6	20	21	26	24	3	26	50
Not interested	6	23	22	23	20	6	29	43
<b>Scientific discoveries</b>								
Interested	8	17	17	26	30	2	25	56
Moderately interested	6	20	21	26	25	2	26	51
Not interested	6	21	23	22	20	8	27	42
<b>Environmental problems</b>								
Interested	7	15	16	26	34	2	22	60
Moderately interested	7	22	22	26	20	3	29	46
Not interested	8	23	24	21	17	7	31	38
<b>Influence of science and technology</b>								
Positive	7	20	20	26	24	3	27	50
Negative	5	14	23	24	32	2	19	56
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	9	23	27	18	14	9	32	32
Between 5 and 8 correct answers	7	21	20	26	24	2	28	50
More than 8 correct answers	4	13	13	31	38	1	17	69
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	5	15	16	29	33	2	20	62
Total 'Neither spiritual or religious nor not spiritual or religious'	7	22	22	24	22	3	29	46
Total 'Quite or very spiritual or religious'	8	22	22	22	21	5	30	43
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	5	18	18	28	30	1	23	58
A family member does or did in the past	5	15	14	29	35	2	20	64
Both you and a family member do or did in the past	2	14	13	24	46	1	16	70
No	7	20	21	25	24	3	27	49



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

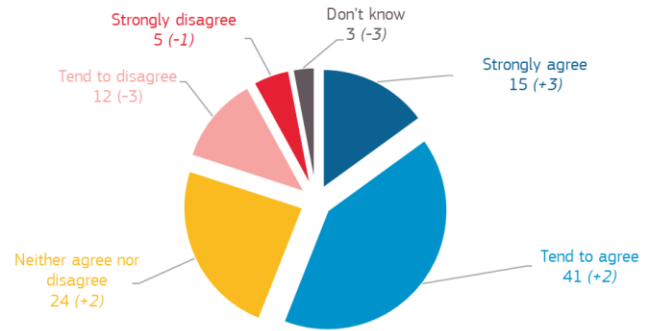
Respondents were asked about the extent to which they agreed or disagreed that "New inventions will always be found to counteract any harmful consequences of scientific and technological development".

The majority (56%) agree, with 15% saying they 'strongly agree'. Almost one in five (17%) disagree (5% do so strongly), while 24% are neutral. There has been little change since 2010, with the proportion that agree increasing by five points.

There is considerable variation in opinion at the country level. The proportion of respondents who agree ranges from 75% in Cyprus, 70% in Hungary and 69% in Bulgaria to 34% in Croatia and Ireland, and 38% in Estonia. However, it is worth noting that in 24 countries agreement is the dominant position. In two more countries (Estonia and Croatia) respondents are most likely to agree, but opinion is more evenly divided between agreement and being neutral. Respondents are most likely to disagree (36%) in Ireland, but almost as many respondents agree (34%) or are neutral (30%).

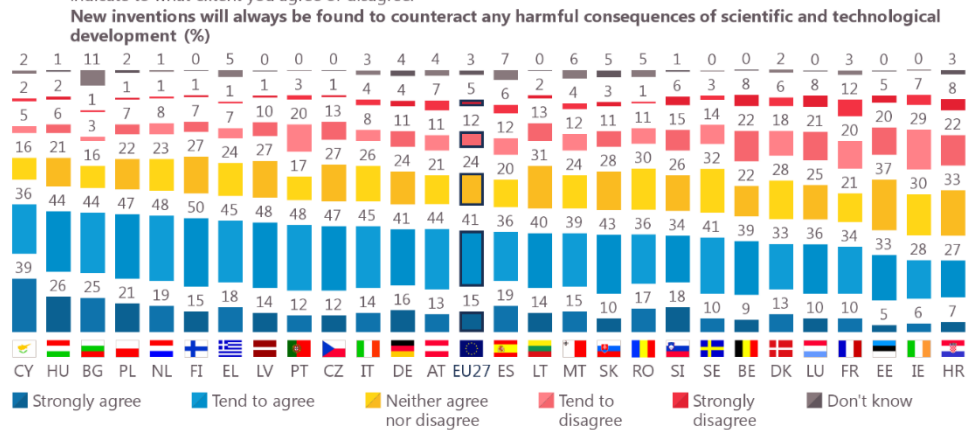
Across non-EU countries there are also a wide range of opinions, with the proportions that agree highest in Turkey (84%) and North Macedonia (67%) and lowest in Norway and Albania (both 27%). In Norway, Albania and the United Kingdom disagreement is the dominant position, while in Iceland opinion is almost evenly split (41% agree, 42% disagree).

**QA9.9** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree. **New inventions will always be found to counteract any harmful consequences of scientific and technological development (% - EU27)**

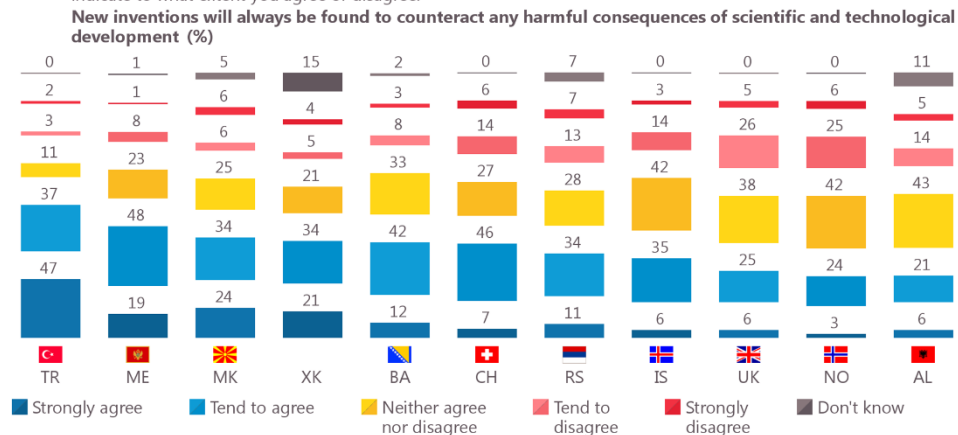


(Apr./May 2021 - Jan/Feb 2010)

**QA9.9** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.9** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Since 2010 there have been some large changes in opinion at country level. Agreement overall has increased in 17 countries, with the largest seen in Finland (+40 pp), Portugal (+22 pp) and Bulgaria (+19 pp). By contrast, respondents in Croatia (-23 pp), Belgium and Lithuania (-11 pp each) are now less likely to agree.

In addition, the proportion that 'strongly agree' has increased considerably in Cyprus (+17 pp), Finland (+12 pp), Hungary and Bulgaria (+11 pp each), but has declined by 10 points in Croatia.

Outside of the EU, the proportion that agree new inventions will always be found to counteract any harmful consequences of scientific and technological development has increased in Turkey (+19 pp) but has declined in Norway (-19 pp) and Iceland (-10 pp).

QA9.9 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

**New inventions will always be found to counteract any harmful consequences of scientific and technological development (%)**

		Strongly agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Strongly disagree		Don't know	Total 'Agree'		Total 'Disagree'	
		2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	2021	Diff.	2021	Diff.
EU27		15	▲ 3	41	▲ 2	24	▲ 2	12	▼ 3	5	▼ 1	3	56	▲ 5	17	▼ 4
FI		15	▲ 12	50	▲ 28	27	▲ 13	7	▼ 33	1	▼ 19	0	65	▲ 40	8	▼ 52
PT		12	▲ 7	48	▲ 15	17	▼ 12	20	▲ 3	3	=	0	60	▲ 22	23	▲ 3
BG		25	▲ 11	44	▲ 8	16	▼ 6	3	▼ 7	1	▼ 4	11	69	▲ 19	4	▼ 11
DK		13	▲ 7	33	▲ 11	28	▼ 4	18	▼ 6	6	▼ 5	2	46	▲ 18	24	▼ 11
CY		39	▲ 17	36	=	16	▼ 5	5	▼ 4	2	=	2	75	▲ 17	7	▼ 4
IT		14	▲ 6	45	▲ 6	26	▼ 3	8	▼ 6	4	▼ 1	3	59	▲ 12	12	▼ 7
SI		18	▲ 7	34	▲ 5	26	▲ 4	15	▼ 6	6	▼ 7	1	52	▲ 12	21	▼ 13
HU		26	▲ 11	44	▼ 1	21	▼ 1	6	▼ 5	2	▼ 1	1	70	▲ 10	8	▼ 6
EL		18	▲ 6	45	▲ 2	24	▲ 1	7	▼ 8	1	▼ 3	5	63	▲ 8	8	▼ 11
RO		17	▲ 3	36	▲ 5	30	▲ 5	11	=	1	▼ 2	5	53	▲ 8	12	▼ 2
SE		10	=	41	▲ 8	32	▲ 12	14	▼ 5	3	▼ 10	0	51	▲ 8	17	▼ 15
SK		10	▲ 2	43	▲ 4	28	▼ 4	11	▼ 4	3	▲ 1	5	53	▲ 6	14	▼ 3
AT		13	▲ 5	44	▼ 1	21	▼ 5	11	▼ 1	7	▲ 5	4	57	▲ 4	18	▲ 4
LV		14	▼ 4	48	▲ 7	27	▲ 9	10	▼ 5	1	▼ 3	0	62	▲ 3	11	▼ 8
FR		10	▲ 2	34	=	21	▲ 3	20	▼ 3	12	▲ 1	3	44	▲ 2	32	▼ 2
ES		19	▲ 7	36	▼ 6	20	▲ 3	12	▼ 2	6	▲ 1	7	55	▲ 1	18	▼ 1
PL		21	▲ 3	47	▼ 2	22	▲ 5	7	▲ 1	1	=	2	68	▲ 1	8	▲ 1
IE		6	▲ 2	28	▼ 2	30	▲ 4	29	▲ 13	7	▲ 3	0	34	=	36	▲ 16
NL		19	▼ 2	48	▲ 1	23	▲ 8	8	▼ 4	1	▼ 2	1	67	▼ 1	9	▼ 6
LU		10	▼ 3	36	▼ 1	25	▲ 1	21	▲ 6	8	▲ 2	0	46	▼ 4	29	▲ 8
DE		16	▼ 1	41	▼ 4	24	=	11	▲ 2	4	▲ 2	4	57	▼ 5	15	▲ 4
EE		5	▼ 4	33	▼ 1	37	▲ 12	20	▲ 2	5	=	0	38	▼ 5	25	▲ 2
CZ		12	▼ 6	47	▼ 2	27	▲ 5	13	▲ 6	1	=	0	59	▼ 8	14	▲ 6
MT		15	▼ 1	39	▼ 7	24	▲ 15	12	▲ 7	4	=	6	54	▼ 8	16	▲ 7
BE		9	▼ 4	39	▼ 7	22	▲ 2	22	▲ 7	8	▲ 3	0	48	▼ 11	30	▲ 10
LT		14	▼ 4	40	▼ 7	31	▲ 14	13	▲ 4	2	=	0	54	▼ 11	15	▲ 4
HR		7	▼ 10	27	▼ 13	33	▲ 9	22	▲ 13	8	▲ 5	3	34	▼ 23	30	▲ 18
TR		47	▲ 5	37	▲ 14	11	▼ 5	3	▼ 3	2	▼ 2	0	84	▲ 19	5	▼ 5
MK		24	N/A	34	N/A	25	N/A	6	N/A	6	N/A	5	58	N/A	12	N/A
AL		6	N/A	21	N/A	43	N/A	14	N/A	5	N/A	11	27	N/A	19	N/A
ME		19	N/A	48	N/A	23	N/A	8	N/A	1	N/A	1	67	N/A	9	N/A
RS		11	N/A	34	N/A	28	N/A	13	N/A	7	N/A	7	45	N/A	20	N/A
CH		7	▼ 6	46	▲ 4	27	▲ 10	14	▼ 1	6	▼ 1	0	53	▼ 2	20	▼ 2
UK		6	=	25	▼ 3	38	▲ 14	26	=	5	▼ 4	0	31	▼ 3	31	▼ 4
IS		6	▼ 1	35	▼ 9	42	▲ 11	14	▲ 1	3	▲ 1	0	41	▼ 10	17	▲ 2
NO		3	▼ 8	24	▼ 11	42	▲ 17	25	▲ 10	6	▼ 1	0	27	▼ 19	31	▲ 9
XK		21	N/A	34	N/A	21	N/A	5	N/A	4	N/A	15	55	N/A	9	N/A
BA		12	N/A	42	N/A	33	N/A	8	N/A	3	N/A	2	54	N/A	11	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Results from the socio-demographic analysis once again show no marked differences in opinion based on age, gender or education level, and no strong differences based on occupation group.

The analysis does show that the fewer financial difficulties a respondent experiences, the more likely they are to agree: 58% who have the least difficulties paying bills agree, compared to 50% who experience difficulties most of the time.

**QA9.9** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
**New inventions will always be found to counteract any harmful consequences of scientific and technological development** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	15	41	24	12	5	3	56	17
<b>Gender</b>								
Man	17	41	23	12	5	2	58	17
Woman	14	41	24	12	5	4	55	17
<b>Age</b>								
15-24	16	42	24	11	4	3	58	15
25-39	16	41	23	13	5	2	57	18
40-54	16	39	24	13	5	3	55	18
55+	14	42	23	11	5	5	56	16
<b>Education (end of)</b>								
15-	14	40	25	9	4	8	54	13
16-19	16	42	25	10	4	3	58	14
20+	15	40	22	15	6	2	55	21
Still studying	16	42	22	12	5	3	58	17
<b>Socio-professional category</b>								
Self-employed	16	42	22	13	4	3	58	17
Managers	15	40	22	15	7	1	55	22
Other white collars	16	46	23	10	3	2	62	13
Manual workers	16	39	25	13	4	3	55	17
House persons	12	39	29	9	5	6	51	14
Unemployed	17	40	23	11	5	4	57	16
Retired	15	41	23	11	4	6	56	15
Students	16	42	22	12	5	3	58	17
<b>Difficulties paying bills</b>								
Most of the time	12	38	25	15	5	5	50	20
From time to time	15	40	27	10	4	4	55	14
Almost never/ Never	16	42	22	12	5	3	58	17
<b>Left-right political scale</b>								
Left	15	40	22	15	6	2	55	21
Centre	16	41	24	12	4	3	57	16
Right	16	43	25	10	3	3	59	13
<b>Medical discoveries</b>								
Interested	20	41	21	12	4	2	61	16
Moderately interested	13	41	26	12	5	3	54	17
Not interested	13	41	24	10	5	7	54	15
<b>Scientific discoveries</b>								
Interested	21	40	20	13	5	1	61	18
Moderately interested	13	43	25	12	4	3	56	16
Not interested	12	38	27	9	5	9	50	14
<b>Environmental problems</b>								
Interested	18	39	21	14	6	2	57	20
Moderately interested	13	45	25	11	3	3	58	14
Not interested	14	34	31	9	5	7	48	14
<b>Influence of science and technology</b>								
Positive	16	43	23	12	4	2	59	16
Negative	11	32	28	15	10	4	43	25
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	13	39	29	8	3	8	52	11
Between 5 and 8 correct answers	17	42	23	11	4	3	59	15
More than 8 correct answers	14	39	21	17	7	2	53	24
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	15	39	23	14	6	3	54	20
Total 'Neither spiritual or religious nor not spiritual or religious'	15	43	24	11	4	3	58	15
Total 'Quite or very spiritual or religious'	15	40	24	11	5	5	55	16
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	16	39	22	16	6	1	55	22
A family member does or did in the past	17	37	23	14	8	1	54	22
Both you and a family member do or did in the past	14	36	26	19	4	1	50	23
No	15	42	24	11	4	4	57	15

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

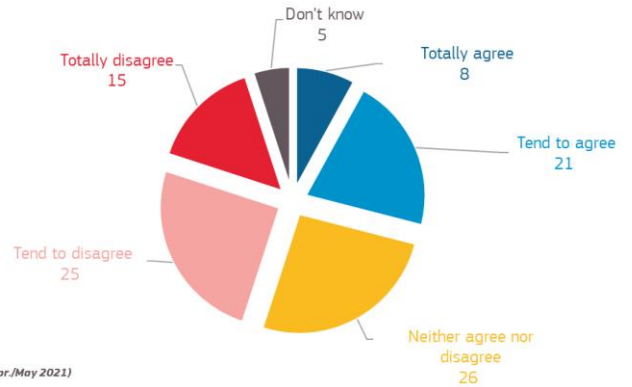
Respondents were asked the extent to which they agree or disagree that "Artificial intelligence and automation will create more jobs than they will eliminate".

Only a minority of respondents (29%) agree, with fewer than one in ten (8%) 'totally agreeing'. The majority (40%) disagree, and 15% do so strongly. Just over one-quarter (26%) are neutral (neither agree nor disagree) and 5% say they don't know.

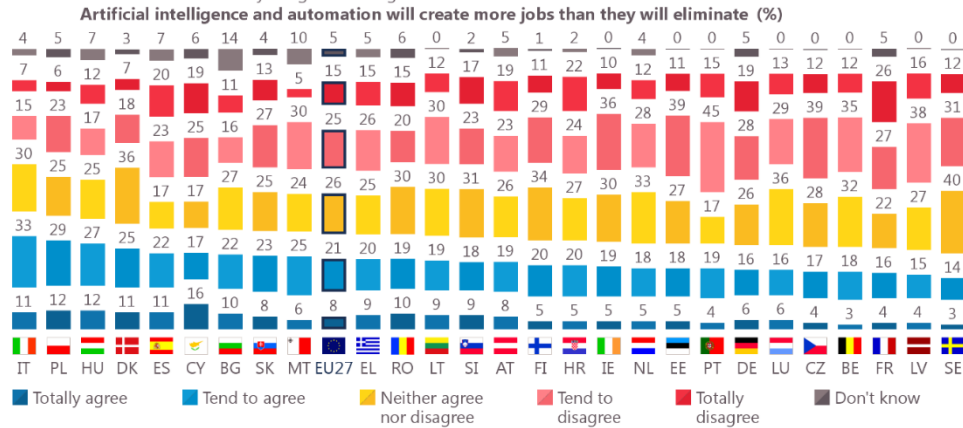
Although fewer than half of the respondents in any country agree that artificial intelligence and automation will create more jobs than they will eliminate, this is the most common opinion in five countries: Italy (44%), Poland (41%), Hungary (39%), Denmark (36%) and Bulgaria (32%), while in Denmark respondents are equally likely to agree or be neutral (both 36%). At the other end of the scale respondents in Sweden (17%), Latvia (19%) and France (20%) are the least likely to agree. Overall, there are 22 countries where respondents are most likely to disagree.

Outside the EU, respondents in Turkey (56%) and Kosovo (49%) are the most likely to agree, particularly compared to those in the United Kingdom (18%) and Switzerland (21%). Turkey, Montenegro, Albania and Kosovo are the only countries in this group where respondents are more likely to agree than disagree.

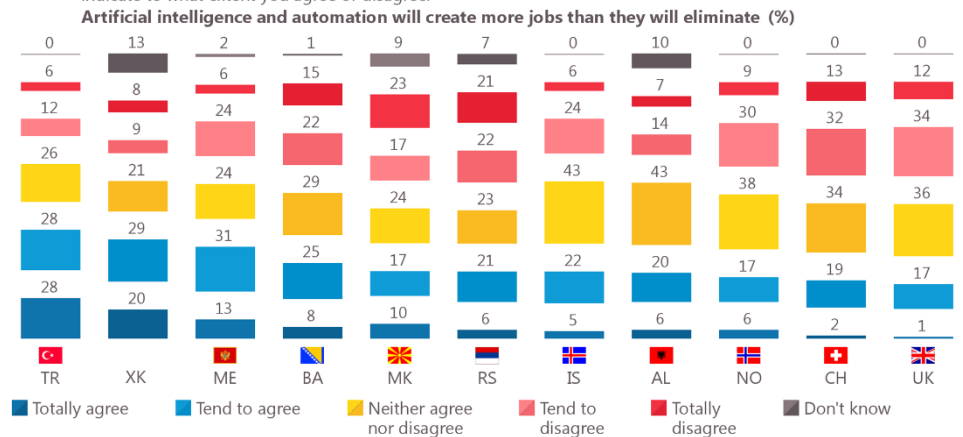
**QA10.6** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree. **Artificial intelligence and automation will create more jobs than they will eliminate (% - EU27)**



**QA10.6** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.6** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

No notable differences in opinion based on gender, age, education level, occupation or household income appear in the socio-demographic analysis.

However, respondents who think science and technology has a positive influence are more likely to agree than those who think it has a negative influence (30% vs 21%).

**QA10.6** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**Artificial intelligence and automation will create more jobs than they will eliminate** (% - EU)

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	8	21	26	25	15	5	29	40
<b>Gender</b>								
Man	9	22	25	25	16	3	31	41
Woman	7	20	26	26	15	6	27	41
<b>Age</b>								
15-24	9	21	25	27	14	4	30	41
25-39	10	22	27	24	14	3	32	38
40-54	7	21	26	26	16	4	28	42
55+	7	21	25	24	16	7	28	40
<b>Education (end of)</b>								
15-	7	20	24	22	17	10	27	39
16-19	9	21	25	24	17	4	30	41
20+	8	21	28	26	14	3	29	40
Still studying	9	23	24	28	13	3	32	41
<b>Socio-professional category</b>								
Self-employed	10	22	27	23	15	3	32	38
Managers	7	22	29	27	13	2	29	40
Other white collars	8	23	29	26	11	3	31	37
Manual workers	9	21	24	24	18	4	30	42
House persons	5	21	28	26	11	9	26	37
Unemployed	8	17	22	25	25	3	25	50
Retired	7	20	25	24	16	8	27	40
Students	9	23	24	28	13	3	32	41
<b>Difficulties paying bills</b>								
Most of the time	10	17	21	21	26	5	27	47
From time to time	9	24	26	22	14	5	33	36
Almost never/ Never	7	21	26	26	15	5	28	41
<b>Left-right political scale</b>								
Left	8	21	25	27	15	4	29	42
Centre	8	21	27	25	15	4	29	40
Right	9	23	26	25	13	4	32	38
<b>Medical discoveries</b>								
Interested	9	19	26	26	16	4	28	42
Moderately interested	7	23	26	26	14	4	30	40
Not interested	9	22	25	21	16	7	31	37
<b>Scientific discoveries</b>								
Interested	10	20	26	25	16	3	30	41
Moderately interested	7	22	26	27	14	4	29	41
Not interested	7	21	24	22	17	9	28	39
<b>Environmental problems</b>								
Interested	8	19	25	27	17	4	27	44
Moderately interested	7	23	26	25	14	5	30	39
Not interested	9	21	27	18	16	9	30	34
<b>Influence of science and technology</b>								
Positive	8	22	27	26	13	4	30	39
Negative	6	15	22	25	28	4	21	53
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	8	23	25	19	16	9	31	35
Between 5 and 8 correct answers	8	21	25	26	16	4	29	42
More than 8 correct answers	7	20	29	28	13	3	27	41
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	7	19	25	28	17	4	26	45
Total 'Neither spiritual or religious nor not spiritual or religious'	8	24	27	24	13	4	32	37
Total 'Quite or very spiritual or religious'	8	21	25	23	16	7	29	39
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	8	24	30	23	13	2	32	36
A family member does or did in the past	9	20	26	26	16	3	29	42
Both you and a family member do or did in the past	11	12	37	22	15	3	23	37
No	8	21	26	25	15	5	29	40

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were randomly split into two different samples and asked about the extent to which they agreed or disagreed with the following statements:

- "Science and technology make our lives easier, healthier and more comfortable;"
- "Science and technology make our lives healthier"<sup>27</sup>.

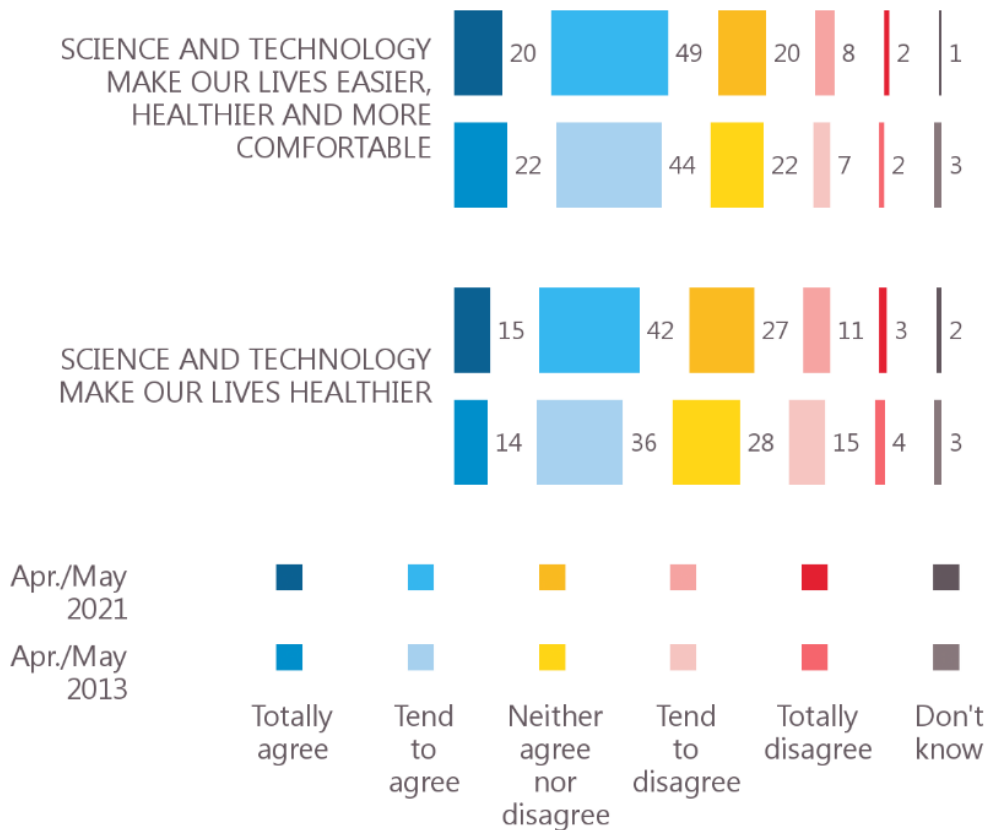
Across the EU almost seven in ten (69%) respondents agree that science and technology make our lives easier, healthier and more comfortable, and 20% do so 'totally'.

Just one in ten (10%) disagrees, while 20% are neutral and 1% say they don't know. There has been little change in agreement since 2013 (+3 pp).

The majority (57%) agree science and technology make our lives healthier, with 15% saying they 'totally agree'. More than one in ten (14%) disagree, while 27% are neutral and 2% say they don't know. Agreement has increased by seven points since 2013.

**QA10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

(% - EU27)



<sup>27</sup> Respondents were randomly split into two samples, with half asked the first statement "Science and technology make our lives easier, healthier and more comfortable" and the other "Science and technology make our lives healthier".

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

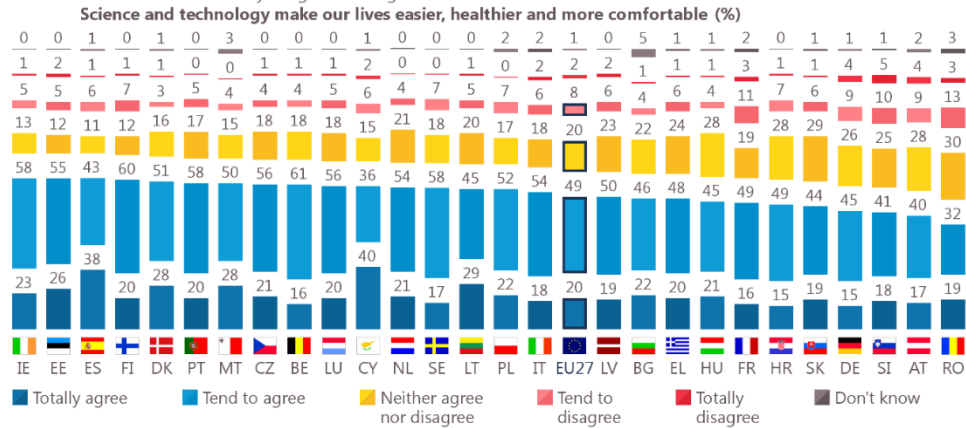
The majority of respondents in each country agree that science and technology make our lives easier, healthier and more comfortable, with proportions ranging from 81% in Estonia, Ireland and Spain, to 51% in Romania, 57% in Austria and 59% in Slovenia. There are only five countries where at least one in ten disagrees: Romania (16%), Slovenia (15%), France (14%), Austria and Germany (both 13%).

The majority of respondents in all but one non-EU country also agree with this statement, with the highest levels seen in Turkey (85%) and Iceland (84%). The exception is Albania, where 30% agree, but even here agreement is the most common opinion.

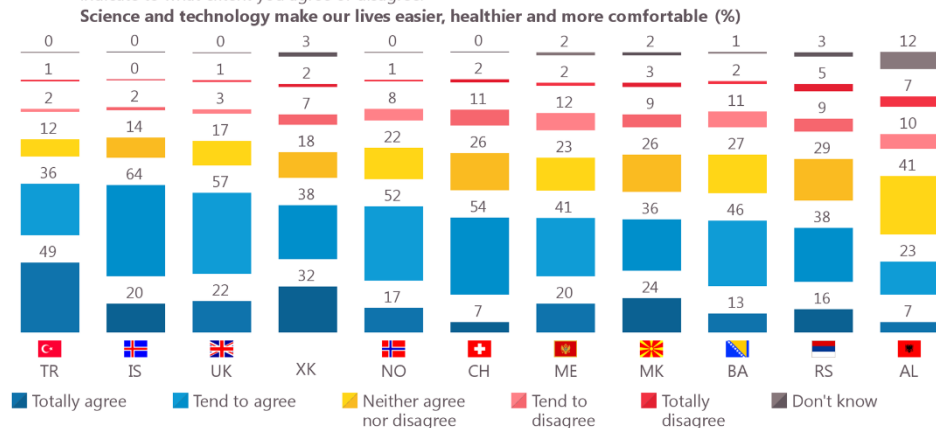
Compared to 2013, respondents in 19 countries are now more likely to agree, with the largest increases seen in Denmark (+19 pp), Czechia (+15 pp) and Portugal (+13 pp). By contrast, respondents in Romania (-17 pp), Bulgaria (-9 pp) and five other countries are now less likely to agree. In fact, in Bulgaria the proportion that 'totally agrees' has declined 15 points. There has been no change in opinion in Malta.

Outside of the EU, agreement has increased by eight points in the United Kingdom.

QA10.1 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



QA10.1 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.1 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Science and technology make our lives easier, healthier and more comfortable (%)**

	Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
	Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013
EU27	20	▼ 2	49	▲ 5	20	▼ 2	8	▲ 1	2	=	1	69	▲ 3	10	▲ 1
DK	28	▲ 6	51	▲ 13	16	▼ 10	3	▼ 7	1	▼ 1	1	79	▲ 19	4	▼ 8
CZ	21	▼ 1	56	▲ 16	18	▼ 11	4	▼ 2	1	▼ 1	0	77	▲ 15	5	▼ 3
PT	20	▲ 4	58	▲ 9	17	▼ 5	5	▼ 1	0	▼ 1	0	78	▲ 13	5	▼ 2
EE	26	▼ 1	55	▲ 13	12	▼ 8	5	▼ 2	2	▼ 1	0	81	▲ 12	7	▼ 3
FI	20	▼ 2	60	▲ 13	12	▼ 5	7	▼ 6	1	=	0	80	▲ 11	8	▼ 6
NL	21	▼ 1	54	▲ 11	21	▼ 4	4	▼ 4	0	▼ 1	0	75	▲ 10	4	▼ 5
BE	16	▼ 1	61	▲ 10	18	▼ 3	4	▼ 4	1	▼ 1	0	77	▲ 9	5	▼ 5
IE	23	▼ 5	58	▲ 14	13	▼ 3	5	▲ 1	1	=	0	81	▲ 9	6	▲ 1
IT	18	▼ 1	54	▲ 9	18	▼ 6	6	=	2	▲ 1	2	72	▲ 8	8	▲ 1
DE	15	▼ 1	45	▲ 7	26	▼ 5	9	▼ 1	4	▲ 1	1	60	▲ 6	13	=
FR	16	=	49	▲ 6	19	▼ 4	11	▼ 1	3	=	2	65	▲ 6	14	▼ 1
LV	19	▼ 2	50	▲ 8	23	▲ 1	6	▼ 5	2	=	0	69	▲ 6	8	▼ 5
LU	20	▲ 2	56	▲ 4	18	▼ 1	5	▼ 2	1	▼ 3	0	76	▲ 6	6	▼ 5
SI	18	▼ 3	41	▲ 8	25	▼ 4	10	=	5	=	1	59	▲ 5	15	=
LT	29	▲ 4	45	=	20	▲ 1	5	▼ 2	1	=	0	74	▲ 4	6	▼ 2
ES	38	▲ 2	43	=	11	=	6	▲ 1	1	▼ 2	1	81	▲ 2	7	▼ 1
CY	40	▲ 2	36	=	15	▼ 5	6	▲ 1	2	▲ 1	1	76	▲ 2	8	▲ 2
SK	19	=	44	▲ 2	29	▼ 1	6	▼ 1	1	=	1	63	▲ 2	7	▼ 1
PL	22	▼ 2	52	▲ 3	17	▼ 3	7	▲ 2	0	=	2	74	▲ 1	7	▲ 2
MT	28	▼ 8	50	▲ 8	15	▲ 2	4	▲ 2	0	=	3	78	=	4	▲ 2
EL	20	▼ 2	48	▲ 1	24	▲ 2	6	▼ 1	1	=	1	68	▼ 1	7	▼ 1
HR	15	▼ 8	49	▲ 7	28	▲ 6	7	▼ 2	1	▼ 1	0	64	▼ 1	8	▼ 3
HU	21	=	45	▼ 2	28	▲ 6	4	▼ 3	1	▼ 1	1	66	▼ 2	5	▼ 4
SE	17	▲ 2	58	▼ 4	18	▲ 3	7	▲ 1	0	=	0	75	▼ 2	7	▲ 1
AT	17	▼ 1	40	▼ 3	28	▲ 3	9	▼ 2	4	▲ 2	2	57	▼ 4	13	=
BG	22	▼ 15	46	▲ 6	22	▲ 7	4	=	1	▼ 1	5	68	▼ 9	5	▼ 1
RO	19	▼ 9	32	▼ 8	30	▲ 9	13	▲ 9	3	▲ 1	3	51	▼ 17	16	▲ 10
TR	49	N/A	36	N/A	12	N/A	2	N/A	1	N/A	0	85	N/A	3	N/A
MK	24	N/A	36	N/A	26	N/A	9	N/A	3	N/A	2	60	N/A	12	N/A
AL	7	N/A	23	N/A	41	N/A	10	N/A	7	N/A	12	30	N/A	17	N/A
ME	20	N/A	41	N/A	23	N/A	12	N/A	2	N/A	2	61	N/A	14	N/A
RS	16	N/A	38	N/A	29	N/A	9	N/A	5	N/A	3	54	N/A	14	N/A
UK	22	▼ 5	57	▲ 13	17	▼ 3	3	▼ 2	1	=	0	79	▲ 8	4	▼ 2
IS	20	N/A	64	N/A	14	N/A	2	N/A	0	N/A	0	84	N/A	2	N/A
NO	17	N/A	52	N/A	22	N/A	8	N/A	1	N/A	0	69	N/A	9	N/A
CH	7	N/A	54	N/A	26	N/A	11	N/A	2	N/A	0	61	N/A	13	N/A
XK	32	N/A	38	N/A	18	N/A	7	N/A	2	N/A	3	70	N/A	9	N/A
BA	13	N/A	46	N/A	27	N/A	11	N/A	2	N/A	1	59	N/A	13	N/A



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows that men are more likely than women to agree that science and technology make our lives easier, healthier and more comfortable (73% vs 65%). In addition, the younger the respondent, the more likely they are to agree, with 75% of those aged 15-24 in agreement compared to 65% of those aged 55 and older.

Educational level is also influential. The longer a respondent remained in education, the more likely they are to agree: 75% who completed education aged 20 or older agree, compared to 57% of those who completed aged 15 or younger.

Students (78%) and managers (75%) are the most likely to agree with this statement, particularly compared to retired persons (64%). Agreement is higher amongst those who rarely or never have difficulties paying their bills (71%), compared to those who experience difficulties most of the time (60%).

Respondents who are positive about the influence of science and technology are much more likely to agree than those who think the influence is negative (74% vs 40%), as are those who do better in the quiz (79% who get eight or more answers right vs 55% who get five or less right).

**QA10.1** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**Science and technology make our lives easier, healthier and more comfortable (% - EU)**

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	20	49	20	8	2	1	69	10
<b>Gender</b>								
Man	23	50	18	6	2	1	73	8
Woman	17	48	22	9	3	1	65	12
<b>Age</b>								
15-24	25	50	17	6	1	1	75	7
25-39	22	49	19	7	2	1	71	9
40-54	19	49	21	8	2	1	68	10
55+	18	47	22	8	3	2	65	11
<b>Education (end of)</b>								
15-	17	40	23	11	5	4	57	16
16-19	18	47	22	9	3	1	65	12
20+	23	52	18	6	1	0	75	7
Still studying	26	52	16	5	1	0	78	6
<b>Socio-professional category</b>								
Self-employed	22	49	21	5	3	0	71	8
Managers	22	53	17	7	1	0	75	8
Other white collars	20	51	19	8	1	1	71	9
Manual workers	19	46	22	8	3	2	65	11
House persons	15	51	24	7	1	2	66	8
Unemployed	20	47	20	9	3	1	67	12
Retired	18	46	22	8	3	3	64	11
Students	26	52	16	5	1	0	78	6
<b>Difficulties paying bills</b>								
Most of the time	17	43	23	12	4	1	60	16
From time to time	17	46	24	9	3	1	63	12
Almost never/ Never	21	50	19	7	2	1	71	9
<b>Use of the Internet</b>								
Everyday	21	50	19	7	2	1	71	9
Often/Sometimes	18	40	22	14	4	2	58	18
Never	12	42	27	11	4	4	54	15
<b>Left-right political scale</b>								
Left	22	50	19	6	2	1	72	8
Centre	19	48	21	8	3	1	67	11
Right	20	51	19	8	1	1	71	9
<b>Medical discoveries</b>								
Interested	25	48	18	7	2	0	73	9
Moderately interested	18	50	22	7	2	1	68	9
Not interested	14	44	23	11	5	3	58	16
<b>Scientific discoveries</b>								
Interested	29	48	16	6	1	0	77	7
Moderately interested	17	52	21	7	2	1	69	9
Not interested	12	42	26	11	5	4	54	16
<b>Environmental problems</b>								
Interested	24	48	18	7	2	1	72	9
Moderately interested	17	52	21	7	2	1	69	9
Not interested	16	39	25	11	5	4	55	16
<b>Influence of science and technology</b>								
Positive	22	52	19	5	1	1	74	6
Negative	9	31	28	22	9	1	40	31
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	14	41	27	10	4	4	55	14
Between 5 and 8 correct answers	20	49	20	8	2	1	69	10
More than 8 correct answers	25	54	15	5	1	0	79	6
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	22	51	18	6	2	1	73	8
Total 'Neither spiritual or religious nor not spiritual or religious'	20	48	21	8	2	1	68	10
Total 'Quite or very spiritual or religious'	17	45	23	9	4	2	62	13
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	27	48	15	8	2	0	75	10
A family member does or did in the past	26	47	17	7	2	1	73	9
Both you and a family member do or did in the past	35	49	10	6	0	0	84	6
No	19	49	21	8	2	1	68	10

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

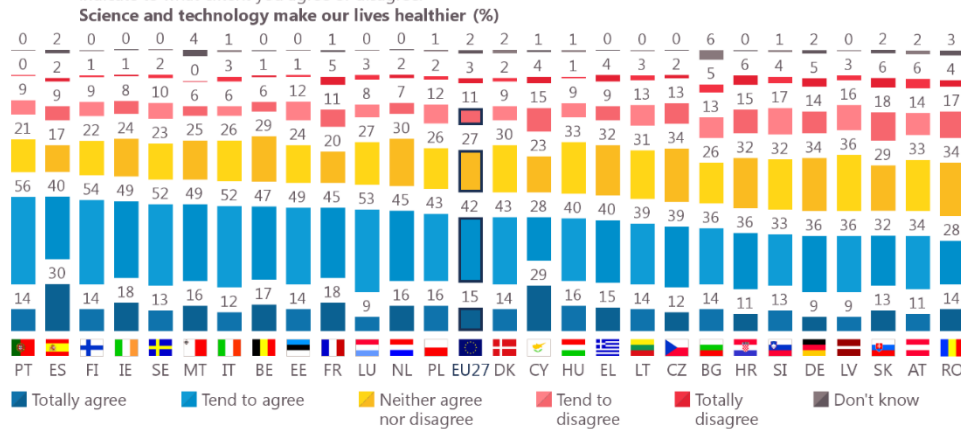
Respondents in every country are most likely to agree that science and technology make our lives healthier, though there is considerable variation, with the highest proportions seen in Spain and Portugal (each 70%) and Finland (68%). Although it is still the most common position, agreement is least widespread in Romania (42%), Slovakia, and Austria, Latvia and Germany (45% each). In all but six countries at least one in ten respondents disagree that science and technology make our lives healthier.

Opinions also vary widely in countries outside the EU. Almost eight in ten (79%) respondents in Turkey agree, compared to 33% in Albania. In spite of this, agreement is still the most common opinion in every non-EU country.

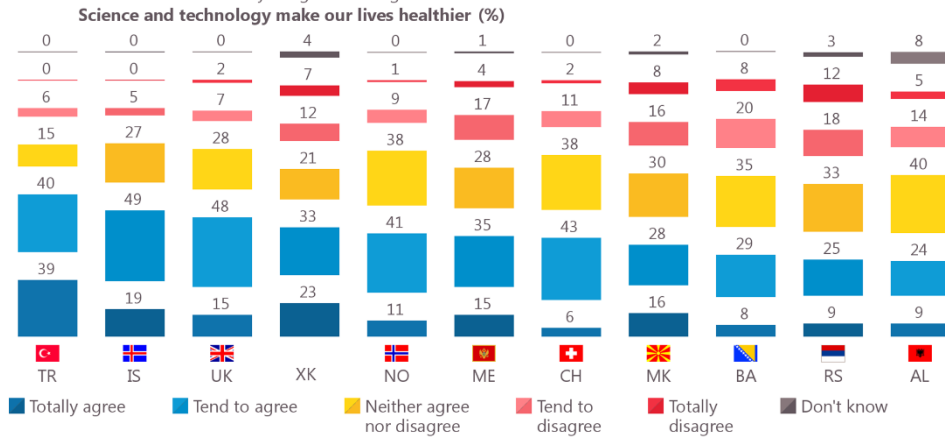
In 24 Member States, respondents are now more likely to agree than they were in 2013. In fact, in ten countries the increase is by more than ten percentage points, and this is particularly the case in Estonia (+20 pp), the Netherlands (+17 pp) and Germany, Latvia and Portugal (+16 pp each). By contrast, agreement has declined in Romania (-15 pp), Malta (-7 pp) and Ireland (-3 pp); in Malta the proportion that 'totally agree' has declined 21 points since 2013.

In countries outside the EU the proportion that agree has increased slightly in the United Kingdom (+3 pp).

**QA10.2** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.2** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.2 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Science and technology make our lives healthier (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know	Total 'Agree'		Total 'Disagree'	
			Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013	
EU27		15	▲ 1	42	▲ 6	27	▼ 1	11	▼ 4	3	▼ 1	2	57	▲ 7	14	▼ 5
EE		14	▲ 5	49	▲ 15	24	▼ 5	12	▼ 7	1	▼ 4	0	63	▲ 20	13	▼ 11
NL		16	▲ 6	45	▲ 11	30	▼ 8	7	▼ 6	2	=	0	61	▲ 17	9	▼ 6
DE		9	▲ 3	36	▲ 13	34	▼ 3	14	▼ 11	5	=	2	45	▲ 16	19	▼ 11
LV		9	▲ 4	36	▲ 12	36	▲ 2	16	▼ 10	3	▼ 6	0	45	▲ 16	19	▼ 16
PT		14	▲ 1	56	▲ 15	21	▼ 7	9	▲ 3	0	▼ 2	0	70	▲ 16	9	▲ 1
CZ		12	▲ 4	39	▲ 11	34	=	13	▼ 8	2	▼ 4	0	51	▲ 15	15	▼ 12
IT		12	=	52	▲ 14	26	▼ 8	6	▼ 3	3	=	1	64	▲ 14	9	▼ 3
SK		13	▲ 6	32	▲ 7	29	▼ 9	18	▼ 4	6	=	2	45	▲ 13	24	▼ 4
BE		17	▲ 4	47	▲ 8	29	=	6	▼ 9	1	▼ 2	0	64	▲ 12	7	▼ 11
ES		30	▲ 7	40	▲ 5	17	▼ 1	9	▼ 5	2	▼ 5	2	70	▲ 12	11	▼ 10
PL		16	▲ 5	43	▲ 7	26	=	12	▼ 7	2	▼ 2	1	59	▲ 12	14	▼ 9
LT		14	▲ 1	39	▲ 10	31	▲ 4	13	▼ 9	3	▼ 2	0	53	▲ 11	16	▼ 11
SE		13	=	52	▲ 11	23	▼ 4	10	▼ 6	2	=	0	65	▲ 11	12	▼ 6
SI		13	▲ 2	33	▲ 7	32	=	17	▼ 2	4	▼ 6	1	46	▲ 9	21	▼ 8
FI		14	▼ 1	54	▲ 10	22	▲ 2	9	▼ 8	1	▼ 2	0	68	▲ 9	10	▼ 10
EL		15	▲ 2	40	▲ 5	32	▼ 1	9	▼ 5	4	▲ 1	0	55	▲ 7	13	▼ 4
HR		11	=	36	▲ 7	32	▼ 2	15	▼ 1	6	▼ 1	0	47	▲ 7	21	▼ 2
LU		9	▼ 7	53	▲ 14	27	▲ 8	8	▼ 12	3	▼ 1	0	62	▲ 7	11	▼ 13
DK		14	=	43	▲ 5	30	▲ 1	9	▼ 4	2	▼ 3	2	57	▲ 5	11	▼ 7
FR		18	▲ 3	45	▲ 2	20	▼ 1	11	▼ 3	5	▲ 2	1	63	▲ 5	16	▼ 1
BG		14	▼ 4	36	▲ 6	26	▼ 3	13	▼ 1	5	▲ 1	6	50	▲ 2	18	=
CY		29	▲ 3	28	▼ 1	23	▼ 3	15	=	4	=	1	57	▲ 2	19	=
HU		16	▲ 4	40	▼ 2	33	▲ 1	9	▲ 1	1	▼ 2	1	56	▲ 2	10	▼ 1
AT		11	▲ 1	34	=	33	▲ 1	14	▼ 5	6	▲ 3	2	45	▲ 1	20	▼ 2
IE		18	▼ 6	49	▲ 3	24	▲ 6	8	▲ 2	1	▼ 1	0	67	▼ 3	9	▲ 1
MT		16	▼ 21	49	▲ 14	25	▲ 11	6	▲ 2	0	=	4	65	▼ 7	6	▲ 2
RO		14	▼ 7	28	▼ 8	34	▲ 8	17	▲ 7	4	▲ 3	3	42	▼ 15	21	▲ 10
TR		39	N/A	40	N/A	15	N/A	6	N/A	0	N/A	0	79	N/A	6	N/A
MK		16	N/A	28	N/A	30	N/A	16	N/A	8	N/A	2	44	N/A	24	N/A
AL		9	N/A	24	N/A	40	N/A	14	N/A	5	N/A	8	33	N/A	19	N/A
ME		15	N/A	35	N/A	28	N/A	17	N/A	4	N/A	1	50	N/A	21	N/A
RS		9	N/A	25	N/A	33	N/A	18	N/A	12	N/A	3	34	N/A	30	N/A
UK		15	▼ 3	48	▲ 6	28	▲ 6	7	▼ 6	2	▼ 1	0	63	▲ 3	9	▼ 7
IS		19	N/A	49	N/A	27	N/A	5	N/A	0	N/A	0	68	N/A	5	N/A
NO		11	N/A	41	N/A	38	N/A	9	N/A	1	N/A	0	52	N/A	10	N/A
CH		6	N/A	43	N/A	38	N/A	11	N/A	2	N/A	0	49	N/A	13	N/A
XK		23	N/A	33	N/A	21	N/A	12	N/A	7	N/A	4	56	N/A	19	N/A
BA		8	N/A	29	N/A	35	N/A	20	N/A	8	N/A	0	37	N/A	28	N/A

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows next to no variation based on age, but it does highlight some other differences:

Men are more likely to agree than women (60% vs 55%).

Those who completed education aged 20 or older (62%) are more likely to agree than those who completed education at a younger age (53%).

Looking at occupation shows managers (65%), students (63%) and other white-collar workers (62%) are the most likely to agree, particularly compared to the unemployed (49%).

Respondents who experience the most financial difficulty (49%) are less likely to agree than those who experience difficulties from time to time (57%) or rarely/never (59%).

The analysis also shows that the more urbanised a respondent's environment, the more likely they are to agree: 61% living in large towns do so, compared to 54% living in rural areas.

Respondents who get eight or more answers right at the quiz are also more likely to agree with the statement than those who got five or less correct answers (68% vs 47%).

Finally, and not surprisingly, those who think the influence of science and technology is positive are much more likely to agree (62% vs 35% who think the influence is negative).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA10.2** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**Science and technology make our lives healthier** (% - EU)

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	15	42	27	11	3	2	57	14
<b>Gender</b>								
Man	17	43	26	10	3	1	60	13
Woman	13	42	28	11	4	2	55	15
<b>Age</b>								
15-24	16	43	26	10	4	1	59	14
25-39	16	44	27	9	3	1	60	12
40-54	14	43	27	11	4	1	57	15
55+	16	41	27	11	3	2	57	14
<b>Education (end of)</b>								
15-	14	39	28	11	4	4	53	15
16-19	14	41	29	11	4	1	55	15
20+	17	45	25	10	2	1	62	12
Still studying	19	44	24	9	3	1	63	12
<b>Socio-professional category</b>								
Self-employed	18	41	27	12	2	0	59	14
Managers	17	48	24	8	2	1	65	10
Other white collars	15	47	26	9	2	1	62	11
Manual workers	13	42	28	12	4	1	55	16
House persons	15	36	30	12	4	3	51	16
Unemployed	14	35	28	14	6	3	49	20
Retired	15	40	29	11	3	2	55	14
Students	19	44	24	9	3	1	63	12
<b>Difficulties paying bills</b>								
Most of the time	15	34	24	17	6	4	49	23
From time to time	14	43	27	11	3	2	57	14
Almost never/ Never	16	43	27	10	3	1	59	13
<b>Subjective urbanisation</b>								
Rural village	16	38	28	12	4	2	54	16
Small/ mid size town	14	44	28	10	3	1	58	13
Large town	16	45	24	11	3	1	61	14
<b>Left-right political scale</b>								
Left	16	43	27	10	3	1	59	13
Centre	14	43	28	10	3	2	57	13
Right	18	43	25	11	2	1	61	13
<b>Medical discoveries</b>								
Interested	21	42	24	9	3	1	63	12
Moderately interested	12	45	29	10	3	1	57	13
Not interested	13	35	28	15	5	4	48	20
<b>Scientific discoveries</b>								
Interested	23	44	22	8	2	1	67	10
Moderately interested	12	44	29	11	3	1	56	14
Not interested	11	35	30	14	6	4	46	20
<b>Environmental problems</b>								
Interested	19	43	25	9	3	1	62	12
Moderately interested	13	44	28	11	3	1	57	14
Not interested	13	34	29	14	5	5	47	19
<b>Influence of science and technology</b>								
Positive	17	45	26	9	2	1	62	11
Negative	9	26	30	23	11	1	35	34
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	11	36	32	12	5	4	47	17
Between 5 and 8 correct answers	16	42	27	11	3	1	58	14
More than 8 correct answers	19	49	22	8	1	1	68	9
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	17	44	24	11	3	1	61	14
Total 'Neither spiritual or religious nor not spiritual or religious'	15	43	29	10	2	1	58	12
Total 'Quite or very spiritual or religious'	14	39	27	12	6	2	53	18
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	20	47	23	8	2	0	67	10
A family member does or did in the past	23	42	24	8	3	0	65	11
Both you and a family member do or did in the past	23	42	21	12	2	0	65	14
No	14	42	28	11	3	2	56	14

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

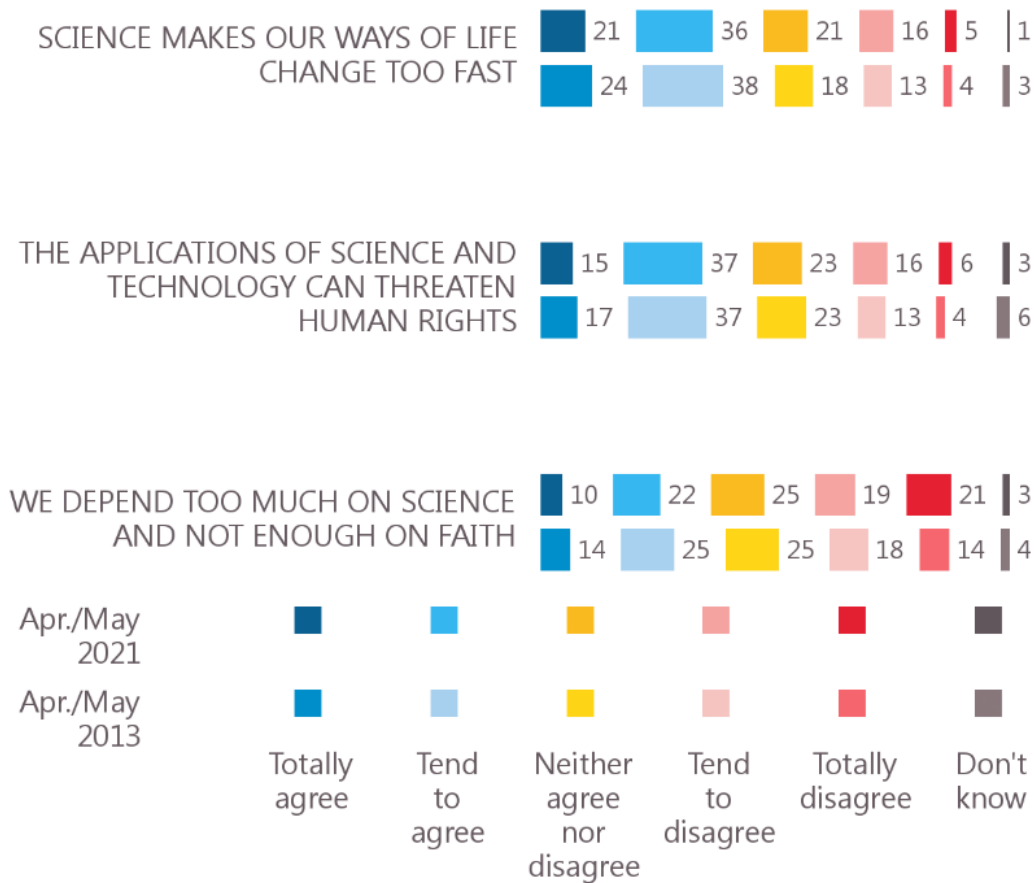
The majority (57%) of respondents in the EU agree that science makes our ways of life change too fast. Just over one in five (21%) disagree, while the same proportion is neutral and 1% say they don't know. Respondents are now less likely to agree than they were in 2013 (-5 pp).

Just over half (52%) of respondents agree that the applications of science and technology can threaten human rights. Slightly more than one in five (22%) disagree, while 23% are neutral and 3% say they don't know. There has been little change in agreement since 2013 (-2 pp), but the proportion that disagrees has increased (+ 5 pp).

A minority (32%) of respondents in the EU agree that we depend too much on science and not enough on faith. Four in ten (40%) disagree, 25% are neutral and 3% say they don't know. The proportion of respondents who agree has declined by seven points since 2013, with agreement going from being the majority view in that survey to the minority view in 2021.

**QA10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

(% - EU)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

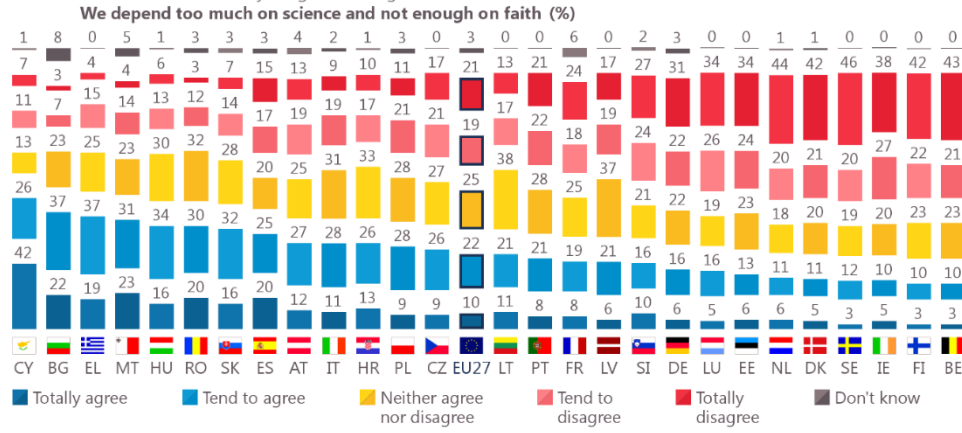
Almost one-third of respondents agree that we depend too much on science and not enough on faith, but there are considerable differences at a country level. In six countries at least half agree that we depend too much on science and not enough on faith, with the largest proportions seen in Cyprus (68%), Bulgaria (59%) and Greece (56%). At the other end of the scale 13% in Finland and Belgium and 15% in Sweden and Ireland think the same way.

In countries outside the EU there is a similar variation in opinion, with proportions ranging from 64% of respondents in Montenegro who agree to just 11% in Iceland. In four countries, respondents are more likely to disagree than agree: Iceland, Norway, the United Kingdom and Switzerland.

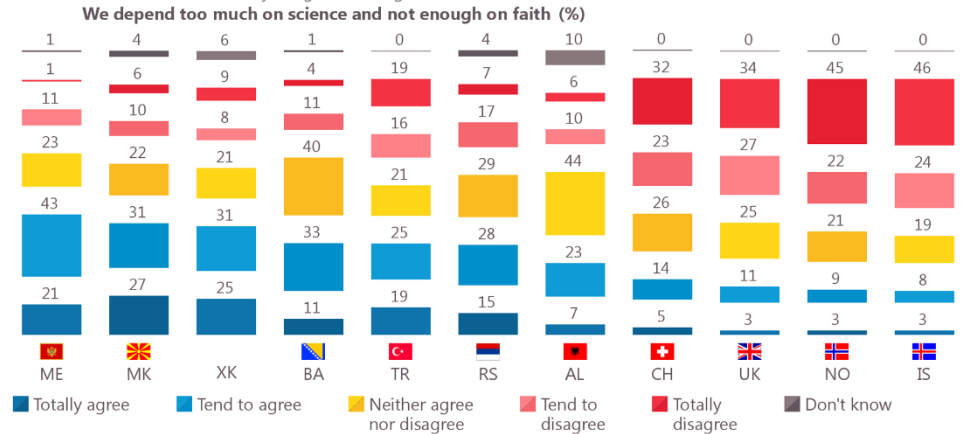
In 24 countries, respondents are now less likely to agree we depend too much on science and not enough on faith than those in 2013. In 12 Member States the decline is at least ten points with the largest in Finland (-25 pp), Estonia (-23 pp) and Ireland (-22 pp). The exceptions are France, Cyprus and Romania where there have been minor increases in agreement (+2 pp each).

In the United Kingdom the proportion that agrees has also declined significantly since 2013 (-23 pp).

**QA10.7** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.7** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.7 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**We depend too much on science and not enough on faith (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013
EU27		10	▼ 4	22	▼ 3	25	=	19	▲ 1	21	▲ 7	3	32	▼ 7	40	▲ 8
FR		8	=	19	▲ 2	25	▲ 2	18	▼ 3	24	▼ 2	6	27	▲ 2	42	▼ 5
CY		42	▲ 8	26	▼ 6	13	▼ 9	11	▲ 1	7	▲ 5	1	68	▲ 2	18	▲ 6
RO		20	▼ 1	30	▲ 3	32	▲ 1	12	=	3	▼ 1	3	50	▲ 2	15	▼ 1
SI		10	▲ 1	16	▼ 2	21	▼ 4	24	▲ 6	27	▲ 5	2	26	▼ 1	51	▲ 11
ES		20	▼ 4	25	▲ 2	20	▲ 3	17	▲ 1	15	▲ 1	3	45	▼ 2	32	▲ 2
AT		12	=	27	▼ 2	25	▲ 3	19	▼ 7	13	▲ 5	4	39	▼ 2	32	▼ 2
SK		16	▼ 1	32	▼ 1	28	▼ 2	14	▲ 1	7	▲ 3	3	48	▼ 2	21	▲ 4
IT		11	▼ 2	28	▼ 1	31	▲ 2	19	▲ 2	9	▲ 2	2	39	▼ 3	28	▲ 4
HU		16	▼ 1	34	▼ 2	30	▲ 4	13	▼ 1	6	▲ 2	1	50	▼ 3	19	▲ 1
PL		9	▼ 2	28	▼ 2	28	=	21	▲ 2	11	▲ 5	3	37	▼ 4	32	▲ 7
EL		19	▼ 4	37	▼ 2	25	▲ 4	15	▲ 4	4	▲ 1	0	56	▼ 6	19	▲ 5
NL		6	▼ 4	11	▼ 2	18	▼ 5	20	▲ 2	44	▲ 12	1	17	▼ 6	64	▲ 14
BG		22	▼ 4	37	▼ 3	23	▲ 1	7	▲ 1	3	▲ 2	8	59	▼ 7	10	▲ 3
DK		5	▼ 1	11	▼ 7	20	▼ 4	21	▼ 1	42	▲ 14	1	16	▼ 8	63	▲ 13
HR		13	▼ 4	26	▼ 4	33	▲ 5	17	▲ 4	10	=	1	39	▼ 8	27	▲ 4
MT		23	▼ 2	31	▼ 8	23	▲ 6	14	▲ 7	4	▲ 2	5	54	▼ 10	18	▲ 9
CZ		9	▼ 9	26	▼ 2	27	=	21	▲ 4	17	▲ 10	0	35	▼ 11	38	▲ 14
LT		11	▼ 3	21	▼ 10	38	▲ 10	17	▲ 3	13	▲ 7	0	32	▼ 13	30	▲ 10
DE		6	▼ 5	16	▼ 9	22	▼ 2	22	▲ 3	31	▲ 16	3	22	▼ 14	53	▲ 19
BE		3	▼ 5	10	▼ 11	23	=	21	▼ 1	43	▲ 19	0	13	▼ 16	64	▲ 18
SE		3	▼ 5	12	▼ 12	19	=	20	=	46	▲ 18	0	15	▼ 17	66	▲ 18
LV		6	▼ 7	21	▼ 12	37	▲ 12	19	▲ 5	17	▲ 9	0	27	▼ 19	36	▲ 14
LU		5	▼ 7	16	▼ 13	19	=	26	▲ 4	34	▲ 20	0	21	▼ 20	60	▲ 24
PT		8	▼ 8	21	▼ 12	28	▲ 3	22	▲ 9	21	▲ 16	0	29	▼ 20	43	▲ 25
IE		5	▼ 7	10	▼ 15	20	▼ 3	27	▲ 7	38	▲ 24	0	15	▼ 22	65	▲ 31
EE		6	▼ 9	13	▼ 14	23	▼ 4	24	▲ 8	34	▲ 24	0	19	▼ 23	58	▲ 32
FI		3	▼ 6	10	▼ 19	23	▲ 3	22	▲ 4	42	▲ 21	0	13	▼ 25	64	▲ 25
TR		19	N/A	25	N/A	21	N/A	16	N/A	19	N/A	0	44	N/A	35	N/A
MK		27	N/A	31	N/A	22	N/A	10	N/A	6	N/A	4	58	N/A	16	N/A
IS		3	N/A	8	N/A	19	N/A	24	N/A	46	N/A	0	11	N/A	70	N/A
AL		7	N/A	23	N/A	44	N/A	10	N/A	6	N/A	10	30	N/A	16	N/A
ME		21	N/A	43	N/A	23	N/A	11	N/A	1	N/A	1	64	N/A	12	N/A
RS		15	N/A	28	N/A	29	N/A	17	N/A	7	N/A	4	43	N/A	24	N/A
UK		3	▼ 12	11	▼ 11	25	▼ 3	27	▲ 10	34	▲ 19	0	14	▼ 23	61	▲ 29
IS		3	N/A	8	N/A	19	N/A	24	N/A	46	N/A	0	11	N/A	70	N/A
NO		3	N/A	9	N/A	21	N/A	22	N/A	45	N/A	0	12	N/A	67	N/A
CH		5	N/A	14	N/A	26	N/A	23	N/A	32	N/A	0	19	N/A	55	N/A
XK		25	N/A	31	N/A	21	N/A	8	N/A	9	N/A	6	56	N/A	17	N/A
BA		11	N/A	33	N/A	40	N/A	11	N/A	4	N/A	1	44	N/A	15	N/A



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

The socio-demographic analysis shows no difference within the younger age groups, but does show that those aged 55+ (37%) are the most likely to agree, particularly compared to those aged 15-24 (27%).

The analysis also shows that:

The earlier a respondent completed education, the more likely they are to agree that we depend too much on science and not enough on faith: 46% who completed education aged 15 or younger agree, compared to 25% of those aged 20 or older.

Opinions also vary by occupation group. For example, housepersons (40%) are the most likely to agree, particularly compared to managers (22%).

Those with the least financial difficulties (20%) are less likely to agree than those who have more difficulties. (29% who never/almost never have difficulty paying bills vs 45% who have difficulty paying bills most of the time).

The analysis also shows that the further to the right a respondent places themselves on the political spectrum, the more likely they are to agree: 38% on the right do so compared to 28% on the left.

Finally, those who think the influence of science and technology is negative are more likely to agree with the statement than those who think the influence is positive (43% vs 31%), as are those who answer less than five answers correctly during the quiz (49%) compared to those who answer eight or more questions correctly (16%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA10.7** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**We depend too much on science and not enough on faith** (% - EU)

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	10	22	25	19	21	3	32	40
<b>Gender</b>								
Man	10	22	23	19	23	3	32	42
Woman	11	22	27	19	18	3	33	37
<b>Age</b>								
15-24	8	19	25	19	26	3	27	45
25-39	10	20	23	20	25	2	30	45
40-54	9	22	26	19	21	3	31	40
55+	12	25	25	18	16	4	37	34
<b>Education (end of)</b>								
15-	18	28	26	15	8	5	46	23
16-19	12	26	27	18	14	3	38	32
20+	7	18	23	21	29	2	25	50
Still studying	8	16	23	20	31	2	24	51
<b>Socio-professional category</b>								
Self-employed	10	23	25	19	21	2	33	40
Managers	6	16	23	23	30	2	22	53
Other white collars	9	21	26	20	22	2	30	42
Manual workers	12	26	26	16	17	3	38	33
House persons	14	26	28	19	10	3	40	29
Unemployed	12	23	26	16	20	3	35	36
Retired	13	25	25	18	15	4	38	33
Students	8	16	23	20	31	2	24	51
<b>Difficulties paying bills</b>								
Most of the time	17	28	23	15	14	3	45	29
From time to time	13	27	30	16	12	2	40	28
Almost never/ Never	9	20	24	20	24	3	29	44
<b>Left-right political scale</b>								
Left	9	19	21	18	31	2	28	49
Centre	10	22	28	20	17	3	32	37
Right	12	26	25	19	16	2	38	35
<b>Medical discoveries</b>								
Interested	11	20	23	19	25	2	31	44
Moderately interested	9	23	26	20	19	3	32	39
Not interested	13	26	27	16	14	4	39	30
<b>Scientific discoveries</b>								
Interested	9	18	21	20	30	2	27	50
Moderately interested	9	23	27	20	18	3	32	38
Not interested	15	28	29	14	9	5	43	23
<b>Environmental problems</b>								
Interested	10	19	23	19	27	2	29	46
Moderately interested	9	24	27	20	17	3	33	37
Not interested	15	26	27	14	13	5	41	27
<b>Influence of science and technology</b>								
Positive	9	22	25	20	22	2	31	42
Negative	17	26	29	13	12	3	43	25
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	17	32	27	12	7	5	49	19
Between 5 and 8 correct answers	11	23	28	19	16	3	34	35
More than 8 correct answers	4	12	17	24	41	2	16	65
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	6	14	17	20	40	3	20	60
Total 'Neither spiritual or religious nor not spiritual or religious'	9	24	31	21	12	3	33	33
Total 'Quite or very spiritual or religious'	22	33	25	13	5	2	55	18
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	8	17	19	20	34	2	25	54
A family member does or did in the past	9	17	20	20	33	1	26	53
Both you and a family member do or did in the past	8	6	17	25	43	1	14	68
No	11	23	26	19	18	3	34	37

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The proportion of respondents who agree that the applications of science and technology can threaten human rights varies considerably between countries. Proportions range from 76% in Cyprus, 65% in Greece and 63% in Spain to 34% in Estonia, 35% in Denmark and 37% in Latvia. However, it is worth noting that in all but two countries respondents are more likely to agree. The exceptions are Estonia and Denmark, where respondents are most likely to disagree – although in the case of Denmark this is by one percentage point.

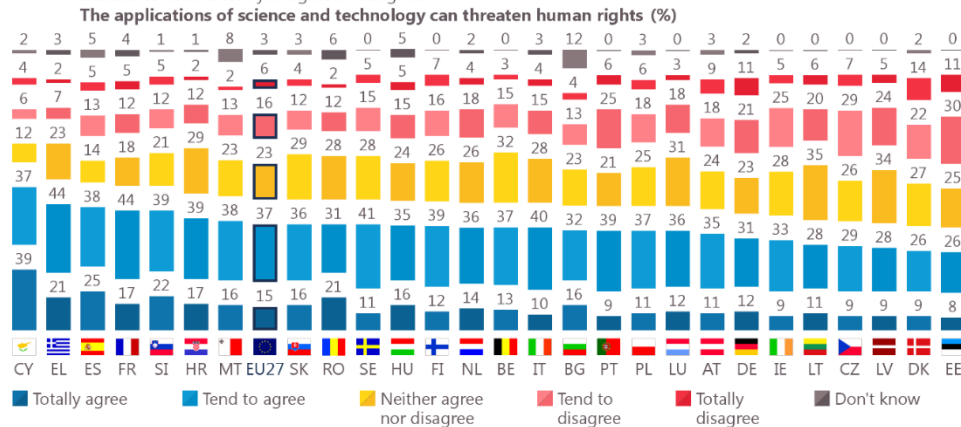
In the non-EU countries, respondents in Montenegro (66%) are the most likely to agree, particularly compared to those in Albania (28%). In spite of this range, agreement is still the majority view in each country.

Compared to 2013, respondents in 23 countries are now less likely to agree that the applications of science and technology can threaten human rights, with the largest declines seen in Estonia (-19 pp), Luxembourg (-18 pp) and Latvia (-15 pp). By contrast, respondents in Hungary (+8 pp), France (+7 pp) and Romania (+6 pp) are now more likely to agree. There has been no change in opinion in Spain.

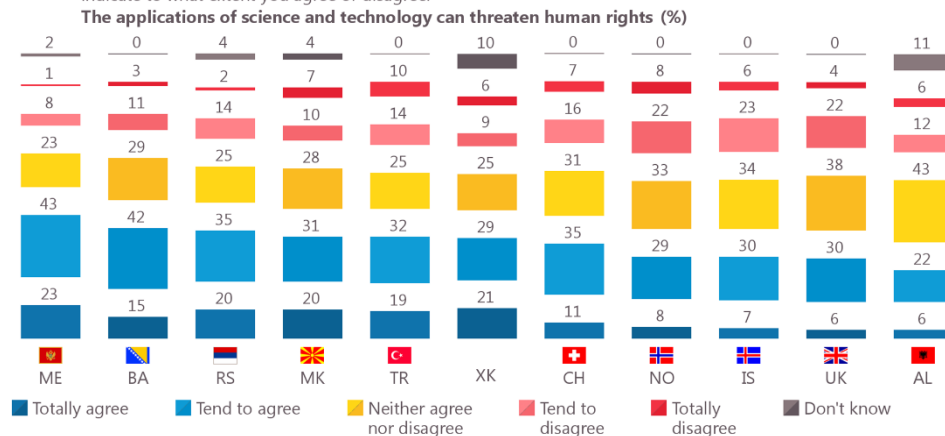
It is worth noting there have been large declines in the proportions that totally agree amongst respondents in Sweden (-11 pp), Malta and Slovenia (-10 pp each).

Outside of the EU, the proportion of respondents in the UK that agrees has declined (-13 pp).

**QA10.8** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.8** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.8 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**The applications of science and technology can threaten human rights (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'	
			Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013
EU27		15	▼ 2	37	▬	23	▬	16	▲ 3	6	▲ 2	3	52	▼ 2	22	▲ 5	
HU		16	▲ 3	35	▲ 5	24	▼ 4	15	▼ 2	5	▬	5	51	▲ 8	20	▼ 2	
FR		17	▲ 1	44	▲ 6	18	▬	12	▼ 4	5	▼ 1	4	61	▲ 7	17	▼ 5	
RO		21	▲ 4	31	▲ 2	28	▲ 3	12	▼ 1	2	▼ 1	6	52	▲ 6	14	▼ 2	
ES		25	▬	38	▬	14	▼ 1	13	▲ 4	5	▼ 1	5	63	▬	18	▲ 3	
CY		39	▼ 6	37	▲ 5	12	▬	6	▼ 1	4	▲ 3	2	76	▼ 1	10	▲ 2	
SK		16	▲ 3	36	▼ 4	29	▲ 2	12	▼ 2	4	▲ 3	3	52	▼ 1	16	▲ 1	
EL		21	▲ 3	44	▼ 6	23	▲ 4	7	▼ 1	2	▬	3	65	▼ 3	9	▼ 1	
IT		10	▼ 5	40	▲ 2	28	▼ 1	15	▲ 6	4	▲ 1	3	50	▼ 3	19	▲ 7	
BE		13	▼ 2	37	▼ 2	32	▲ 6	15	▼ 1	3	▲ 1	0	50	▼ 4	18	▬	
MT		16	▼ 10	38	▲ 5	23	▲ 5	13	▲ 5	2	▲ 1	8	54	▼ 5	15	▲ 6	
AT		11	▬	35	▼ 5	24	▼ 3	18	▲ 2	9	▲ 6	3	46	▼ 5	27	▲ 8	
DE		12	▼ 5	31	▼ 1	23	▬	21	▲ 3	11	▲ 6	2	43	▼ 6	32	▲ 9	
NL		14	▼ 5	36	▼ 1	26	▲ 4	18	▲ 4	4	▲ 1	2	50	▼ 6	22	▲ 5	
FI		12	▼ 3	39	▼ 3	26	▼ 1	16	▲ 6	7	▲ 4	0	51	▼ 6	23	▲ 10	
BG		16	▼ 6	32	▼ 1	23	▼ 1	13	▲ 4	4	▲ 1	12	48	▼ 7	17	▲ 5	
CZ		9	▼ 4	29	▼ 3	26	▼ 3	29	▲ 11	7	▲ 3	0	38	▼ 7	36	▲ 14	
PT		9	▼ 5	39	▼ 4	21	▲ 2	25	▲ 16	6	▲ 4	0	48	▼ 9	31	▲ 20	
SI		22	▼ 10	39	▲ 1	21	▲ 5	12	▲ 5	5	▲ 1	1	61	▼ 9	17	▲ 6	
DK		9	▼ 2	26	▼ 8	27	▲ 4	22	▲ 4	14	▲ 3	2	35	▼ 10	36	▲ 7	
HR		17	▼ 6	39	▼ 4	29	▲ 10	12	▲ 3	2	▼ 1	1	56	▼ 10	14	▲ 2	
PL		11	▼ 2	37	▼ 8	25	▲ 6	18	▲ 4	6	▲ 4	3	48	▼ 10	24	▲ 8	
IE		9	▼ 6	33	▼ 6	28	▲ 8	25	▲ 12	5	▲ 1	0	42	▼ 12	30	▲ 13	
LT		11	▼ 5	28	▼ 7	35	▲ 10	20	▲ 9	6	▲ 2	0	39	▼ 12	26	▲ 11	
SE		11	▼ 11	41	▼ 1	28	▲ 11	15	▲ 3	5	▬	0	52	▼ 12	20	▲ 3	
LV		9	▼ 7	28	▼ 8	34	▲ 13	24	▲ 8	5	▬	0	37	▼ 15	29	▲ 8	
LU		12	▼ 8	36	▼ 10	31	▲ 18	18	▲ 7	3	▼ 1	0	48	▼ 18	21	▲ 6	
EE		8	▼ 6	26	▼ 13	25	▲ 3	30	▲ 16	11	▲ 6	0	34	▼ 19	41	▲ 22	
TR		19	N/A	32	N/A	25	N/A	14	N/A	10	N/A	0	51	N/A	24	N/A	
MK		20	N/A	31	N/A	28	N/A	10	N/A	7	N/A	4	51	N/A	17	N/A	
AL		6	N/A	22	N/A	43	N/A	12	N/A	6	N/A	11	28	N/A	18	N/A	
ME		23	N/A	43	N/A	23	N/A	8	N/A	1	N/A	2	66	N/A	9	N/A	
RS		20	N/A	35	N/A	25	N/A	14	N/A	2	N/A	4	55	N/A	16	N/A	
UK		6	▼ 10	30	▼ 3	38	▲ 10	22	▲ 10	4	▼ 1	0	36	▼ 13	26	▲ 9	
IS		7	N/A	30	N/A	34	N/A	23	N/A	6	N/A	0	37	N/A	29	N/A	
NO		8	N/A	29	N/A	33	N/A	22	N/A	8	N/A	0	37	N/A	30	N/A	
CH		11	N/A	35	N/A	31	N/A	16	N/A	7	N/A	0	46	N/A	23	N/A	
XK		21	N/A	29	N/A	25	N/A	9	N/A	6	N/A	10	50	N/A	15	N/A	
BA		15	N/A	42	N/A	29	N/A	11	N/A	3	N/A	0	57	N/A	14	N/A	

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are no notable differences in opinion based on gender, educational level or occupation, but the socio-demographic analysis does show that those aged 15-24 (45%) are the only age group where fewer than half of respondents agree. The analysis also highlights that the more financial difficulties a respondent experiences, the more likely they are to agree: 61% who experience the most difficulties do so, compared to 50% of those who experience the fewest difficulties.

Finally, respondents who think the influence of science and technology is negative are more likely to agree than those who think the influence is positive (61% vs 50%).

**QA10.8** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**The applications of science and technology can threaten human rights** (% - EU)

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	15	37	23	16	6	3	52	22
<b>Gender</b>								
Man	16	37	21	17	7	2	53	24
Woman	14	36	25	16	5	4	50	21
<b>Age</b>								
15-24	12	33	26	19	7	3	45	26
25-39	15	36	24	17	6	2	51	23
40-54	15	38	23	16	6	2	53	22
55+	15	37	22	15	6	5	52	21
<b>Education (end of)</b>								
15-	17	37	21	12	4	9	54	16
16-19	14	38	24	15	6	3	52	21
20+	15	37	22	18	7	1	52	25
Still studying	13	32	25	20	7	3	45	27
<b>Socio-professional category</b>								
Self-employed	15	37	24	16	5	3	52	21
Managers	13	37	21	20	7	2	50	27
Other white collars	12	37	27	17	5	2	49	22
Manual workers	16	37	23	15	6	3	53	21
House persons	13	38	26	14	4	5	51	18
Unemployed	17	39	21	13	6	4	56	19
Retired	15	37	21	14	7	6	52	21
Students	13	32	25	20	7	3	45	27
<b>Difficulties paying bills</b>								
Most of the time	19	42	20	10	4	5	61	14
From time to time	15	39	26	13	4	3	54	17
Almost never/ Never	14	36	23	18	6	3	50	24
<b>Left-right political scale</b>								
Left	15	36	22	18	7	2	51	25
Centre	14	37	25	15	6	3	51	21
Right	14	38	23	18	5	2	52	23
<b>Medical discoveries</b>								
Interested	17	34	21	18	8	2	51	26
Moderately interested	13	39	24	16	5	3	52	21
Not interested	14	35	25	13	6	7	49	19
<b>Scientific discoveries</b>								
Interested	17	34	20	19	9	1	51	28
Moderately interested	13	39	24	16	5	3	52	21
Not interested	16	35	26	12	4	7	51	16
<b>Environmental problems</b>								
Interested	17	36	20	17	8	2	53	25
Moderately interested	12	38	25	17	5	3	50	22
Not interested	15	34	26	12	6	7	49	18
<b>Influence of science and technology</b>								
Positive	13	37	24	17	7	2	50	24
Negative	26	35	21	12	3	3	61	15
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	16	37	25	10	4	8	53	14
Between 5 and 8 correct answers	15	37	24	16	6	2	52	22
More than 8 correct answers	12	35	21	22	9	1	47	31
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	13	34	23	19	9	2	47	28
Total 'Neither spiritual or religious nor not spiritual or religious'	14	37	24	17	5	3	51	22
Total 'Quite or very spiritual or religious'	19	39	21	12	4	5	58	16
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	16	35	23	17	8	1	51	25
A family member does or did in the past	17	34	19	21	7	2	51	28
Both you and a family member do or did in the past	21	34	16	17	12	0	55	29
No	14	37	24	16	6	3	51	22

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

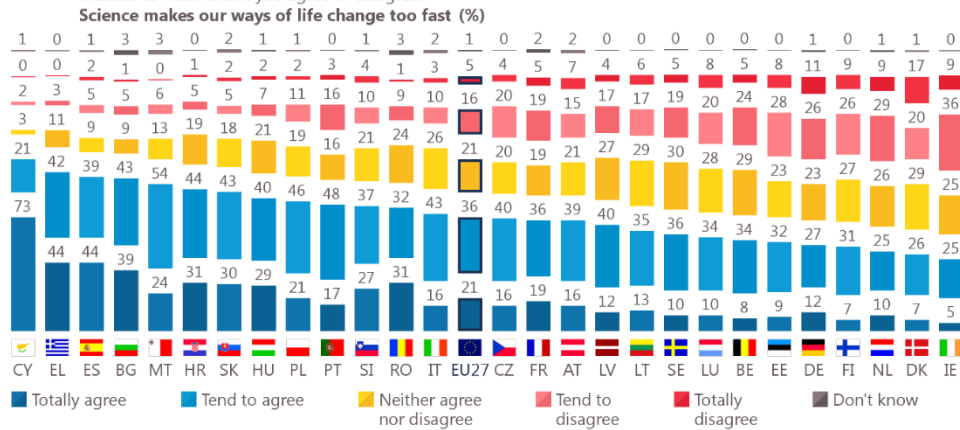
Although the proportion of respondents who agree that science makes our ways of life change too fast varies by 64 percentage points across countries, agreement is the most common opinion in 24 countries, with the highest levels seen in Cyprus (94%), Greece (86%) and Spain (83%). By contrast, 30% of respondents in Ireland, 33% in Denmark and 35% in the Netherlands also agree; in these three countries respondents are most likely to disagree with this statement, although Ireland is the only country where the difference is by more than four percentage points (agree: 30%, disagree: 45%).

Across non-EU countries agreement ranges from 81% of respondents in Turkey to 27% in the United Kingdom. Iceland and the United Kingdom are the only countries where respondents are more likely to disagree than to agree.

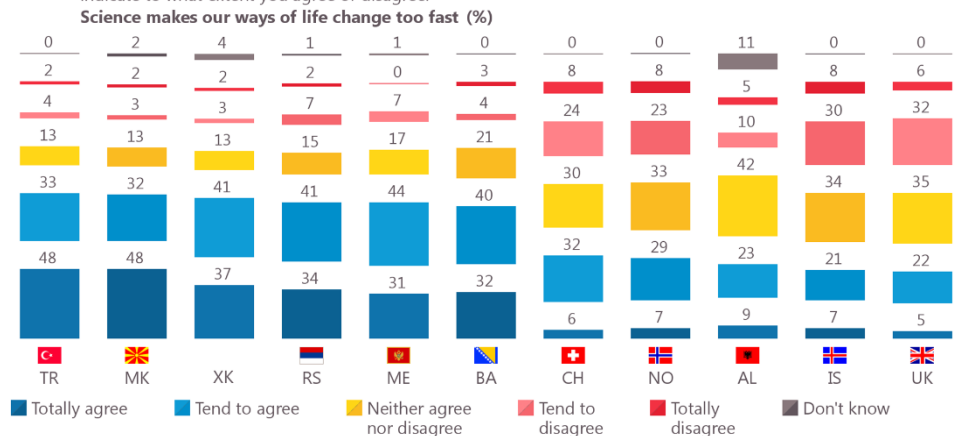
Since 2013, agreement that science makes our ways of life change too fast has declined in 24 countries, with the largest drops seen in Estonia (-26 pp), Luxembourg (-24 pp) and Ireland (-21 pp). Overall, there are 14 countries where the decline has been at least 10 percentage points. In addition, there are nine countries where the proportion that 'totally agrees' has dropped by at least 10 points, with the largest decreases seen in Estonia (-19 pp), Malta (-18 pp) and Slovenia (-16 pp). The only increases in agreement are recorded in Spain (+5 pp) and Cyprus (+1 pp), while there has been no change in Bulgaria.

Respondents in the United Kingdom are now much less likely to agree than they were in 2013 (-26 pp), and the proportion that 'totally agrees' has declined by 16 points.

**QA10.9** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.9** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.9 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Science makes our ways of life change too fast (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'	
		April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	
EU27		21	▼ 3	36	▼ 2	21	▲ 3	16	▲ 3	5	▲ 1	1		57	▼ 5	21	▲ 4
ES		44	▼ 4	39	▲ 9	9	=	5	▼ 4	2	=	1		83	▲ 5	7	▼ 4
CY		73	▲ 2	21	▼ 1	3	▼ 3	2	▲ 1	0	=	1		94	▲ 1	2	▲ 1
BG		39	▼ 3	43	▲ 3	9	▼ 2	5	▲ 3	1	=	3		82	=	6	▲ 3
FR		19	▲ 1	36	▼ 3	19	▲ 3	19	▲ 2	5	▼ 2	2		55	▼ 2	24	=
HU		29	▲ 3	40	▼ 5	21	▲ 2	7	▼ 1	2	▲ 1	1		69	▼ 2	9	=
MT		24	▼ 18	54	▲ 16	13	▲ 4	6	▲ 4	0	▼ 1	3		78	▼ 2	6	▲ 3
EL		44	▲ 1	42	▼ 4	11	▲ 3	3	▲ 1	0	=	0		86	▼ 3	3	▲ 1
HR		31	▼ 5	44	▲ 1	19	▲ 7	5	=	1	▼ 1	0		75	▼ 4	6	▼ 1
IT		16	▼ 3	43	▼ 1	26	▲ 4	10	▲ 1	3	▲ 1	2		59	▼ 4	13	▲ 2
PT		17	▼ 5	48	=	16	▼ 1	16	▲ 11	3	▲ 1	0		65	▼ 5	19	▲ 12
RO		31	▲ 5	32	▼ 10	24	▲ 5	9	▲ 3	1	▼ 1	3		63	▼ 5	10	▲ 2
AT		16	▼ 5	39	▼ 3	21	▲ 3	15	▼ 1	7	▲ 5	2		55	▼ 8	22	▲ 4
PL		21	▼ 7	46	▼ 2	19	▲ 5	11	▲ 4	2	▲ 1	1		67	▼ 9	13	▲ 5
NL		10	▼ 6	25	▼ 4	26	▲ 5	29	▲ 4	9	▲ 1	1		35	▼ 10	38	▲ 5
SK		30	▼ 6	43	▼ 4	18	▲ 6	5	▲ 1	2	▲ 2	2		73	▼ 10	7	▲ 3
DK		7	▼ 5	26	▼ 7	29	▲ 6	20	=	17	▲ 6	1		33	▼ 12	37	▲ 6
LV		12	▼ 13	40	=	27	▲ 10	17	▲ 5	4	=	0		52	▼ 13	21	▲ 5
CZ		16	▼ 15	40	▲ 1	20	▲ 2	20	▲ 11	4	▲ 2	0		56	▼ 14	24	▲ 13
DE		12	▼ 4	27	▼ 10	23	=	26	▲ 9	11	▲ 7	1		39	▼ 14	37	▲ 16
SI		27	▼ 16	37	▲ 2	21	▲ 8	10	▲ 5	4	▲ 1	1		64	▼ 14	14	▲ 6
LT		13	▼ 12	35	▼ 3	29	▲ 12	17	▲ 5	6	▲ 2	0		48	▼ 15	23	▲ 7
SE		10	▼ 9	36	▼ 6	30	▲ 11	19	▲ 6	5	=	0		46	▼ 15	24	▲ 6
BE		8	▼ 9	34	▼ 7	29	▲ 9	24	▲ 6	5	▲ 2	0		42	▼ 16	29	▲ 8
FI		7	▼ 10	31	▼ 9	27	▲ 11	26	▲ 7	9	▲ 1	0		38	▼ 19	35	▲ 8
IE		5	▼ 10	25	▼ 11	25	▲ 7	36	▲ 17	9	▲ 1	0		30	▼ 21	45	▲ 18
LU		10	▼ 15	34	▼ 9	28	▲ 16	20	▲ 4	8	▲ 5	0		44	▼ 24	28	▲ 9
EE		9	▼ 19	32	▼ 7	23	▲ 7	28	▲ 16	8	▲ 5	0		41	▼ 26	36	▲ 21
TR		48	N/A	33	N/A	13	N/A	4	N/A	2	N/A	0		81	N/A	6	N/A
MK		48	N/A	32	N/A	13	N/A	3	N/A	2	N/A	2		80	N/A	5	N/A
AL		9	N/A	23	N/A	42	N/A	10	N/A	5	N/A	11		32	N/A	15	N/A
ME		31	N/A	44	N/A	17	N/A	7	N/A	0	N/A	1		75	N/A	7	N/A
RS		34	N/A	41	N/A	15	N/A	7	N/A	2	N/A	1		75	N/A	9	N/A
UK		5	▼ 16	22	▼ 10	35	▲ 15	32	▲ 14	6	▼ 1	0		27	▼ 26	38	▲ 13
IS		7	N/A	21	N/A	34	N/A	30	N/A	8	N/A	0		28	N/A	38	N/A
NO		7	N/A	29	N/A	33	N/A	23	N/A	8	N/A	0		36	N/A	31	N/A
CH		6	N/A	32	N/A	30	N/A	24	N/A	8	N/A	0		38	N/A	32	N/A
XK		37	N/A	41	N/A	13	N/A	3	N/A	2	N/A	4		78	N/A	5	N/A
BA		32	N/A	40	N/A	21	N/A	4	N/A	3	N/A	0		72	N/A	7	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows little difference in opinion based on gender, but does highlight that:

The older the respondent, the more likely they are to agree. For example, 62% of the oldest respondents agree science makes our ways of life change too fast, compared to 49% of those aged 15-24.

The analysis also shows that the earlier a respondent completed education, the more likely they are to agree. Almost seven in ten (69%) of those who completed education aged 15 or younger agree with the statement, compared to 52% of those who completed education aged 20 or older.

Opinion also varies by occupation group, with manual workers the most likely to agree, particularly compared to managers (63% vs 47%).

Respondents who experience greater financial difficulty are more likely to agree than those who rarely or never have trouble paying bills (55%).

The analysis also shows that respondents who place themselves on the right (61%) or in the centre (58%) of the political spectrum are more likely to agree than those who place themselves on the left (52%).

Finally, respondents who think the influence of science and technology is negative are more likely to agree (64%) compared to those who think the influence is positive (56%), as are those who answer five or less of the quiz questions correctly compared to those who get eight or more of the questions right (68% vs 42% respectively).



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA10.9** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.  
**Science makes our ways of life change too fast** (% - EU)

	Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	21	36	21	16	5	1	57	21
<b>Gender</b>								
Man	21	35	20	17	6	1	56	23
Woman	21	37	21	15	5	1	58	20
<b>Age</b>								
15-24	16	33	23	20	7	1	49	27
25-39	20	34	21	18	6	1	54	24
40-54	20	37	21	16	5	1	57	21
55+	23	39	19	13	4	2	62	17
<b>Education (end of)</b>								
15-	30	39	17	8	3	3	69	11
16-19	22	39	21	12	4	2	61	16
20+	18	34	20	21	7	0	52	28
Still studying	15	33	21	22	8	1	48	30
<b>Socio-professional category</b>								
Self-employed	20	36	23	14	6	1	56	20
Managers	14	33	21	24	8	0	47	32
Other white collars	18	38	22	15	6	1	56	21
Manual workers	25	38	20	13	3	1	63	16
House persons	21	40	23	11	3	2	61	14
Unemployed	26	35	17	16	4	2	61	20
Retired	24	37	19	13	5	2	61	18
Students	15	33	21	22	8	1	48	30
<b>Difficulties paying bills</b>								
Most of the time	29	33	19	14	3	2	62	17
From time to time	24	39	22	11	3	1	63	14
Almost never/ Never	19	36	20	18	6	1	55	24
<b>Left-right political scale</b>								
Left	18	34	21	19	7	1	52	26
Centre	20	38	21	15	5	1	58	20
Right	22	39	19	15	4	1	61	19
<b>Medical discoveries</b>								
Interested	22	33	19	19	6	1	55	25
Moderately interested	19	39	21	15	5	1	58	20
Not interested	23	36	23	11	4	3	59	15
<b>Scientific discoveries</b>								
Interested	20	31	19	21	9	0	51	30
Moderately interested	19	39	22	15	4	1	58	19
Not interested	27	38	22	8	2	3	65	10
<b>Environmental problems</b>								
Interested	21	32	19	19	8	1	53	27
Moderately interested	20	40	21	14	4	1	60	18
Not interested	23	36	25	10	3	3	59	13
<b>Influence of science and technology</b>								
Positive	19	37	21	16	6	1	56	22
Negative	28	36	21	12	2	1	64	14
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	26	42	20	7	2	3	68	9
Between 5 and 8 correct answers	22	38	21	14	4	1	60	18
More than 8 correct answers	13	29	20	27	11	0	42	38
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	16	33	20	22	8	1	49	30
Total 'Neither spiritual or religious nor not spiritual or religious'	20	39	22	14	4	1	59	18
Total 'Quite or very spiritual or religious'	29	38	19	10	2	2	67	12
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	16	29	19	26	10	0	45	36
A family member does or did in the past	15	31	19	24	10	1	46	34
Both you and a family member do or did in the past	15	25	25	19	16	0	40	35
No	22	38	21	14	4	1	60	18

### **III. VIEWS ON THE GOVERNANCE OF SCIENCE AND TECHNOLOGY**



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

## 1. Governance of science and technology

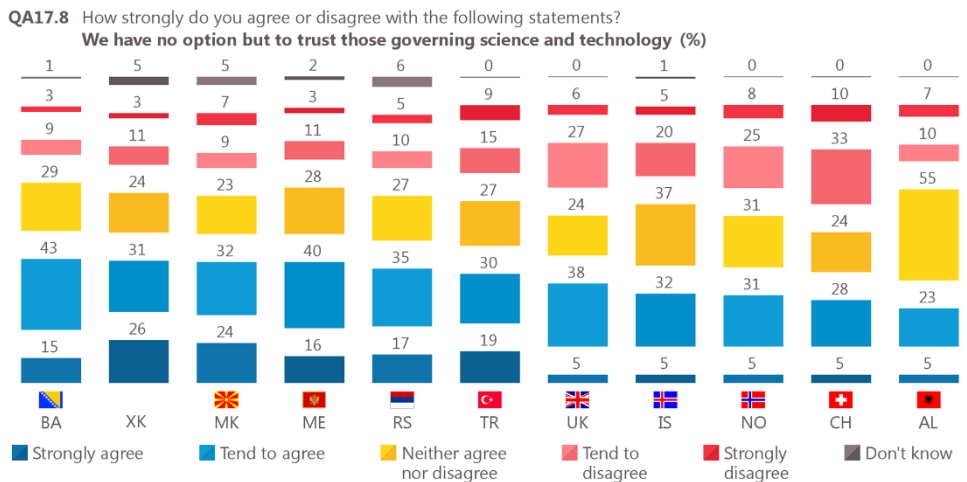
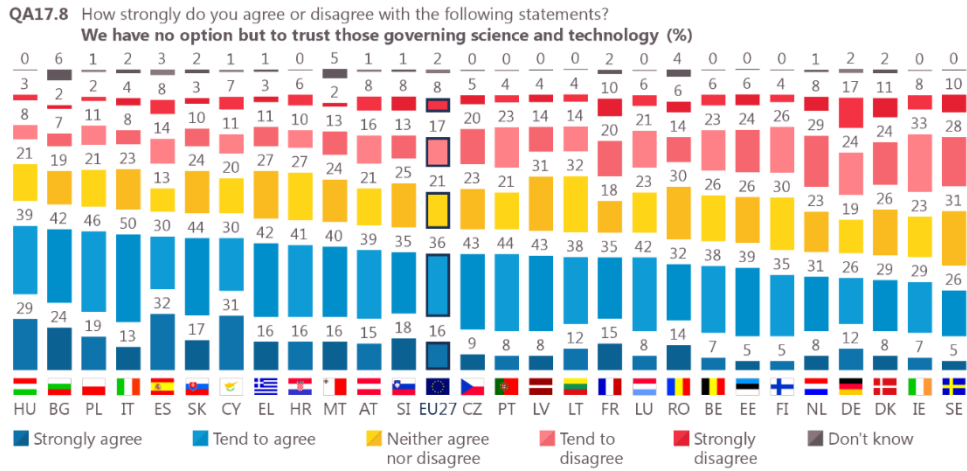
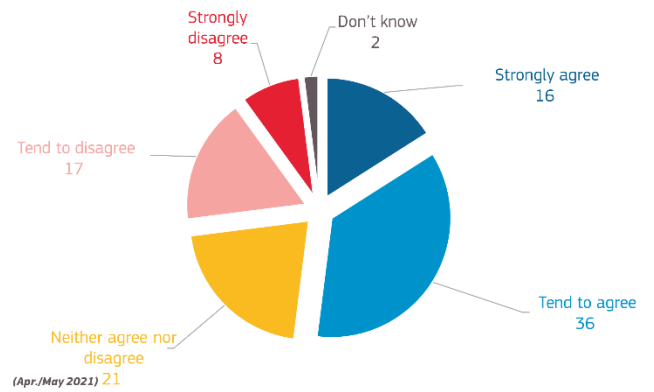
Respondents were asked how strongly they agreed or disagreed that “We have no option but to trust those governing science and technology”.

A small majority (52%) agree, with 16% saying they ‘strongly agree’. One quarter (25%) disagrees, with 8% ‘strongly disagreeing’. Just over one in five (21%) are neutral, while 2% say they don’t know.

At least half of all respondents in 18 countries agree that we have no option but to trust those governing science and technology, with the largest proportions seen in Hungary (68%), Bulgaria (66%) and Poland (65%). At the other end of the scale, 31% in Sweden, 36% in Ireland and 37% in Denmark say the same. There are four countries where at least one in five respondents strongly agrees: Spain (32%), Cyprus (31%), Hungary (29%) and Bulgaria (24%).

In countries outside the EU, the proportions that agree range from 58% in Bosnia Herzegovina to 28% in Albania. However, Switzerland is the only country where the majority disagrees (43% vs 33% agree).

**QA17.8** How strongly do you agree or disagree with the following statements?  
**We have no option but to trust those governing science and technology (% - EU27)**



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows little difference in opinion based on gender, but does illustrate that the older the respondent the more likely they are to agree. More than half (55%) of those aged 55 or over agree, compared to 47% aged 15-24. In addition, the earlier a respondent finished education, the more likely they are to agree: 61% who completed prior to age 16 agree, compared to 46% of those aged 20 or older.

The analysis also shows housepersons (58%) are the most likely to agree; this compares to 43% of managers and 45% of students. Those who think the influence of science and technology is positive are more likely to agree than those who think the influence is negative (53% vs 42%), as are those who place themselves on the right of the political scale (54% vs 49% of those who place themselves on the left).

**QA17.8** How strongly do you agree or disagree with the following statements?  
**We have no option but to trust those governing science and technology (% - EU)**

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
<b>EU27</b>	16	36	21	17	8	2	52	25
<b>Gender</b>								
Man	16	35	21	18	9	1	51	27
Woman	15	38	21	17	7	2	53	24
<b>Age</b>								
15-24	13	34	23	20	8	2	47	28
25-39	14	34	23	20	8	1	48	28
40-54	15	36	20	17	11	1	51	28
55+	17	38	20	15	7	3	55	22
<b>Education (end of)</b>								
15-	21	40	19	9	6	5	61	15
16-19	18	39	21	14	6	2	57	20
20+	12	34	20	22	11	1	46	33
Still studying	12	33	22	22	9	2	45	31
<b>Socio-professional category</b>								
Self-employed	15	35	23	15	11	1	50	26
Managers	11	32	20	23	13	1	43	36
Other white collars	13	40	22	16	7	2	53	23
Manual workers	18	36	22	16	7	1	54	23
House persons	17	41	21	12	6	3	58	18
Unemployed	19	34	19	18	9	1	53	27
Retired	17	39	20	14	7	3	56	21
Students	12	33	22	22	9	2	45	31
<b>Difficulties paying bills</b>								
Most of the time	17	36	21	15	9	2	53	24
From time to time	15	39	24	14	6	2	54	20
Almost never/ Never	15	36	20	18	9	2	51	27
<b>Use of the Internet</b>								
Everyday	15	36	21	18	9	1	51	27
Often/Sometimes	17	40	22	13	6	2	57	19
Never	20	40	20	9	5	6	60	14
<b>Left-right political scale</b>								
Left	14	35	20	20	10	1	49	30
Centre	16	37	22	16	7	2	53	23
Right	16	38	21	17	7	1	54	24
<b>Medical discoveries</b>								
Interested	19	33	19	18	10	1	52	28
Moderately interested	13	38	22	18	8	1	51	26
Not interested	13	38	24	13	8	4	51	21
<b>Scientific discoveries</b>								
Interested	18	31	19	20	11	1	49	31
Moderately interested	14	39	22	17	7	1	53	24
Not interested	15	40	22	12	7	4	55	19
<b>Environmental problems</b>								
Interested	17	32	18	21	11	1	49	32
Moderately interested	15	40	23	15	6	1	55	21
Not interested	14	38	25	11	7	5	52	18
<b>Influence of science and technology</b>								
Positive	15	38	21	17	8	1	53	25
Negative	13	29	23	19	14	2	42	33
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	15	39	24	12	5	5	54	17
Between 5 and 8 correct answers	18	37	21	15	8	1	55	23
More than 8 correct answers	10	32	19	25	13	1	42	38
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	14	34	20	21	10	1	48	31
Total 'Neither spiritual or religious nor not spiritual or religious'	16	38	22	16	7	1	54	23
Total 'Quite or very spiritual or religious'	17	38	21	13	8	3	55	21
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	14	29	20	23	14	0	43	37
A family member does or did in the past	15	31	19	21	13	1	46	34
Both you and a family member do or did in the past	10	24	19	29	17	1	34	46
No	16	38	21	16	7	2	54	23

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked which of the following two statements came closest to their point of view:

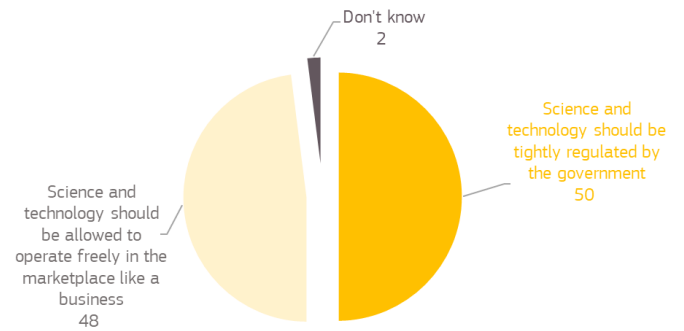
- "Science and technology should be tightly regulated by the government"
- "Science and technology should be allowed to operate freely in the marketplace like a business"

Opinion is divided on the regulation of science and technology. Half (50%) think science and technology should be tightly regulated by the government, while almost as many (48%) think it should be allowed to operate freely in the marketplace like a business. Just 2% say they don't know.

At a country level, the majority of respondents in 11 Member States say science and technology should be tightly regulated by the government, with the highest proportions in Italy (64%), Bulgaria and Spain (both 59%). In the other 16 countries the majority opinion is that science and technology should be allowed to operate freely in the marketplace like a business, with those in Czechia (81%), Estonia (79%) and Finland (78%) the most likely to think this way.

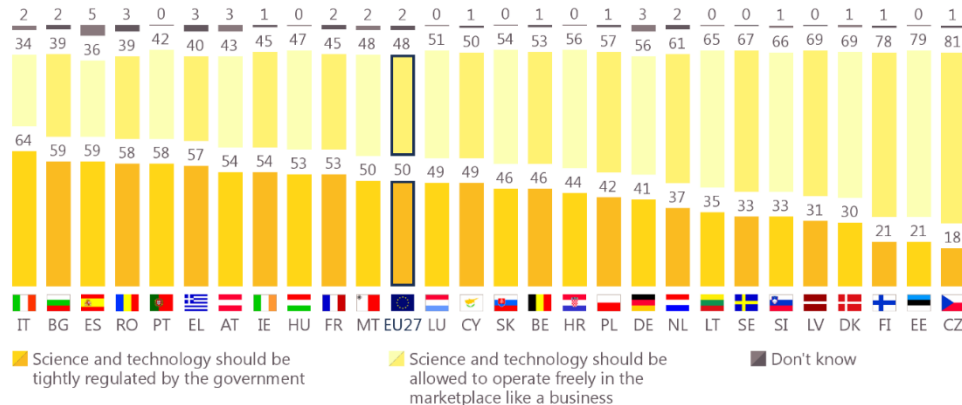
In all but three of the non-EU countries studied the dominant opinion is that science and technology should be tightly regulated by the government, with this view most widely held in Albania (75%). The exceptions are Switzerland (58%), Turkey (58%) and Iceland (55%) where the majority prefers the free-market approach.

**QA13b** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU 27)

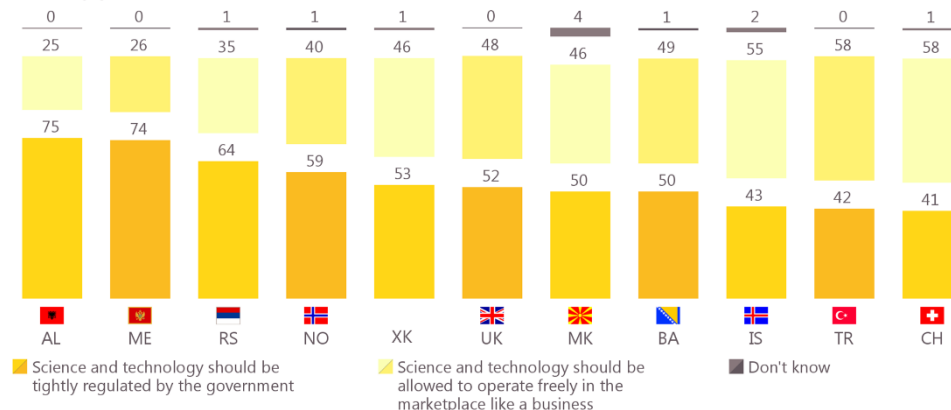


(Apr./May 2021)

**QA13b** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13b** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows a few differences:

Women are slightly more likely to say science and technology should be tightly regulated than operate freely in the market (51% vs 46%). By contrast, opinion is almost evenly divided for men.

Respondents aged 15-39 are most likely to say science and technology should be allowed to operate freely, while those aged 40 and older are most likely to favour tight regulation by government. The gap is widest for respondents aged 15-24, with 55% in favour of a free-market approach and 43% in favour of tight government regulation.

The longer a respondent remained in education, the more likely they are to be in favour of a free-market approach, and for those who completed education aged 20 or older the free-market approach is the dominant opinion (53% vs 45% for tight regulation). By contrast, 63% of those who completed education aged 15 or younger are in favour of tight government regulation and 33% are in favour of a free-market approach.

Across occupational groups, students, managers and the self-employed are most likely to favour a free-market approach, while housepersons, the unemployed and retired persons are most likely to favour tight government regulation.

The analysis also shows those who experience greater financial difficulty are more likely to favour tight government regulation.

Finally, those who think the influence of science and technology is negative are more likely to favour tight government regulation (54% vs 43% for the free market approach). Opinion is evenly split amongst those who think the influence is positive (both 49%).

**QA13B** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

	Science and technology should be tightly regulated by the government	Science and technology should be allowed to operate freely in the marketplace like a business	Don't know
<b>EU27</b>	50	48	2
<b>Gender</b>			
Man	48	50	2
Woman	51	46	3
<b>Age</b>			
15-24	43	55	2
25-39	47	52	1
40-54	51	47	2
55+	52	45	3
<b>Education (end of)</b>			
15-	63	33	4
16-19	52	47	1
20+	45	53	2
Still studying	42	56	2
<b>Socio-professional category</b>			
Self-employed	47	51	2
Managers	46	52	2
Other white collars	50	49	1
Manual workers	51	48	1
House persons	57	40	3
Unemployed	53	45	2
Retired	52	45	3
Students	42	56	2
<b>Difficulties paying bills</b>			
Most of the time	54	42	4
From time to time	58	41	1
Almost never/ Never	47	51	2
<b>Left-right political scale</b>			
Left	52	46	2
Centre	48	50	2
Right	46	53	1
<b>Medical discoveries</b>			
Interested	47	51	2
Moderately interested	51	47	2
Not interested	52	45	3
<b>Scientific discoveries</b>			
Interested	42	56	2
Moderately interested	51	47	2
Not interested	57	39	4
<b>Environmental problems</b>			
Interested	49	49	2
Moderately interested	50	48	2
Not interested	50	46	4
<b>Influence of science and technology</b>			
Positive	49	49	2
Negative	54	43	3
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	54	42	4
Between 5 and 8 correct answers	49	49	2
More than 8 correct answers	45	53	2
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	43	55	2
Total 'Neither spiritual or religious nor not spiritual or religious'	52	46	2
Total 'Quite or very spiritual or religious'	56	41	3
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	35	63	2
A family member does or did in the past	42	56	2
Both you and a family member do or did in the past	41	58	1
No	52	46	2

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked the extent to which they agreed or disagreed that “There should be no limit to what science is allowed to investigate.”

The results reveal that there is no clear consensus amongst respondents. Just over four in ten (41%) agree with this statement, but almost as many (38%) disagree. In addition, the proportions that strongly agree (14%) and strongly disagree (16%) are similar. Almost one in five (19%) say they neither agree nor disagree.

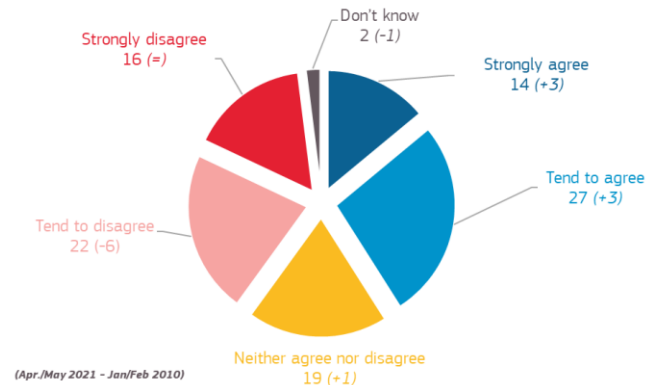
Analysis of the trend since 2010 shows that while opinions are still divided, agreement has gone from being the minority opinion in 2010 to being the majority view in 2021 (+6 pp), although the majority is slim.

There is wide variation across Member States. The proportion of respondents who agree there should be no limit to what science is allowed to investigate is highest in Finland (68%), Estonia (64%), Hungary and Portugal (both 62%), and lowest in Germany (25%), Austria and the Netherlands (both 31%). Overall, there are 17 countries where respondents are most likely to agree, and 10 where they are most likely to disagree.

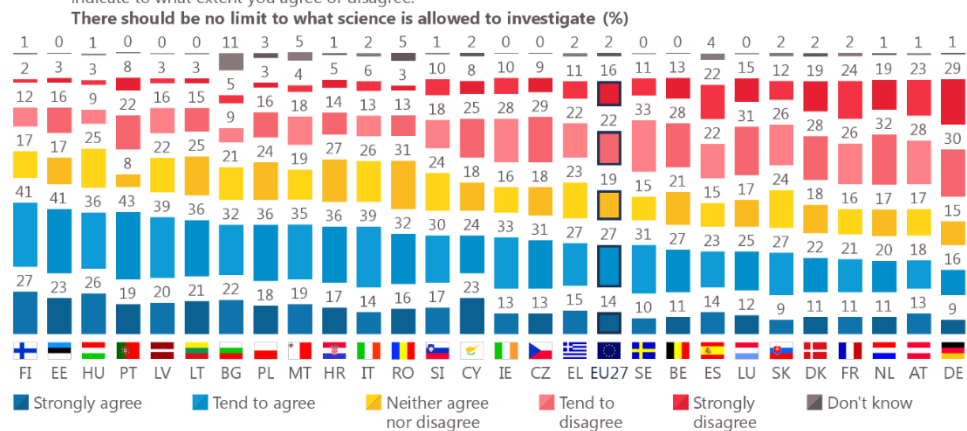
There are seven Member States where at least one in five respondents totally agree, with the highest proportions in Finland (27%), Hungary (26%) and Cyprus (23%).

Across the non-EU countries studied, agreement levels range from 74% in Turkey to 20% in Albania. Disagreement is the majority position in Albania, Switzerland and Iceland, while in Serbia opinion is divided (36% agree, 36% disagree).

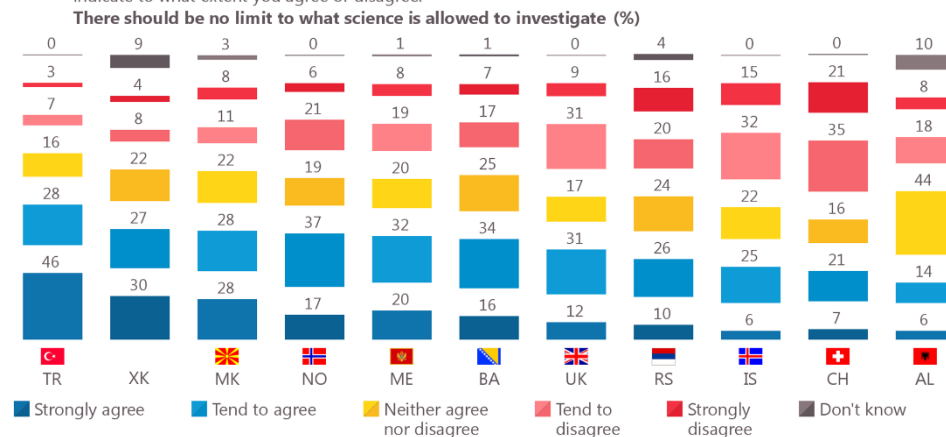
**QA9.8** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
**There should be no limit to what science is allowed to investigate (% - EU27)**



**QA9.8** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.8** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

Compared to 2010, respondents in 20 Member States are now more likely to agree there should be no limit to what science is allowed to investigate, with the largest increases in Finland (+39 pp), Portugal (+25 pp) and Malta and Poland (+18 pp each). In Ireland, Greece, Cyprus, Poland and Finland agreement has gone from being the minority position in 2010, to the majority position in 2021.

The proportion of respondents who 'strongly agree' with this statement has increased most in Finland (+20 pp) and Cyprus (+10 pp) and has declined most in Latvia (-12 pp).

Outside the EU, respondents in Norway (+23 pp) and Turkey (+21 pp) are now much more likely to agree, while those in Switzerland (-6 pp) are slightly less likely to do so.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA9.8 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

**There should be no limit to what science is allowed to investigate (%)**

		Strongly agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Strongly disagree		Don't know	Total 'Agree'		Total 'Disagree'	
		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		
EU27		14	▲ 3	27	▲ 3	19	▲ 1	22	▼ 6	16	=	2	41	▲ 6	38	▼ 6
FI		27	▲ 20	41	▲ 19	17	▲ 4	12	▼ 27	2	▼ 16	1	68	▲ 39	14	▼ 43
PT		19	▲ 9	43	▲ 16	8	▼ 15	22	▲ 1	8	▼ 2	0	62	▲ 25	30	▼ 1
MT		19	▲ 5	35	▲ 13	19	▲ 4	18	▼ 4	4	▼ 8	5	54	▲ 18	22	▼ 12
PL		18	▲ 6	36	▲ 12	24	▲ 6	16	▼ 14	3	▼ 8	3	54	▲ 18	19	▼ 22
CY		23	▲ 10	24	▲ 7	18	▼ 4	25	▲ 3	8	▼ 11	2	47	▲ 17	33	▼ 8
IE		13	▲ 5	33	▲ 9	16	▼ 4	28	▲ 3	10	▼ 2	0	46	▲ 14	38	▲ 1
RO		16	▲ 5	32	▲ 9	31	▲ 7	13	▼ 6	3	▼ 9	5	48	▲ 14	16	▼ 15
IT		14	▲ 4	39	▲ 9	26	▼ 1	13	▼ 9	6	▼ 2	2	53	▲ 13	19	▼ 11
LT		21	▲ 3	36	▲ 10	25	▲ 11	15	▼ 14	3	▼ 5	0	57	▲ 13	18	▼ 19
HR		17	▼ 2	36	▲ 13	27	▲ 6	14	▼ 8	5	▼ 6	1	53	▲ 11	19	▼ 14
HU		26	▲ 9	36	=	25	=	9	▼ 5	3	▼ 3	1	62	▲ 9	12	▼ 8
SE		10	▼ 2	31	▲ 11	15	▲ 5	33	▼ 1	11	▼ 11	0	41	▲ 9	44	▼ 12
EL		15	▲ 3	27	▲ 4	23	▲ 3	22	▼ 6	11	▼ 5	2	42	▲ 7	33	▼ 11
BG		22	▲ 3	32	▲ 2	21	▼ 3	9	▼ 2	5	▼ 1	11	54	▲ 5	14	▼ 3
EE		23	▼ 4	41	▲ 9	17	▲ 7	16	▼ 6	3	▼ 2	0	64	▲ 5	19	▼ 8
DE		9	▲ 1	16	▲ 3	15	=	30	▼ 3	29	▼ 1	1	25	▲ 4	59	▼ 4
LU		12	▲ 4	25	▼ 1	17	▼ 3	31	▲ 4	15	▼ 2	0	37	▲ 3	46	▲ 2
SK		9	▲ 3	27	=	24	▲ 1	26	▼ 2	12	▼ 3	2	36	▲ 3	38	▼ 5
ES		14	▲ 2	23	=	15	=	22	▼ 5	22	▲ 4	4	37	▲ 2	44	▼ 1
NL		11	=	20	▲ 2	17	▲ 3	32	▼ 5	19	=	1	31	▲ 2	51	▼ 5
DK		11	▼ 3	22	▲ 3	18	▲ 7	28	▼ 8	19	=	2	33	=	47	▼ 8
BE		11	▼ 3	27	▲ 1	21	▲ 1	28	▼ 1	13	▲ 2	0	38	▼ 2	41	▲ 1
SI		17	▼ 1	30	▼ 2	24	▲ 6	18	=	10	▼ 1	1	47	▼ 3	28	▼ 1
AT		13	▲ 4	18	▼ 8	17	▼ 6	28	▲ 4	23	▲ 6	1	31	▼ 4	51	▲ 10
FR		11	▼ 2	21	▼ 4	16	▲ 3	26	▼ 3	24	▲ 6	2	32	▼ 6	50	▲ 3
CZ		13	▼ 2	31	▼ 5	18	▼ 9	29	▲ 12	9	▲ 4	0	44	▼ 7	38	▲ 16
LV		20	▼ 12	39	=	22	▲ 9	16	▲ 5	3	=	0	59	▼ 12	19	▲ 5
TR		46	▲ 15	28	▲ 6	16	▼ 3	7	▼ 4	3	▼ 5	0	74	▲ 21	10	▼ 9
MK		28	N/A	28	N/A	22	N/A	11	N/A	8	N/A	3	56	N/A	19	N/A
AL		6	N/A	14	N/A	44	N/A	18	N/A	8	N/A	10	20	N/A	26	N/A
ME		20	N/A	32	N/A	20	N/A	19	N/A	8	N/A	1	52	N/A	27	N/A
RS		10	N/A	26	N/A	24	N/A	20	N/A	16	N/A	4	36	N/A	36	N/A
NO		17	▲ 5	37	▲ 18	19	▲ 12	21	▼ 8	6	▼ 26	0	54	▲ 23	27	▼ 34
UK		12	▼ 1	31	▲ 6	17	▲ 4	31	▲ 1	9	▼ 7	0	43	▲ 5	40	▼ 6
IS		6	▼ 5	25	▲ 3	22	▲ 11	32	▼ 6	15	▼ 3	0	31	▼ 2	47	▼ 9
CH		7	▼ 5	21	▼ 1	16	▲ 5	35	▲ 5	21	▲ 3	0	28	▼ 6	56	▲ 2
XK		30	N/A	27	N/A	22	N/A	8	N/A	4	N/A	9	57	N/A	12	N/A
BA		16	N/A	34	N/A	25	N/A	17	N/A	7	N/A	1	50	N/A	24	N/A

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis illustrates that men are more likely than women to agree there should be no limit to what science is allowed to investigate (43% vs 38%).

In addition, the younger the respondent, the more likely they are to agree: 46% of 15–24-year-olds do so, compared to 37% of those aged 55 and older.

Respondents who completed education aged 15 or younger (34%) are less likely to agree than those who completed aged 16 or above and the same pattern applies comparing those who live in towns with those living in rural villages. Students and other white-collar workers (both 46%) are the most likely to agree, compared to retired persons (35%).

Not surprisingly, those who think the influence of science and technology is positive are more likely to agree than those who think the influence is negative (42% vs 32%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA9.8** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
**There should be no limit to what science is allowed to investigate** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	14	27	19	22	16	2	41	38
<b>Gender</b>								
Man	15	28	19	21	15	2	43	36
Woman	12	26	20	24	16	2	38	40
<b>Age</b>								
15-24	17	29	18	22	12	2	46	34
25-39	14	29	19	22	15	1	43	37
40-54	13	28	18	23	17	1	41	40
55+	12	25	20	23	17	3	37	40
<b>Education (end of)</b>								
15-	11	23	22	22	16	6	34	38
16-19	13	29	21	21	14	2	42	35
20+	13	26	17	25	18	1	39	43
Still studying	17	29	17	22	13	2	46	35
<b>Socio-professional category</b>								
Self-employed	14	28	19	19	18	2	42	37
Managers	12	26	16	26	19	1	38	45
Other white collars	15	31	20	20	13	1	46	33
Manual workers	14	29	20	21	15	1	43	36
House persons	11	25	22	23	16	3	36	39
Unemployed	13	29	19	23	15	1	42	38
Retired	12	23	21	24	16	4	35	40
Students	17	29	17	22	13	2	46	35
<b>Difficulties paying bills</b>								
Most of the time	13	25	19	23	17	3	38	40
From time to time	14	31	23	18	11	3	45	29
Almost never/ Never	13	26	18	24	17	2	39	41
<b>Subjective urbanisation</b>								
Rural village	12	25	19	23	18	3	37	41
Small/ mid size town	14	28	19	22	15	2	42	37
Large town	14	29	19	22	14	2	43	36
<b>Use of the Internet</b>								
Everyday	14	28	18	23	16	1	42	39
Often/ Sometimes	11	25	23	23	16	2	36	39
Never	10	24	26	19	13	8	34	32
<b>Left-right political scale</b>								
Left	13	27	17	24	18	1	40	42
Centre	13	26	20	23	16	2	39	39
Right	15	31	20	21	11	2	46	32
<b>Medical discoveries</b>								
Interested	17	25	16	23	18	1	42	41
Moderately interested	11	28	22	23	14	2	39	37
Not interested	12	29	22	18	14	5	41	32
<b>Scientific discoveries</b>								
Interested	18	26	15	23	17	1	44	40
Moderately interested	11	28	20	24	15	2	39	39
Not interested	11	26	25	19	14	5	37	33
<b>Environmental problems</b>								
Interested	14	24	15	26	20	1	38	46
Moderately interested	12	30	22	21	13	2	42	34
Not interested	14	25	25	17	13	6	39	30
<b>Influence of science and technology</b>								
Positive	14	28	19	23	15	1	42	38
Negative	9	23	22	23	21	2	32	44
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	12	30	25	15	12	6	42	27
Between 5 and 8 correct answers	14	28	20	22	15	1	42	37
More than 8 correct answers	12	24	14	29	20	1	36	49
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	14	26	16	24	18	2	40	42
Total 'Neither spiritual or religious nor not spiritual or religious'	13	28	22	22	13	2	41	35
Total 'Quite or very spiritual or religious'	13	27	19	21	16	4	40	37
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	16	24	16	27	17	0	40	44
A family member does or did in the past	14	25	15	24	21	1	39	45
Both you and a family member do or did in the past	14	17	20	30	19	0	31	49
No	13	28	20	22	15	2	41	37

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were asked which of the following two statements came closest to their point of view:

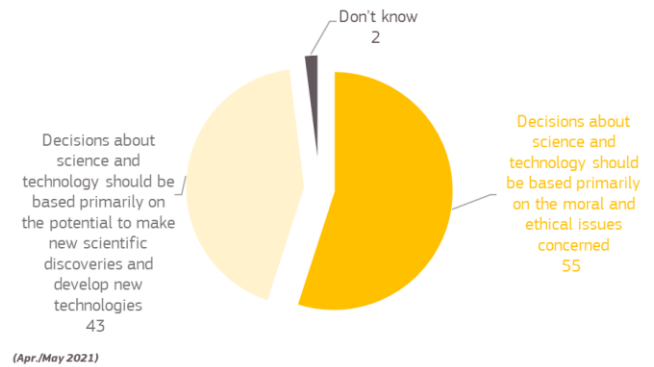
- “Decisions about science and technology should be based primarily on the moral and ethical issues concerned”;
- “Decisions about science and technology should be based primarily on the potential to make new scientific discoveries and develop new technologies”.

Respondents are more likely to agree decisions about science and technology should be based primarily on the moral and ethical issues concerned (55%) than to say these decisions should be based primarily on the potential to make new scientific discoveries and develop new technologies (43%). Just 2% say they don't know.

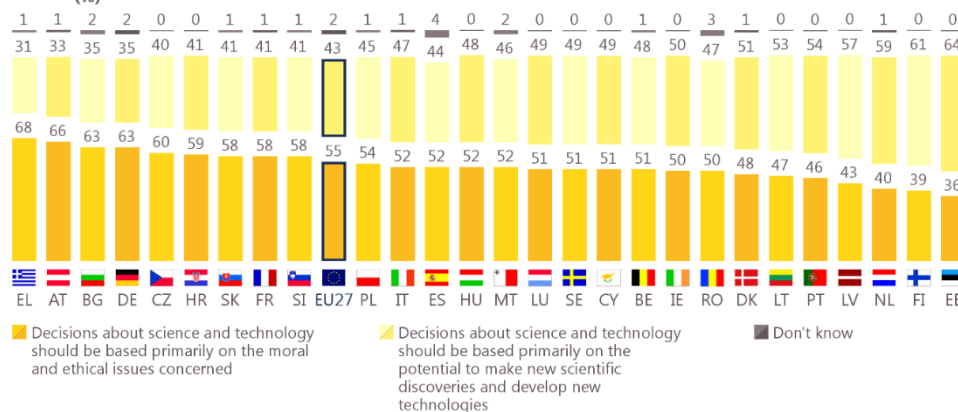
In 19 countries, a majority of respondents say decisions about science and technology should be based primarily on the moral and ethical issues concerned, with the highest proportions seen in Greece (68%), Austria (66%), Bulgaria and Germany (both 63%). In seven countries the most common view is that decisions about science and technology should be based primarily on the potential to make new scientific discoveries and develop new technologies, with the highest proportions in Estonia (64%), Finland (61%) and the Netherlands (59%). Opinion in Ireland is evenly divided.

In all but three countries outside the EU, the most common view is that decisions about science and technology should be based primarily on the moral and ethical issues concerned. Iceland, Turkey and Kosovo are the only country where respondents are more likely to think these decisions should be based primarily on the potential to make new scientific discoveries and develop new technologies.

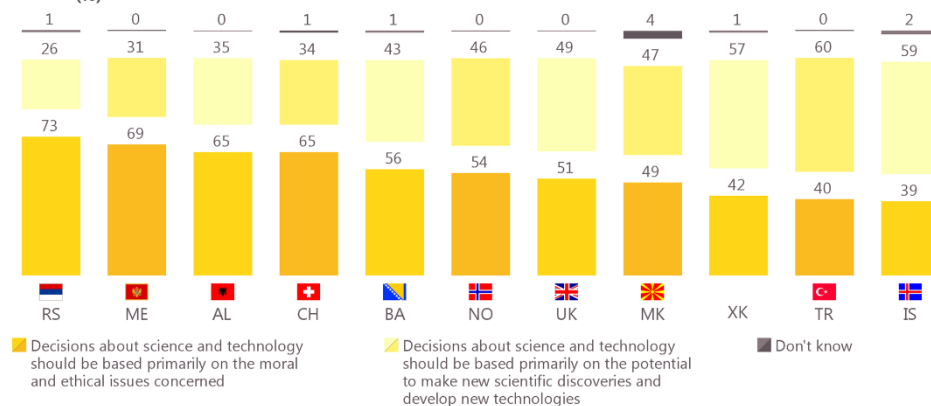
**QA13C** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU 27)



**QA13c** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13c** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows that both men and women are more likely to favour decisions based primarily on the moral and ethical issues concerned, but the preference for this view is much stronger amongst women (57% vs 41%).

In addition, the youngest age group is the only one where opinion is divided (49% vs 50%), with respondents aged 25 and older being much more likely to prefer decisions to be made based primarily on the moral and ethical issues concerned.

The analysis also shows that across all education levels there is a preference for decisions based primarily on the moral and ethical issues concerned, but the skew is strongest amongst those who finished education aged 15 or younger (59% vs 37%).

The analysis also shows that respondents who place themselves on the left of the political scale are more likely to say decisions should primarily be based on ethics and morals than those who place themselves on the right (59% vs 50% respectively).

Likewise, those who describe themselves as 'quite or very spiritual or religious' are more likely to favour decisions being based on the moral and ethical issues concerned than those who describe themselves as 'not very or not spiritual or religious' (61% vs 51% respectively).

Respondents who think the influence of science and technology is negative are more strongly skewed towards decisions based primarily on the moral and ethical issues concerned (60% vs 39%) than those who think the influence is positive (55% vs 44%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA13C** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

	Decisions about science and technology should be based primarily on the moral and ethical issues concerned	Decisions about science and technology should be based primarily on the potential to make new scientific discoveries and develop new technologies	Don't know
EU27	55	43	2
<b>Gender</b>			
Man	53	46	1
Woman	57	41	2
<b>Age</b>			
15-24	49	50	1
25-39	55	44	1
40-54	54	45	1
55+	58	40	2
<b>Education (end of)</b>			
15-	59	37	4
16-19	56	43	1
20+	55	44	1
Still studying	50	49	1
<b>Socio-professional category</b>			
Self-employed	52	47	1
Managers	56	43	1
Other white collars	53	47	0
Manual workers	55	44	1
House persons	56	41	3
Unemployed	57	41	2
Retired	59	38	3
Students	50	49	1
<b>Difficulties paying bills</b>			
Most of the time	58	38	4
From time to time	56	43	1
Almost never/ Never	55	44	1
<b>Left-right political scale</b>			
Left	59	40	1
Centre	55	43	2
Right	50	49	1
<b>Medical discoveries</b>			
Interested	54	45	1
Moderately interested	56	43	1
Not interested	56	41	3
<b>Scientific discoveries</b>			
Interested	51	48	1
Moderately interested	56	43	1
Not interested	59	37	4
<b>Environmental problems</b>			
Interested	58	41	1
Moderately interested	54	45	1
Not interested	53	43	4
<b>Influence of science and technology</b>			
Positive	55	44	1
Negative	60	39	1
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	55	41	4
Between 5 and 8 correct answers	55	44	1
More than 8 correct answers	56	43	1
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	51	48	1
Total 'Neither spiritual or religious nor not spiritual or religious'	56	43	1
Total 'Quite or very spiritual or religious'	61	37	2
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	50	48	2
A family member does or did in the past	53	46	1
Both you and a family member do or did in the past	56	43	1
No	56	43	1

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

**2. Public access to research results**

Respondents were asked the extent to which they agreed or disagreed that “The results of publicly funded research should be made available online free of charge”.

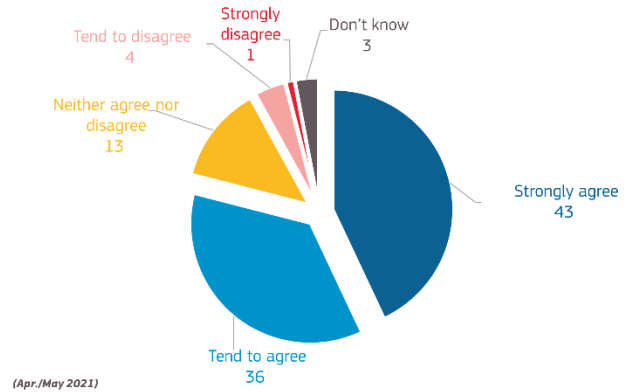
A large majority (79%) agree, with 43% saying they ‘strongly agree’. Just 5% disagree, while 13% are neutral.

At a country level more than six in ten respondents in every Member State agree that the results of publicly funded research should be freely available online. Proportions range from 96% of respondents in Portugal, 93% in Ireland and 91% in Czechia to 62% in Romania, 65% in Bulgaria, and 68% in Hungary. In 12 countries more than half of all respondents ‘strongly agree’, with the largest proportions in Cyprus (69%), Portugal (68%), Ireland (58%), Ireland and Sweden (both 58%).

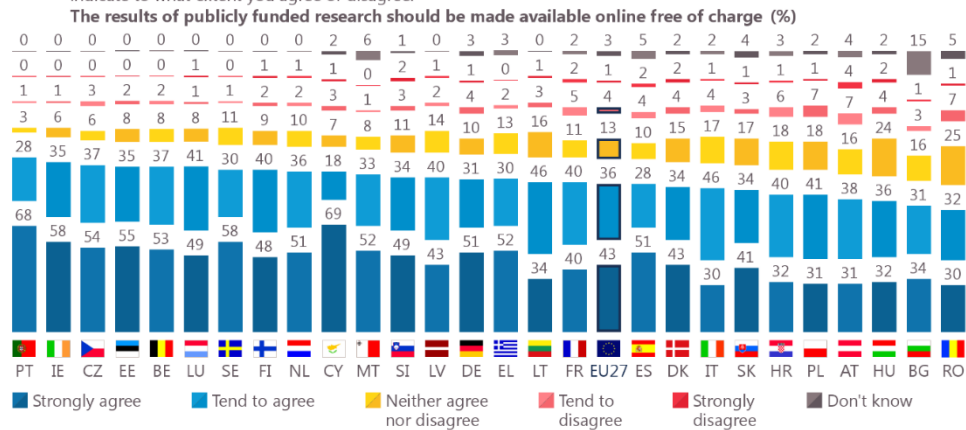
Austria is the only country where at least one in ten respondents disagree (11%), while the highest proportions of neutral respondents (neither agree nor disagree) are observed in Romania (25%) and Hungary (16%).

In all but one non-EU country more than six in ten respondents agree, with the highest proportions in the United Kingdom and Turkey (both 90%). The exception is Albania, where just 30% agree. However, in each country respondents are more likely to agree than to disagree.

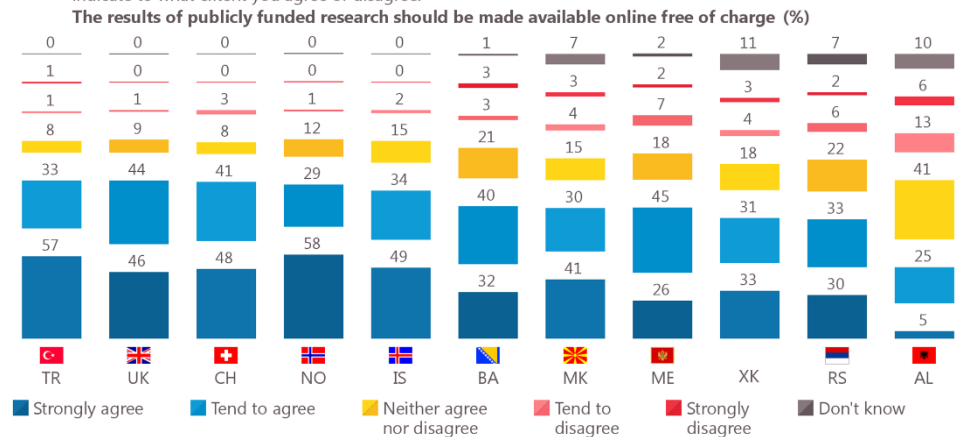
**QA9.5** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree. **Artificial intelligence and automation will create more jobs than they will eliminate (% - EU27)**



**QA9.5** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.5** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows men agreeing with the statement slightly more than women.

In addition:

Those aged 15-54 are more likely to agree than those aged 55 and older. For example, 83% of 15-24-year-olds agree, compared to 73% of those aged 55 and over.

The longer a respondent remained in education, the more likely they are to agree: 85% who completed education aged 20 and older agree, compared to 62% of those aged 15 or younger.

The analysis also shows managers (87%) are the most likely to agree, particularly compared to housepersons and retired persons (both 71%). Respondents who experience the fewest financial difficulties (81%) are more likely to agree than those who experiences difficulties from time to time or most of the time (73% and 74% respectively).

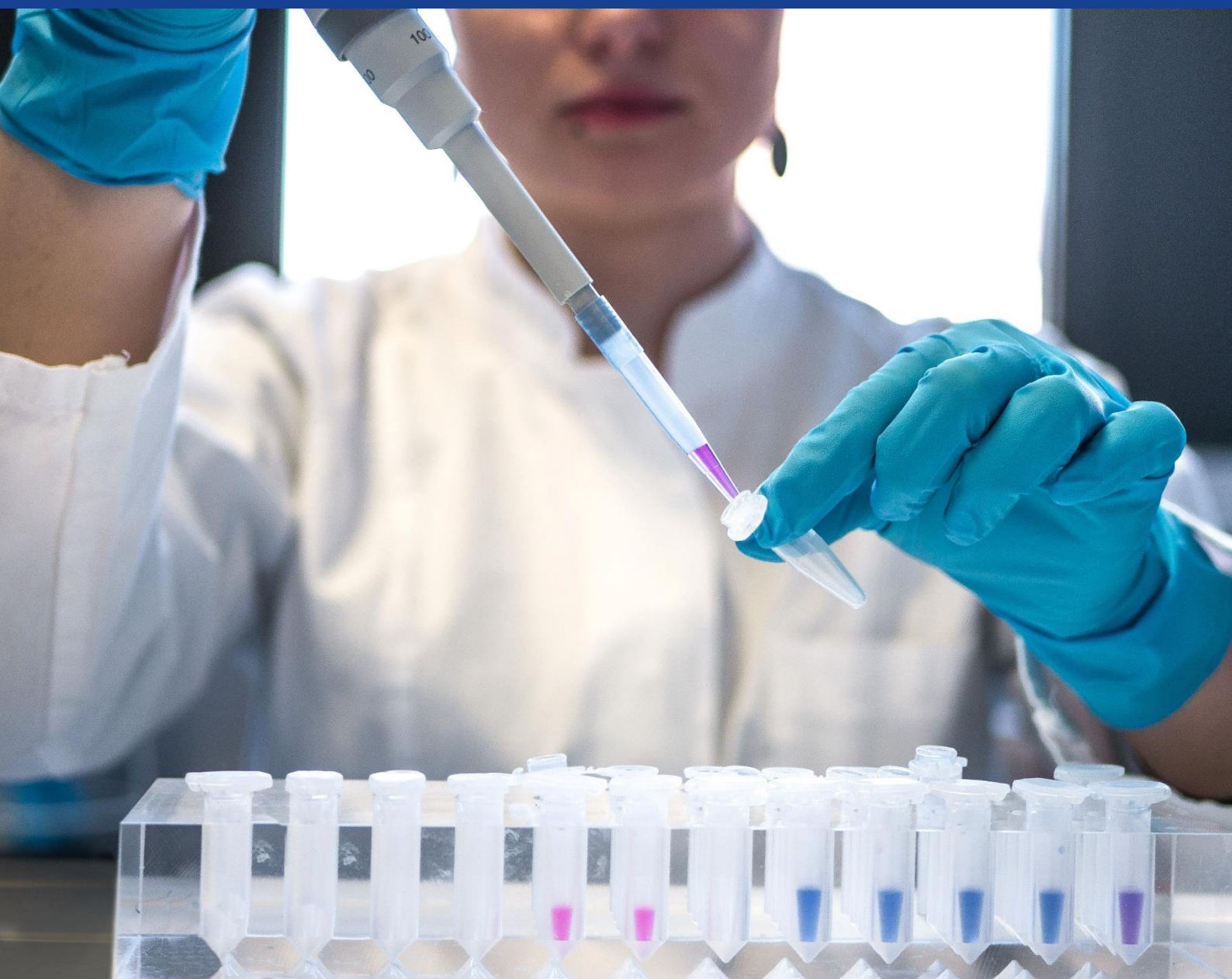
Finally, the analysis shows respondents who think the influence of science and technology is positive are much more likely to agree that the results of publicly funded research should be made available online free of charge than those who think the influence is negative (82% vs 64%).

**QA9.5** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree. **The results of publicly funded research should be made available online free of charge** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	43	36	13	4	1	3	79	5
<b>Gender</b>								
Man	45	36	12	3	2	2	81	5
Woman	41	36	14	5	1	3	77	6
<b>Age</b>								
15-24	47	36	11	3	1	2	83	4
25-39	48	36	11	3	1	1	84	4
40-54	45	37	12	4	1	1	82	5
55+	38	35	15	5	2	5	73	7
<b>Education (end of)</b>								
15-	27	35	20	7	2	9	62	9
16-19	38	39	15	5	1	2	77	6
20+	51	34	9	4	1	1	85	5
Still studying	51	35	9	2	1	2	86	3
<b>Socio-professional category</b>								
Self-employed	45	37	12	3	2	1	82	5
Managers	53	34	8	3	1	1	87	4
Other white collars	44	39	12	3	1	1	83	4
Manual workers	40	38	14	4	2	2	78	6
House persons	33	38	17	5	2	5	71	7
Unemployed	47	33	13	4	2	1	80	6
Retired	36	35	16	6	2	5	71	8
Students	51	35	9	2	1	2	86	3
<b>Difficulties paying bills</b>								
Most of the time	44	30	15	5	2	4	74	7
From time to time	36	37	17	5	2	3	73	7
Almost never/ Never	45	36	12	4	1	2	81	5
<b>Use of the Internet</b>								
Everyday	47	36	11	4	1	1	83	5
Often/Sometimes	27	42	20	6	2	3	69	8
Never	19	32	24	8	4	13	51	12
<b>Left-right political scale</b>								
Left	48	34	11	3	2	2	82	5
Centre	42	38	13	4	1	2	80	5
Right	39	37	15	5	2	2	76	7
<b>Medical discoveries</b>								
Interested	55	31	8	4	1	1	86	5
Moderately interested	38	40	15	4	1	2	78	5
Not interested	27	37	20	6	3	7	64	9
<b>Scientific discoveries</b>								
Interested	58	30	7	3	1	1	88	4
Moderately interested	40	39	14	4	1	2	79	5
Not interested	23	38	21	6	3	9	61	9
<b>Environmental problems</b>								
Interested	56	31	7	4	1	1	87	5
Moderately interested	36	42	15	4	1	2	78	5
Not interested	25	32	23	8	3	9	57	11
<b>Influence of science and technology</b>								
Positive	45	37	12	3	1	2	82	4
Negative	34	30	19	9	4	4	64	13
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	28	36	20	6	3	7	64	9
Between 5 and 8 correct answers	43	37	13	4	1	2	80	5
More than 8 correct answers	55	34	6	3	1	1	89	4
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	49	35	10	3	1	2	84	4
Total 'Neither spiritual or religious nor not spiritual or religious'	41	37	14	5	1	2	78	6
Total 'Quite or very spiritual or religious'	38	35	16	4	2	5	73	6
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	54	29	12	5	0	0	83	5
A family member does or did in the past	57	29	7	5	1	1	86	6
Both you and a family member do or did in the past	69	23	5	3	0	0	92	3
No	40	38	14	4	1	3	78	5



## IV. VIEWS OF SCIENTISTS



## 1. Characteristics of scientists

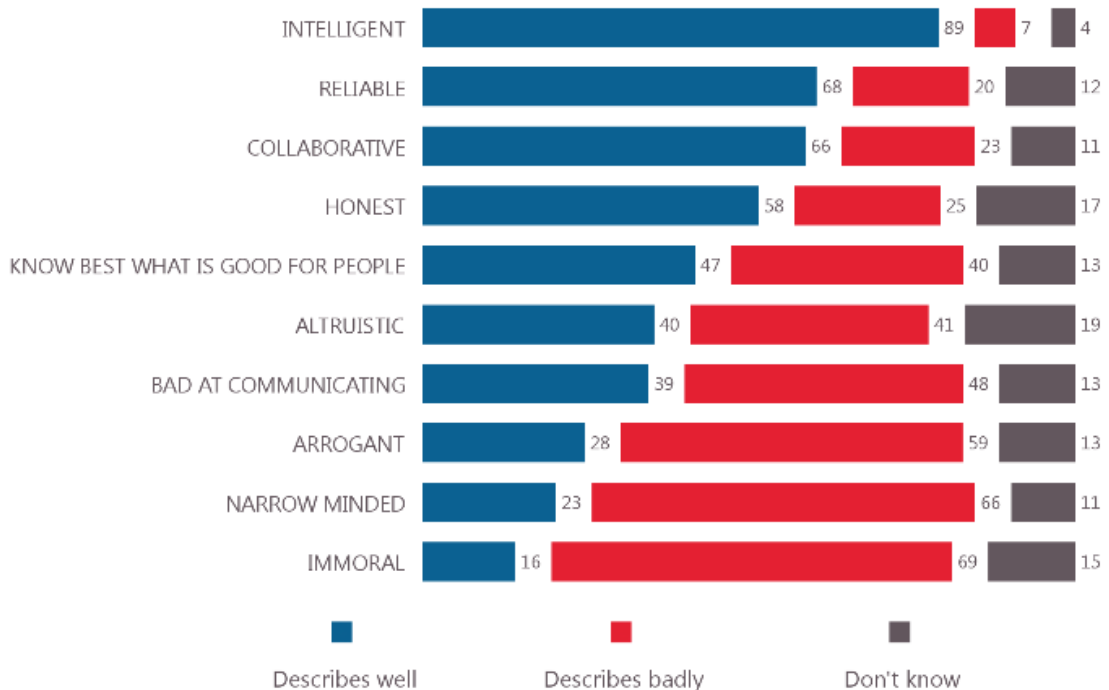
This section examines public perceptions of scientists' characteristics as well as the qualities that citizens think scientists should have.

### 1.1 Characteristics attributed to scientists

Presented with 10 words or phrases describing characteristics that scientists could have, Europeans are more likely to associate scientists with positive characteristics than negative ones. The characteristic most frequently associated with scientists is 'intelligent' (89% say this describes scientists well). More than half of respondents say that 'reliable' (68%), 'collaborative' (66%) and 'honest' (58%) are characteristics that describe scientists well. The positive characteristics that are less frequently associated with scientists are 'know best what is good for people' (47%) and 'altruistic' (40%). 'Altruistic' is the only positive characteristic where respondents are more likely to say this describes scientists 'badly' than to say it describes them well' (41% vs 40%).

The negative characteristics most commonly associated with scientists is 'bad at communicating' (39% say this describes scientists well), followed by arrogant (28%), narrow minded (23%), and immoral (16%). In each case, respondents are more likely to say the negative characteristic describes scientists 'badly' than say it describes them 'well'.

**QA12a** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly (% - EU27)



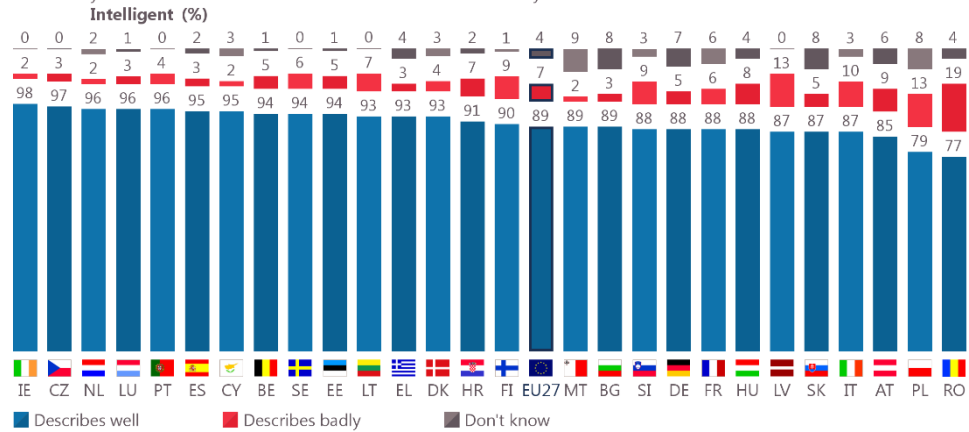
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

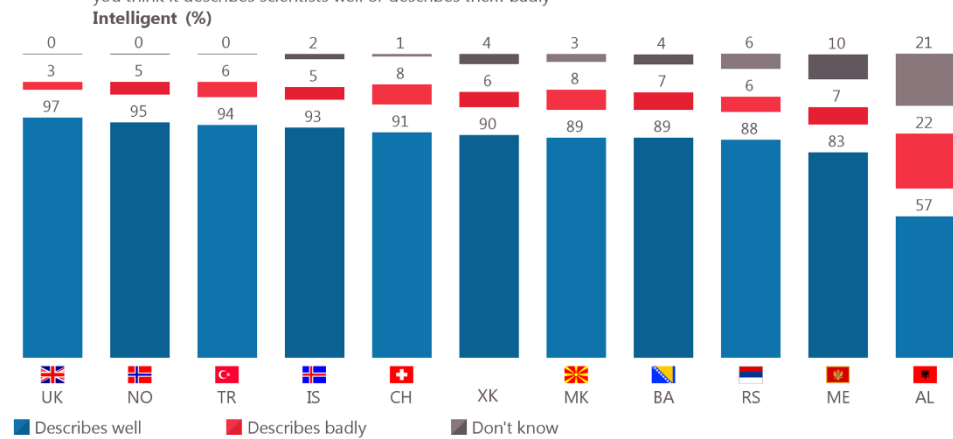
More than three-quarters of respondents in every EU Member State say that intelligent describes scientists well. Almost all respondents give this answer in Ireland (98%), Czechia (97%), the Netherlands, Luxembourg and Portugal (all 96%). The lowest proportions are found in Romania (77%) and Poland (79%), and these countries also have the highest proportions of respondents who say 'intelligent' describes scientists badly (Romania 19%, Poland 13%), along with Latvia (also 13%). In all other Member States, no more than one in ten respondents say that 'intelligent' describes scientists badly.

Looking at the non-EU countries surveyed, respondents in Albania (57%) are much less likely to say that 'intelligent' describes scientists well, particularly when compared with the UK (97%).

**QA12a.9** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.9** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

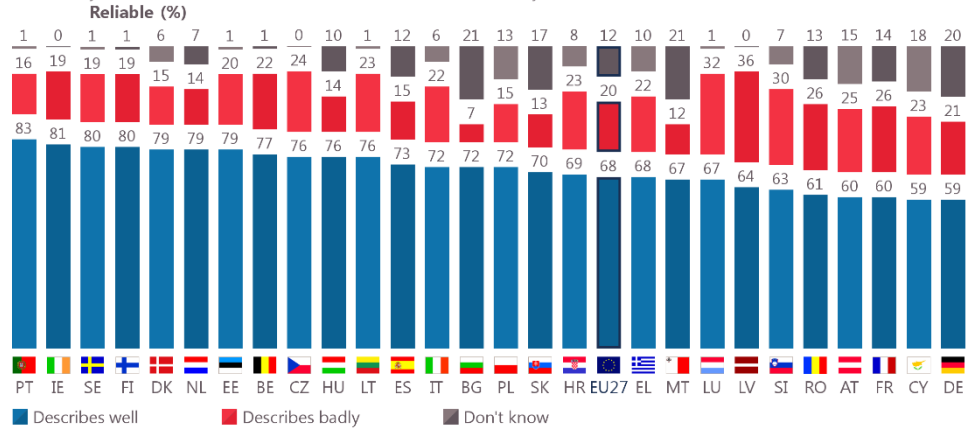
In all 27 EU Member States, more than half of respondents think that 'reliable' describes scientists well. Respondents are most likely to say this in Portugal (83%), Ireland (81%), Sweden and Finland (both 80%), while the proportion is lowest in Germany and Cyprus (both 59%), and Austria and France (both 60%).

Respondents in Latvia (36%) are most likely to say that 'reliable' describes scientists badly, followed by those in Luxembourg (32%) and Slovenia (30%).

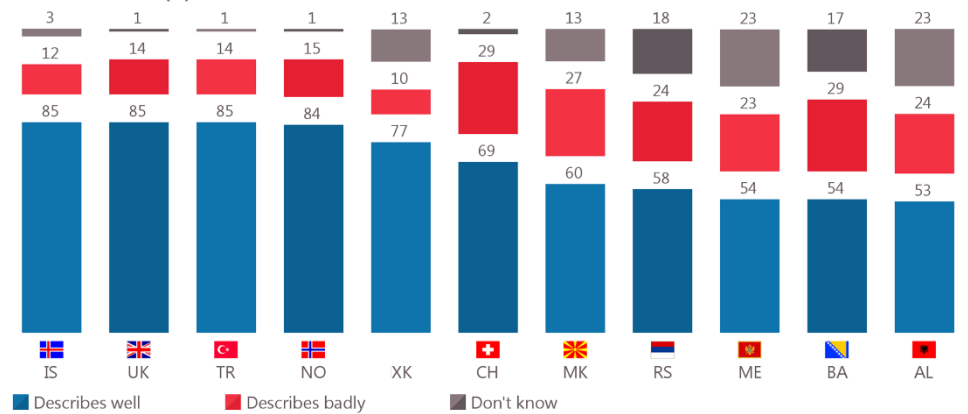
The proportion that 'don't know' varies considerably across Member States. In some countries, hardly any respondents say they 'don't know', but it accounts for around a fifth of respondents in Malta and Bulgaria (both 21%) and Germany (20%).

Looking at the 11 other countries surveyed, respondents in the UK, Turkey and Iceland (all 85%) are most likely to say that 'reliable' describes scientists well, while those in Switzerland and Bosnia and Herzegovina (both 29%) are most likely to say it describes them badly.

**QA12a.1** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.1** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516

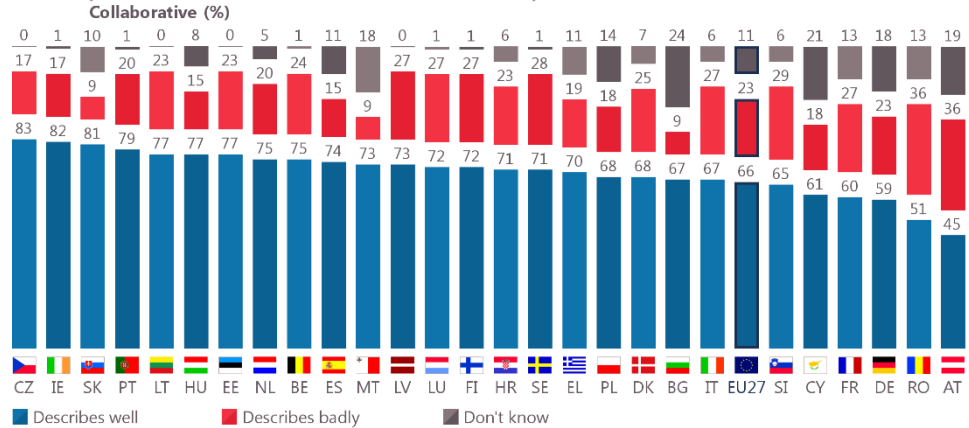
### European citizens' knowledge and attitudes towards science and technology

In most EU Member States, at least two-thirds of respondents say that collaborative describes scientists well. The proportion is highest in Czechia (83%), Ireland (82%), Slovakia (81%) and Portugal (79%). However, there are some Member States where respondents are less likely to describe scientists as 'collaborative'. In particular, only 45% of respondents in Austria and 51% in Romania say this describes scientists well, and 36% in both countries say that 'collaborative' describes scientists badly.

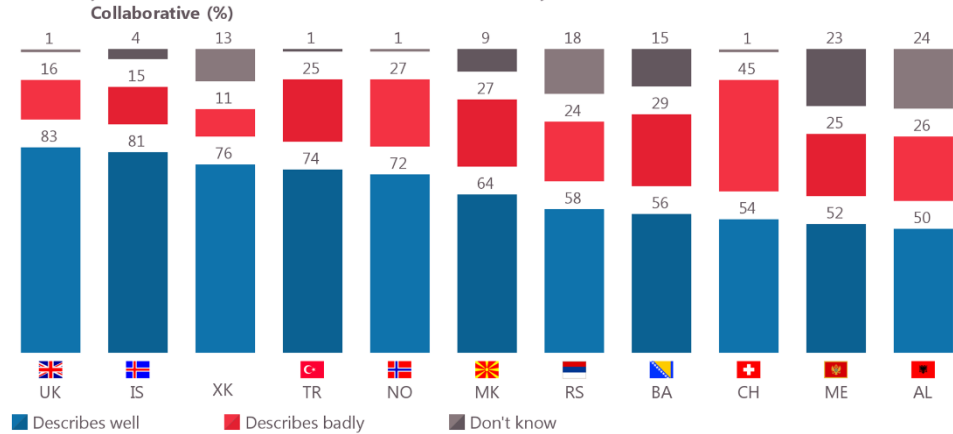
Once again, the proportions that give a 'don't know' answer vary by country, from 1% or less in several Member States to 24% in Bulgaria.

Looking at the 11 other countries surveyed, respondents in the UK (83%) are most likely to say that 'collaborative' describes scientists well, while those in Switzerland (45%) are most likely to say it describes them badly.

QA12a.2 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



QA12a.2 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

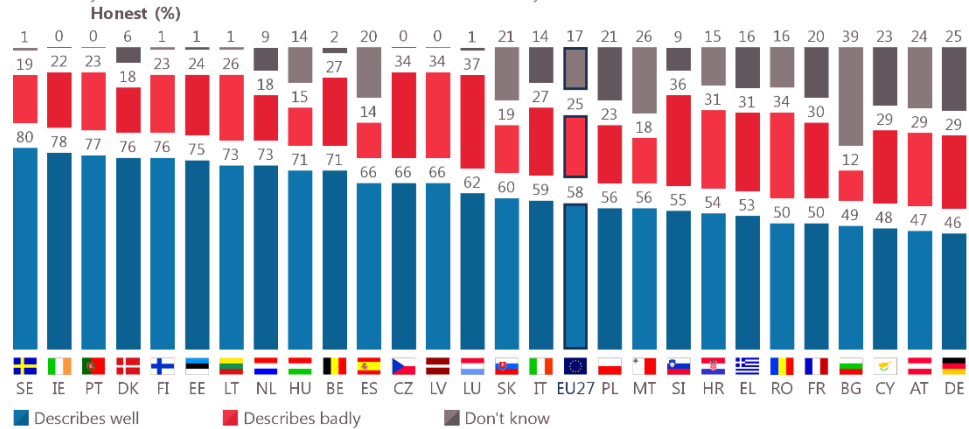
In six EU Member States, at least three-quarters of respondents think that 'honest' describes scientists well: Sweden (80%), Ireland (78%), Portugal (77%), Denmark and Finland (both 76%), and Estonia (75%). By contrast, less than half of respondents take this view in Germany (46%), Austria (47%), Cyprus (48%) and Bulgaria (49%).

Respondents are most likely to say that 'honest' describes scientists badly in Luxembourg (37%), Slovenia (27%), and Romania (26%).

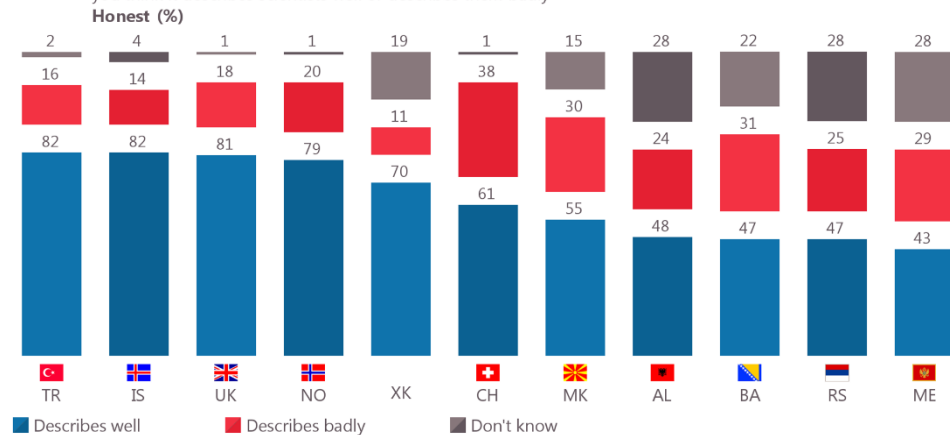
More than a third of respondents in Bulgaria (39%) say they 'don't know', and this also applies to around a quarter of respondents in Malta (26%), Germany (25%), Austria (24%) and Cyprus (23%). The proportion is much lower (1% or less) in several Member States.

Looking at the 11 other countries surveyed, respondents in Turkey and Iceland (both 82%) are the most likely to say that 'honest' describes scientists well, while those in Switzerland (38%) are most likely to say it describes them badly.

QA12a.5 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



QA12a.5 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

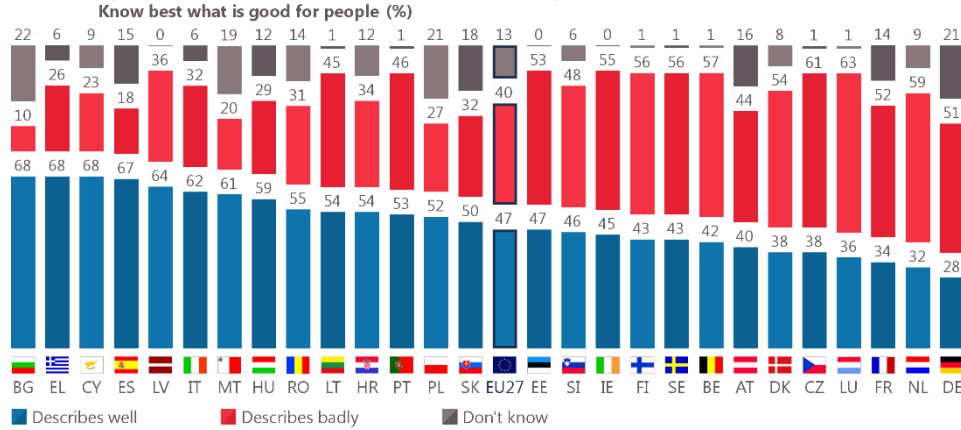
There is wide variation by Member State in the proportions that say 'know best what is good for people' describes scientists well.

It is the majority view in 15 countries, led by Bulgaria, Greece, Cyprus (all 68%) and Spain (67%). In the other 12 EU Member States, a majority thinks that this is a bad description of scientists; respondents are most likely to take this view in Luxembourg (63%), Czechia (61%) and the Netherlands (59%).

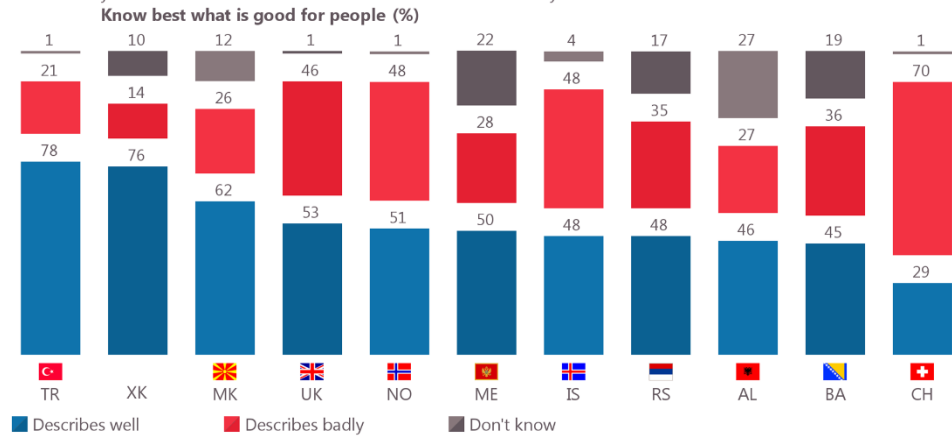
Around one in five respondents 'don't know' in Bulgaria (22%), Germany and Poland (both 21%), Malta (19%) and Slovakia (18%).

Looking at the 11 other countries surveyed, the proportion that say 'know best what is good for people' describes scientists well ranges from 78% in Turkey to 29% in Switzerland.

**QA12a.10** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.10** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

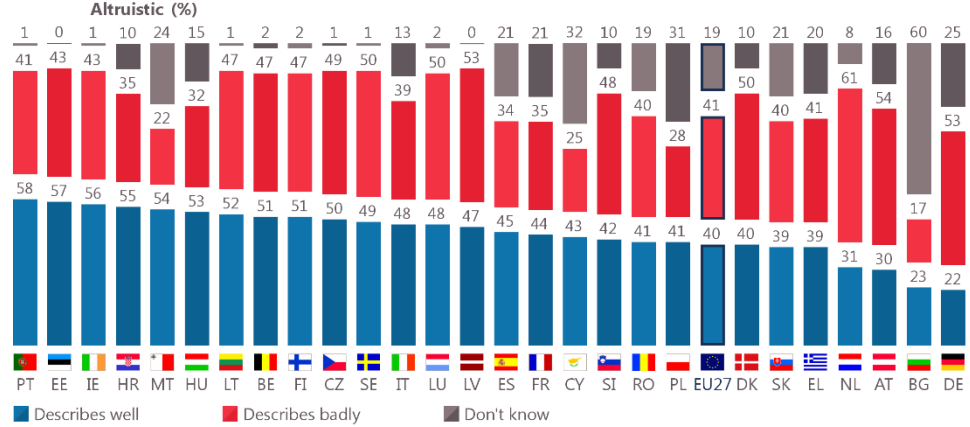
In 16 EU Member States, a majority of respondents say that 'altruistic' describes scientists well. The proportion is highest in Portugal (58%), Estonia (57%), Ireland (56%) and Croatia (55%).

In 10 Member States, the majority view is that 'altruistic' describes scientists badly. More than half of respondents take this view in the Netherlands (61%), Austria (54%), Latvia and Germany (53%).

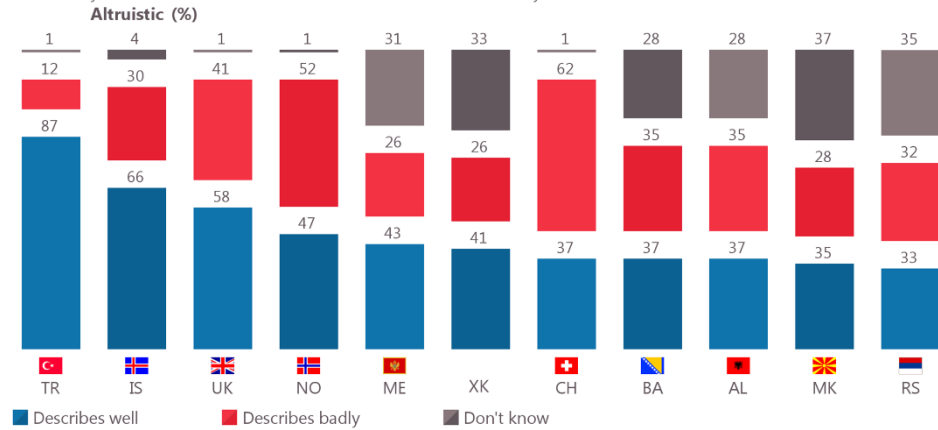
In Bulgaria, most respondents (60%) 'don't know', and the proportion of 'don't know' responses is also high in Cyprus (32%) and Poland (31%).

Looking at the 11 other countries surveyed, respondents in Turkey (87%) are most likely to say that 'altruistic' describes scientists well, while those in Switzerland (62%) are most likely to say it describes them badly.

**QA12a.7** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.7** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly





## Special Eurobarometer 516

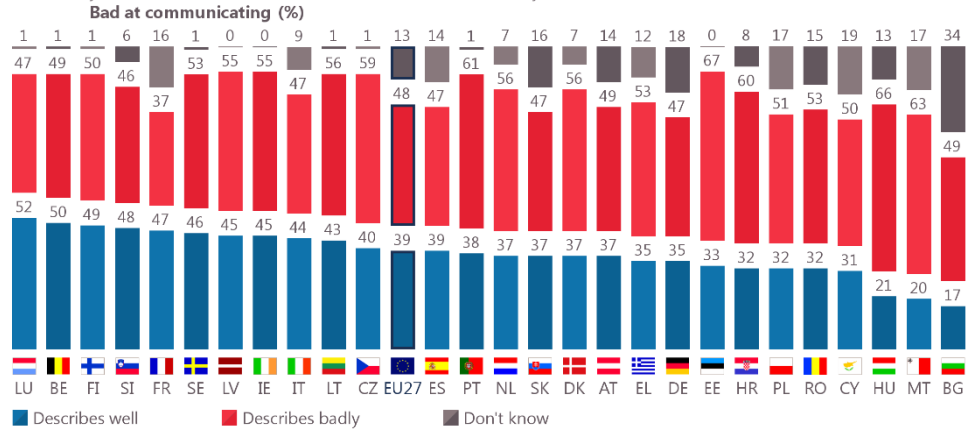
### European citizens' knowledge and attitudes towards science and technology

In four EU Member States, a majority of respondents say that 'bad at communicating' describes scientists well: Luxembourg (52%), Belgium (50%), Slovenia (48% well, 46% badly) and France (47% well, 37% badly). In the other 23 EU Member States, the prevailing view is that it describes scientists badly, and this view is held most strongly by respondents in Estonia (67%), Hungary (66%), Malta (63%), Portugal (61%) and Croatia (60%).

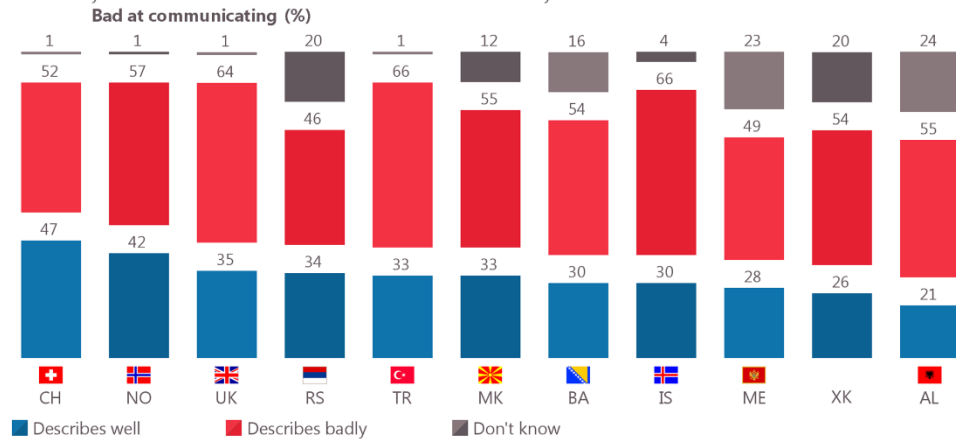
'Don't know' responses account for a third of respondents in Bulgaria (34%) but less than fifth in other Member States.

Looking at the 11 other countries surveyed, the proportion that say 'bad at communicating' describes scientists well ranges from 47% in Switzerland to 21% in Albania.

QA12a.4 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



QA12a.4 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

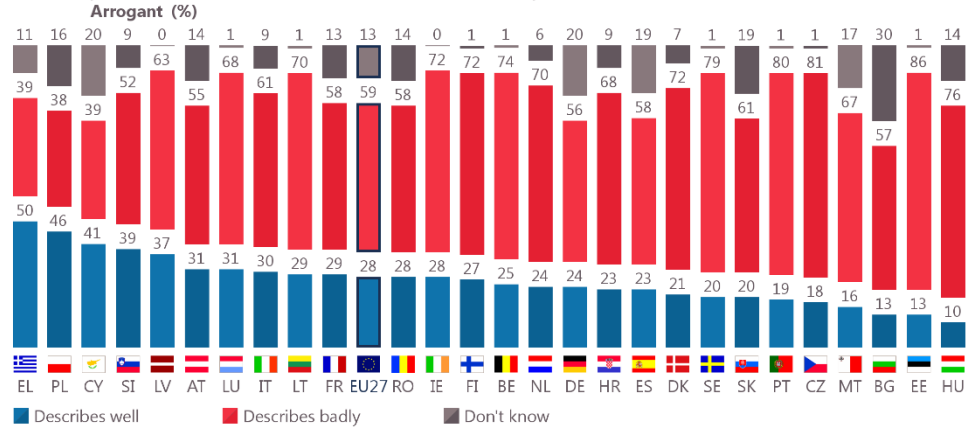
The proportion of respondents who describe scientists as 'arrogant' varies considerably by Member State, from 50% in Greece to 10% in Hungary. Overall, there are three countries where a majority think 'arrogant' describes scientists well: Greece (50%), Poland (46% well, 38% badly) and Cyprus (41% well, 39% badly).

In the remaining 24 Member States, a majority thinks that 'arrogant' is a bad description for scientists. The highest proportions are seen in Estonia (86%), Czechia (81%), Portugal (80%) and Sweden (79%).

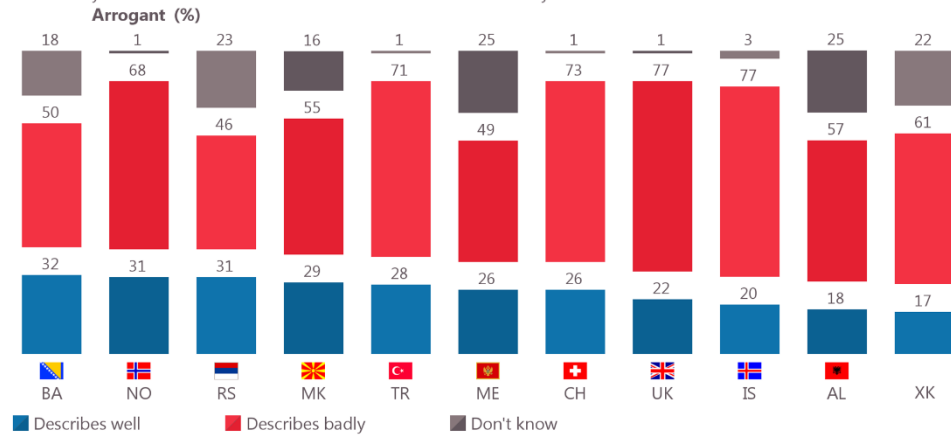
At least a fifth of respondents say they 'don't know' in Bulgaria (30%), and Cyprus and Germany (both 20%), while very few respondents give a 'don't know' answer in several Member States.

Looking at the 11 other countries surveyed, respondents in Bosnia and Herzegovina (32%) are the most likely to say that 'arrogant' describes scientists well, while those in the UK and Iceland (both 77%) are most likely to say it describes them badly.

**QA12a.6** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.6** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516

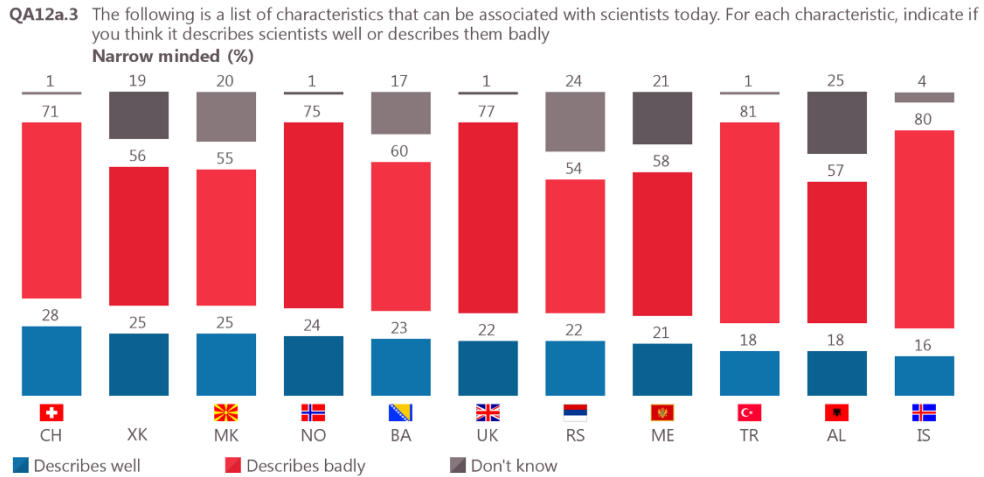
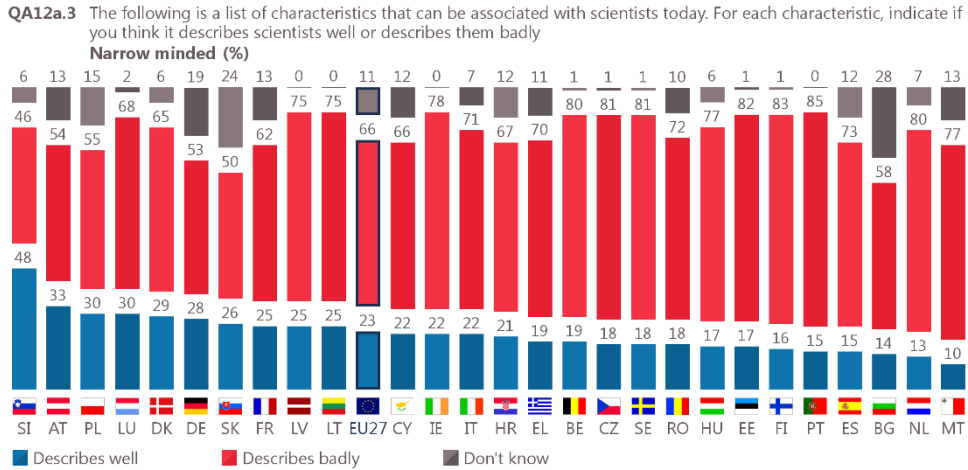
### European citizens' knowledge and attitudes towards science and technology

Respondents in Slovenia (48%) are by far the most likely to say that 'narrow minded' describes scientists well. In the other EU Member States no more than a third of respondents take this view, with the highest proportions in Austria (33%), and Poland and Luxembourg (both 30%). Respondents are least likely to think 'narrow minded' is a good description of scientists in Malta (10%), the Netherlands (13%) and Bulgaria (14%).

In every country except Slovenia, the majority of respondents think that 'narrow minded' describes scientists badly, led by those in Portugal (85%), Finland (83%) and Estonia (82%).

The proportion of 'don't know' answers varies by country, from 28% in Bulgaria to less than 1% in Latvia, Lithuania, Ireland and Portugal.

Looking at the 11 other countries surveyed, respondents in Switzerland (28%) are the most likely to say that 'narrow minded' describes scientists well, while those in Turkey (81%) are most likely to say it describes them badly.



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

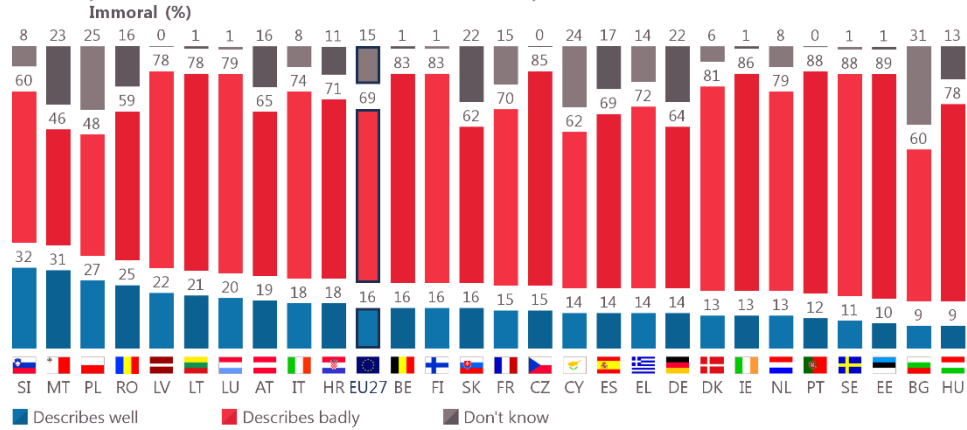
In every EU Member State, the majority view is that 'immoral' describes scientists badly, and more than eight in ten respondents hold this view in Estonia (89%), Portugal and Sweden (both 88%), Ireland (86%), Czechia (85%), Belgium and Finland (both 83%), and Denmark (81%).

Respondents are most likely to say that 'immoral' describes scientists well in Slovenia (32%), Malta (31%), Poland (27%) and Romania (25%).

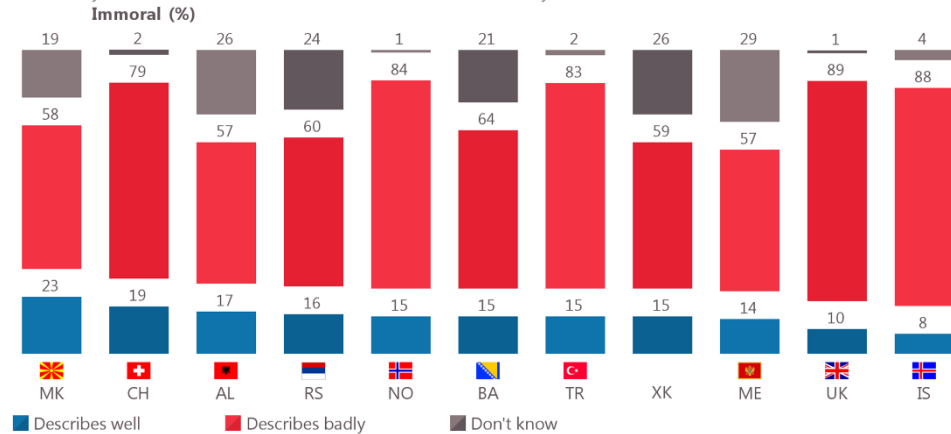
The proportion of 'don't know' responses ranges from 31% in Bulgaria to less than 1% in Latvia, Czechia and Portugal.

Looking at the 11 other countries surveyed, respondents in the Republic of North Macedonia (23%) are the most likely to say that 'immoral' describes scientists well, while respondents in Iceland are least likely to say this (8%).

**QA12a.8** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



**QA12a.8** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In the socio-demographic analysis, a few interesting patterns can be observed:

Younger respondents are more likely than older respondents to have a positive view of scientists (saying either that positive characteristics describe scientists well, or that negative ones describe them badly). For example, 74% of 15–24-year-olds say that 'collaborative' describes scientists well, compared with 62% of those aged 55 or over.

More highly educated respondents are also more likely to have a positive view of scientists. For example, 62% of those who left education at the age of 20 or above say that 'honest' describes scientists well, compared with 51% of those who left education at the age of 15 or younger.

Looking at the socio-professional groups, managers and students tend to have the most positive views of scientists, while manual workers, housepersons and retired respondents tend to be the most negative.

Respondents who have difficulties paying bills most of the time have a less positive perception of scientists, compared with respondents who rarely or never have difficulties. For example, 26% of those who have difficulties most of the time say that 'immoral' describes scientists well, compared with 14% of those who rarely or never have difficulties.

Attitudes also seem to be related to knowledge about science. For example, 79% of respondents who answered more than eight questions correctly say that 'reliable' describes scientists badly, compared with 58% of those who answered fewer than five questions correctly.

The views of respondents who have worked in research, science or innovative technology development are mostly similar to other respondents. However, perceptions tend to be more positive if both they and a family member have worked in one of these areas. Among these respondents, 98% say that 'intelligent' describes scientists well, compared with 89% of respondents overall.

These socio-demographic variations apply consistently across the various characteristics. The one exception to the general pattern is the characteristic 'know best what is good for people'. The proportion that thinks this describes scientists well is higher among groups such as those who left education earlier, respondents who have difficulties paying bills, and those with lower levels of knowledge about science.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA12aT** The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly (% - Describes well)

	Intelligent	Reliable	Collaborative	Honest	Know best what is good for people	Altruistic	Bad at communicating	Arrogant	Narrow minded	Immoral
EU27	89	68	66	58	47	40	39	28	23	16
<b>Gender</b>										
Man	89	70	67	59	47	41	39	28	23	17
Woman	88	66	66	56	46	39	38	27	23	16
<b>Age</b>										
15-24	90	73	74	62	52	44	36	25	21	16
25-39	89	70	70	59	47	44	38	27	23	16
40-54	87	69	65	58	45	39	40	27	22	16
55+	89	65	62	56	46	37	39	29	23	17
<b>Education (end of)</b>										
15-	86	63	57	51	49	35	38	32	23	20
16-19	86	64	63	55	48	38	38	31	26	18
20+	92	72	70	62	43	43	41	25	20	13
Still studying	91	75	75	64	50	44	36	21	19	14
<b>Socio-professional category</b>										
Self-employed	91	68	69	59	47	38	39	30	21	17
Managers	91	75	72	66	42	43	40	23	17	10
Other white collars	89	71	70	60	50	41	39	26	22	17
Manual workers	86	64	63	53	47	41	38	31	26	20
House persons	86	63	58	52	49	39	37	31	28	19
Unemployed	88	68	64	55	49	38	46	31	23	18
Retired	88	64	61	54	45	37	38	29	24	17
Students	91	75	75	64	50	44	36	21	19	14
<b>Difficulties paying bills</b>										
Most of the time	81	60	57	48	48	39	43	34	28	26
From time to time	86	66	64	55	54	45	41	33	25	21
Almost never/ Never	90	69	67	59	44	39	38	26	22	14
<b>Left-right political scale</b>										
Left	91	72	70	63	45	42	39	24	20	14
Centre	89	66	65	57	46	38	38	28	23	16
Right	86	69	65	59	51	44	41	32	27	20
<b>Medical discoveries</b>										
Interested	90	70	70	62	48	42	39	25	22	15
Moderately interested	89	68	65	57	46	41	39	28	22	16
Not interested	81	61	58	48	45	34	37	34	26	22
<b>Scientific discoveries</b>										
Interested	92	73	72	65	47	44	39	24	21	13
Moderately interested	89	68	66	57	47	40	39	28	23	16
Not interested	82	60	55	48	46	33	39	34	27	22
<b>Environmental problems</b>										
Interested	91	70	69	62	45	40	39	23	20	13
Moderately interested	88	69	66	57	49	42	39	30	24	18
Not interested	81	58	53	48	45	34	39	34	28	25
<b>Influence of science and technology</b>										
Positive	91	72	70	62	49	42	38	26	21	15
Negative	71	42	44	35	32	32	46	42	38	32
<b>Correct answers to questions about scientific knowledge</b>										
Less than 5 correct answers	80	58	56	48	49	36	36	33	27	23
Between 5 and 8 correct answers	89	67	66	57	48	40	40	29	25	18
More than 8 correct answers	94	79	74	69	42	44	38	19	14	8
<b>Religiosity / Spirituality</b>										
Total 'Not very or not spiritual or religious'	91	69	68	60	42	40	40	25	21	14
Total 'Neither spiritual or religious nor not spiritual or religious'	88	69	67	58	48	40	38	28	22	16
Total 'Quite or very spiritual or religious'	87	66	63	55	51	41	39	32	26	20
<b>Worked in research / science / innovative technology development</b>										
You alone do or did in the past	88	70	70	64	41	46	45	29	25	16
A family member does or did in the past	88	69	67	63	41	42	40	20	19	13
Both you and a family member do or did in the past	98	80	77	73	38	48	37	22	19	4
No	89	68	66	57	48	39	38	28	23	17

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

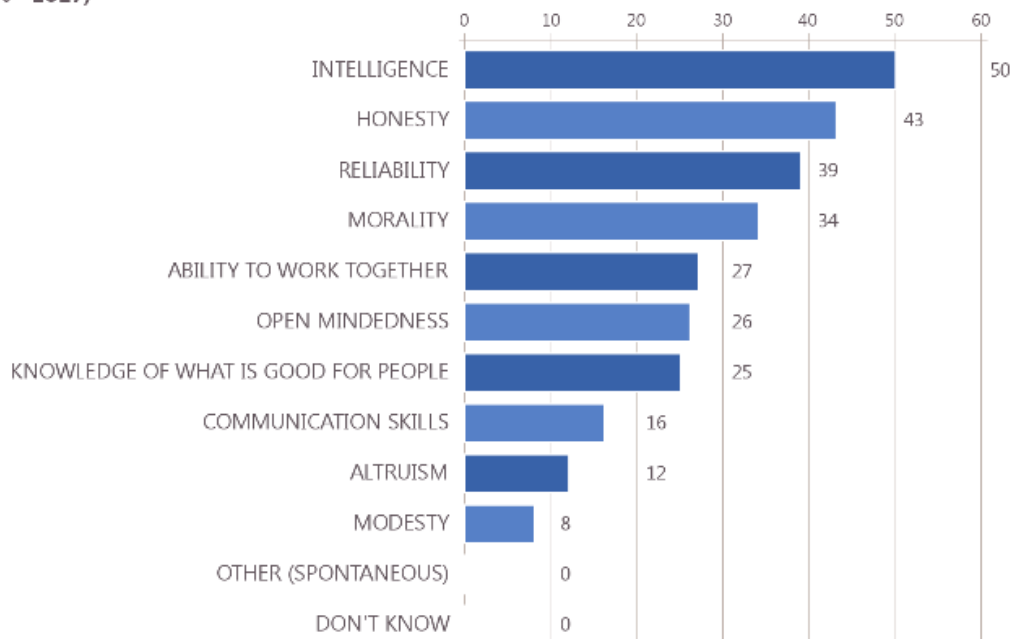
**1.2 Characteristics desired in scientists**

Europeans are most likely to say that 'intelligence' is a quality that scientists should have (50%), followed by 'honesty' (43%), 'reliability' (39%) and 'morality' (34%), all of which are chosen by at least one in three respondents. Around one in four Europeans say that scientists should have the 'ability to work together' (27%), 'open mindedness' (26%) and 'knowledge of what is good for people' (25%).

In general, these priorities are consistent with the characteristics that are associated with scientists. For example, 'intelligence' is seen as the most important quality for scientists to have and is also the characteristic that is most frequently associated with them. This indicates that Europeans hold a generally positive image of scientists, and in broad terms believe that they have positive characteristics that are in line with the things that are important.

Other qualities are seen as less important: communication skills (mentioned by 16%), altruism (12%) and modesty (8%).

**QA12b** Please choose the three qualities that you think scientists should have: (MAX. 3 ANSWERS)  
 (% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The findings for EU Member States show some variations. Respondents in Czechia (78%) and Portugal (66%) are the most likely to say that 'intelligence' is a quality that scientists should have, while this is least likely to be mentioned by respondents in Latvia (34%), Greece (35%) and Hungary (36%). Latvia and Greece are the only two Member States where 'intelligence' is not one of the top three answers.

'Honesty' is mentioned most frequently by respondents in France and Luxembourg (both 54%), Lithuania (53%) and Ireland (52%) and least frequently by those in Czechia (14%) and Romania (21%). There are only four Member States where 'honesty' is not one of the top three responses: Czechia, Estonia, Croatia and Romania.

Respondents in the Netherlands are most likely to say that 'reliability' is a quality that scientists should have (61%), followed by those in Hungary (54%) and Greece (51%). It is least likely to be mentioned by respondents in Ireland (15%) and Luxembourg (24%).

'Morality' is chosen most frequently by respondents in Greece (57%), Czechia (56%) and Denmark (53%), while the proportion is lowest in Bulgaria (22%) and Spain (23%).

Respondents in Czechia (47%) and Estonia (44%) are most likely to say the 'ability to work together' is a desired quality for scientists, while this is least likely to be chosen by those in Greece and Cyprus (both 15%).

'Open mindedness' is particularly valued by respondents in Latvia (51%) and Ireland (42%), with respondents least likely to choose this quality in Croatia (9%) and Bulgaria (14%).

Respondents in Bulgaria (54%) and Slovenia (46%) are most likely to say that 'knowledge of what is good for people' is a desired quality for scientists, while this is least likely to be mentioned by those in the Netherlands (13%) and Luxembourg (14%).

'Communication skills' are mentioned most frequently by respondents in Germany (25%) and Ireland (23%), and least frequently by those in Greece (7%) and Estonia (9%).

'Altruism' is a quality that is most highly valued for scientists in the Netherlands (33%) and Estonia (29%), while respondents in Germany (5%) are least likely to mention it.

Finally, 'modesty' is the quality that ranks lowest in importance in most EU Member States; it is most likely to be chosen by respondents in Sweden (19%) and Romania (17%).

Looking at the 11 other countries surveyed, respondents in Iceland are most likely to say that 'honesty' (60%) and 'morality' (54%) are qualities that scientists should have, while respondents in Turkey are most likely to choose 'reliability' (52%) and 'altruism' (17%) as desired qualities. Respondents in the UK are most likely to mention 'intelligence' (67%) and 'open mindedness' (44%), while those in Albania are most likely to say that 'communication skills' (26%) is a desired quality in scientists. 'Modesty' is chosen most frequently by respondents in the Republic of North Macedonia (16%), while 'knowledge of what is good for people' is also chosen most frequently in the Republic of North Macedonia, along with Montenegro (both 44%). The 'ability to work together' is most likely to be seen as a desired quality by respondents in Switzerland (38%).



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA12b Please choose the three qualities that you think scientists should have: (MAX. 3 ANSWERS)  
 (%)

		Intelligence	Honesty	Reliability	Morality	Ability to work together	Open mindedness	Knowledge of what is good for people	Communication skills	Altruism	Modesty	Other (SPONTANEOUS)	Don't know
EU27		50	43	39	34	27	26	25	16	12	8	0	0
BE		57	46	49	34	32	34	18	12	9	5	0	0
BG		54	39	33	22	25	14	54	17	9	8	0	1
CZ		78	14	29	56	47	15	22	19	10	7	0	0
DK		61	48	39	53	21	25	18	21	8	4	0	0
DE		55	49	35	41	34	17	23	25	5	5	0	0
EE		51	41	49	35	44	19	18	9	29	1	0	0
IE		62	52	15	37	33	42	20	23	10	3	0	0
EL		35	47	51	57	15	20	37	7	13	10	0	0
ES		59	43	37	23	25	22	33	10	12	8	0	0
FR		40	54	36	35	26	36	18	16	13	12	0	0
HR		47	34	37	45	24	9	43	15	16	12	0	0
IT		49	37	44	31	26	27	26	16	15	8	0	0
CY		43	47	47	49	15	24	28	13	7	9	0	1
LV		34	48	27	31	32	51	43	11	6	3	0	0
LT		61	53	34	27	26	36	27	15	6	3	0	0
LU		63	54	24	39	36	31	14	18	8	11	0	0
HU		36	40	54	25	22	22	28	15	19	10	0	0
MT		51	49	29	28	23	32	42	12	11	6	0	1
NL		55	35	61	26	29	24	13	19	33	3	0	0
AT		52	43	32	40	26	18	24	18	12	10	0	1
PL		41	38	41	25	19	38	27	11	7	9	0	0
PT		66	49	27	31	37	34	23	11	15	4	0	0
RO		43	21	40	28	20	22	31	17	10	17	0	2
SI		37	48	29	46	24	15	46	12	16	9	0	0
SK		46	36	34	49	27	28	36	13	10	12	0	0
FI		52	50	49	44	27	34	18	11	8	1	0	0
SE		50	43	33	49	21	36	19	14	13	19	0	0
TR		57	43	52	35	16	28	25	6	17	11	0	0
MK		54	27	28	23	30	25	44	23	6	16	0	0
AL		24	18	31	8	25	10	17	26	5	8	0	0
ME		45	23	40	29	22	31	44	14	11	15	0	0
RS		59	27	36	30	20	33	40	13	10	9	0	1
NO		49	44	46	48	21	36	24	21	6	1	0	0
CH		49	55	25	47	38	22	19	21	11	11	0	0
UK		67	50	17	37	33	44	21	19	8	3	0	0
IS		50	60	40	54	18	35	13	15	5	6	1	0
XK		64	25	38	16	19	22	23	14	4	15	0	0
BA		66	23	30	34	22	26	37	15	7	7	0	0
		1st MOST FREQUENTLY MENTIONED ITEM			2nd MOST FREQUENTLY MENTIONED ITEM				3rd MOST FREQUENTLY MENTIONED ITEM				

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In the socio-demographic analysis, the main differences are by level of education: For instance, respondents who finished education at the age of 20 or above are more likely to say that scientists should have the quality of 'open mindedness' (30%) compared to those who left education at the age of 15 or below (20%).

There are some minor variations by age group. Younger respondents (aged 15-24) are slightly more likely than older respondents to say that scientists should have 'intelligence' (53% vs 49%-51% in other age groups) and are less likely to mention 'morality' (30% vs 34%-35%). Older respondents (aged 55 or over) are more likely than other respondents to mention 'honesty' (45% vs 40%-43% in other age groups) and are less likely to mention 'open mindedness' (24% vs 26%-29%).

Respondents who answered eight or more answers correctly in the 'quiz' (QA20) are more likely to value certain qualities, such as 'intelligence' (57% compared with 44% of those who answered less than five questions correctly) and the 'ability to work together' (35% vs 21%). However, they are less likely to value qualities such as 'reliability' (34% vs 39%), 'honesty' (39% vs 45%) and 'knowledge of what is good for people' (18% vs 32%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA12b** Please choose the three qualities that you think scientists should have: (MAX. 3 ANSWERS)  
(% - EU)

	Reliability	Ability to work together	Open mindedness	Communication skills	Honesty	Modesty	Altruism	Morality	Intelligence	Knowledge of what is good for people	Other (SPONTANEOUS)	Don't know
<b>EU27</b>	39	27	26	16	43	8	12	34	50	25	0	0
<b>Gender</b>												
Man	38	28	27	16	43	9	11	33	52	24	0	0
Woman	40	26	25	17	43	8	12	35	48	27	0	0
<b>Age</b>												
15-24	42	28	27	18	40	6	11	30	53	26	0	0
25-39	38	26	29	18	40	8	12	34	50	24	0	0
40-54	38	27	26	15	43	8	12	35	51	25	0	0
55+	39	27	24	16	45	9	11	35	49	26	0	1
<b>Education (end of)</b>												
15-	42	20	20	13	46	10	11	34	50	30	0	1
16-19	39	26	24	16	45	9	11	33	46	28	0	0
20+	38	31	30	17	40	8	12	36	53	21	0	0
Still studying	41	30	27	18	40	6	11	33	55	23	0	0
<b>Socio-professional category</b>												
Self-employed	37	29	26	16	40	7	13	37	54	25	0	0
Managers	36	33	31	18	39	6	12	38	55	18	0	0
Other white collars	41	27	28	17	40	9	11	33	51	26	0	0
Manual workers	39	25	26	16	45	9	11	33	46	28	0	0
House persons	43	21	21	18	43	9	12	33	46	30	0	1
Unemployed	37	25	23	14	45	8	13	31	50	32	0	0
Retired	39	26	24	16	46	10	10	35	48	26	0	1
Students	41	30	27	18	40	6	11	33	55	23	0	0
<b>Difficulties paying bills</b>												
Most of the time	35	22	20	13	45	10	15	36	42	31	0	1
From time to time	41	22	25	16	42	9	14	33	46	28	0	0
Almost never/ Never	39	29	27	17	43	8	11	35	52	24	0	0
<b>Left-right political scale</b>												
Left	39	30	27	17	42	8	12	37	51	23	0	0
Centre	38	27	25	17	44	8	10	34	51	27	0	0
Right	41	26	27	16	41	10	12	32	49	24	0	0
<b>Medical discoveries</b>												
Interested	38	29	26	18	44	8	11	35	51	26	0	0
Moderately interested	39	27	27	16	42	8	12	35	51	25	0	0
Not interested	40	21	25	13	41	10	10	29	47	25	0	2
<b>Scientific discoveries</b>												
Interested	38	32	28	19	41	8	12	35	52	22	0	0
Moderately interested	40	27	25	16	43	8	12	35	51	26	0	0
Not interested	39	20	24	13	45	11	10	30	46	28	0	1
<b>Environmental problems</b>												
Interested	37	30	27	18	44	8	12	38	50	23	0	0
Moderately interested	40	26	26	16	43	9	12	32	51	27	0	0
Not interested	41	22	23	14	39	11	10	28	47	25	0	2
<b>Influence of science and technology</b>												
Positive	39	28	27	16	43	8	11	35	52	25	0	0
Negative	35	22	24	18	44	12	13	33	38	26	0	1
<b>Correct answers to questions about scientific knowledge</b>												
Less than 5 correct answers	39	20	22	15	45	11	11	29	44	32	0	1
Between 5 and 8 correct answers	40	26	26	16	43	9	12	34	50	26	0	0
More than 8 correct answers	35	36	30	18	39	6	12	39	57	19	0	0
<b>Religiosity / Spirituality</b>												
Total 'Not very or not spiritual or religious'	37	31	28	18	44	7	12	35	54	22	0	0
Total 'Neither spiritual or religious nor not spiritual or religious'	40	26	27	16	42	9	11	34	48	26	0	0
Total 'Quite or very spiritual or religious'	40	22	22	14	43	10	12	35	47	29	0	1
<b>Worked in research / science / innovative technology development</b>												
You alone do or did in the past	35	32	30	19	35	8	13	35	53	15	0	0
A family member does or did in the past	32	32	28	20	37	9	13	38	53	20	0	0
Both you and a family member do or did in the past	34	38	33	19	34	10	10	42	61	11	0	0
No	40	26	25	16	44	8	11	34	49	27	0	0

## 2. Scientists and society

This section looks at citizens' attitudes towards scientists, in terms of their role in decision making, their position in society and their interactions with the public.

In order to examine the issue of scientists intervening in political debate, the sample was randomly divided into two, with one-half asked a 'positive' statement and the other half a 'negative' statement. On balance, this shows a preference for scientists intervening in political debate: two-thirds agree (68%) that "scientists should intervene in political debate to ensure that decisions take into account scientific evidence", with just 11% disagreeing. With the alternative wording, that "scientists should not intervene in political debate when decisions ignore scientific evidence", approximately equal proportions agree (39%) and disagree (37%).

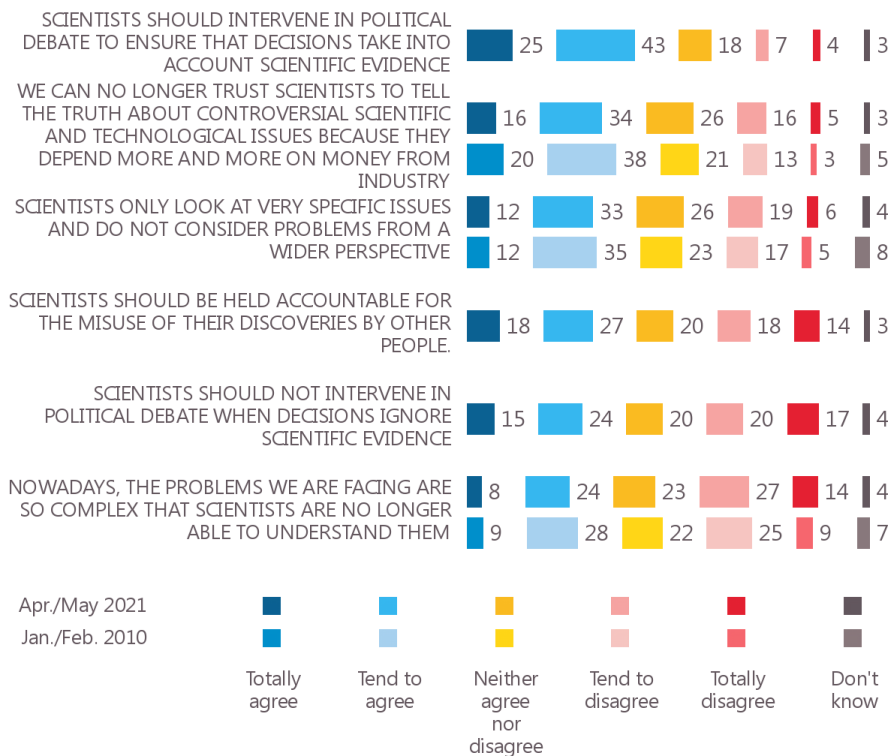
Europeans express mixed views about the credibility of scientists. Half of respondents (50%) agree that "we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry", with 21% disagreeing. However, agreement has fallen by 8 percentage points since 2010<sup>28</sup>, while the proportion that disagree has increased by 5 percentage points<sup>29</sup>.

Just under half of respondents (45%) agree that "scientists only look at very specific issues and do not consider problems from a wider perspective", while 25% disagree. In the EU overall, there has been little change since 2010 in the proportion agreeing (-2 pp) and disagreeing (+3 pp)<sup>30</sup>.

Almost half of Europeans (45%) agree that "scientists should be held accountable for the misuse of their discoveries by other people", while a third (32%) disagree. In the EU overall, there has been an increase in agreement since 2005 (+6 pp) and decrease in disagreement (-6 pp)<sup>31</sup>.

A third (32%) of respondents agree that "nowadays, the problems we are facing are so complex that scientists are no longer able to understand them", while a larger proportion (41%) disagrees. In the EU overall, there has been a decrease in agreement since 2010 (-5 pp), while there has been an increase in the proportion that disagree (+7 pp).

**QA11** To what extent do you agree with the following statements regarding scientists today?  
 (% - EU)



<sup>28</sup> In 2010 the United Kingdom was still part of the European Union but Croatia had not yet joined. The 2010 total therefore refers to an "EU 27" that includes the UK but not Croatia.

<sup>29</sup> This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

<sup>30</sup> This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

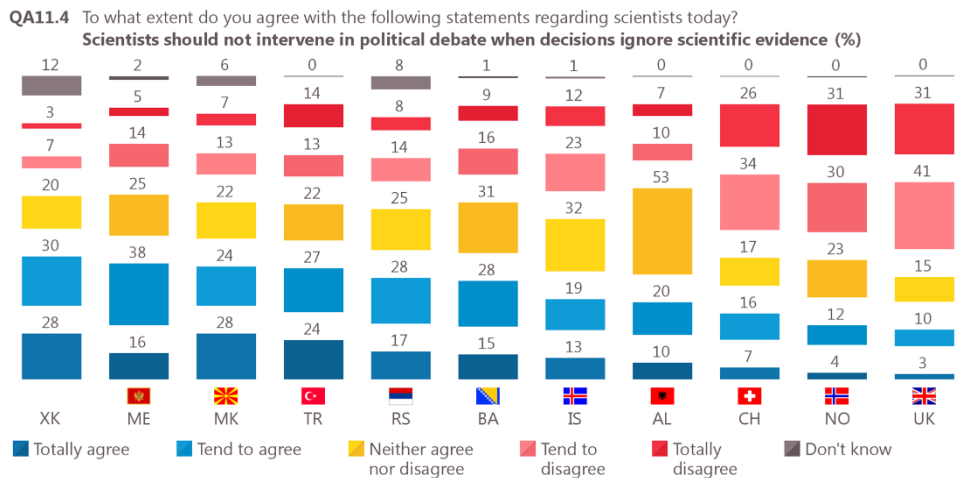
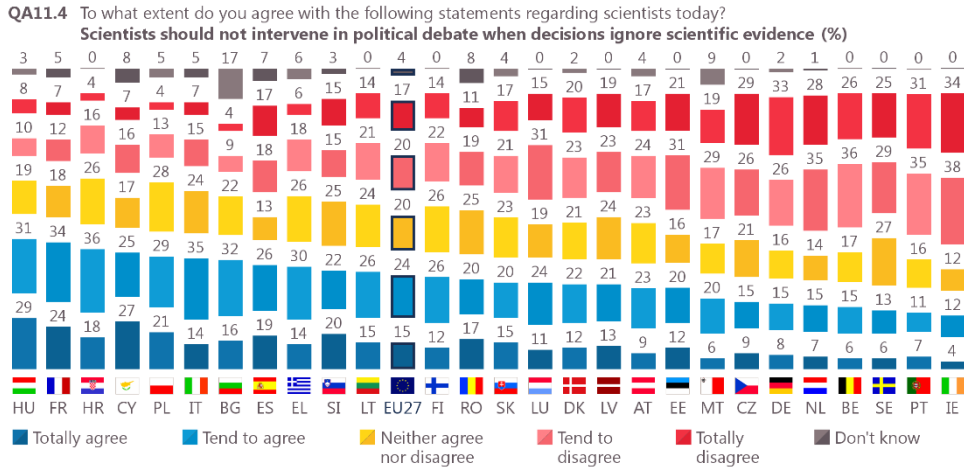
<sup>31</sup> This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There is considerable variation between EU Member States in the proportions that agree that “*scientists should not intervene in political debate when decisions ignore scientific evidence*”. There are 14 Member States where the majority of respondents agree with this statement, led by Hungary (60%), France (58%) and Croatia (54%). However, disagreement outweighs agreement in the other 14 Member States, with disagreement particularly high in Ireland (72%), Portugal (66%), the Netherlands (63%) and Belgium (62%).

In the 11 other countries surveyed, respondents in Kosovo are most likely to agree (58%), especially compared with those in the UK (13%).

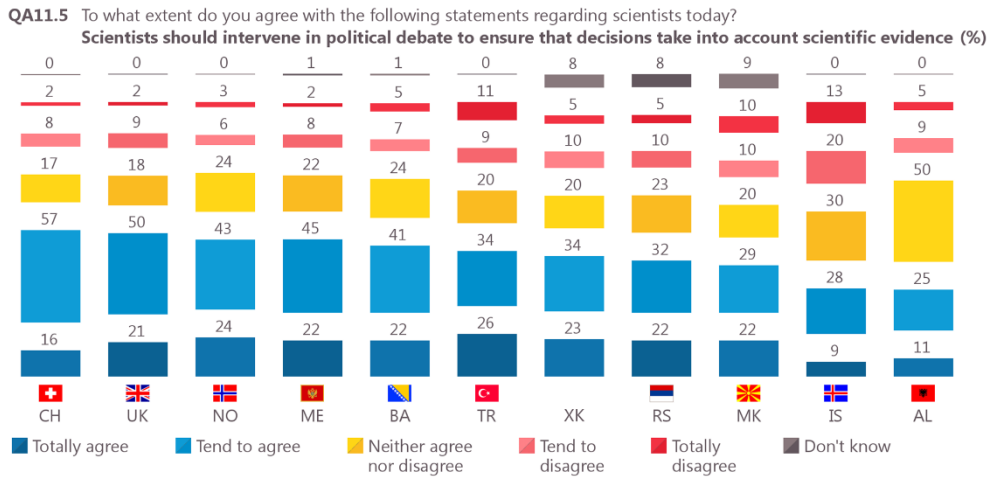
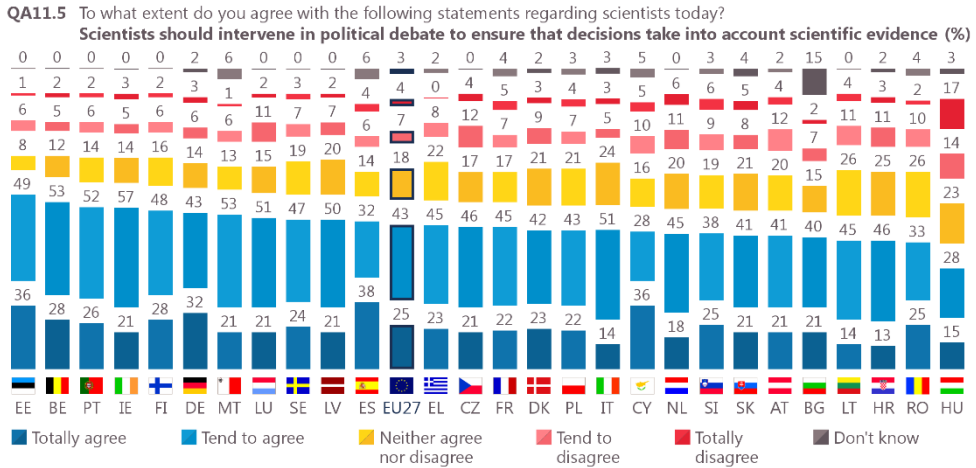


## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In all EU Member States, a majority of respondents agrees that “scientists should intervene in political debate to ensure that decisions take into account scientific evidence”. The proportion that agrees is highest in Estonia (85%), Belgium (81%), Ireland and Portugal (both 78%), while agreement is lowest in Hungary (43%).

In the 11 other countries covered by the survey, agreement with the statement ranges from 73% in Switzerland to 36% in Albania.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

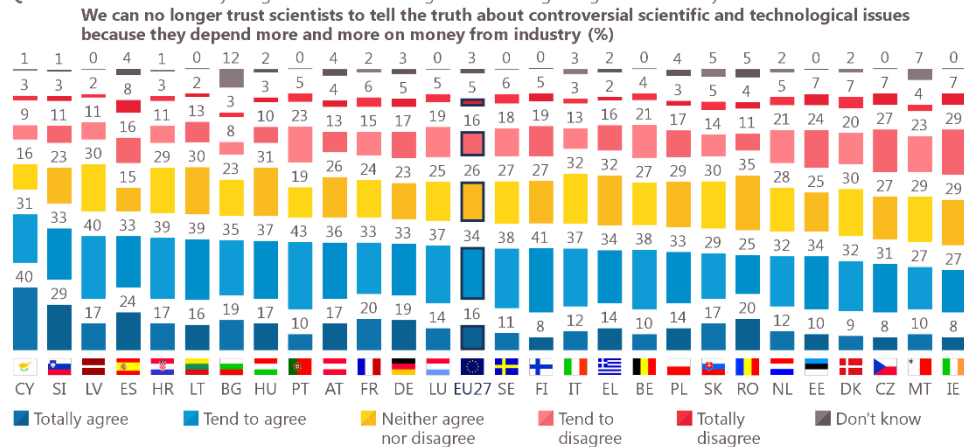
In the EU overall, half of respondents (50%) agree that “we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry”. In all but one of the 27 EU Member States, a majority of respondents agree with the statement. The exception is Ireland, where 35% agree and 36% disagree.

Respondents are most likely to agree with the statement in Cyprus (71%) and Slovenia (62%), while agreement is lowest in Ireland (35%), Malta (37%) and Czechia (39%).

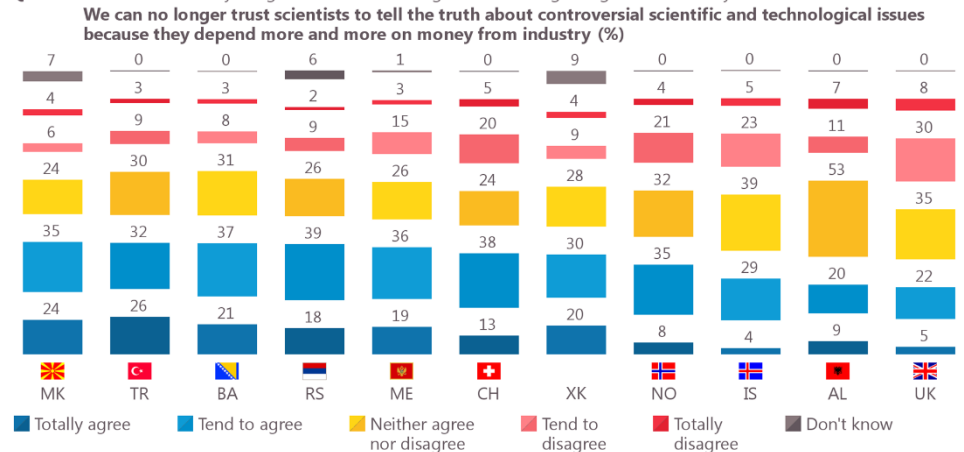
There has been a fall in agreement with this statement in most EU Member States since 2010, the largest in Finland (-21 pp), Denmark (-18 pp), Germany (-18 pp) and Sweden (-17 pp). The only exceptions are Portugal, where agreement has increased slightly (+2 pp), and Spain and Bulgaria where there has been no change.

Looking at the 11 other countries surveyed in 2021, agreement ranges from 59% in the Republic of North Macedonia to 27% in the UK. There have also been large decreases (in the countries surveyed) since 2010, the largest being in Iceland (-24 pp), the UK and Norway (both -22 pp).

**QA11.1** To what extent do you agree with the following statements regarding scientists today?



**QA11.1** To what extent do you agree with the following statements regarding scientists today?



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA11.1 To what extent do you agree with the following statements regarding scientists today?

**We can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
		Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010	Diff.	Jan/Feb 2010
EU27		16	▼ 4	34	▼ 4	26	▲ 5	16	▲ 3	5	▲ 2	3	50	▼ 8	21	▲ 5
PT		10	=	43	▲ 2	19	▼ 5	23	▲ 10	5	▲ 3	0	53	▲ 2	28	▲ 13
BG		19	▼ 1	35	▲ 1	23	▲ 3	8	=	3	▲ 1	12	54	=	11	▲ 1
ES		24	▲ 1	33	▼ 1	15	▼ 1	16	▲ 1	8	▲ 3	4	57	=	24	▲ 4
IE		8	▼ 2	27	▲ 1	29	▲ 8	29	▲ 9	7	▲ 3	0	35	▼ 1	36	▲ 12
CY		40	▼ 5	31	▲ 4	16	=	9	▲ 5	3	▲ 2	1	71	▼ 1	12	▲ 7
PL		14	▼ 1	33	=	29	▲ 3	17	▲ 3	3	=	4	47	▼ 1	20	▲ 3
AT		17	=	36	▼ 3	26	▼ 2	13	▲ 3	4	▲ 2	4	53	▼ 3	17	▲ 5
HU		17	▼ 7	37	▲ 3	31	▲ 8	10	▼ 3	3	▲ 1	2	54	▼ 4	13	▼ 2
MT		10	=	27	▼ 4	29	▲ 12	23	▲ 10	4	▼ 2	7	37	▼ 4	27	▲ 8
IT		12	▼ 4	37	▼ 1	32	▲ 6	13	▲ 1	3	=	3	49	▼ 5	16	▲ 1
CZ		8	▼ 4	31	▼ 2	27	▲ 1	27	▲ 7	7	▲ 2	0	39	▼ 6	34	▲ 9
RO		20	▲ 4	25	▼ 10	35	▲ 14	11	▼ 1	4	▲ 1	5	45	▼ 6	15	=
SI		29	▼ 7	33	▼ 1	23	▲ 8	11	▲ 3	3	▼ 1	1	62	▼ 8	14	▲ 2
LU		14	▼ 7	37	▼ 2	25	▲ 2	19	▲ 9	5	▲ 2	0	51	▼ 9	24	▲ 11
SK		17	▲ 1	29	▼ 10	30	▲ 3	14	▲ 3	5	▲ 2	5	46	▼ 9	19	▲ 5
LT		16	▼ 8	39	▼ 2	30	▲ 11	13	▲ 6	2	▲ 1	0	55	▼ 10	15	▲ 7
HR		17	▼ 12	39	▲ 1	29	▲ 11	11	▲ 4	3	=	1	56	▼ 11	14	▲ 4
BE		10	▼ 7	38	▼ 5	27	▲ 4	21	▲ 9	4	▲ 1	0	48	▼ 12	25	▲ 10
FR		20	▼ 3	33	▼ 9	24	▲ 10	15	▲ 3	6	▲ 2	2	53	▼ 12	21	▲ 5
LV		17	▼ 14	40	▲ 2	30	▲ 11	11	▲ 4	2	=	0	57	▼ 12	13	▲ 4
EE		10	▼ 12	34	▼ 1	25	▲ 6	24	▲ 12	7	▲ 2	0	44	▼ 13	31	▲ 14
EL		14	▼ 8	34	▼ 8	32	▲ 6	16	▲ 9	2	▲ 1	2	48	▼ 16	18	▲ 10
NL		12	▼ 7	32	▼ 9	28	▲ 12	21	▲ 3	5	▲ 2	2	44	▼ 16	26	▲ 5
SE		11	▼ 8	38	▼ 9	27	▲ 13	18	▲ 4	6	▲ 2	0	49	▼ 17	24	▲ 6
DK		9	▼ 9	32	▼ 9	30	▲ 8	20	▲ 7	7	▲ 4	2	41	▼ 18	27	▲ 11
DE		19	▼ 11	33	▼ 7	23	▲ 3	17	▲ 10	5	▲ 4	3	52	▼ 18	22	▲ 14
FI		8	▼ 12	41	▼ 9	27	▲ 12	19	▲ 7	5	▲ 4	0	49	▼ 21	24	▲ 11
TR		26	=	32	▲ 12	30	▲ 11	9	▲ 1	3	▼ 6	0	58	▲ 12	12	▼ 5
MK		24	N/A	35	N/A	24	N/A	6	N/A	4	N/A	7	59	N/A	10	N/A
AL		9	N/A	20	N/A	53	N/A	11	N/A	7	N/A	0	29	N/A	18	N/A
ME		19	N/A	36	N/A	26	N/A	15	N/A	3	N/A	1	55	N/A	18	N/A
RS		18	N/A	39	N/A	26	N/A	9	N/A	2	N/A	6	57	N/A	11	N/A
CH		13	▼ 12	38	▲ 1	24	▲ 9	20	▲ 5	5	▲ 1	0	51	▼ 11	25	▲ 6
UK		5	▼ 10	22	▼ 12	35	▲ 13	30	▲ 11	8	▲ 2	0	27	▼ 22	38	▲ 13
NO		8	▼ 12	35	▼ 10	32	▲ 18	21	▲ 8	4	▼ 1	0	43	▼ 22	25	▲ 7
IS		4	▼ 12	29	▼ 12	39	▲ 16	23	▲ 5	5	▲ 4	0	33	▼ 24	28	▲ 9
XK		20	N/A	30	N/A	28	N/A	9	N/A	4	N/A	9	50	N/A	13	N/A
BA		21	N/A	37	N/A	31	N/A	8	N/A	3	N/A	0	58	N/A	11	N/A



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

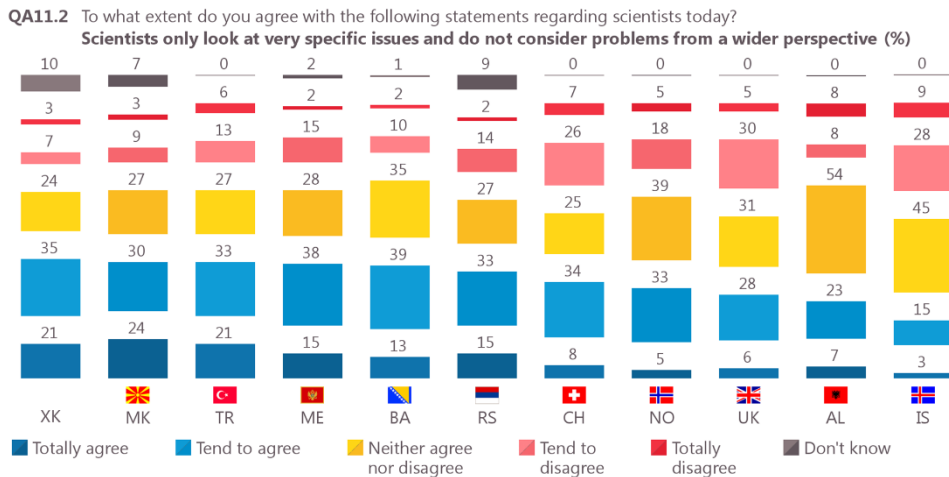
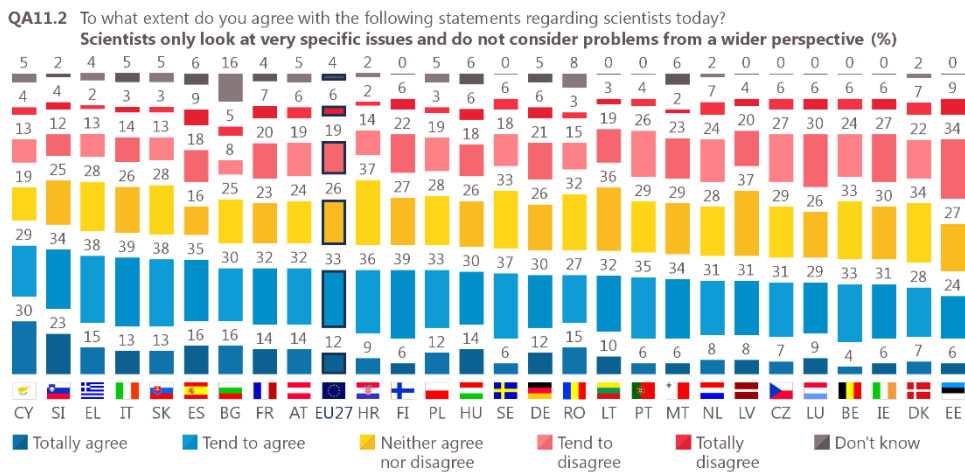
In 26 EU Member States a majority of respondents agree that “scientists only look at very specific issues and do not consider problems from a wider perspective”. The exception is Estonia, where 30% agree and 43% disagree.

Respondents are most likely to agree with the statement in Cyprus (59%) and Slovenia (57%), while the proportion that disagrees is highest in Estonia (43%) and Luxembourg (36%).

In the 11 other countries surveyed, respondents in Kosovo are most likely to agree that scientists only look at very specific issues (56%), especially compared with those in Iceland (18%).

There have been some large decreases in agreement in EU Member States since 2010, the largest being in Finland (-21 pp), Sweden (-19 pp) and Denmark (-17 pp). The largest increases in agreement can be seen in Cyprus (+10 pp) and Hungary (+9 pp).

Looking at the 11 other countries surveyed (and specifically those also included in the 2010 survey), the largest increase in agreement can be seen in Turkey (+9 pp), while Iceland shows the largest decrease (-24 pp).



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA11.2 To what extent do you agree with the following statements regarding scientists today?

**Scientists only look at very specific issues and do not consider problems from a wider perspective (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'	
		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010	
EU27		12	=	33	▼ 2	26	▲ 3	19	▲ 2	6	▲ 1	4	45	▼ 2	25	▲ 3	
CY		30	▲ 9	29	▲ 1	19	▼ 4	13	▲ 4	4	▲ 1	5	59	▲ 10	17	▲ 5	
HU		14	▲ 6	30	▲ 3	26	=	18	▼ 2	6	▼ 3	6	44	▲ 9	24	▼ 5	
SK		13	▲ 6	38	=	28	▼ 2	13	▼ 5	3	▲ 1	5	51	▲ 6	16	▼ 4	
ES		16	▲ 3	35	▲ 1	16	▼ 3	18	▲ 3	9	▲ 4	6	51	▲ 4	27	▲ 7	
IT		13	▲ 2	39	▲ 2	26	=	14	▼ 3	3	▼ 2	5	52	▲ 4	17	▼ 5	
EL		15	▲ 2	38	▼ 1	28	▲ 2	13	▼ 3	2	▼ 1	4	53	▲ 1	15	▼ 4	
FR		14	▲ 3	32	▼ 2	23	▲ 7	20	▼ 3	7	▼ 4	4	46	▲ 1	27	▼ 7	
AT		14	▲ 2	32	▼ 2	24	▼ 4	19	▲ 1	6	▲ 3	5	46	=	25	▲ 4	
LT		10	▼ 1	32	=	36	▲ 12	19	▲ 3	3	▼ 1	0	42	▼ 1	22	▲ 2	
BG		16	▲ 3	30	▼ 5	25	▲ 7	8	▼ 2	5	▲ 2	16	46	▼ 2	13	=	
IE		6	▼ 1	31	▼ 2	30	▲ 10	27	▲ 10	6	▲ 3	0	37	▼ 3	33	▲ 13	
RO		15	▲ 3	27	▼ 6	32	▲ 10	15	▲ 5	3	▲ 1	8	42	▼ 3	18	▲ 6	
CZ		7	=	31	▼ 4	29	▲ 1	27	▲ 7	6	▲ 1	0	38	▼ 4	33	▲ 8	
PL		12	=	33	▼ 4	28	▲ 5	19	▲ 8	3	=	5	45	▼ 4	22	▲ 8	
SI		23	▼ 2	34	▼ 3	25	▲ 10	12	▼ 2	4	▼ 1	2	57	▼ 5	16	▼ 3	
DE		12	▼ 3	30	▼ 3	26	▲ 3	21	▲ 1	6	=	5	42	▼ 6	27	▲ 1	
PT		6	=	35	▼ 6	29	▲ 4	26	▲ 16	4	▲ 2	0	41	▼ 6	30	▲ 18	
HR		9	▼ 8	36	▲ 1	37	▲ 10	14	▲ 3	2	▼ 1	2	45	▼ 7	16	▲ 2	
BE		4	▼ 6	33	▼ 4	33	▲ 8	24	▲ 3	6	▲ 2	0	37	▼ 10	30	▲ 5	
MT		6	▼ 7	34	▼ 3	29	▲ 16	23	▲ 14	2	▼ 1	6	40	▼ 10	25	▲ 13	
NL		8	▼ 6	31	▼ 4	28	▲ 9	24	▲ 2	7	=	2	39	▼ 10	31	▲ 2	
LV		8	▼ 6	31	▼ 5	37	▲ 13	20	▲ 5	4	▼ 1	0	39	▼ 11	24	▲ 4	
LU		9	▼ 2	29	▼ 11	26	=	30	▲ 17	6	▲ 2	0	38	▼ 13	36	▲ 19	
EE		6	▼ 7	24	▼ 7	27	▲ 8	34	▲ 13	9	▲ 1	0	30	▼ 14	43	▲ 14	
DK		7	▼ 5	28	▼ 12	34	▲ 12	22	▲ 5	7	▲ 1	2	35	▼ 17	29	▲ 6	
SE		6	▼ 11	37	▼ 8	33	▲ 16	18	▲ 5	6	▲ 3	0	43	▼ 19	24	▲ 8	
FI		6	▼ 8	39	▼ 13	27	▲ 12	22	▲ 8	6	▲ 3	0	45	▼ 21	28	▲ 11	
TR		21	▼ 6	33	▲ 15	27	▲ 7	13	▲ 5	6	▼ 3	0	54	▲ 9	19	▲ 2	
MK		24	N/A	30	N/A	27	N/A	9	N/A	3	N/A	7	54	N/A	12	N/A	
AL		7	N/A	23	N/A	54	N/A	8	N/A	8	N/A	0	30	N/A	16	N/A	
ME		15	N/A	38	N/A	28	N/A	15	N/A	2	N/A	2	53	N/A	17	N/A	
RS		15	N/A	33	N/A	27	N/A	14	N/A	2	N/A	9	48	N/A	16	N/A	
CH		8	▼ 5	34	▼ 1	25	▲ 9	26	▲ 3	7	▼ 1	0	42	▼ 6	33	▲ 2	
NO		5	▼ 2	33	▼ 7	39	▲ 15	18	=	5	▼ 2	0	38	▼ 9	23	▼ 2	
UK		6	▼ 4	28	▼ 8	31	▲ 7	30	▲ 12	5	▲ 1	0	34	▼ 12	35	▲ 13	
IS		3	▼ 5	15	▼ 19	45	▲ 15	28	▲ 6	9	▲ 5	0	18	▼ 24	37	▲ 11	
XK		21	N/A	35	N/A	24	N/A	7	N/A	3	N/A	10	56	N/A	10	N/A	
BA		13	N/A	39	N/A	35	N/A	10	N/A	2	N/A	1	52	N/A	12	N/A	

## Special Eurobarometer 516

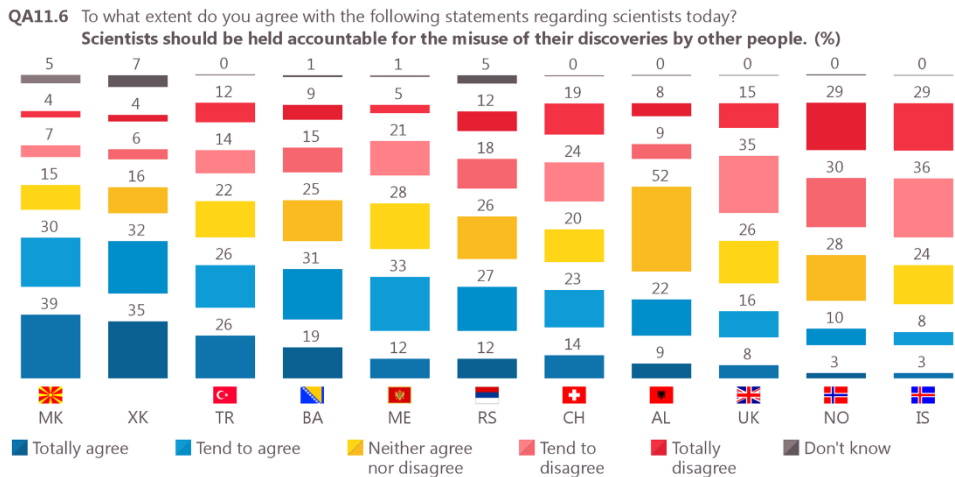
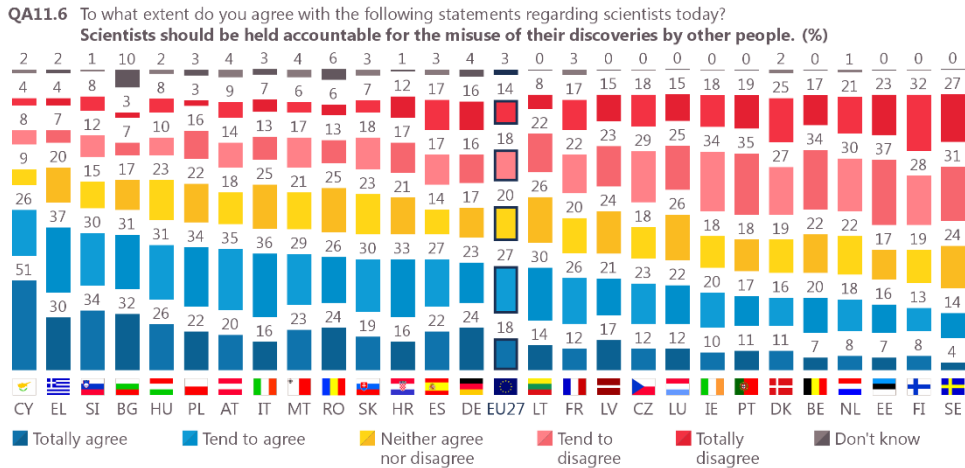
### European citizens' knowledge and attitudes towards science and technology

In 16 Member States, a majority of respondents agree that “scientists should be held accountable for the misuse of their discoveries by other people”. Levels of agreement are highest in Cyprus (77%), Greece (67%), Slovenia (64%) and Bulgaria (63%). In the 11 other Member States, a majority of respondents disagree with the statement, with disagreement highest in Estonia, Finland (both 60%), Sweden (58%) and Portugal (54%).

In the 11 other countries surveyed, respondents in the Republic of North Macedonia are most likely to agree that ‘scientists should be held accountable for the misuse of their discoveries by other people’ (69%), while agreement is lowest in Iceland (11%).

There have been some large increases in agreement in individual EU Member States since 2005, the largest being in Slovenia (+27 pp), Bulgaria (+26 pp), Hungary (+25 pp), Cyprus (+23 pp) and Greece (+21 pp). The largest falls in agreement can be seen in Estonia (-18 pp), Sweden (-15 pp) and Portugal (-12 pp).

Looking at the 11 other countries surveyed (and specifically those also included in the 2005 survey), the largest shift in agreement can be seen in Norway (-17 pp).



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA11.6 To what extent do you agree with the following statements regarding scientists today?

**Scientists should be held accountable for the misuse of their discoveries by other people. (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'	
		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005		Diff. April/May 2021 - January/February 2005	
EU27		18	▲ 5	27	▲ 1	20	▲ 2	18	▼ 5	14	▼ 1	3	45	▲ 6	32	▼ 6	
SI		34	▲ 22	30	▲ 5	15	=	12	▼ 14	8	▼ 13	1	64	▲ 27	20	▼ 27	
BG		32	▲ 16	31	▲ 10	17	▲ 4	7	▼ 11	3	▼ 10	10	63	▲ 26	10	▼ 21	
HU		26	▲ 13	31	▲ 12	23	▲ 5	10	▼ 14	8	▼ 13	2	57	▲ 25	18	▼ 27	
CY		51	▲ 29	26	▼ 6	9	▼ 4	8	▼ 10	4	▼ 7	2	77	▲ 23	12	▼ 17	
EL		30	▲ 14	37	▲ 7	20	▲ 5	7	▼ 11	4	▼ 9	2	67	▲ 21	11	▼ 20	
SK		19	▲ 8	30	▲ 8	23	▼ 5	18	▼ 4	7	▼ 5	3	49	▲ 16	25	▼ 9	
ES		22	▲ 12	27	▲ 2	14	▼ 6	17	▼ 8	17	▲ 2	3	49	▲ 14	34	▼ 6	
PL		22	▲ 7	34	▲ 4	22	▲ 6	16	▼ 5	3	▼ 8	3	56	▲ 11	19	▼ 13	
IT		16	=	36	▲ 5	25	▲ 2	13	▼ 2	7	▼ 3	3	52	▲ 5	20	▼ 5	
FR		12	▲ 4	26	=	20	▲ 4	22	▼ 5	17	▼ 1	3	38	▲ 4	39	▼ 6	
HR		16	▼ 4	33	▲ 8	21	=	17	=	12	▲ 3	1	49	▲ 4	29	▲ 3	
LT		14	▼ 3	30	▲ 6	26	▲ 13	22	=	8	▼ 7	0	44	▲ 3	30	▼ 7	
AT		20	▲ 1	35	▲ 2	18	=	14	▼ 1	9	▲ 1	4	55	▲ 3	23	=	
DE		24	▲ 5	23	▼ 3	17	▼ 2	16	▼ 6	16	▲ 4	4	47	▲ 2	32	▼ 2	
IE		10	▲ 1	20	=	18	▲ 3	34	▲ 6	18	▲ 4	0	30	▲ 1	52	▲ 10	
DK		11	▲ 1	16	=	19	▲ 1	27	▲ 3	25	▼ 5	2	27	▲ 1	52	▼ 2	
NL		8	▼ 2	18	▲ 3	22	▲ 5	30	▲ 3	21	▼ 9	1	26	▲ 1	51	▼ 6	
LU		12	▼ 5	22	▲ 5	26	▲ 10	25	=	15	▼ 2	0	34	=	40	▼ 2	
RO		24	▼ 5	26	▲ 4	25	▲ 9	13	▲ 2	6	▼ 4	6	50	▼ 1	19	▼ 2	
BE		7	▼ 6	20	▲ 3	22	▲ 8	34	▲ 3	17	▼ 7	0	27	▼ 3	51	▼ 4	
CZ		12	▼ 5	23	▲ 1	18	▼ 1	29	▲ 5	18	▲ 1	0	35	▼ 4	47	▲ 6	
MT		23	=	29	▼ 4	21	▲ 12	17	▲ 4	6	▼ 4	4	52	▼ 4	23	=	
LV		17	▲ 1	21	▼ 6	24	▲ 11	23	▲ 2	15	▼ 1	0	38	▼ 5	38	▲ 1	
FI		8	▼ 1	13	▼ 8	19	▲ 4	28	▼ 6	32	▲ 12	0	21	▼ 9	60	▲ 6	
PT		11	▼ 1	17	▼ 11	18	▲ 3	35	▲ 16	19	▲ 10	0	28	▼ 12	54	▲ 26	
SE		4	▼ 4	14	▼ 11	24	▲ 11	31	▲ 3	27	▲ 2	0	18	▼ 15	58	▲ 5	
EE		7	▼ 13	16	▼ 5	17	▲ 8	37	▲ 13	23	▲ 2	0	23	▼ 18	60	▲ 15	
TR		26	▼ 1	26	▲ 7	22	▲ 9	14	▲ 5	12	▼ 7	0	52	▲ 6	26	▼ 2	
MK		39	N/A	30	N/A	15	N/A	7	N/A	4	N/A	5	69	N/A	11	N/A	
AL		9	N/A	22	N/A	52	N/A	9	N/A	8	N/A	0	31	N/A	17	N/A	
ME		12	N/A	33	N/A	28	N/A	21	N/A	5	N/A	1	45	N/A	26	N/A	
RS		12	N/A	27	N/A	26	N/A	18	N/A	12	N/A	5	39	N/A	30	N/A	
UK		8	▲ 2	16	▼ 8	26	▲ 8	35	▲ 7	15	▼ 1	0	24	▼ 6	50	▲ 6	
CH		14	▲ 1	23	▼ 7	20	▲ 6	24	▲ 2	19	▲ 2	0	37	▼ 6	43	▲ 4	
IS		3	▼ 6	8	▼ 6	24	▲ 1	36	▲ 10	29	▲ 6	0	11	▼ 12	65	▲ 16	
NO		3	▼ 9	10	▼ 8	28	▲ 15	30	▲ 6	29	=	0	13	▼ 17	59	▲ 6	
XK		35	N/A	32	N/A	16	N/A	6	N/A	4	N/A	7	67	N/A	10	N/A	
BA		19	N/A	31	N/A	25	N/A	15	N/A	9	N/A	1	50	N/A	24	N/A	

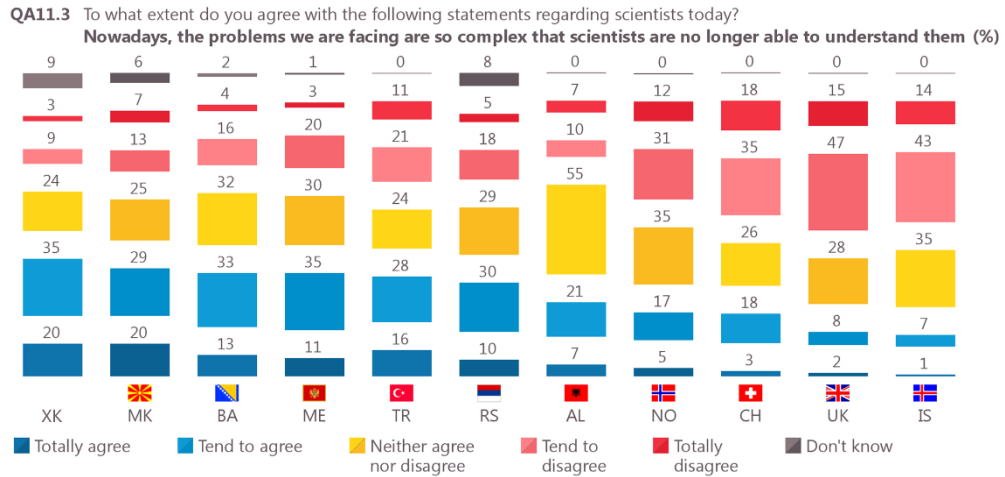
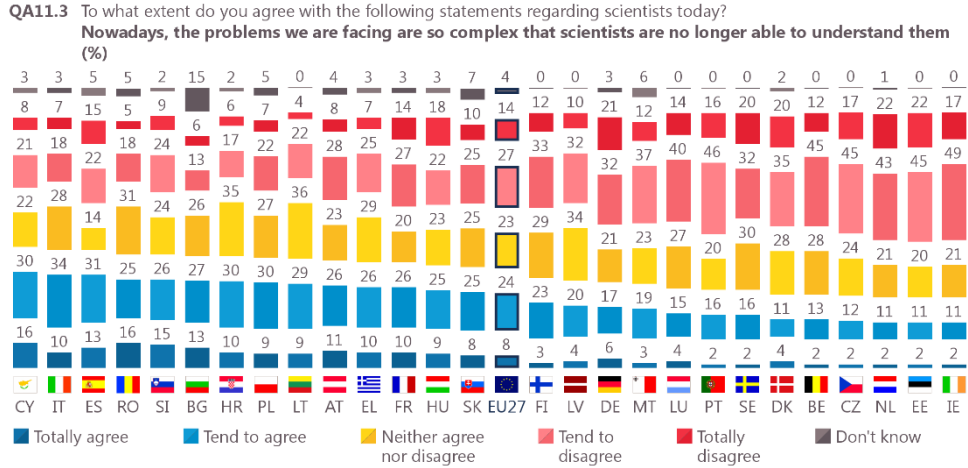
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In 11 EU Member States, a majority of respondents agree that “nowadays, the problems we are facing are so complex that scientists are no longer able to understand them”. Agreement is highest in Cyprus (46%), and Italy and Spain (both 44%). In the other 16 Member States, respondents are more likely to disagree than agree with the statement. Respondents are most likely to disagree in Estonia (67%), Ireland (66%) and the Netherlands (65%).

There has been a fall in agreement in most EU Member States since 2010, the largest being in Portugal (-27 pp), Luxembourg (-26 pp), Estonia (-25 pp), Finland (-25 pp) and Denmark (-22 pp). The largest increase in agreement can be found in Italy (+7 pp).

In the 11 other countries surveyed (specifically those included in the 2010 survey), the largest shift in agreement can be seen in the UK (-22 pp).

In the 11 other countries covered by the survey, there is wide variation in levels of agreement, from 55% in Kosovo to 8% in Iceland.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA11.3 To what extent do you agree with the following statements regarding scientists today?

**Nowadays, the problems we are facing are so complex that scientists are no longer able to understand them**  
(%)

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010
EU27		8	▼ 1	24	▼ 4	23	▲ 1	27	▲ 2	14	▲ 5	4	32	▼ 5	41	▲ 7
IT		10	▲ 2	34	▲ 5	28	▼ 2	18	▼ 4	7	=	3	44	▲ 7	25	▼ 4
ES		13	▲ 2	31	▲ 2	14	▼ 4	22	▲ 1	15	▲ 6	5	44	▲ 4	37	▲ 7
FR		10	▲ 2	26	▲ 1	20	▲ 3	27	▼ 3	14	▲ 1	3	36	▲ 3	41	▼ 2
SK		8	▲ 3	25	=	25	▼ 4	25	▼ 3	10	▲ 2	7	33	▲ 3	35	▼ 1
BG		13	▲ 1	27	▲ 1	26	▲ 1	13	▼ 1	6	▲ 3	15	40	▲ 2	19	▲ 2
HU		9	▲ 4	25	▼ 2	23	=	22	▼ 4	18	▲ 6	3	34	▲ 2	40	▲ 2
RO		16	▲ 6	25	▼ 5	31	▲ 7	18	▲ 1	5	▲ 2	5	41	▲ 1	23	▲ 3
CY		16	▼ 3	30	▲ 3	22	=	21	▲ 7	8	▲ 3	3	46	=	29	▲ 10
PL		9	=	30	=	27	▲ 5	22	▲ 2	7	▲ 2	5	39	=	29	▲ 4
MT		3	▼ 2	19	▼ 3	23	▲ 7	37	▲ 14	12	▲ 2	6	22	▼ 5	49	▲ 16
HR		10	▼ 6	30	▼ 2	35	▲ 12	17	▼ 2	6	▲ 1	2	40	▼ 8	23	▼ 1
AT		11	▲ 1	26	▼ 10	23	▼ 1	28	▲ 5	8	▲ 4	4	37	▼ 9	36	▲ 9
EL		10	▼ 1	26	▼ 9	29	▲ 1	25	▲ 5	7	▲ 4	3	36	▼ 10	32	▲ 9
NL		2	▼ 3	11	▼ 8	21	=	43	▲ 4	22	▲ 10	1	13	▼ 11	65	▲ 14
SI		15	▼ 5	26	▼ 7	24	▲ 7	24	▲ 6	9	▲ 1	2	41	▼ 12	33	▲ 7
CZ		2	▼ 2	12	▼ 11	24	▼ 1	45	▲ 10	17	▲ 8	0	14	▼ 13	62	▲ 18
IE		2	▼ 3	11	▼ 12	21	▼ 5	49	▲ 26	17	▲ 12	0	13	▼ 15	66	▲ 38
LT		9	▼ 4	29	▼ 11	36	▲ 15	22	▲ 9	4	▲ 1	0	38	▼ 15	26	▲ 10
SE		2	▼ 5	16	▼ 11	30	▲ 11	32	▲ 4	20	▲ 6	0	18	▼ 16	52	▲ 10
DE		6	▼ 6	17	▼ 11	21	▼ 1	32	▲ 6	21	▲ 12	3	23	▼ 17	53	▲ 18
LV		4	▼ 10	20	▼ 8	34	▲ 9	32	▲ 10	10	▲ 2	0	24	▼ 18	42	▲ 12
BE		2	▼ 5	13	▼ 14	28	=	45	▲ 16	12	▲ 5	0	15	▼ 19	57	▲ 21
DK		4	▼ 4	11	▼ 18	28	▲ 4	35	▲ 9	20	▲ 11	2	15	▼ 22	55	▲ 20
EE		2	▼ 8	11	▼ 17	20	▲ 3	45	▲ 19	22	▲ 10	0	13	▼ 25	67	▲ 29
FI		3	▼ 7	23	▼ 18	29	▲ 9	33	▲ 11	12	▲ 7	0	26	▼ 25	45	▲ 18
LU		4	▼ 5	15	▼ 21	27	▲ 8	40	▲ 16	14	▲ 6	0	19	▼ 26	54	▲ 22
PT		2	▼ 5	16	▼ 22	20	▼ 4	46	▲ 29	16	▲ 13	0	18	▼ 27	62	▲ 42
TR		16	▼ 8	28	▲ 9	24	▲ 4	21	▲ 11	11	▲ 2	0	44	▲ 1	32	▲ 13
MK		20	N/A	29	N/A	25	N/A	13	N/A	7	N/A	6	49	N/A	20	N/A
AL		7	N/A	21	N/A	55	N/A	10	N/A	7	N/A	0	28	N/A	17	N/A
ME		11	N/A	35	N/A	30	N/A	20	N/A	3	N/A	1	46	N/A	23	N/A
RS		10	N/A	30	N/A	29	N/A	18	N/A	5	N/A	8	40	N/A	23	N/A
NO		5	=	17	▼ 11	35	▲ 12	31	▲ 4	12	=	0	22	▼ 11	43	▲ 4
IS		1	▼ 3	7	▼ 9	35	▲ 5	43	▲ 4	14	▲ 5	0	8	▼ 12	57	▲ 9
CH		3	▼ 10	18	▼ 11	26	▲ 12	35	▲ 5	18	▲ 9	0	21	▼ 21	53	▲ 14
UK		2	▼ 4	8	▼ 18	28	▲ 6	47	▲ 18	15	▲ 4	0	10	▼ 22	62	▲ 22
XK		20	N/A	35	N/A	24	N/A	9	N/A	3	N/A	9	55	N/A	12	N/A
BA		13	N/A	33	N/A	32	N/A	16	N/A	4	N/A	2	46	N/A	20	N/A

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

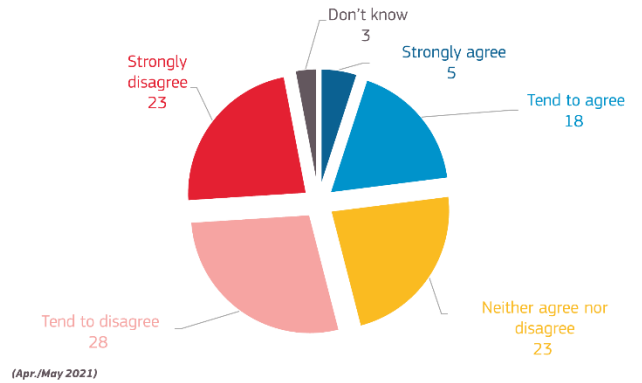
Around a quarter of Europeans (23%) agree that “scientists spend sufficient time meeting people like me to explain their work”, with 5% saying they ‘strongly agree’ and 18% that they ‘tend to agree’. Half of respondents (51%) disagree, including 23% who ‘strongly disagree’.

In all 27 EU Member States, a majority of respondents disagree with the statement. Respondents are most likely to disagree in Germany (66%), Greece (62%) and France (61%), and in these three countries around a third of respondents ‘strongly disagree’ (36%, 32% and 32% respectively).

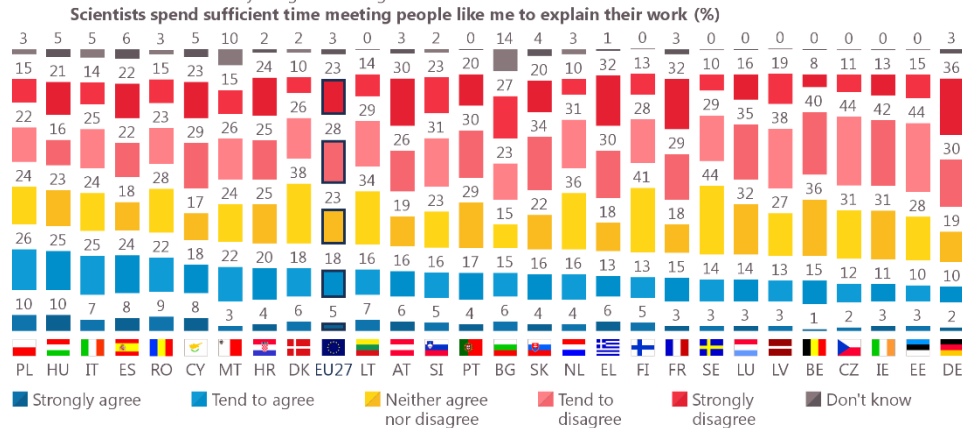
There are only two Member States where more than a third of respondents agree with the statement: Poland (36%) and Hungary (35%).

Looking at the 11 other countries surveyed, a majority of respondents agree with the statement in Montenegro (46%), Kosovo (42%) and Turkey (37%), while agreement is lowest in the UK (11%).

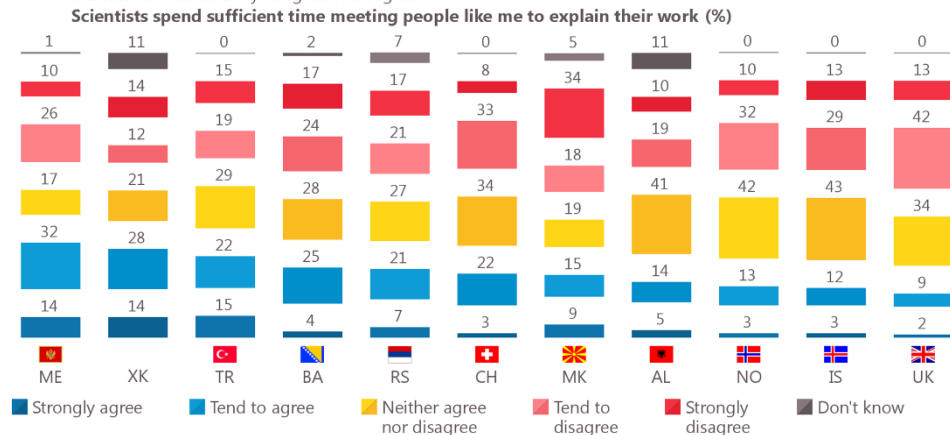
**QA9.3** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree. **Scientists spend sufficient time meeting people like me to explain their work** (% - EU27)



**QA9.3** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**QA9.3** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

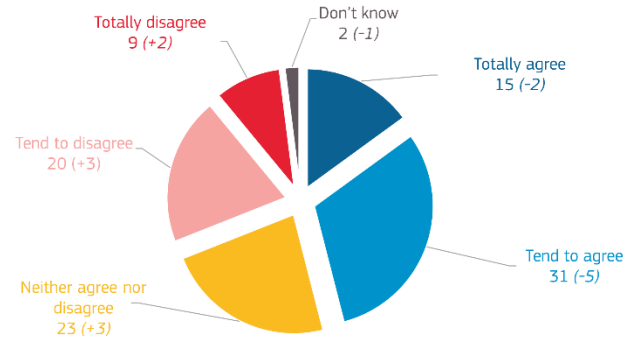


## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Just under half of Europeans (46%, -7 pp since 2010) agree that “because of their knowledge, scientists have a power that makes them dangerous”; this includes 15% (-2 pp) who totally agree' with the statement. Three in ten (29%, +5 pp) disagree, including 9% (+2 pp) who 'totally disagree'.

**QA10.10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Because of their knowledge, scientists have a power that makes them dangerous (% - EU27)**



(Apr./May 2021 - Jan./Feb 2010)



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

A majority of respondents agree that “because of their knowledge, scientists have a power that makes them dangerous” in 18 Member States, with agreement highest level of agreement in Cyprus (62%), Hungary (58%) and Malta (56%). In the 11 other Member States, respondents are more likely to disagree than agree with the statement, with respondents most likely to disagree in Estonia (60%), Ireland (53%) and Denmark (50%).

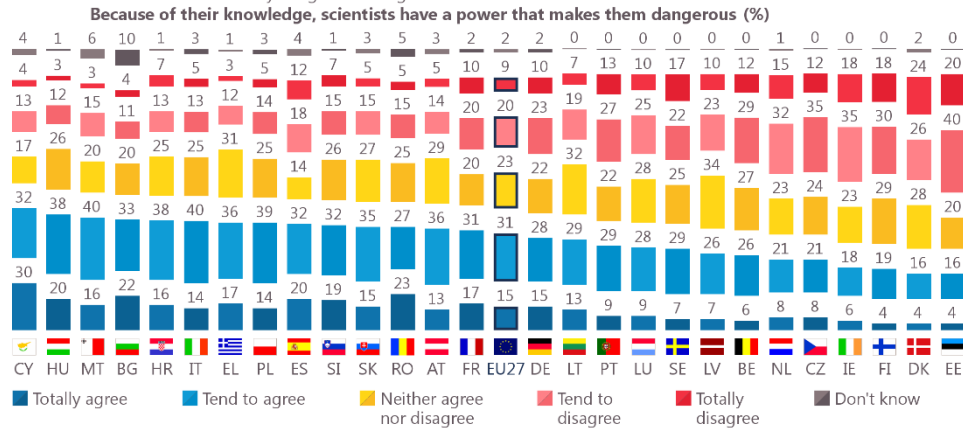
Looking at the 11 other countries surveyed, the proportion that agrees ranges from 67% in Montenegro to 19% in Iceland.

In the EU overall, 46% of respondents agree that ‘because of their knowledge, scientists have a power that makes them dangerous’. This level of agreement has fallen by 7 percentage points since 2010<sup>32</sup>, while the proportion that disagrees (29%) has increased by 5 percentage points<sup>33</sup>.

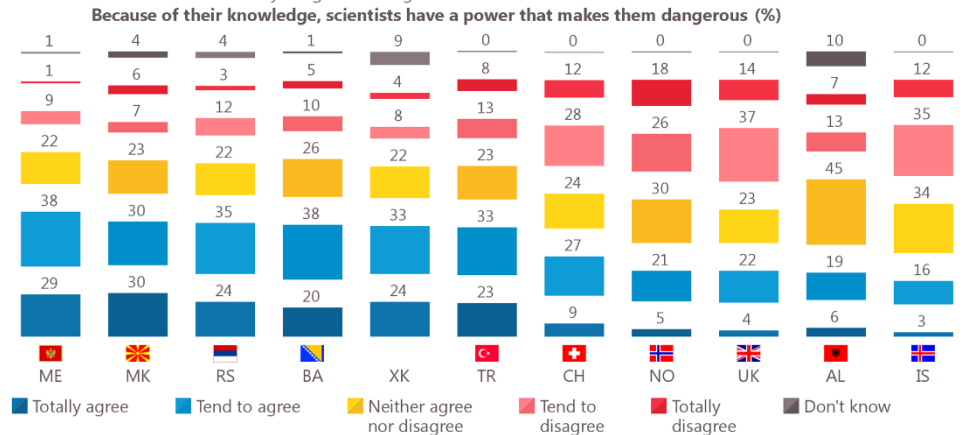
There has been a fall in agreement with the statement in most EU Member States since 2010, the largest being in Estonia (-30 pp), Finland (-29 pp), Portugal (-27 pp) and Latvia (-26 pp). Conversely, the largest increases in agreement can be seen in Hungary (+9 pp), Italy (+7 pp) and Austria (+7 pp).

Looking at the 11 other countries surveyed (among those also included in the 2010 survey), most countries show a fall in agreement, the largest being in Switzerland (-24 pp). Turkey, by contrast, shows an increase in agreement (+9 pp).

**QA10.10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



<sup>32</sup> In 2010 the United Kingdom was still part of the European Union but Croatia had not yet joined. The 2010 total therefore refers to an “EU 27” that includes the UK but not Croatia.

<sup>33</sup> This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.10 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Because of their knowledge, scientists have a power that makes them dangerous (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010		Diff. April/May 2021 - January/February 2010
EU27		15	▼ 2	31	▼ 5	23	▲ 3	20	▲ 3	9	▲ 2	2	46	▼ 7	29	▲ 5
HU		20	▲ 3	38	▲ 6	26	▲ 2	12	▼ 5	3	▼ 5	1	58	▲ 9	15	▼ 10
IT		14	▲ 2	40	▲ 5	25	▼ 1	13	▼ 5	5	▼ 2	3	54	▲ 7	18	▼ 7
AT		13	▲ 3	36	▲ 4	29	▲ 4	14	▼ 10	5	▼ 2	3	49	▲ 7	19	▼ 12
BG		22	▲ 7	33	▼ 2	20	▼ 1	11	▲ 1	4	▼ 1	10	55	▲ 5	15	=
RO		23	▲ 6	27	▼ 2	25	=	15	▲ 5	5	▼ 3	5	50	▲ 4	20	▲ 2
PL		14	▼ 3	39	▲ 4	25	▲ 3	14	▼ 3	5	▲ 1	3	53	▲ 1	19	▼ 2
FR		17	▲ 2	31	▼ 7	20	▲ 3	20	▲ 1	10	▲ 2	2	48	▼ 5	30	▲ 3
SK		15	▼ 2	35	▼ 3	27	▲ 2	15	=	5	▲ 2	3	50	▼ 5	20	▲ 2
CY		30	▼ 4	32	▼ 2	17	▼ 1	13	▲ 8	4	▲ 3	4	62	▼ 6	17	▲ 11
MT		16	▼ 6	40	▼ 1	20	▲ 8	15	▲ 7	3	▼ 1	6	56	▼ 7	18	▲ 6
ES		20	▲ 1	32	▼ 9	14	▼ 1	18	▲ 6	12	▲ 5	4	52	▼ 8	30	▲ 11
HR		16	▼ 11	38	▲ 3	25	▲ 7	13	▲ 1	7	▲ 2	1	54	▼ 8	20	▲ 3
CZ		8	▼ 5	21	▼ 9	24	▼ 3	35	▲ 12	12	▲ 6	0	29	▼ 14	47	▲ 18
EL		17	▼ 10	36	▼ 4	31	▲ 11	12	▲ 2	3	▲ 1	1	53	▼ 14	15	▲ 3
NL		8	▼ 7	21	▼ 8	23	▲ 2	32	▲ 7	15	▲ 6	1	29	▼ 15	47	▲ 13
SI		19	▼ 8	32	▼ 7	26	▲ 12	15	▲ 2	7	▲ 1	1	51	▼ 15	22	▲ 3
LT		13	▼ 4	29	▼ 12	32	▲ 14	19	▲ 5	7	▲ 3	0	42	▼ 16	26	▲ 8
SE		7	▼ 5	29	▼ 13	25	▲ 7	22	▲ 7	17	▲ 5	0	36	▼ 18	39	▲ 12
DK		4	▼ 9	16	▼ 10	28	▲ 5	26	▲ 4	24	▲ 11	2	20	▼ 19	50	▲ 15
BE		6	▼ 8	26	▼ 12	27	▲ 2	29	▲ 12	12	▲ 7	0	32	▼ 20	41	▲ 19
LU		9	▼ 5	28	▼ 15	28	▲ 9	25	▲ 9	10	▲ 5	0	37	▼ 20	35	▲ 14
DE		15	▼ 13	28	▼ 9	22	▲ 7	23	▲ 8	10	▲ 6	2	43	▼ 22	33	▲ 14
IE		6	▼ 7	18	▼ 15	23	▲ 5	35	▲ 16	18	▲ 10	0	24	▼ 22	53	▲ 26
LV		7	▼ 13	26	▼ 13	34	▲ 17	23	▲ 8	10	▲ 4	0	33	▼ 26	33	▲ 12
PT		9	▼ 10	29	▼ 17	22	▲ 3	27	▲ 19	13	▲ 11	0	38	▼ 27	40	▲ 30
FI		4	▼ 7	19	▼ 22	29	▲ 13	30	▲ 9	18	▲ 8	0	23	▼ 29	48	▲ 17
EE		4	▼ 15	16	▼ 15	20	▲ 2	40	▲ 18	20	▲ 13	0	20	▼ 30	60	▲ 31
TR		23	▼ 5	33	▲ 14	23	▲ 3	13	▲ 3	8	▼ 3	0	56	▲ 9	21	=
MK		30	N/A	30	N/A	23	N/A	7	N/A	6	N/A	4	60	N/A	13	N/A
AL		6	N/A	19	N/A	45	N/A	13	N/A	7	N/A	10	25	N/A	20	N/A
ME		29	N/A	38	N/A	22	N/A	9	N/A	1	N/A	1	67	N/A	10	N/A
RS		24	N/A	35	N/A	22	N/A	12	N/A	3	N/A	4	59	N/A	15	N/A
NO		5	▼ 5	21	▼ 14	30	▲ 12	26	▲ 4	18	▲ 4	0	26	▼ 19	44	▲ 8
UK		4	▼ 9	22	▼ 12	23	▲ 2	37	▲ 18	14	▲ 4	0	26	▼ 21	51	▲ 22
IS		3	▼ 9	16	▼ 13	34	▲ 10	35	▲ 8	12	▲ 4	0	19	▼ 22	47	▲ 12
CH		9	▼ 14	27	▼ 10	24	▲ 11	28	▲ 8	12	▲ 6	0	36	▼ 24	40	▲ 14
XK		24	N/A	33	N/A	22	N/A	8	N/A	4	N/A	9	57	N/A	12	N/A
BA		20	N/A	38	N/A	26	N/A	10	N/A	5	N/A	1	58	N/A	15	N/A

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In general, there are some consistent socio-demographic variations that apply to respondents' perceptions of scientists.

More highly educated respondents are more likely to agree that scientists should intervene in political decisions (and less likely to agree that they should not intervene), and are less likely to agree that we can no longer trust scientists, that scientists look only at very specific issues, and that scientists should be held accountable for the misuse of their discoveries. The difference is most pronounced in terms of agreement on whether 'nowadays, the problems we are facing are so complex that scientists are no longer able to understand them'. Among those who left education at the age of 20 or above, just 25% agree with this statement, compared with 46% of those who left education at the age of 15 or below.

In terms of socio-professional groups, perceptions of scientists are consistently the most positive among managers and students. Manual workers (53%), retired people (52%) and housepersons (51%) are also more likely to agree that scientists have power that makes them dangerous because of their knowledge, while fewer managers (35%) and students (38%) agree with this. The one statement where little difference is seen by education is the one about 'problems today being so complex that even scientists cannot understand them'.

Younger respondents are more likely than older respondents to agree that scientists should intervene in political decisions, though differences are small (e.g. 72% of 25-39 vs 65% of 55 and over), though little difference can be seen in age groups for the opposite statements that scientists should not intervene in political decisions. For the other four statements of QA11, young people are less likely to agree than older respondents. For example, 41% of 15-24-year-olds agree that 'we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry', lower than the proportion among those aged 55 or over (54%). In addition, younger respondents are more likely than older respondents to agree that 'scientists spend sufficient time meeting people like me to explain their work'. Specifically, 27% of 15-24-year-olds agree with the statement, compared with 21% of those aged 55 or over. On the contrary, older respondents are more likely than younger respondents to agree that 'because of their knowledge, scientists have a power that makes them dangerous' (50% of those aged 55 or over, compared with 40% of those aged 15-24).

Respondents who never/almost never have difficulties paying bills are more likely to agree (69%) than those who have difficulty paying bills most of the time (62%) that scientists should intervene in political decisions. Respondents who never/almost never have difficulty paying bills are less likely to agree with the other four statements than those who have difficulties paying bills most of the time. The largest difference is in the proportion that agrees that 'nowadays, the problems we are facing are so complex that scientists are no longer able to understand them': 45% among those who have difficulties most of the time, compared with 29% of those who rarely or never have difficulties.

Perceptions are also related to scientific knowledge. Respondents who answered more than eight out of eleven statements correctly

are more likely to agree that scientists should intervene in political decisions (78%) than those who got less than five answers correct at the quiz (57%), and logically respondents with eight or more correct answers at the quiz are less likely to agree that scientists should not intervene in political decisions (28%) than those with five or less correct answers (46%). Respondents who answered more than eight statements correctly in the quiz are less likely to agree with the other four statements than those who answered less than five questions correctly. For example, just 29% of respondents with a higher level of knowledge agree that 'scientists should be held accountable for the misuse of their discoveries by other people', compared with 58% of those who got less than five correct answers. Among respondents who answered more than eight out of eleven 'quiz' statements correctly, 19% agree that 'scientists spend sufficient time meeting people like me to explain their work' compared to 27% of those who answered fewer than five correct answers. Finally, respondents who answered more than eight out of eleven statements correctly are less likely to agree with the statement that scientists have a power that makes them dangerous (30%) than those who answered fewer than five questions correctly (55%).

Generally, agreement with the statements is higher among respondents who describe themselves as 'quite or very spiritual or religious'. For example, 55% of those who say they are quite or very spiritual or religious agree that scientists have a power that is dangerous compared to 39% of those who are not very or not spiritual or religious. This pattern reverses only for the statement 'scientists should intervene in political debate to ensure that decisions take into account scientific evidence', where less religious respondents (70%) are more likely to agree than more religious ones (65%).

Perceptions of scientists tend to also follow a pattern depending on whether respondents have worked in research, science or innovative technology development, with differences particularly marked if both the respondent and a family member have worked in one of these areas. For example, among respondents who have worked in research, science or innovative technology development, around a third (36%) agree that 'scientists should be held accountable for the misuse of their discoveries by other people' compared to 48% of those with no personal or family connection with this type of work.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA11T/9.3/10.10** To what extent do you agree with the following statements regarding scientists today?  
(% - Total 'Agree')

	Scientists should intervene in political debate to ensure that decisions take into account scientific evidence	We can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry	Scientists only look at very specific issues and do not consider problems from a wider perspective	Scientists should be held accountable for the misuse of their discoveries by other people	Scientists should not intervene in political debate when decisions ignore scientific evidence	Nowadays, the problems we are facing are so complex that scientists are no longer able to understand them	Scientists spend sufficient time meeting people like me to explain their work	Because of their knowledge, scientists have a power that makes them dangerous
EU27	68	50	45	45	39	32	23	46
Gender								
Man	69	50	46	45	41	31	23	45
Woman	66	51	45	46	38	34	23	46
Age								
15-24	68	41	36	44	38	27	27	40
25-39	72	47	44	43	37	30	26	42
40-54	69	51	46	43	41	31	22	46
55+	65	54	49	49	40	36	21	50
Education (end of)								
15-	59	57	50	54	43	46	21	56
16-19	66	55	50	53	43	37	25	53
20+	73	47	42	37	35	25	20	38
Still studying	73	40	36	40	35	25	27	38
Socio-professional category								
Self-employed	70	49	49	45	35	29	25	42
Managers	74	42	39	35	33	22	21	35
Other white collars	69	47	43	43	37	29	25	44
Manual workers	66	55	49	50	45	37	25	53
House persons	64	51	48	45	40	41	20	51
Unemployed	66	60	47	55	45	38	25	49
Retired	64	56	51	51	41	38	21	52
Students	73	40	36	40	35	25	27	38
Difficulties paying bills								
Most of the time	62	57	51	57	43	45	24	53
From time to time	65	54	49	51	43	40	27	54
Almost never/ Never	69	49	45	43	38	29	22	44
Left-right political scale								
Left	73	49	44	41	37	29	24	41
Centre	68	52	47	48	40	32	22	47
Right	65	51	47	49	40	35	26	51
<b>Medical discoveries</b>								
Interested	74	51	45	44	38	30	22	45
Moderately interested	68	50	46	45	41	33	22	47
Not interested	52	48	47	48	41	39	25	50
<b>Scientific discoveries</b>								
Interested	77	49	42	41	35	26	23	40
Moderately interested	69	51	47	46	40	33	23	48
Not interested	51	52	50	51	47	43	23	53
<b>Environmental problems</b>								
Interested	76	50	44	43	35	28	22	42
Moderately interested	66	51	47	47	43	34	24	49
Not interested	48	48	46	49	42	40	25	51
<b>Influence of science and technology</b>								
Positive	71	49	45	45	39	30	23	44
Negative	52	60	53	52	47	48	23	59
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	57	54	50	58	46	45	27	55
Between 5 and 8 correct answers	68	53	49	48	42	34	23	50
More than 8 correct answers	78	40	34	29	28	17	19	30
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	70	47	41	38	36	24	19	39
Total 'Neither spiritual or religious nor not spiritual or religious'	68	51	47	48	41	35	25	48
Total 'Quite or very spiritual or religious'	65	54	50	54	41	41	25	55
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	76	44	41	36	32	24	27	34
A family member does or did in the past	78	44	40	36	32	23	21	35
Both you and a family member do or did in the past	73	48	38	26	25	15	22	27
No	66	52	46	48	41	34	23	48

## **V. CITIZENS' ENGAGEMENT IN SCIENCE AND TECHNOLOGY**



## 1. Desired public involvement in decisions about science and technology

This section examines citizens' views on the involvement of the general public in making decisions about science and technology.

Four in ten Europeans (40%) think that public opinion should be taken into account in decision making about science and technology. Specifically, 8% say that 'public opinion should be the main concern when making decisions about science and technology', while 32% that 'the public should be consulted and public opinion should be seriously considered'.

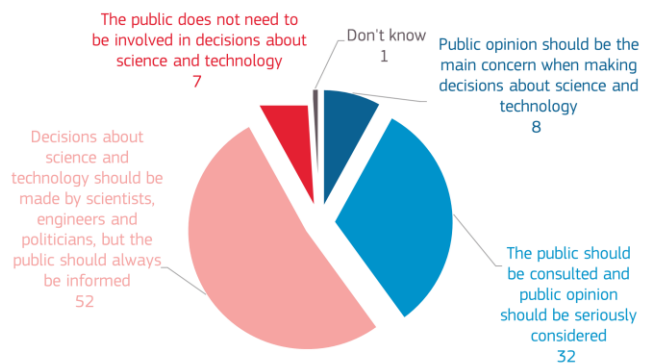
The most popular option is that 'decisions about science and technology should be made by scientists, engineers and politicians, but the public should always be informed' (52%), while 7% think that 'the public does not need to be involved in decisions about science and technology'.

In three EU Member States, a majority of respondents support public involvement in decision making (saying either that public opinion should be the main concern or at least seriously considered): Romania (55%), and Austria and France (both 52%). In fact, in Romania as many as 20% think that 'public opinion should be the main concern when making decisions about science and technology'.

In the remaining 24 Member States, a majority oppose public involvement in decision making about science and technology, saying either that 'decisions about science and technology should be made by scientists, engineers and politicians, but the public should always be informed' or that 'the public does not need to be involved in decisions about science and technology'. Respondents are most likely to oppose public involvement in Czechia (79%), Estonia and Latvia (both 75%) and Portugal (70%).

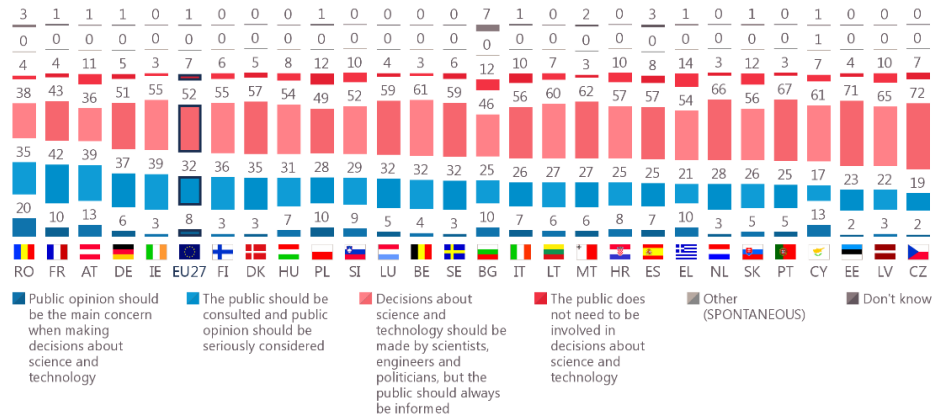
Looking at the non-EU countries surveyed, respondents in Switzerland (50%) are most likely to support public involvement in decision making, while the proportion of respondents who disagree that the public should be involved is highest in Kosovo (77%).

**QA7** What level of public involvement do you think is appropriate when it comes to decisions about science and technology? (% - EU27)

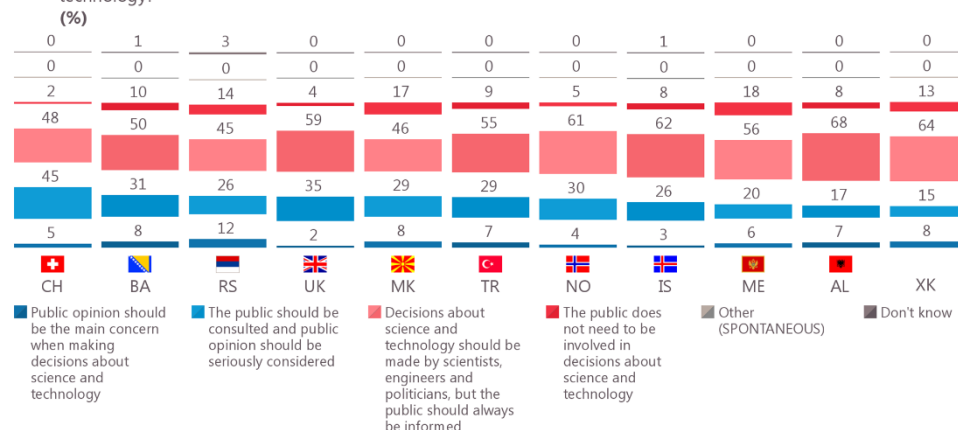


(Apr./May 2021)

**QA7** What level of public involvement do you think is appropriate when it comes to decisions about science and technology? (%)



**QA7** What level of public involvement do you think is appropriate when it comes to decisions about science and technology? (%)



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Attitudes about public involvement in science and technology decision making are generally consistent across socio-demographic groups.

There is a slight difference by level of education, with those who left education older being more inclined to oppose public involvement (either saying that the public should be informed but not involved, or that the public does not need to be involved). Specifically, 62% of those who left education at the age of 20 or above are opposed to public involvement, compared to 55% of those who left education at the age of 15 or below.

Respondents who have difficulties paying bills most of the time are more likely to support public involvement in decision making (saying either that public opinion should be the main concern or at least seriously considered): 45% compared with 38% of those who rarely or never have difficulties paying bills.

Respondents who think science and technology has a positive influence on society are more likely to oppose public involvement (63% compared with 40% of those who say it has a negative influence).

Attitudes are also related to knowledge about science. Respondents who answered eight or more questions in the quiz (QA20) correctly are more likely to disagree that the public should be involved (64%) than those who answered fewer than five quiz questions correctly (53%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA7** What level of public involvement do you think is appropriate when it comes to decisions about science and technology?  
(% - EU)

	The public does not need to be involved in decisions about science and technology	Decisions about science and technology should be made by scientists, engineers and politicians, but the public should always be informed	The public should be consulted and public opinion should be seriously considered	Public opinion should be the main concern when making decisions about science and technology	Other (SPONTANEOUS)	Don't know	Total 'Against public dialogue'	Total 'For public dialogue'
EU27	7	52	32	8	0	1	59	40
Gender								
Man	8	52	32	7	0	1	60	39
Woman	7	53	31	8	0	1	60	39
Age								
15-24	7	54	31	7	0	1	61	38
25-39	7	54	31	8	0	0	61	39
40-54	6	53	32	8	0	1	59	40
55+	8	51	31	8	0	2	59	39
Education (end of)								
15-	9	46	30	11	0	4	55	41
16-19	8	50	32	9	0	1	58	41
20+	5	57	32	6	0	0	62	38
Still studying	6	56	32	6	0	0	62	38
Socio-professional category								
Self-employed	7	56	29	7	0	1	63	36
Managers	7	57	32	4	0	0	64	36
Other white collars	7	56	29	7	0	1	63	36
Manual workers	7	49	34	9	0	1	56	43
House persons	9	47	31	10	0	3	56	41
Unemployed	6	52	30	11	0	1	58	41
Retired	8	50	32	8	0	2	58	40
Students	6	56	32	6	0	0	62	38
Difficulties paying bills								
Most of the time	9	44	32	13	0	2	53	45
From time to time	8	48	33	10	0	1	56	43
Almost never/ Never	6	55	31	7	0	1	61	38
Left-right political scale								
Left	7	53	34	6	0	0	60	40
Centre	6	53	32	8	0	1	59	40
Right	8	53	30	9	0	0	61	39
<b>Medical discoveries</b>								
Interested	6	55	32	7	0	0	61	39
Moderately interested	7	54	31	7	0	1	61	38
Not interested	12	42	31	12	0	3	54	43
<b>Scientific discoveries</b>								
Interested	6	56	31	7	0	0	62	38
Moderately interested	6	53	33	7	0	1	59	40
Not interested	12	43	29	12	0	4	55	41
<b>Environmental problems</b>								
Interested	5	55	34	6	0	0	60	40
Moderately interested	8	54	30	7	0	1	62	37
Not interested	13	39	29	14	0	5	52	43
<b>Influence of science and technology</b>								
Positive	7	56	30	6	0	1	63	36
Negative	8	32	41	18	0	1	40	59
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	10	43	31	12	0	4	53	43
Between 5 and 8 correct answers	7	53	32	8	0	0	60	40
More than 8 correct answers	4	60	32	4	0	0	64	36
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	7	53	33	7	0	0	60	40
Total 'Neither spiritual or religious nor not spiritual or religious'	7	53	32	7	0	1	60	39
Total 'Quite or very spiritual or religious'	9	49	30	10	0	2	58	40
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	6	58	32	4	0	0	64	36
A family member does or did in the past	3	56	35	5	0	1	59	40
Both you and a family member do or did in the past	3	66	28	3	0	0	69	31
No	8	52	31	8	0	1	60	39



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

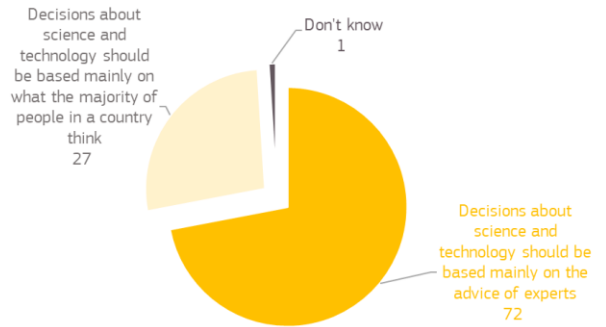
More than seven in ten Europeans (72%) hold the view that 'decisions about science and technology should be based mainly on the advice of experts', while 27% hold the view that 'decisions about science and technology should be based mainly on what the majority of people in a country think'.

In every EU Member State, the prevailing view is that 'decisions about science and technology should be based mainly on the advice of experts'. Respondents are most likely to hold this view in Czechia (92%), Estonia (90%), Finland (89%) and Malta (87%).

The alternative viewpoint, that 'decisions about science and technology should be based mainly on what the majority of people in a country think', is most prevalent in Austria and Romania (both 38%), and Poland (36%).

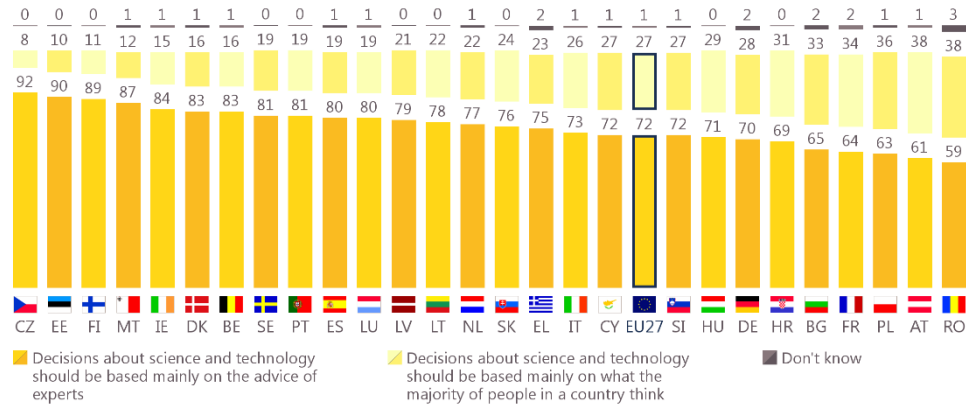
Looking at the non-EU countries surveyed, respondents in the UK (87%) and Iceland (86%) are most likely to say that 'decisions about science and technology should be based mainly on the advice of experts', while those in the Republic of North Macedonia, Kosovo (both 36%) and Bosnia and Herzegovina (35%) are the most likely to say that decisions should be based mainly on what the majority of people in a country think.

**QA13A** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU 27)

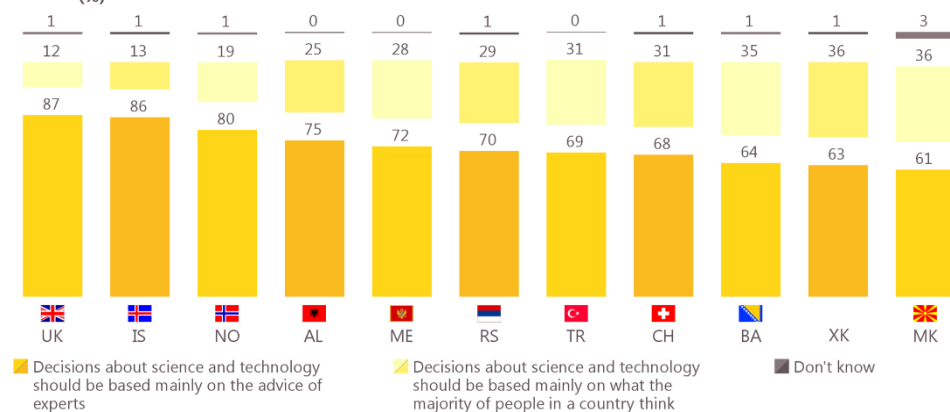


(Apr./May 2021)

**QA13a** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13a** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In the socio-demographic analysis, results are mostly consistent by gender and age, but there are differences in some other groupings:

Respondents who left education at the age of 20 or above are more likely to say that 'decisions about science and technology should be based mainly on the advice of experts' (78%), compared with those who left education at age 16-19 (67%) or by the age of 15 (69%).

In terms of socio-professional groups, managers are most likely to think that decisions should be based mainly on the advice of experts (80%), while the proportion is lowest among manual workers (67%).

Respondents who never or almost never have difficulties paying bills are more inclined to think that 'decisions about science and technology should be based mainly on the advice of experts' (75%) compared with those who have difficulties most of the time (64%) or from time to time (65%).







The view that decisions should be based mainly on the advice of experts is more common among respondents who have an involvement in - or good knowledge of - science and technology. Indeed, those who say they are interested in scientific discoveries (77% compared with 62% of those who are not interested) and those who think science and technology has a positive influence on society (74% compared with 54% of those who think it has a negative influence) are more likely to say that decisions should be based mainly on the experts' advice. Attitudes are also related to knowledge about science. Respondents who answered eight or more questions correctly in the quiz are more likely to think that decisions should be based mainly on the advice of experts (83%) than those who answered fewer than five questions correctly (60%).

Among respondents who have worked in research, science or innovative technology development, 77% think that decisions should be based mainly on the advice of experts, and this is higher still (83%) where both the respondent and a family member have worked in one of these areas. It is lower (71%) among respondents with no personal or family connection with this type of work.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA13A** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

	Decisions about science and technology should be based mainly on the advice of experts	Decisions about science and technology should be based mainly on what the majority of people in a country think	Don't know
EU27	72	27	1
 <b>Gender</b>			
Man	73	26	1
Woman	71	27	2
 <b>Age</b>			
15-24	72	27	1
25-39	73	27	0
40-54	72	27	1
55+	71	27	2
 <b>Education (end of)</b>			
15-	69	29	2
16-19	67	32	1
20+	78	21	1
Still studying	76	23	1
 <b>Socio-professional category</b>			
Self-employed	76	23	1
Managers	80	19	1
Other white collars	73	26	1
Manual workers	67	32	1
House persons	69	30	1
Unemployed	68	30	2
Retired	69	29	2
Students	76	23	1
 <b>Difficulties paying bills</b>			
Most of the time	64	34	2
From time to time	65	34	1
Almost never/ Never	75	24	1
 <b>Left-right political scale</b>			
Left	75	24	1
Centre	72	27	1
Right	70	29	1
<b>Medical discoveries</b>			
Interested	75	24	1
Moderately interested	72	27	1
Not interested	63	34	3
<b>Scientific discoveries</b>			
Interested	77	22	1
Moderately interested	72	27	1
Not interested	62	35	3
<b>Environmental problems</b>			
Interested	76	23	1
Moderately interested	71	28	1
Not interested	59	37	4
<b>Influence of science and technology</b>			
Positive	74	25	1
Negative	54	44	2
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	60	37	3
Between 5 and 8 correct answers	71	28	1
More than 8 correct answers	83	16	1
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	75	24	1
Total 'Neither spiritual or religious nor not spiritual or religious'	71	28	1
Total 'Quite or very spiritual or religious'	68	30	2
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	77	23	0
A family member does or did in the past	78	21	1
Both you and a family member do or did in the past	83	17	0
No	71	28	1

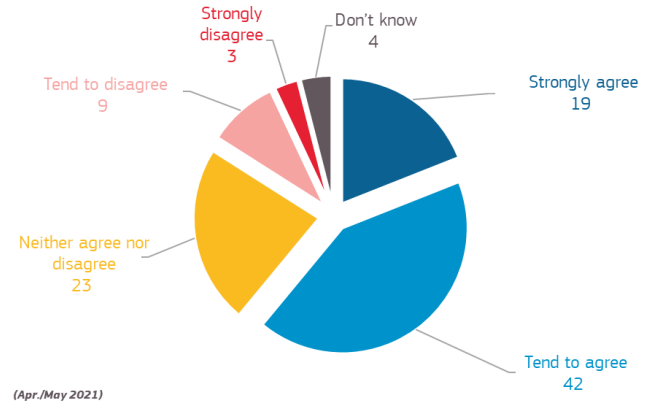
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Six in ten Europeans (61%) agree that “involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society”, with 19% strongly agreeing. By contrast, 12% disagree with the statement, with 3% expressing strong disagreement.

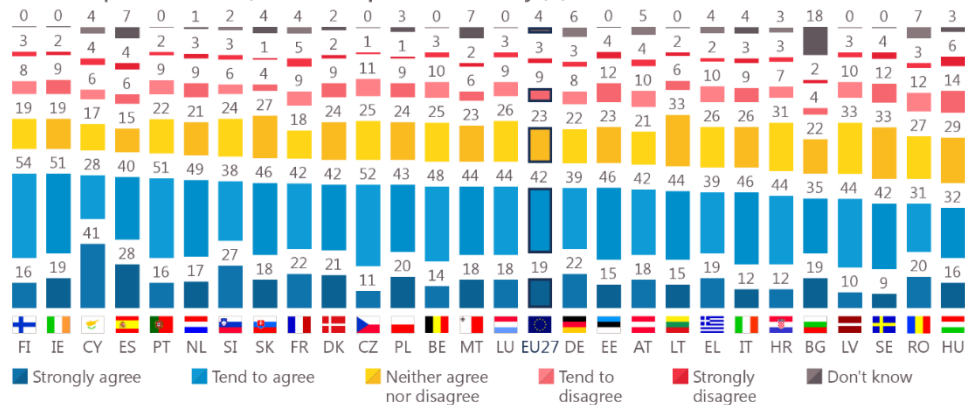
In all 27 EU Member States, a majority of respondents agree with the statement. Agreement is highest in Ireland and Finland (both 70%), and Cyprus (69%), while it is lowest in Hungary (48%), and Sweden and Romania (both 51%).

Looking at the non-EU countries surveyed, respondents are most likely to agree with the statement in Montenegro (73%), while agreement is lowest in Albania (28%).

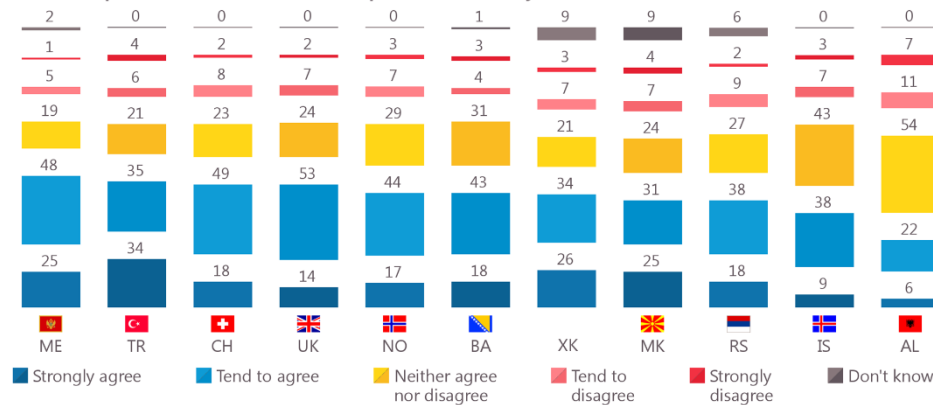
**QA17.7** How strongly do you agree or disagree with the following statements?  
**Involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society (% - EU27)**



**QA17.7** How strongly do you agree or disagree with the following statements?  
**Involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society (%)**



**QA17.7** How strongly do you agree or disagree with the following statements?  
**Involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society (%)**



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The main difference in the socio-demographic analysis is by level of education:

More highly educated respondents (those who finished education at the age of 20 or above) are more likely to agree that 'involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society' (67% compared with 54% of those who left education by the age of 15).

Agreement is higher among respondents aged 25-39 and 40-54 (both 64%) than those aged 15-24 (59%) or aged 55 or over (58%).

The view that non-scientists should be involved in research and technological development is more prevalent among respondents who say they are interested in scientific discoveries (66% compared with 52% of those who are not interested) and those who think science and technology has a positive influence on society (64% compared with 49% of those who think it has a negative influence).

Agreement is also higher in those who answered eight or more questions in the quiz correctly (68%) than those who answered fewer than five questions correctly (51%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA17.7 How strongly do you agree or disagree with the following statements?

**Involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society** (% - EU)

	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	19	42	23	9	3	4	61	12
<b>Gender</b>								
Man	20	42	22	9	4	3	62	13
Woman	19	42	23	8	3	5	61	11
<b>Age</b>								
15-24	20	39	24	10	4	3	59	14
25-39	21	43	23	8	3	2	64	11
40-54	19	45	21	9	4	2	64	13
55+	18	40	23	9	3	7	58	12
<b>Education (end of)</b>								
15-	16	38	24	7	4	11	54	11
16-19	19	42	24	8	3	4	61	11
20+	22	45	19	9	3	2	67	12
Still studying	19	40	25	10	3	3	59	13
<b>Socio-professional category</b>								
Self-employed	20	45	20	8	4	3	65	12
Managers	19	46	20	10	3	2	65	13
Other white collars	19	44	23	9	3	2	63	12
Manual workers	20	40	23	9	4	4	60	13
House persons	16	44	23	8	2	7	60	10
Unemployed	25	38	21	9	3	4	63	12
Retired	18	41	23	8	3	7	59	11
Students	19	40	25	10	3	3	59	13
<b>Difficulties paying bills</b>								
Most of the time	24	33	26	8	3	6	57	11
From time to time	18	40	26	8	3	5	58	11
Almost never/ Never	19	43	21	9	4	4	62	13
<b>Left-right political scale</b>								
Left	20	44	21	9	3	3	64	12
Centre	19	42	23	8	4	4	61	12
Right	18	42	23	11	3	3	60	14
<b>Medical discoveries</b>								
Interested	24	41	20	8	4	3	65	12
Moderately interested	16	44	24	9	3	4	60	12
Not interested	16	36	26	9	4	9	52	13
<b>Scientific discoveries</b>								
Interested	25	41	19	9	4	2	66	13
Moderately interested	17	45	23	9	3	3	62	12
Not interested	15	37	26	9	3	10	52	12
<b>Environmental problems</b>								
Interested	24	42	19	9	3	3	66	12
Moderately interested	16	44	24	9	3	4	60	12
Not interested	14	36	27	10	3	10	50	13
<b>Influence of science and technology</b>								
Positive	20	44	22	8	3	3	64	11
Negative	18	31	26	13	7	5	49	20
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	15	36	27	8	3	11	51	11
Between 5 and 8 correct answers	20	42	23	9	3	3	62	12
More than 8 correct answers	21	47	17	10	4	1	68	14
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	19	42	23	9	4	3	61	13
Total 'Neither spiritual or religious nor not spiritual or religious'	19	43	23	9	2	4	62	11
Total 'Quite or very spiritual or religious'	21	40	21	7	4	7	61	11
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	23	40	21	11	5	0	63	16
A family member does or did in the past	23	43	19	9	4	2	66	13
Both you and a family member do or did in the past	24	37	13	19	5	2	61	24
No	19	42	23	8	3	5	61	11

## Special Eurobarometer 516

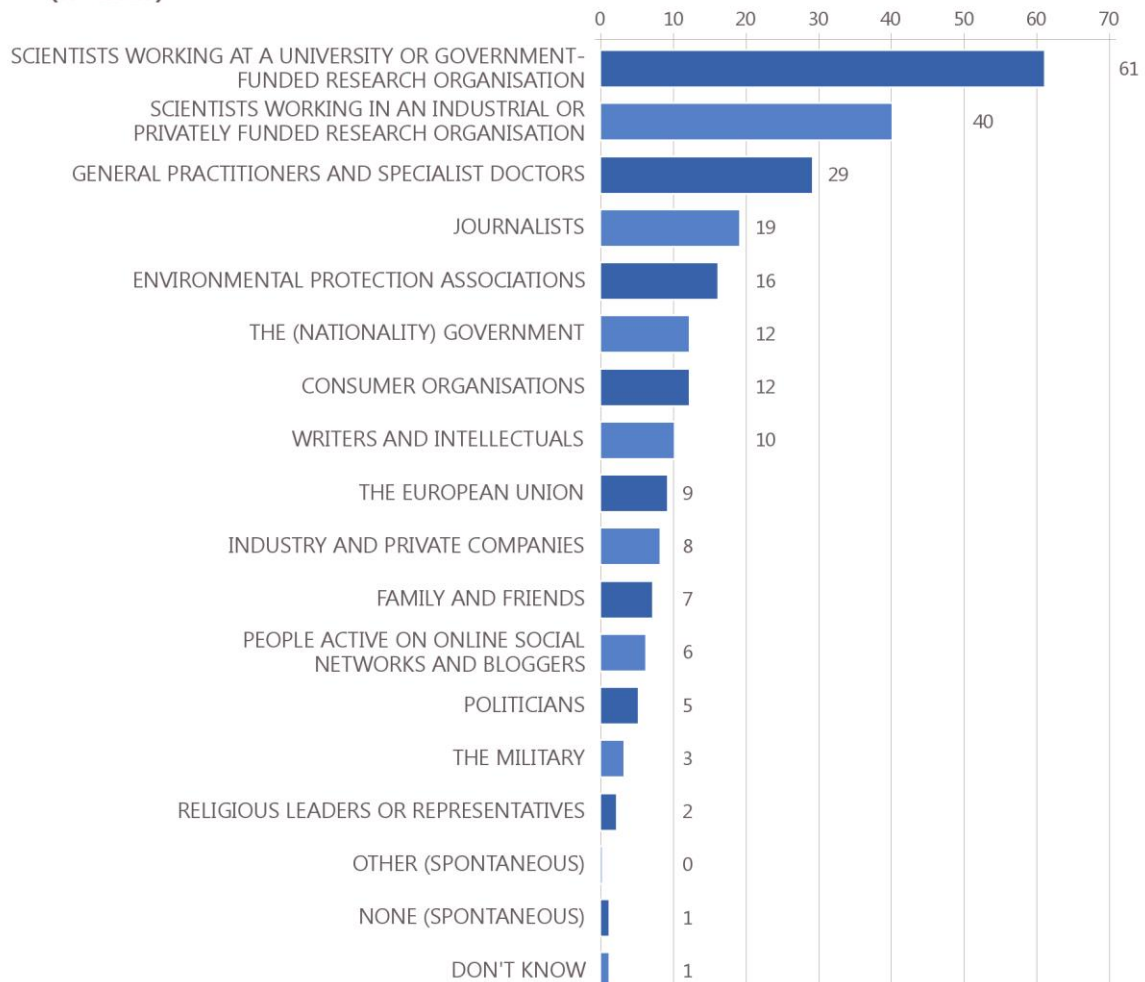
### European citizens' knowledge and attitudes towards science and technology

Europeans think that professional scientists are best qualified to explain the impact of scientific and technological developments on society. In particular, respondents feel that scientists working at a university or government-funded research organisation are the best qualified (61%), followed by scientists working in an industrial or privately funded research organisation (40%). Around three in ten (29%) choose general practitioners and specialist doctors as one of the categories of people and organisations that are best qualified to explain these issues.

Around one in five respondents (19%) think that journalists are among the best qualified people to explain the impact of scientific and technological developments on society, while more than one in ten choose environmental protection associations (16%), consumer organisations (12%) or national governments (12%).

The EU is chosen by 9% of respondents as one of the best qualified categories of people and organisations, similar to the proportion that mention writers and intellectuals (10%), and ahead of other options, such as industry and private companies (8%), family and friends (7%), and people active on online social networks and bloggers (6%). The least popular choices to explain the impact of scientific and technological developments on society are politicians (5%), the military (3%), and religious leaders or representatives (2%).

**QA5** Among the following categories of people and organisations, which are the best qualified to explain the impact of scientific and technological developments on society? (MAX. 3 ANSWERS)  
(% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In every EU Member State, respondents are most likely to say that scientists working at a university or government-funded research organisation are the best qualified people to explain the impact of scientific and technological developments on society. The proportion choosing this option is highest in Sweden (84%), Estonia and Finland (both 82%), and Ireland and Czechia (both 80%). There are just three countries where less than half of respondents choose this option: Poland (44%), Romania (45%) and Austria (46%).

Respondents in Czechia (59%), Portugal (56%) and Slovakia (55%) are the most likely to say that scientists working in an industrial or privately funded research organisation are best qualified to explain these issues, while the proportion is lowest in Austria (28%), and the Netherlands, Germany and Romania (all 30%).

Respondents are most likely to choose general practitioners and specialist doctors in Greece (50%), Cyprus (49%) and Malta (48%), while the proportion is lowest in Lithuania (15%), and Sweden, Latvia and Bulgaria (all 17%).

Respondents in the Netherlands (40%) are by far the most likely to say that journalists are among the best qualified people to explain the impact of scientific and technological developments on society, while those in France and Ireland (both 24%) and Portugal (23%) are most likely to choose environmental protection associations.

Consumer organisations are chosen most frequently by respondents in Germany and the Netherlands (both 23%), while those in the Netherlands are also the most likely to choose writers and intellectuals (19%). Respondents in Hungary (21%) are most likely to say that the national government is well qualified to explain these issues.

The EU is chosen most frequently by respondents in Portugal (21%) and Cyprus (18%), while respondents in Finland (17%) and Sweden (15%) are most likely to mention industry and private companies.

Family and friends are chosen most frequently by respondents in Austria, Romania and Slovenia (all 14%), while respondents in Hungary (13%) and Lithuania (12%) are most likely to choose people active on online social networks and bloggers. The other options are all chosen by fewer than 10% of respondents in every EU Member State.

Looking at the non-EU countries surveyed, respondents in Norway (82%) are most likely to say that scientists working at a university or government-funded research organisation are the best qualified people to explain the impact of scientific and technological developments on society. Respondents in Montenegro (60%) are the most likely to choose scientists working in an industrial or privately funded research organisation. Those in the UK (29%) are the most likely to choose general practitioners and specialist doctors. Journalists are chosen most frequently by respondents in Switzerland (22%). In addition, relatively high proportions choose other options, such as the national government (32% in Kosovo), the EU (33% in Albania), and writers and intellectuals (27% in Iceland and 25% in Turkey).



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA5 Among the following categories of people and organisations, which are the best qualified to explain the impact of scientific and technological developments on society? (MAX. 3 ANSWERS)  
(%)

	Scientists working at a university or government-funded research organisation	Scientists working in an industrial or privately funded research organisation	General practitioners and specialist doctors	Journalists	Environmental protection associations	Consumer organisations	The (NATIONALITY) government	Writers and intellectuals	The European Union	Industry and private companies	Family and friends	People active on online social networks and bloggers	Politicians	The military	Religious leaders or representatives	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know		
EU27	61	40	29	19	16	12	12	10	9	8	7	6	5	3	2	0	1	1		
BE	75	39	25	25	15	18	8	14	10	8	5	4	3	1	0	0	0	0		
BG	62	42	17	18	13	5	8	8	11	7	6	7	8	5	1	0	1	6		
CZ	80	59	24	17	9	4	4	12	5	12	3	6	3	1	0	0	0	0		
DK	69	41	35	22	11	19	8	9	4	12	6	3	5	1	1	0	0	0		
DE	59	30	31	30	19	23	10	9	4	7	10	6	6	1	1	0	1	1		
EE	82	53	27	12	21	5	9	10	6	10	4	5	2	1	1	0	0	0		
IE	80	46	22	20	24	10	11	17	13	8	2	5	2	1	1	0	0	0		
EL	74	49	50	9	13	7	14	14	11	4	6	5	3	1	3	0	1	1		
ES	72	53	34	8	7	3	7	7	10	4	4	2	3	1	0	0	1	2		
FR	53	35	35	19	24	16	14	12	6	11	9	5	5	5	1	0	1	1		
HR	66	53	24	12	9	3	9	15	9	7	9	9	5	1	2	1	1	0		
IT	62	44	29	14	15	8	18	9	11	6	4	4	7	5	3	0	0	1		
CY	65	40	49	12	7	7	10	11	18	4	12	8	3	2	4	0	1	0		
LV	69	53	17	15	13	6	4	6	8	11	7	7	2	2	1	0	0	0		
LT	74	49	15	13	10	8	11	11	10	6	5	12	3	2	2	0	0	0		
LU	75	39	23	30	18	12	10	13	10	10	6	7	4	0	0	0	0	0		
HU	51	32	23	14	15	10	21	13	13	10	8	13	7	2	2	0	0	2		
MT	63	54	48	8	16	2	14	10	11	7	3	6	3	0	1	0	0	1		
NL	64	30	26	40	14	23	15	19	4	9	8	7	7	1	1	0	0	0		
AT	46	28	31	23	19	17	16	12	7	11	14	10	9	4	5	0	1	3		
PL	44	40	19	19	11	8	14	8	12	10	10	10	7	6	3	0	1	4		
PT	74	56	24	20	23	6	9	8	21	12	2	4	1	1	1	0	0	0		
RO	45	30	24	7	11	7	16	17	15	7	14	6	7	7	6	0	1	3		
SI	51	48	23	22	11	8	5	13	6	10	14	8	4	1	2	1	0	1		
SK	70	55	24	13	15	4	13	7	9	9	8	6	7	1	4	0	1	1		
FI	82	53	20	15	10	6	8	13	4	17	1	2	3	3	0	0	0	0		
SE	84	43	17	20	15	11	9	12	4	15	2	3	4	3	1	0	0	0		
TR	45	32	8	14	13	9	24	25	15	13	7	15	18	5	5	0	0	0		
MK	67	50	19	10	13	3	9	10	11	10	7	8	4	2	3	0	1	1		
AL	22	15	8	5	6	8	10	11	33	9	8	6	4	6	5	0	0	0		
ME	68	60	14	7	8	3	18	8	11	6	5	7	5	4	4	0	0	1		
RS	71	47	22	5	12	2	14	17	4	7	4	4	4	4	1	0	0	4		
NO	82	49	21	16	9	13	11	18	4	12	2	1	3	4	0	0	0	0		
CH	75	41	18	22	19	19	16	10	2	12	6	3	4	2	1	0	0	0		
UK	79	54	29	12	17	7	18	21	2	9	3	4	2	1	1	0	0	0		
IS	80	55	25	15	10	5	4	27	4	7	4	3	1	0	0	0	0	0		
XK	31	19	13	11	8	3	32	12	13	6	12	5	14	8	3	0	0	0		
BA	65	47	22	7	8	4	8	13	8	8	3	4	4	3	1	0	0	0		
	1st MOST FREQUENTLY MENTIONED ITEM					2nd MOST FREQUENTLY MENTIONED ITEM					3rd MOST FREQUENTLY MENTIONED ITEM									

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows a broadly consistent picture, with respondents in all groups most likely to say that scientists working at a university or government-funded research organisation are the best qualified to explain the impact of scientific and technological developments on society.

There are some slight differences in responses by gender and age:

Women are more likely than men to say that general practitioners and specialist doctors are best qualified to explain the impact of scientific and technological developments on society (30% vs 27%). However, men are more likely than women to mention writers and intellectuals (12% vs 9%) and industry and private companies (10% vs 7%).

In terms of age, older respondents (aged 55 or over) are more likely to choose journalists (21% vs 15% of 15-24 year olds) and consumer organisations (14% vs 7%), but are less likely to mention scientists working in an industrial or privately funded research organisation (36% vs 42%-44% in the younger age groups). Younger respondents are more likely to mention online social networks and bloggers (9% of 15-24 year olds vs 3% of those aged 55 or over).

Respondents who stayed in education longer are more likely to choose certain options. For example, 69% of those who left education at the age of 20 or above choose scientists working at a university or government-funded research organisation, compared with 54% of those who left education at the age of 15 or below. However, there are some exceptions to this pattern: respondents who left education at the age of 15 or below are more likely to mention general practitioners and specialist doctors (37% vs 26% of those who left at the age of 20 or above) and the national government (17% vs 9%).

There are also differences according to respondents' knowledge about science. Respondents who answered eight or more answers correctly in the quiz are more likely to mention several of the options, such as scientists working at a university or government-funded research organisation (75% vs 48% of those who answered fewer than five questions correctly) and journalists (28% vs 15%). However, those who answered fewer than five questions correctly are more likely to mention the national government (16% vs 9%) and friends and family (10% vs 4%).

# Special Eurobarometer 516

## European citizens' knowledge and attitudes towards science and technology

QAS Among the following categories of people and organisations, which are the best qualified to explain the impact of scientific and technological developments on society? (MAX. 3 ANSWERS)  
(% - EU)

	Scientists working at a university or government-funded research organisation	Scientists working in an industrial or privately funded research organisation	Journalists	Politicians	Consumer organisations	Environmental protection associations	Industry and private companies	People active on online social networks and bloggers	Religious leaders or representatives	The (NATIONALITY) government	The military	General practitioners and specialist doctors	Writers and intellectuals	Family and friends	The European Union	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU27	61	40	19	5	12	16	8	6	2	12	3	29	10	7	9	0	1	1
<b>Gender</b>																		
Man	62	41	20	5	12	15	10	6	2	12	3	27	12	7	9	0	1	1
Woman	60	40	18	6	12	16	7	6	2	13	3	30	9	8	8	0	1	1
<b>Age</b>																		
15-24	61	43	15	7	7	15	8	9	1	12	3	30	12	7	10	0	0	1
25-39	62	44	18	5	12	15	10	7	1	10	3	28	9	7	10	0	1	1
40-54	63	42	20	5	12	15	9	6	1	11	3	27	11	7	8	0	1	1
55+	59	36	21	5	14	17	7	3	2	14	3	30	10	8	7	0	1	2
<b>Education (end of)</b>																		
15-	54	34	16	6	10	12	5	2	3	17	3	37	7	9	7	0	1	3
16-19	56	38	18	6	13	16	8	7	2	13	4	30	9	9	9	0	1	2
20+	69	43	23	4	13	17	9	5	1	9	2	26	13	5	8	0	1	1
Still studying	65	44	17	7	8	14	8	8	1	12	2	31	13	6	10	0	0	1
<b>Socio-professional category</b>																		
Self-employed	66	41	20	5	9	14	9	6	1	11	3	26	14	5	10	0	1	1
Managers	72	45	24	4	15	16	10	5	1	9	2	25	12	4	7	0	0	1
Other white collars	61	42	19	5	13	17	9	6	1	12	4	26	11	6	9	0	0	1
Manual workers	56	40	15	6	12	15	9	8	2	11	4	28	9	8	9	0	1	1
House persons	53	35	16	6	10	14	7	6	3	16	4	34	8	10	11	0	1	2
Unemployed	59	41	14	3	10	18	7	7	2	12	3	34	8	7	10	0	1	2
Retired	57	35	22	5	14	16	7	3	2	15	3	31	9	9	6	0	1	2
Students	65	44	17	7	8	14	8	8	1	12	2	31	13	6	10	0	0	1
<b>Difficulties paying bills</b>																		
Most of the time	49	38	14	6	9	18	6	8	4	12	4	30	9	11	11	0	1	2
From time to time	57	40	15	5	10	14	8	7	3	15	5	31	9	8	10	0	1	1
Almost never/ Never	63	40	21	5	13	16	9	5	1	11	2	28	11	7	8	0	1	1
<b>Consider belonging to</b>																		
The working class	56	40	16	5	9	14	7	5	2	13	3	30	8	8	8	0	1	4
The lower middle class	58	40	19	6	13	17	9	6	2	13	4	28	10	8	8	0	1	1
The middle class	62	40	19	5	13	16	9	6	2	12	3	29	11	7	9	0	0	1
The upper middle class	70	40	27	5	14	15	10	5	1	10	2	26	14	5	7	0	0	0
The upper class	66	45	34	7	9	14	11	4	1	11	1	25	23	4	11	0	0	0
<b>Left-right political scale</b>																		
Left	65	36	24	5	15	20	6	5	1	11	2	28	13	6	8	0	0	1
Centre	62	42	18	5	12	15	9	6	2	12	3	31	9	8	8	0	1	1
Right	57	42	17	6	11	11	12	6	3	14	5	28	10	8	10	0	1	1
<b>Medical discoveries</b>																		
Interested	64	41	19	5	13	18	8	5	1	12	3	34	11	7	9	0	0	1
Moderately interested	63	42	20	5	12	15	9	6	2	12	3	27	11	7	8	0	1	1
Not interested	46	33	16	8	9	11	7	8	3	13	5	23	9	9	8	0	2	5
<b>Scientific discoveries</b>																		
Interested	67	44	21	4	13	17	10	5	1	10	2	30	13	6	9	0	0	0
Moderately interested	62	40	19	6	13	16	8	6	2	12	3	29	10	7	9	0	0	1
Not interested	48	33	15	7	10	11	7	5	3	16	5	28	7	9	7	0	2	4
<b>Environmental problems</b>																		
Interested	67	39	22	5	14	22	7	4	1	11	2	30	12	6	9	0	0	1
Moderately interested	60	43	18	6	11	12	10	6	2	13	3	28	10	8	9	0	1	1
Not interested	43	32	13	7	8	7	8	7	3	13	6	26	7	9	8	0	2	6
<b>Influence of science and technology</b>																		
Positive	64	42	20	5	12	16	8	5	1	12	2	29	10	7	9	0	0	1
Negative	38	27	14	7	14	15	9	8	4	14	9	30	11	12	7	0	2	2
<b>Correct answers to questions about scientific knowledge</b>																		
Less than 5 correct answers	48	35	15	7	9	12	8	6	3	16	5	27	8	10	11	0	1	3
Between 5 and 8 correct answers	60	42	17	5	12	16	9	6	2	12	3	30	10	8	9	0	1	1
More than 8 correct answers	75	41	28	4	15	19	7	3	0	9	1	28	13	4	6	0	0	0
<b>Religiosity / Spirituality</b>																		
Total 'Not very or not spiritual or religious'	65	40	22	5	14	16	9	6	0	9	2	29	10	6	7	0	1	1
Total 'Neither spiritual or religious nor not spiritual or religious'	60	41	18	6	12	16	8	6	2	13	3	28	11	7	9	0	0	1
Total 'Quite or very spiritual or religious'	57	37	16	6	10	14	7	5	4	15	4	30	11	8	11	0	1	2
<b>Worked in research / science / innovative technology development</b>																		
You alone do or did in the past	68	41	21	2	13	15	9	6	2	9	3	25	13	5	7	0	0	1
A family member does or did in the past	70	38	23	5	14	19	8	4	2	10	2	27	12	7	9	0	0	0
Both you and a family member do or did in the past	81	39	28	1	17	13	16	4	0	7	2	31	19	3	9	0	0	0
No	59	40	19	6	12	15	8	6	2	13	3	29	10	7	9	0	1	2

## 2. Citizens' engagement with science and technology

This section looks at public engagement with science and technology, focusing on the ways that people currently engage, how they might engage in the future, and their barriers to engagement.

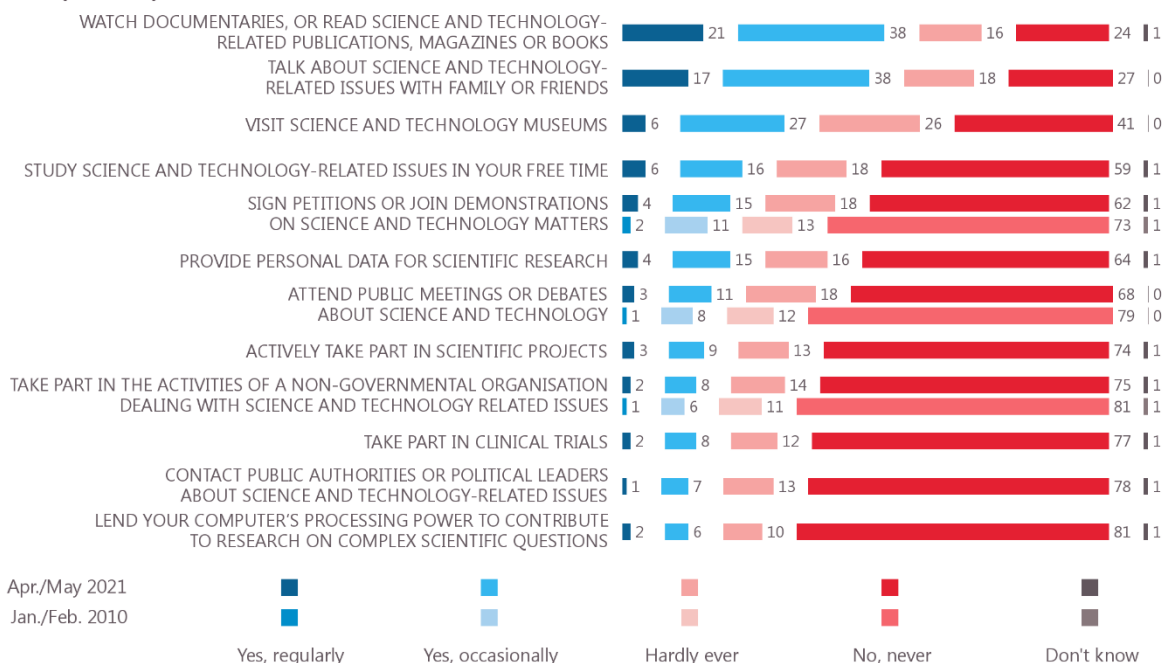
Europeans are most likely to engage with science and technology by watching documentaries or reading science and technology-related publications, magazines or books. One in five respondents (21%) say they do this regularly and 38% occasionally. The second most common form of engagement is talking about science and technology-related issues with family or friends, which is done regularly by 17% and occasionally by 38%. One in three (33%) say they visit science and technology museums at least occasionally, and this includes 6% who do this regularly.

There are three activities that are done by around one in five respondents at least occasionally: studying science and technology-related issues in their free time (22%, including 6% regularly), signing petitions or joining demonstrations on science and technology matters (19%, including 4% regularly) and providing personal data for scientific research (19%, including 4% regularly).

More than one in ten say they attend public meetings or debates about science and technology (14%), or actively take part in scientific projects (12%) at least occasionally; in both cases, 3% do these activities regularly.

The other activities are less common: taking part in the activities of a non-governmental organisation dealing with science and technology-related issues (10% at least occasionally), taking part in clinical trials (also 10%), contacting public authorities or political leaders about science and technology-related issues (8%), and lending a computer's processing power to contribute to research on complex scientific questions (also 8%). In each case, only 1% or 2% of respondents do these activities regularly.

QA14 And now, a few questions on how you engage with science and technology issues. Do you (% - EU27)



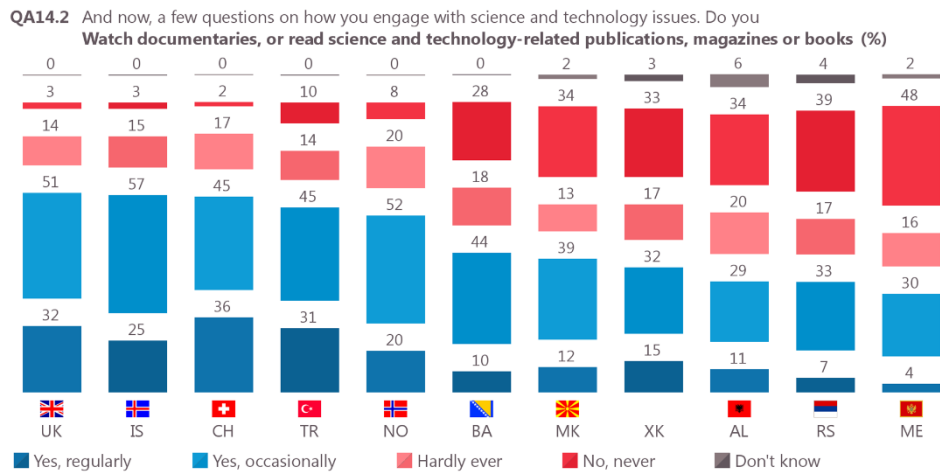
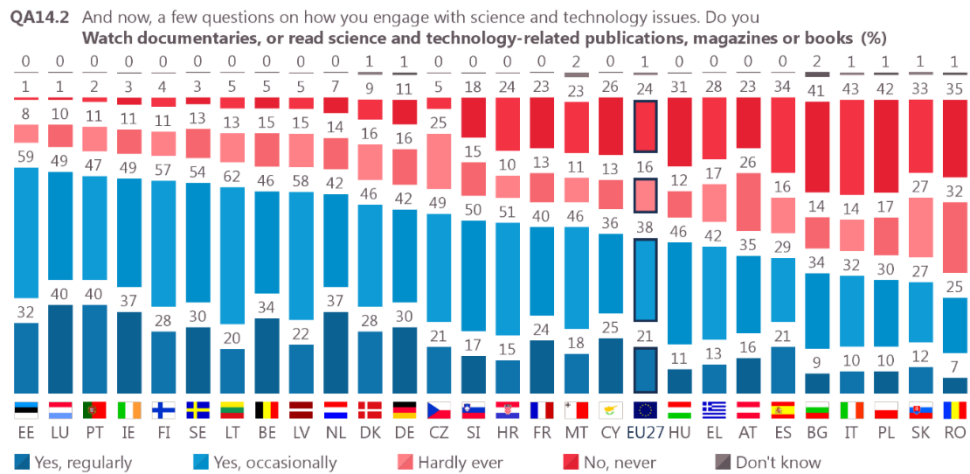
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In 22 EU Member States, at least half of respondents say they regularly or occasionally watch documentaries or read science and technology-related publications, magazines or books. The proportion is highest in Estonia (91%), Luxembourg (89%), Portugal (87%), Ireland (86%) and Finland (85%). However, respondents are much less likely to watch documentaries or read science and technology-related publications, magazines or books, regularly or occasionally, in Romania (32%), Slovakia (39%), Poland (40%), Italy (42%) and Bulgaria (43%).

Respondents are most likely to say that they *regularly* watch documentaries or read science and technology-related publications, magazines or books in Luxembourg and Portugal (both 40%), and Ireland and the Netherlands (both 37%). By contrast, more than a third of respondents *never* do this in Italy (43%), Poland (42%), Bulgaria (41%) and Romania (35%).

Looking at the non-EU countries surveyed, the proportion that say they regularly or occasionally watch documentaries or read science and technology-related publications, magazines or books ranges from 83% in the UK to 34% in Montenegro.



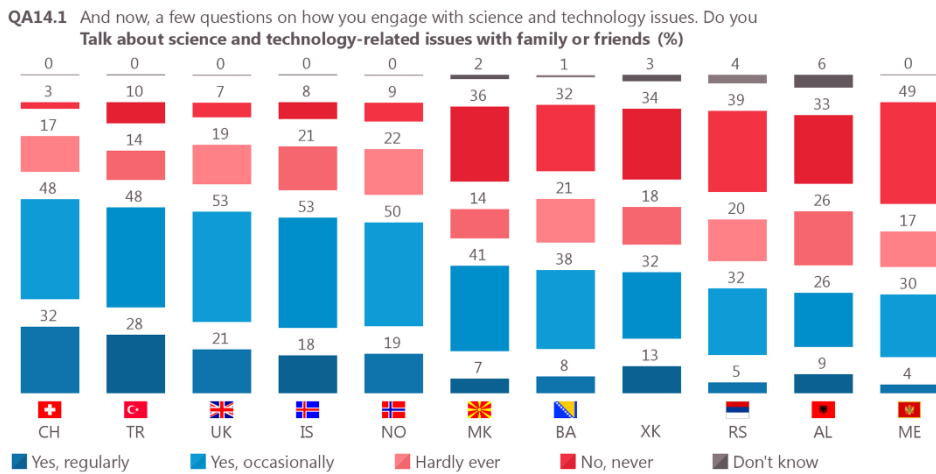
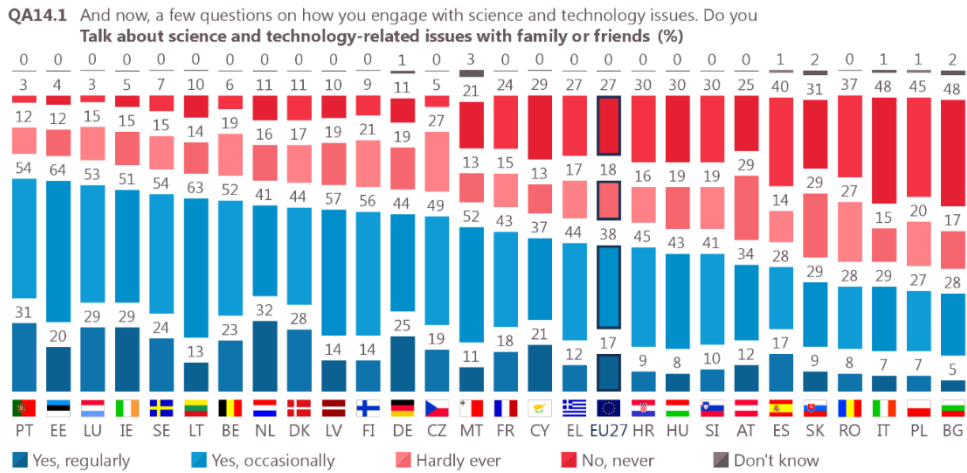
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There is considerable variation across EU Member States in the proportion of respondents who say they talk about science and technology-related issues with family or friends. At least eight in ten respondents do this regularly or occasionally in Portugal (85%), Estonia (84%), Luxembourg (82%) and Ireland (80%). This compares with less than four in ten respondents who do this occasionally or regularly in Bulgaria (33%), Poland (34%), Italy and Romania (both 36%) and Slovakia (38%).

Respondents are most likely to say they *regularly* talk about science and technology-related issues with family or friends in the Netherlands (32%), Portugal (31%), Luxembourg (29%) and Denmark (28%). The proportion that *never* talks about these issues is highest in Bulgaria and Italy (both 48%), Poland (45%) and Spain (40%).

Looking at the non-EU countries, the proportion that say they talk about science and technology-related issues with family or friends (regularly or occasionally) is highest in Switzerland (80%) and lowest in Montenegro (34%).



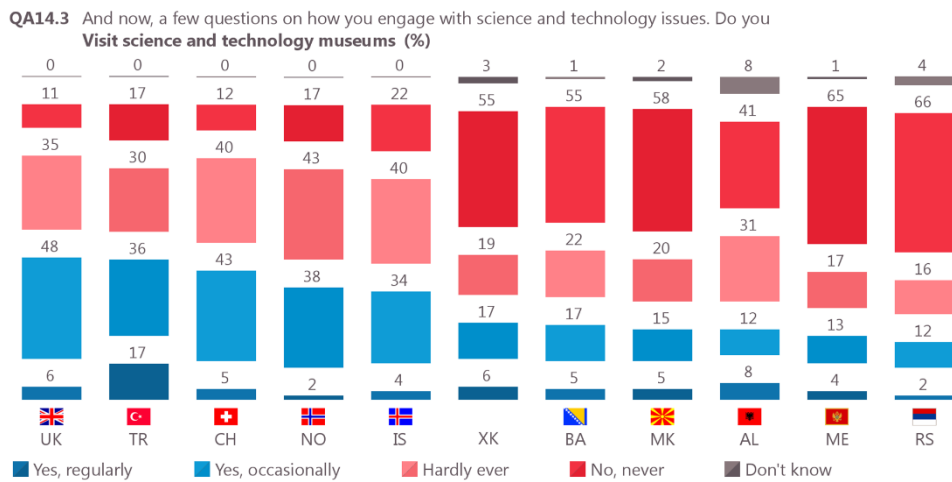
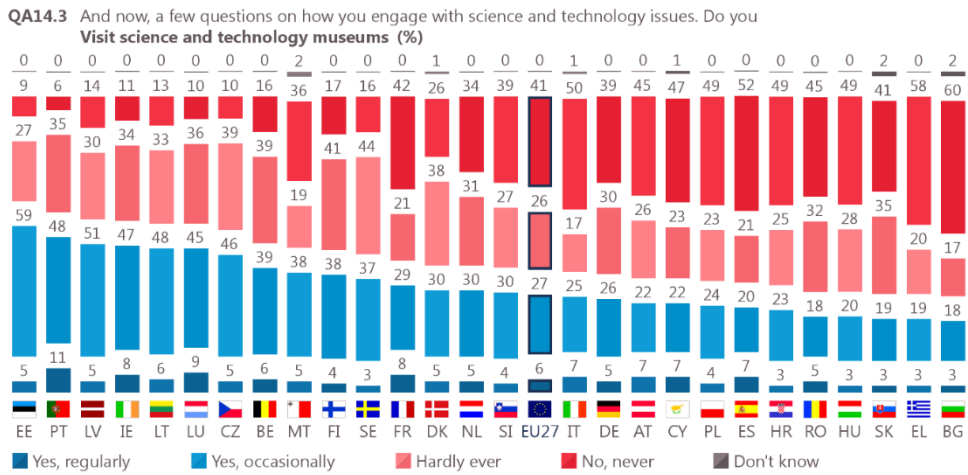
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There is wide variation across EU Member States in the proportion of respondents who say they visit science and technology museums. In seven Member States, more than half of respondents say they do this regularly or occasionally, with the highest proportions in Estonia (64%), Portugal (59%), Latvia (56%) and Ireland (55%). By contrast, less than a quarter visit science and technology museums regularly or occasionally in Bulgaria (21%), Slovakia and Greece (both 22%), and Hungary and Romania (both 23%).

Respondents are most likely to say they *regularly* visit science and technology museums in Portugal (11%), Luxembourg (9%), and Ireland and France (both 8%). The proportion that *never* visits science and technology museums is highest in Bulgaria (60%), Greece (58%), Spain (52%) and Italy (50%).

Looking at the non-EU countries surveyed, the proportion that say they visit science and technology museums (regularly or occasionally) is highest in the UK (54%) and lowest in Serbia (14%).

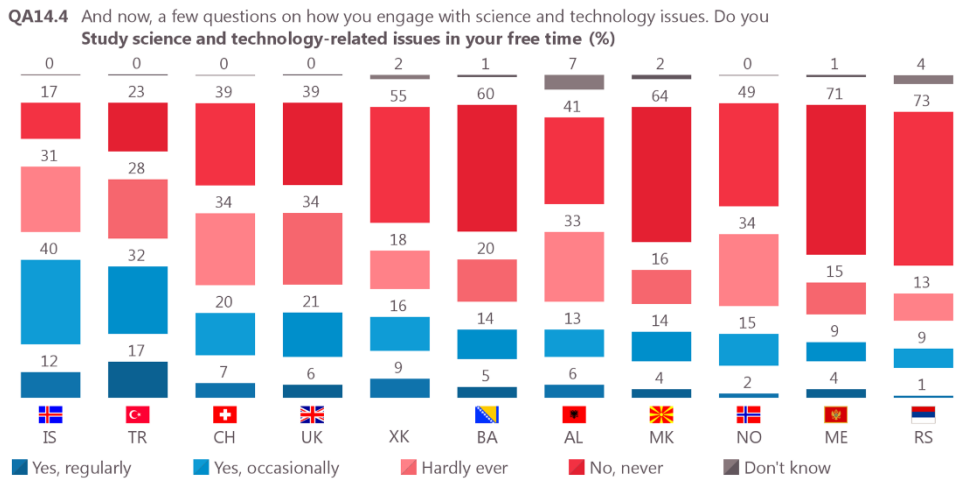
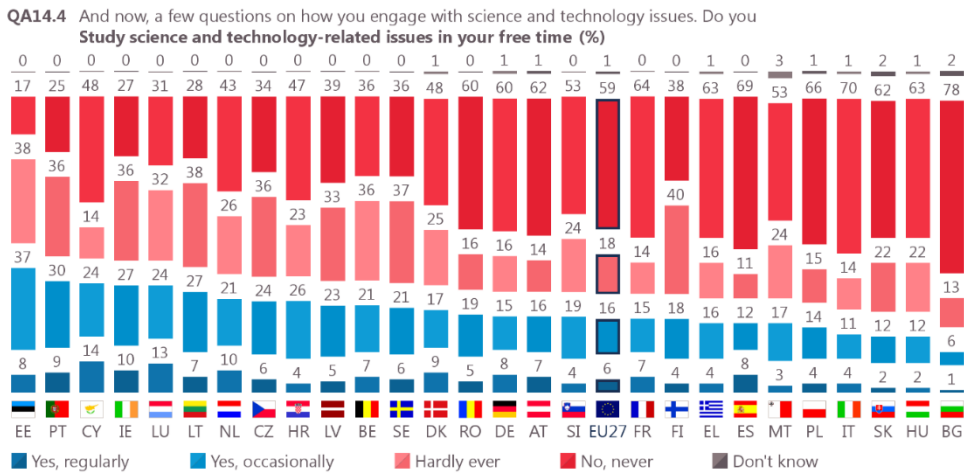


## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In six EU Member States, more than a third of respondents say that they study science and technology-related issues in their free time, either regularly or occasionally: Estonia (45%), Portugal (39%), Cyprus (38%), Ireland and Luxembourg (both 37%), and Lithuania (34%). The lowest proportions that do this occasionally or regularly are in Bulgaria (7%), Slovakia and Hungary (both 14%), and Italy (15%).

Respondents in Cyprus (14%) and Luxembourg (13%) are most likely to say that they *regularly* study science and technology-related issues in their free time. More than three-quarters of respondents in Bulgaria (78%) say they *never* do this, and this also applies to more than two-thirds of respondents in Italy (70%) and Spain (69%).

Looking at the non-EU countries surveyed, respondents are most likely to say they study science and technology-related issues in their free time, either regularly or occasionally, in Iceland (52%) and Turkey (49%), while those in Serbia are least likely to do so (10%).





## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Respondents in Portugal are most likely to say that they sign petitions or join demonstrations on science and technology matters: 10% say they do this regularly and 36% occasionally. The proportion that do this occasionally or regularly is also high in Lithuania and Luxembourg (both 40%), Ireland (35%) and the Netherlands (32%).

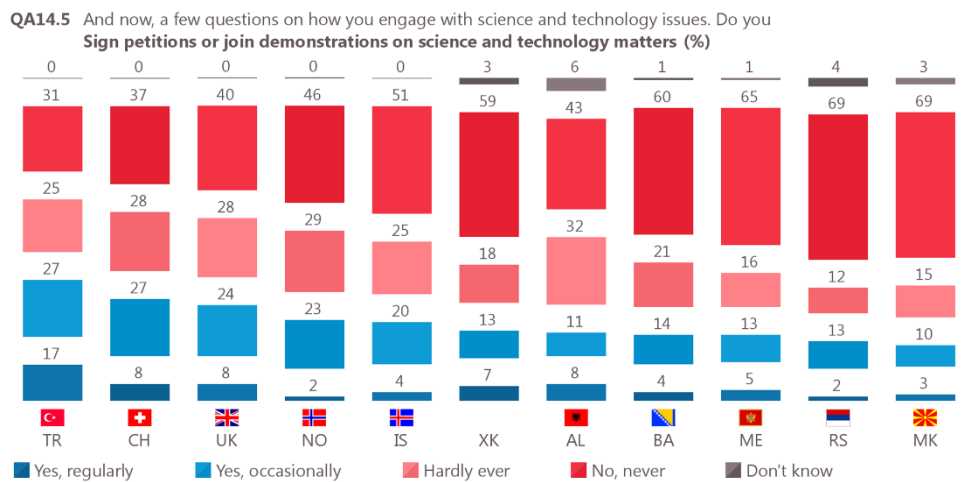
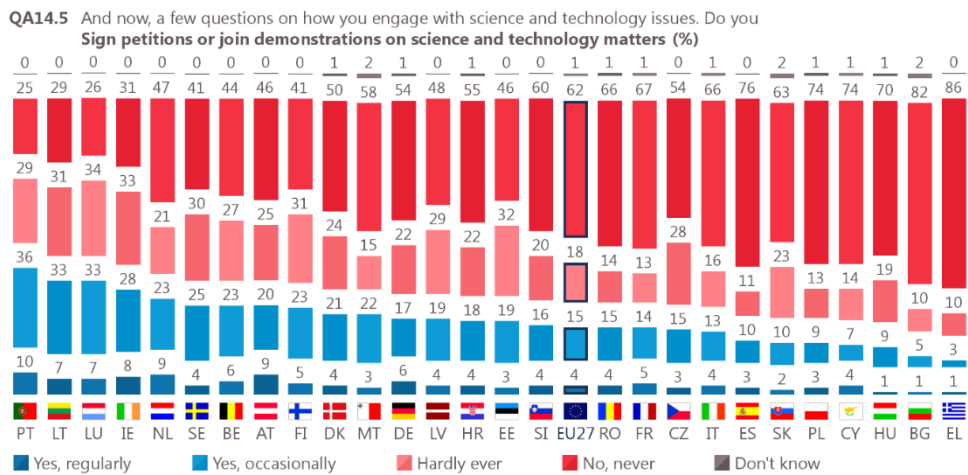
By contrast, no more than one in ten respondents do this regularly or occasionally in Greece (4%), Bulgaria (6%) and Hungary (10%). Greece and Bulgaria are also the countries where respondents are most likely to say they *never* sign petitions or join demonstrations on science and technology matters (86% and 82% respectively).

Looking at the 11 other countries surveyed, the proportion that say they sign petitions or join demonstrations on science and technology matters (regularly or occasionally) is highest in Turkey (44%) and lowest in the Republic of North Macedonia (13%).

Since January/February 2010<sup>34</sup>, there has been an increase in the proportion of EU citizens who say they sign petitions or join demonstrations on science and technology matters. In total, 4% now say they do this regularly (+2 pp), while 15% do this occasionally (+4 pp).

Some Member States show large increases in the proportion of respondents who sign petitions or join demonstrations on science and technology matters (regularly or occasionally): Portugal (+35 pp), Lithuania (+30 pp), Ireland (+27 pp) and Luxembourg (+22 pp). The proportion has decreased in only two countries: Slovakia (-6 pp) and Greece (-4 pp).

Analysis of non-EU countries surveyed also shows a large increase in Turkey (+39 pp) and the United Kingdom (+20 pp).



<sup>34</sup> In 2010 the United Kingdom was still part of the European Union but Croatia had not yet joined. The 2010 total therefore refers to an "EU 27" that includes the UK

but not Croatia. This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA14.5 And now, a few questions on how you engage with science and technology issues. Do you

**Sign petitions or join demonstrations on science and technology matters (%)**

		Yes, regularly	Diff. April/May 2021 - January/February 2010	Yes, occasionally	Diff. April/May 2021 - January/February 2010	Hardly ever	Diff. April/May 2021 - January/February 2010	No, never	Diff. April/May 2021 - January/February 2010	Don't know	Total 'Yes'	Diff. April/May 2021 - January/February 2010	Total 'Hardly ever / no'	Diff. April/May 2021 - January/February 2010
EU27		4	▲ 2	15	▲ 4	18	▲ 5	62	▼ 11	1	19	▲ 6	80	▼ 6
PT		10	▲ 8	36	▲ 27	29	▲ 18	25	▼ 52	0	46	▲ 35	54	▼ 34
LT		7	▲ 6	33	▲ 24	31	▲ 24	29	▼ 54	0	40	▲ 30	60	▼ 30
IE		8	▲ 7	28	▲ 20	33	▲ 19	31	▼ 45	0	36	▲ 27	64	▼ 26
LU		7	▲ 5	33	▲ 17	34	▲ 22	26	▼ 44	0	40	▲ 22	60	▼ 22
LV		4	▲ 4	19	▲ 14	29	▲ 23	48	▼ 40	0	23	▲ 18	77	▼ 17
NL		9	▲ 6	23	▲ 10	21	▲ 6	47	▼ 22	0	32	▲ 16	68	▼ 16
RO		4	▲ 3	15	▲ 11	14	▲ 7	66	▼ 21	1	19	▲ 14	80	▼ 14
MT		3	=	22	▲ 13	15	▲ 11	58	▼ 25	2	25	▲ 13	73	▼ 14
FI		5	▲ 4	23	▲ 9	31	▲ 8	41	▼ 21	0	28	▲ 13	72	▼ 13
EE		3	▲ 2	19	▲ 10	32	▲ 23	46	▼ 35	0	22	▲ 12	78	▼ 12
SI		4	▲ 3	16	▲ 8	20	▲ 12	60	▼ 23	0	20	▲ 11	80	▼ 11
SE		4	▲ 2	25	▲ 8	30	▲ 7	41	▼ 17	0	29	▲ 10	71	▼ 10
DK		4	▲ 3	21	▲ 6	24	▲ 6	50	▼ 16	1	25	▲ 9	74	▼ 10
BE		6	▲ 3	23	▲ 4	27	▲ 11	44	▼ 18	0	29	▲ 7	71	▼ 7
CZ		3	▲ 1	15	▲ 6	28	▲ 16	54	▼ 23	0	18	▲ 7	82	▼ 7
DE		6	▲ 4	17	▲ 3	22	▲ 5	54	▼ 13	1	23	▲ 7	76	▼ 8
FR		5	▲ 3	14	▲ 4	13	▲ 6	67	▼ 14	1	19	▲ 7	80	▼ 8
HR		4	▲ 2	18	▲ 5	22	▲ 7	55	▼ 14	1	22	▲ 7	77	▼ 7
CY		4	▲ 3	7	▲ 4	14	▲ 11	74	▼ 18	1	11	▲ 7	88	▼ 7
PL		3	▲ 1	9	▲ 4	13	▲ 5	74	▼ 11	1	12	▲ 5	87	▼ 6
AT		9	▲ 5	20	▼ 2	25	▼ 3	46	=	0	29	▲ 3	71	▼ 3
BG		1	▲ 1	5	▲ 1	10	▲ 1	82	▼ 3	2	6	▲ 2	92	▼ 2
IT		4	▲ 1	13	=	16	▼ 3	66	▲ 2	1	17	▲ 1	82	▼ 1
ES		3	▲ 2	10	▼ 2	11	▲ 2	76	▼ 2	0	13	=	87	=
HU		1	=	9	=	19	▲ 3	70	▼ 4	1	10	=	89	▼ 1
EL		1	=	3	▼ 4	10	▼ 12	86	▲ 17	0	4	▼ 4	96	▲ 5
SK		2	=	10	▼ 6	23	▲ 6	63	▼ 2	2	12	▼ 6	86	▲ 4
TR		17	▲ 16	27	▲ 23	25	▲ 17	31	▼ 51	0	44	▲ 39	56	▼ 34
MK		3	N/A	10	N/A	15	N/A	69	N/A	3	13	N/A	84	N/A
AL		8	N/A	11	N/A	32	N/A	43	N/A	6	19	N/A	75	N/A
ME		5	N/A	13	N/A	16	N/A	65	N/A	1	18	N/A	81	N/A
RS		2	N/A	13	N/A	12	N/A	69	N/A	4	15	N/A	81	N/A
UK		8	▲ 7	24	▲ 13	28	▲ 18	40	▼ 37	0	32	▲ 20	68	▼ 19
IS		4	▲ 2	20	▼ 1	25	▲ 8	51	▼ 9	0	24	▲ 1	76	▼ 1
NO		2	=	23	▲ 10	29	▲ 10	46	▼ 20	0	25	▲ 10	75	▼ 10
CH		8	▲ 4	27	▲ 6	28	▲ 12	37	▼ 22	0	35	▲ 10	65	▼ 10
XK		7	N/A	13	N/A	18	N/A	59	N/A	3	20	N/A	77	N/A
BA		4	N/A	14	N/A	21	N/A	60	N/A	1	18	N/A	81	N/A

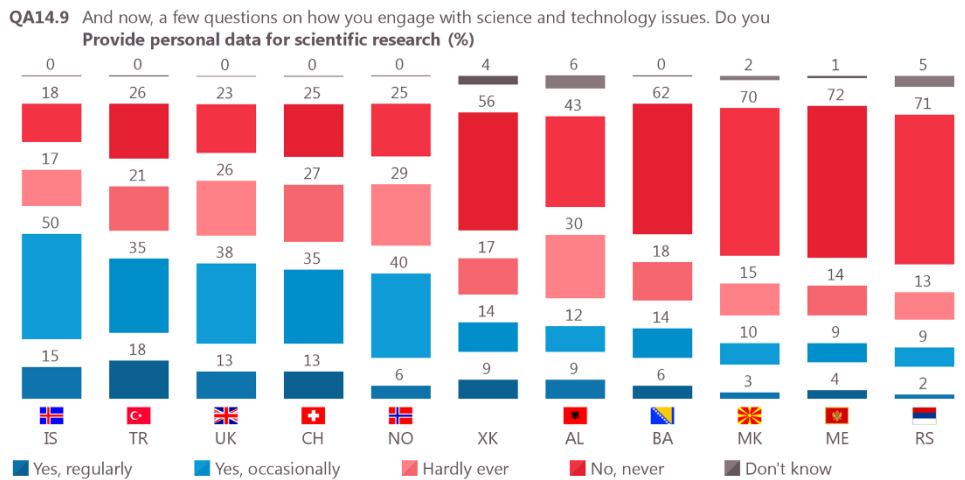
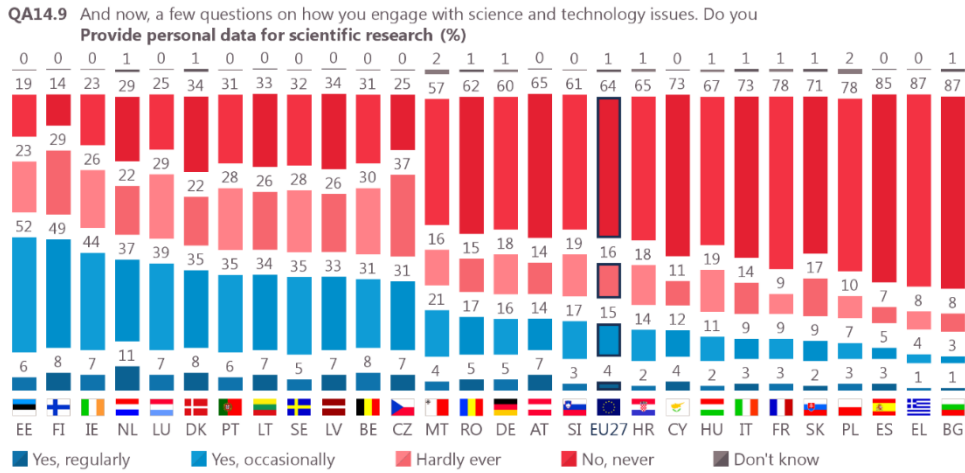
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There is wide variation across EU Member States in the proportions that say they provide personal data for scientific research. In 12 Member States, more than a third of respondents say that they do this regularly or occasionally, and this rises to over half in Estonia (58%), Finland (57%) and Ireland (51%). By contrast, no more than one in ten provide personal data for scientific research regularly or occasionally in Bulgaria (4%), Greece (5%), Spain (8%) and Poland (10%).

Respondents are most likely to say they *regularly* provide personal data for scientific research in the Netherlands (11%), while the proportion that *never* does this is highest in Greece and Bulgaria (both 87%), and Spain (85%).

Looking at the non-EU countries surveyed, the proportion that say they provide personal data for scientific research (regularly or occasionally) is highest in Iceland (65%) and lowest in Serbia (11%).



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents in Lithuania and Luxembourg (both 22%), and Austria (20%), are most likely to say they attend public meetings or debates about science and technology, either regularly or occasionally. Respondents are least likely to do this occasionally or regularly in Bulgaria (6%), Slovakia (7%) and Hungary (8%).

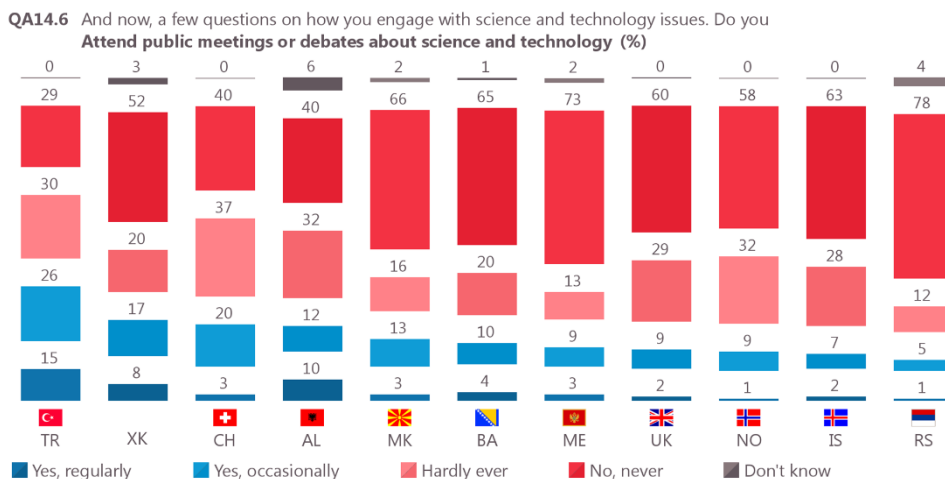
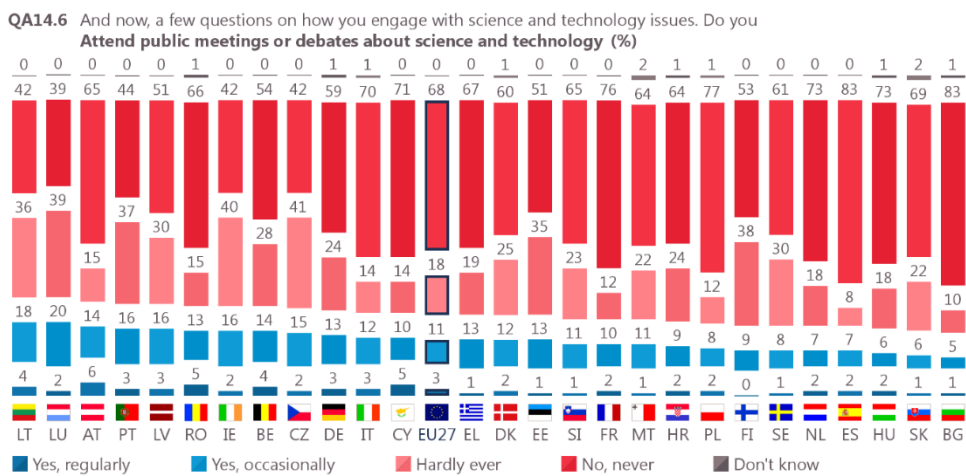
Regular attendance at public meetings or debates about science and technology is most common in Austria (6%), and Cyprus and Romania (both 5%), while respondents are most likely to say they never do this in Bulgaria and Spain (both 83%), Poland (77%), and France (76%).

Looking at the non-EU countries surveyed, the proportion that say they attend public meetings or debates about science and technology, either regularly or occasionally, is by far the highest in Turkey (41%) while it is lowest in Serbia (6%).

The proportion of EU citizens who say they attend public meetings or debates about science and technology has increased since January/February 2010<sup>35</sup>, with 3% now doing this regularly (+2 pp) and 11% occasionally (+3 pp)

The largest increases in the proportions that attend meetings or debates (regularly or occasionally) are seen in Lithuania (+15 pp), Czechia (+11 pp) and Ireland (+11 pp). The proportion has decreased in just three Member States: Greece (-4 pp), Slovakia (-2 pp) and Sweden (-1 pp).

Analysis of the other countries surveyed also shows a large increase in Turkey (+30 pp).



<sup>35</sup> In 2010 the United Kingdom was still part of the European Union but Croatia had not yet joined. The 2010 total therefore refers to an "EU 27" that includes the UK

but not Croatia. This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA14.6 And now, a few questions on how you engage with science and technology issues. Do you

**Attend public meetings or debates about science and technology (%)**

		Yes, regularly		Yes, occasionally		Hardly ever		No, never		Don't know		Total 'Yes'		Total 'Hardly ever / no'	
		2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.	2021	Diff.
		April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010	April/May 2021	Jan/Feb 2010
EU27		3	▲ 2	11	▲ 3	18	▲ 6	68	▼ 11	0		14	▲ 5	86	▼ 5
LT		4	▲ 4	18	▲ 11	36	▲ 28	42	▼ 43	0		22	▲ 15	78	▼ 15
CZ		2	▲ 2	15	▲ 9	41	▲ 27	42	▼ 38	0		17	▲ 11	83	▼ 11
IE		2	▲ 1	16	▲ 10	40	▲ 24	42	▼ 34	0		18	▲ 11	82	▼ 10
AT		6	▲ 4	14	▲ 6	15	▼ 11	65	▲ 1	0		20	▲ 10	80	▼ 10
RO		5	▲ 4	13	▲ 6	15	▲ 7	66	▼ 17	1		18	▲ 10	81	▼ 10
LV		3	▲ 2	16	▲ 7	30	▲ 21	51	▼ 30	0		19	▲ 9	81	▼ 9
EE		1	=	13	▲ 8	35	▲ 25	51	▼ 33	0		14	▲ 8	86	▼ 8
MT		1	▲ 1	11	▲ 7	22	▲ 14	64	▼ 24	2		12	▲ 8	86	▼ 10
PT		3	▲ 2	16	▲ 6	37	▲ 28	44	▼ 35	0		19	▲ 8	81	▼ 7
LU		2	▼ 1	20	▲ 8	39	▲ 24	39	▼ 31	0		22	▲ 7	78	▼ 7
DK		2	=	12	▲ 6	25	▲ 4	60	▼ 11	1		14	▲ 6	85	▼ 7
DE		3	▲ 1	13	▲ 5	24	▲ 8	59	▼ 15	1		16	▲ 6	83	▼ 7
SI		1	=	11	▲ 6	23	▲ 15	65	▼ 21	0		12	▲ 6	88	▼ 6
BE		4	▲ 2	14	▲ 3	28	▲ 17	54	▼ 22	0		18	▲ 5	82	▼ 5
HR		2	▲ 2	9	▲ 3	24	▲ 5	64	▼ 10	1		11	▲ 5	88	▼ 5
CY		5	▲ 3	10	▲ 2	14	▲ 8	71	▼ 13	0		15	▲ 5	85	▼ 5
PL		2	▲ 1	8	▲ 4	12	▲ 4	77	▼ 10	1		10	▲ 5	89	▼ 6
FR		2	▲ 1	10	▲ 3	12	▲ 6	76	▼ 10	0		12	▲ 4	88	▼ 4
NL		2	▲ 1	7	▲ 3	18	▲ 6	73	▼ 10	0		9	▲ 4	91	▼ 4
IT		3	▲ 2	12	▲ 1	14	▼ 6	70	▲ 3	1		15	▲ 3	84	▼ 3
BG		1	=	5	▲ 2	10	▼ 3	83	▲ 1	1		6	▲ 2	93	▼ 2
ES		2	▲ 1	7	=	8	▲ 1	83	▼ 2	0		9	▲ 1	91	▼ 1
HU		2	▲ 1	6	=	18	=	73	▼ 2	1		8	▲ 1	91	▼ 2
FI		0	▼ 1	9	▲ 1	38	▲ 16	53	▼ 16	0		9	=	91	=
SE		1	▼ 1	8	=	30	▲ 13	61	▼ 12	0		9	▼ 1	91	▲ 1
SK		1	▲ 1	6	▼ 3	22	▲ 4	69	▼ 4	2		7	▼ 2	91	=
EL		1	▼ 2	13	▼ 2	19	▼ 4	67	▲ 9	0		14	▼ 4	86	▲ 5
TR		15	▲ 12	26	▲ 18	30	▲ 20	29	▼ 46	0		41	▲ 30	59	▼ 26
MK		3	N/A	13	N/A	16	N/A	66	N/A	2		16	N/A	82	N/A
AL		10	N/A	12	N/A	32	N/A	40	N/A	6		22	N/A	72	N/A
ME		3	N/A	9	N/A	13	N/A	73	N/A	2		12	N/A	86	N/A
RS		1	N/A	5	N/A	12	N/A	78	N/A	4		6	N/A	90	N/A
CH		3	=	20	▲ 5	37	▲ 17	40	▼ 22	0		23	▲ 5	77	▼ 5
UK		2	▲ 1	9	▲ 3	29	▲ 21	60	▼ 25	0		11	▲ 4	89	▼ 4
NO		1	=	9	▲ 1	32	▲ 8	58	▼ 9	0		10	▲ 1	90	▼ 1
IS		2	▼ 1	7	▼ 5	28	▲ 13	63	▼ 7	0		9	▼ 6	91	▲ 6
XK		8	N/A	17	N/A	20	N/A	52	N/A	3		25	N/A	72	N/A
BA		4	N/A	10	N/A	20	N/A	65	N/A	1		14	N/A	85	N/A

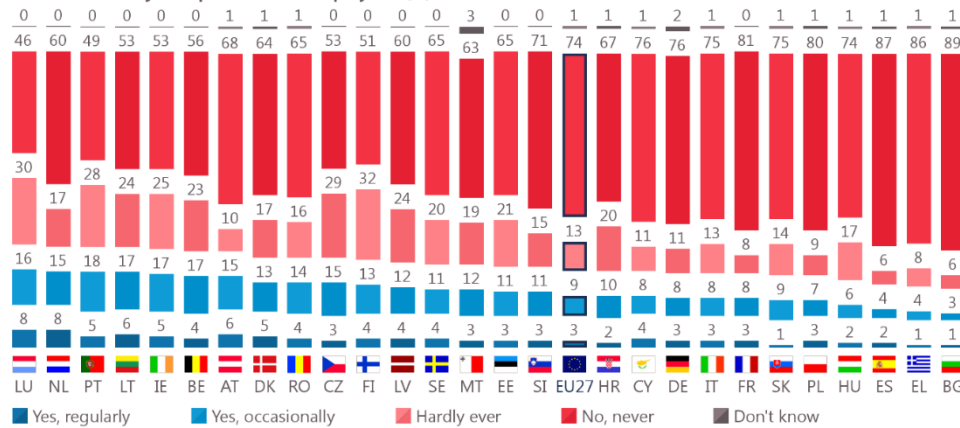
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In seven EU Member States, more than one in five respondents say they actively take part in scientific projects, either regularly or occasionally. The proportion is highest in Luxembourg (24%), and the Netherlands, Portugal and Lithuania (all 23%). By contrast, just 4% do this at least occasionally in Bulgaria, 5% in Greece, and 6% in Spain.

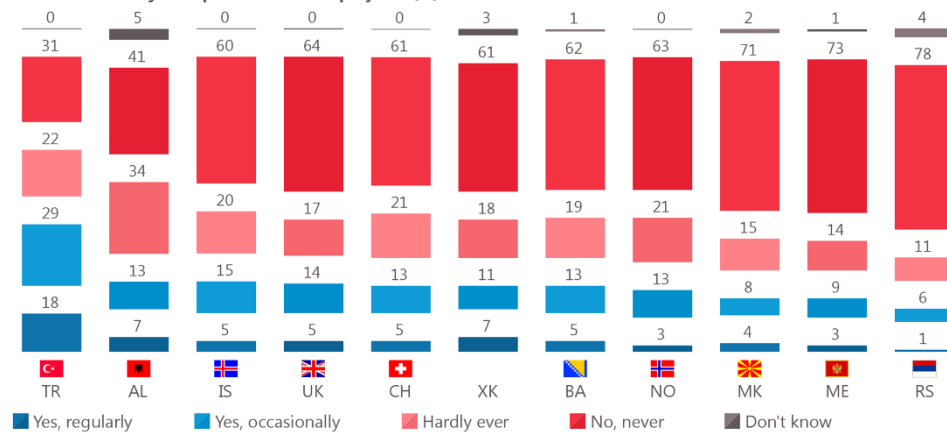
*Regular* participation in scientific projects is most common in Luxembourg and the Netherlands (both 8%), while respondents are most likely to say they *never* do this in Bulgaria (89%), Spain (87%) and Greece (86%).

Looking at the other countries surveyed, the proportion that say they actively take part in scientific projects, either regularly or occasionally, ranges from 47% in Turkey to 7% in Serbia.

**QA14.12** And now, a few questions on how you engage with science and technology issues. Do you actively take part in scientific projects (%)



**QA14.12** And now, a few questions on how you engage with science and technology issues. Do you actively take part in scientific projects (%)



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents are most likely to say they take part in the activities of a non-governmental organisation dealing with science and technology related issues, occasionally or regularly, in Romania, Lithuania and Austria (all 19%), and Luxembourg (17%). The proportion is lowest in Greece (3%), Bulgaria (4%), and France and Slovakia (both 5%).

Respondents in Austria are most likely to say they *regularly* take part in the activities of a non-governmental organisation dealing with science and technology related issues (5%). The proportion that *never* does this is highest in Greece (89%), Bulgaria (87%), Spain (86%) and France (85%).

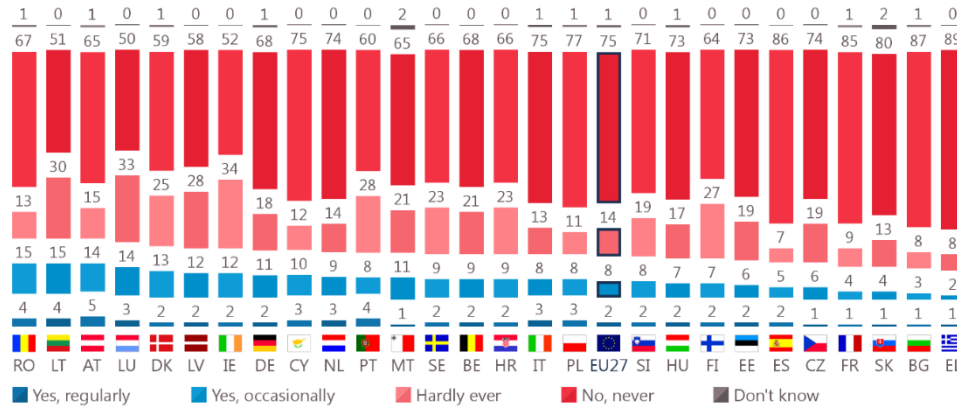
Looking at the non-EU countries surveyed, the proportion that say they take part in the activities of a non-governmental organisation dealing with science and technology-related issues (regularly or occasionally) is highest in Turkey (40%) and lowest in Serbia (6%).

The proportion of EU citizens who say they take part in the activities of a non-governmental organisation dealing with science and technology related issues has increased slightly since January/February 2010, with 2% now doing this regularly (+1 pp) and 8% occasionally (+2 pp)<sup>36</sup>.

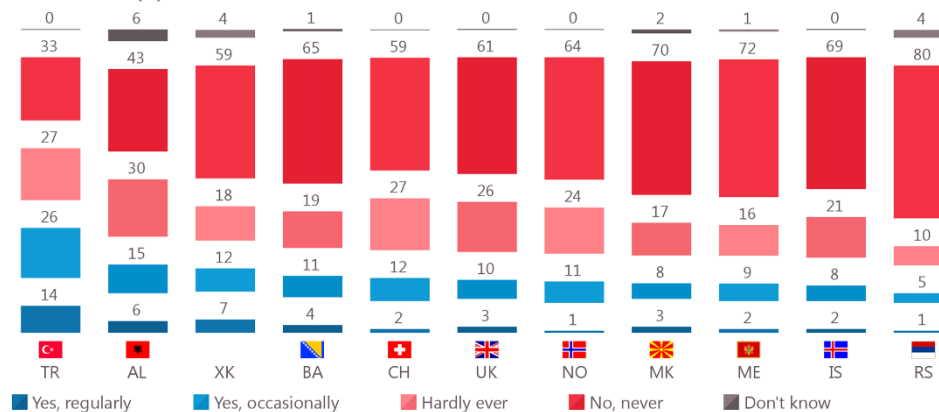
The largest increases in the proportions that take part in activities occasionally or regularly are seen in Romania (+15 pp), Lithuania (+13 pp), Latvia (+11 pp) and Austria (+10 pp). The proportion has decreased only in Greece (-3 pp), while it has remained the same in Belgium, Slovakia and Sweden.

Analysis of the other non-EU countries surveyed also shows a large increase in Turkey (+34 pp).

**QA14.7** And now, a few questions on how you engage with science and technology issues. Do you **Take part in the activities of a non-governmental organisation dealing with science and technology related issues (%)**



**QA14.7** And now, a few questions on how you engage with science and technology issues. Do you **Take part in the activities of a non-governmental organisation dealing with science and technology related issues (%)**



<sup>36</sup> This analysis is based on the 28 countries that were part of the EU at either of the two time points (January-February 2010 and April-May 2021).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA14.7 And now, a few questions on how you engage with science and technology issues. Do you

**Take part in the activities of a non-governmental organisation dealing with science and technology related issues (%)**

		Yes, regularly	Diff. April/May 2021 - January/February 2010	Yes, occasionally	Diff. April/May 2021 - January/February 2010	Hardly ever	Diff. April/May 2021 - January/February 2010	No, never	Diff. April/May 2021 - January/February 2010	Don't know	Total 'Yes'	Diff. April/May 2021 - January/February 2010	Total 'Hardly ever / no'	Diff. April/May 2021 - January/February 2010
EU27		2	▲ 1	8	▲ 2	14	▲ 3	75	▼ 6	1	10	▲ 3	89	▼ 3
RO		4	▲ 3	15	▲ 12	13	▲ 10	67	▼ 24	1	19	▲ 15	80	▼ 14
LT		4	▲ 3	15	▲ 10	30	▲ 24	51	▼ 37	0	19	▲ 13	81	▼ 13
LV		2	▲ 2	12	▲ 9	28	▲ 20	58	▼ 31	0	14	▲ 11	86	▼ 11
AT		5	▲ 4	14	▲ 6	15	▼ 14	65	▲ 3	1	19	▲ 10	80	▼ 11
IE		2	▲ 1	12	▲ 8	34	▲ 21	52	▼ 28	0	14	▲ 9	86	▼ 7
CY		3	▲ 2	10	▲ 6	12	▲ 7	75	▼ 15	0	13	▲ 8	87	▼ 8
DK		2	=	13	▲ 7	25	▲ 11	59	▼ 19	1	15	▲ 7	84	▼ 8
HR		2	▲ 2	9	▲ 5	23	▲ 7	66	▼ 13	0	11	▲ 7	89	▼ 6
MT		1	=	11	▲ 7	21	▲ 14	65	▼ 21	2	12	▲ 7	86	▼ 7
PL		3	▲ 2	8	▲ 4	11	▲ 2	77	▼ 9	1	11	▲ 6	88	▼ 7
SI		2	▲ 1	8	▲ 5	19	▲ 11	71	▼ 17	0	10	▲ 6	90	▼ 6
DE		2	=	11	▲ 4	18	▲ 6	68	▼ 11	1	13	▲ 4	86	▼ 5
EE		2	▲ 1	6	▲ 3	19	▲ 14	73	▼ 17	0	8	▲ 4	92	▼ 3
BG		1	▲ 1	3	▲ 2	8	=	87	▼ 2	1	4	▲ 3	95	▼ 2
CZ		1	▲ 1	6	▲ 2	19	▲ 9	74	▼ 12	0	7	▲ 3	93	▼ 3
LU		3	▼ 1	14	▲ 4	33	▲ 23	50	▼ 26	0	17	▲ 3	83	▼ 3
HU		2	▲ 1	7	▲ 2	17	▲ 1	73	▼ 5	1	9	▲ 3	90	▼ 4
NL		3	▼ 1	9	▲ 4	14	▼ 1	74	▼ 2	0	12	▲ 3	88	▼ 3
FR		1	=	4	▲ 2	9	▲ 4	85	▼ 7	1	5	▲ 2	94	▼ 3
IT		3	▲ 2	8	=	13	▼ 7	75	▲ 5	1	11	▲ 2	88	▼ 2
FI		2	▲ 1	7	▲ 1	27	▲ 4	64	▼ 6	0	9	▲ 2	91	▼ 2
ES		2	▲ 1	5	=	7	=	86	▼ 1	0	7	▲ 1	93	▼ 1
PT		4	▲ 2	8	▼ 1	28	▲ 19	60	▼ 19	0	12	▲ 1	88	=
BE		2	=	9	=	21	▲ 8	68	▼ 8	0	11	=	89	=
SK		1	▲ 1	4	▼ 1	13	▼ 3	80	▲ 1	2	5	=	93	▼ 2
SE		2	▼ 2	9	▲ 2	23	▲ 10	66	▼ 9	0	11	=	89	▲ 1
EL		1	▲ 1	2	▼ 4	8	▼ 12	89	▲ 16	0	3	▼ 3	97	▲ 4
TR		14	▲ 12	26	▲ 22	27	▲ 20	33	▼ 49	0	40	▲ 34	60	▼ 29
MK		3	N/A	8	N/A	17	N/A	70	N/A	2	11	N/A	87	N/A
AL		6	N/A	15	N/A	30	N/A	43	N/A	6	21	N/A	73	N/A
ME		2	N/A	9	N/A	16	N/A	72	N/A	1	11	N/A	88	N/A
RS		1	N/A	5	N/A	10	N/A	80	N/A	4	6	N/A	90	N/A
UK		3	▲ 1	10	▲ 4	26	▲ 16	61	▼ 20	0	13	▲ 5	87	▼ 4
CH		2	=	12	▲ 3	27	▲ 12	59	▼ 15	0	14	▲ 3	86	▼ 3
NO		1	▼ 2	11	▲ 1	24	▲ 5	64	▼ 4	0	12	▼ 1	88	▲ 1
IS		2	▼ 2	8	▼ 1	21	▲ 9	69	▼ 5	0	10	▼ 3	90	▲ 4
XK		7	N/A	12	N/A	18	N/A	59	N/A	4	19	N/A	77	N/A
BA		4	N/A	11	N/A	19	N/A	65	N/A	1	15	N/A	84	N/A



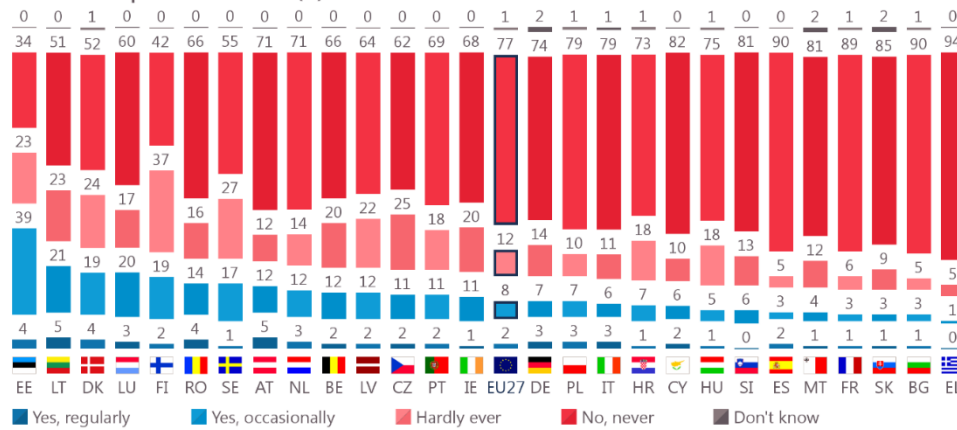
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents in Estonia are by far the most likely to say they take part in clinical trials, with 43% doing this regularly or occasionally. Participation in clinical trials is also relatively high in Lithuania (26%), Denmark and Luxembourg (both 23%), and Finland (21%). By contrast, very few respondents do this regularly or occasionally in Greece (1%), and Bulgaria, Slovakia and France (all 4%).

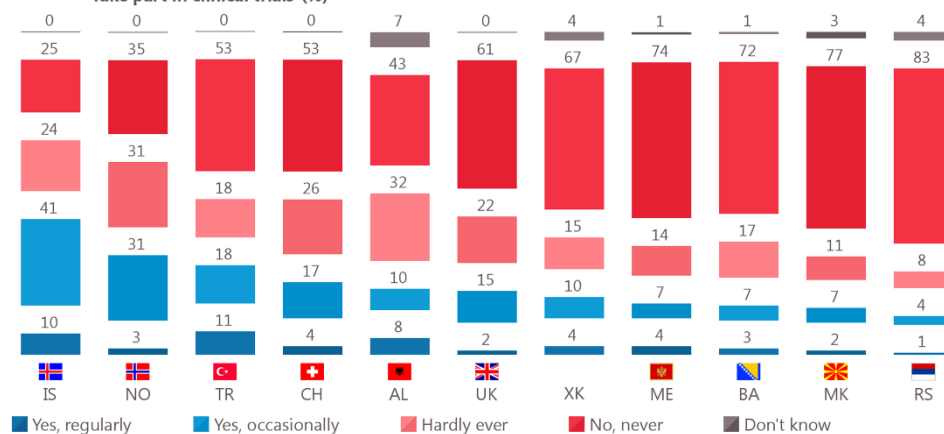
Regular participation in clinical trials is most common Lithuania and Austria (both 5%) as well as Estonia, Denmark and Romania (all 4%), compared to the EU average of 2%. At least nine in ten respondents say they *never* do this in Greece (94%), and Spain and Bulgaria (both 90%).

Looking at the 11 other countries surveyed, respondents in Iceland (51%) are most likely to say they take part in clinical trials (regularly or occasionally), while those in Serbia (5%) are least likely to say they do this.

**QA14.10** And now, a few questions on how you engage with science and technology issues. Do you  
Take part in clinical trials (%)



**QA14.10** And now, a few questions on how you engage with science and technology issues. Do you  
Take part in clinical trials (%)



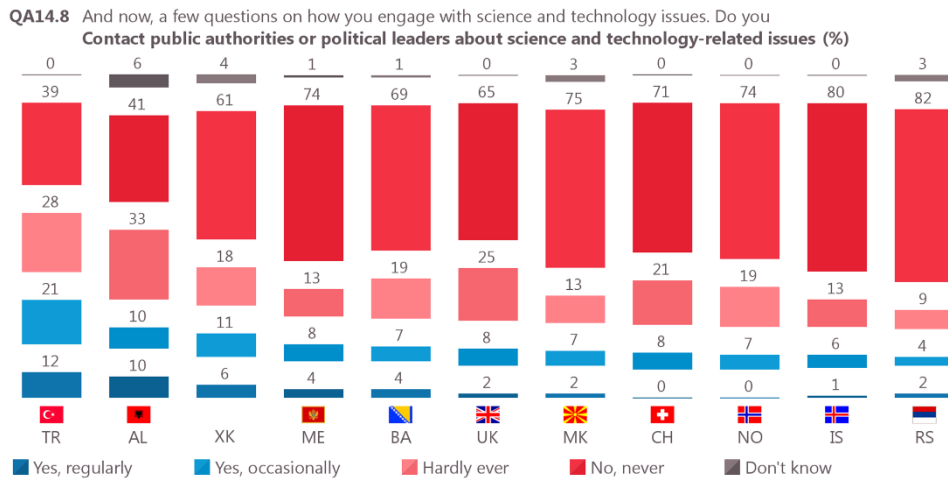
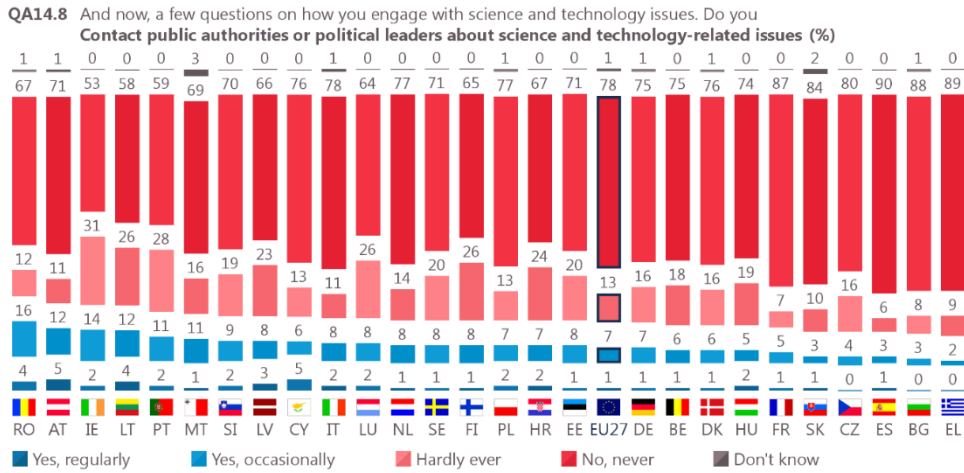
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Respondents in Romania (20%), Austria (17%), Ireland and Lithuania (both 16%) are most likely to say they regularly or occasionally contact public authorities or political leaders about science and technology-related issues. Respondents are least likely to do this regularly or occasionally in Greece (2%), Bulgaria (3%), and Spain, Czechia, and Slovakia (all 4%).

Regular contact with public authorities or political leaders on these issues is most common in Austria and Cyprus (both 5%), while up to nine in ten respondents say they *never* do this in Spain (90%), Greece (89%), Bulgaria (88%) and France (87%).

Looking at the non-EU countries surveyed, respondents in Turkey (33%) are most likely to say they regularly or occasionally contact public authorities or political leaders about science and technology-related issues, compared with Serbia (6%).



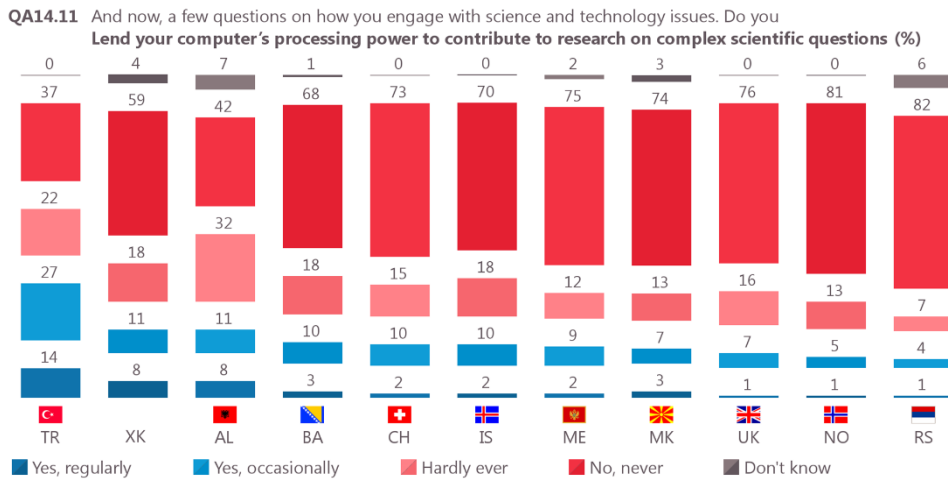
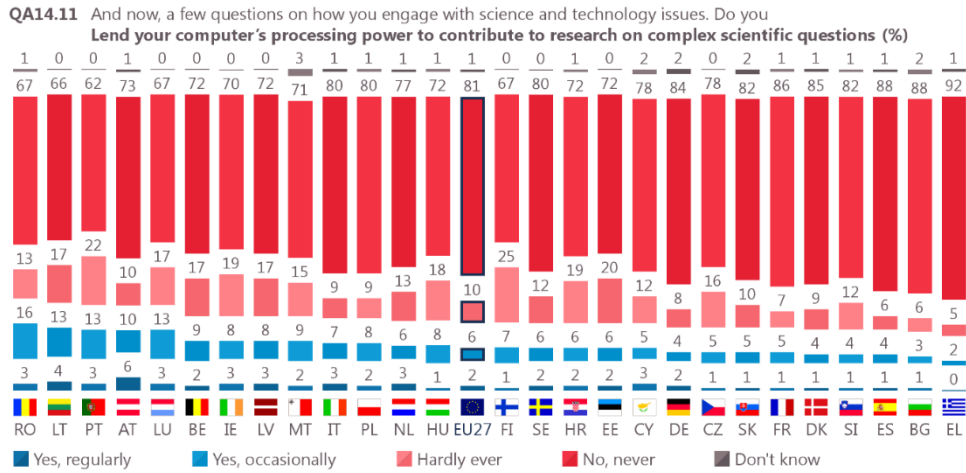
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Respondents are most likely to say they lend their computer's processing power to contribute to research on complex scientific questions, either regularly or occasionally, in Romania (19%), Lithuania (17%), and Portugal, Austria and Luxembourg (all 16%). The lowest proportions are seen in Greece (2%), Bulgaria (4%), and Denmark, Slovenia and Spain (all 5%).

Respondents in Austria (6%) are most likely to say they *regularly* lend their computer's processing power to contribute to research on complex scientific questions, while the proportion that never does this is highest in Greece (92%), and Spain and Bulgaria (both 88%).

Looking at the other non-EU countries surveyed, the proportion that say they lend their computer's processing power to contribute to research on complex scientific questions (regularly or occasionally) is by far the highest in Turkey (41%), while it is lowest in Serbia (5%).



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Levels of engagement with science and technology vary across socio-demographic groups. On several items, levels of engagement are higher among men than women, the largest difference being in the proportion that watch documentaries or read science and technology-related publications, magazines or books (64% vs 55% that do this occasionally or regularly).

Older respondents aged 55 or over are less likely to engage than younger respondents. For example, 15% say that they study science and technology-related issues in their free time occasionally or regularly, compared with 31% of 15-24 year olds and 29% of 25-39 year olds.

There are large differences by level of education. Respondents who finished education at the age of 20 or above are more likely to engage with science and technology. For example, 47% say they visit science and technology museums occasionally or regularly compared with 10% of those who left education by the age of 15.

Respondents who never/almost never have difficulty paying bills are more likely to watch documentaries or read science and technology-related publications, magazines or books (62%), talk about science and technology-related issues with family or friends (59%) and visit science and technology museums (34%) than respondents who have difficulties paying bills most of the time (50%, 45% and 26% respectively). However, respondents who have difficulty paying their bills most of the time are more likely to actively take part in scientific projects (16%), take part in clinical trials (13%), contact public authorities or political leaders about science and technology-related issues (13%) and lend their computer's processing power to contribute to research on complex scientific questions (14%) than those who never/almost never have difficulties paying their bills (11%, 9%, 6% and 7% respectively).

Levels of engagement are also linked to knowledge about science. Respondents who answered more than eight questions correctly in the 'quiz' are more likely to engage with the various activities. For example, 78% regularly or occasionally talk about science and technology-related issues with family or friends, compared with 31% of those who answered less than 5 answers correctly.

Respondents who have worked in research, science or innovative technology development are also more likely to engage in various ways, particularly when both the respondent and a family member have worked in one of these areas. For example, the proportion that watch documentaries or read science and technology-related publications, magazines or books, occasionally or regularly, is 91% where both the respondent and a family member work in a science-related area, compared with 54% of respondents with no personal or family connection with this type of work.

Unsurprisingly, some of the largest differences relate to levels of interest in scientific discoveries. For example, 22% of those who are interested in scientific discoveries attend public meetings about science and technology matters compared to just 4% who are not interested.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA14T** And now, a few questions on how you engage with science and technology issues. Do you  
(% - Total 'Yes')

	Watch documentaries, or read science and technology-related publications, magazines or books	Talk about science and technology-related issues with family or friends	Visit science and technology museums	Study science and technology-related issues in your free time	Sign petitions or join demonstrations on science and technology matters	Provide personal data for scientific research	Attend public meetings or debates about science and technology	Actively take part in scientific projects	Take part in the activities of a non-governmental organisation dealing with science and technology related issues	Take part in clinical trials	Contact public authorities or political leaders about science and technology-related issues	Lend your computer's processing power to contribute to research on complex scientific questions
<b>EU27</b>	66	60	37	25	22	28	13	14	10	13	10	9
<b>Gender</b>												
Man	64	59	33	26	18	19	15	14	11	9	9	9
Woman	55	52	32	18	21	19	11	11	9	9	7	8
<b>Age</b>												
15-24	61	61	34	31	23	23	17	18	13	10	6	13
25-39	63	60	38	29	22	25	17	17	11	11	9	11
40-54	63	57	36	23	21	19	14	13	11	10	9	8
55+	54	49	27	15	16	15	10	7	8	9	7	5
<b>Education (end of)</b>												
15-	33	28	10	7	7	8	5	4	5	5	5	4
16-19	51	46	24	14	15	13	10	9	8	8	8	8
20+	74	70	47	30	26	27	18	16	13	12	10	8
Still studying	67	68	40	39	27	27	20	22	15	11	6	13
<b>Socio-professional category</b>												
Self-employed	66	62	36	25	21	20	17	14	12	11	12	10
Managers	76	74	52	34	27	28	20	20	13	12	11	10
Other white collars	61	55	37	20	19	21	12	11	10	9	8	9
Manual workers	52	49	26	19	17	16	11	10	9	10	9	9
House persons	44	41	21	14	16	15	8	9	8	9	8	8
Unemployed	56	50	22	17	17	14	8	8	8	5	5	6
Retired	53	46	25	12	15	14	9	7	7	9	6	5
Students	67	68	40	39	27	27	20	22	15	11	6	13
<b>Difficulties paying bills</b>												
Most of the time	50	45	26	22	23	21	16	16	12	13	13	14
From time to time	50	45	29	21	21	19	15	14	13	12	13	12
Almost never/ Never	62	59	34	22	19	19	12	11	9	9	6	7
<b>Left-right political scale</b>												
Left	64	61	37	24	28	22	15	12	13	9	9	8
Centre	60	55	32	21	17	19	12	12	9	10	7	8
Right	57	55	33	22	18	21	14	14	11	12	11	11
<b>Medical discoveries</b>												
Interested	75	70	42	30	25	25	18	16	13	13	11	10
Moderately interested	57	53	31	19	18	17	11	11	9	8	7	8
Not interested	28	25	14	9	9	9	6	7	5	5	4	5
<b>Scientific discoveries</b>												
Interested	82	78	48	38	27	29	22	19	15	12	11	12
Moderately interested	58	53	31	17	19	17	11	10	9	10	8	7
Not interested	21	20	9	6	7	7	4	5	4	4	4	4
<b>Environmental problems</b>												
Interested	76	72	43	29	29	24	17	15	13	11	10	9
Moderately interested	53	48	28	19	14	17	11	11	9	9	7	9
Not interested	25	24	13	9	8	10	6	7	6	6	5	6
<b>Influence of science and technology</b>												
Positive	62	58	34	23	19	20	14	12	10	9	8	8
Negative	45	42	27	20	20	15	15	15	13	12	13	12
<b>Correct answers to questions about scientific knowledge</b>												
Less than 5 correct answers	36	31	18	14	13	12	11	10	8	9	9	10
Between 5 and 8 correct answers	59	54	31	21	18	17	12	12	10	9	8	8
More than 8 correct answers	80	78	48	32	28	29	19	16	13	11	9	7
<b>Religiosity / Spirituality</b>												
Total 'Not very or not spiritual or religious'	68	63	36	25	21	22	14	13	10	9	6	7
Total 'Neither spiritual or religious nor not spiritual or religious'	59	54	33	21	19	19	14	13	10	10	9	9
Total 'Quite or very spiritual or religious'	49	45	28	18	17	14	12	11	11	9	9	8
<b>Worked in research / science / innovative technology development</b>												
You alone do or did in the past	82	79	55	53	30	43	35	40	27	23	17	18
A family member does or did in the past	85	82	58	40	36	34	26	21	19	18	15	15
Both you and a family member do or did in the past	91	91	63	66	38	54	42	49	30	19	25	19
No	54	50	28	17	17	15	10	9	7	8	7	6

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

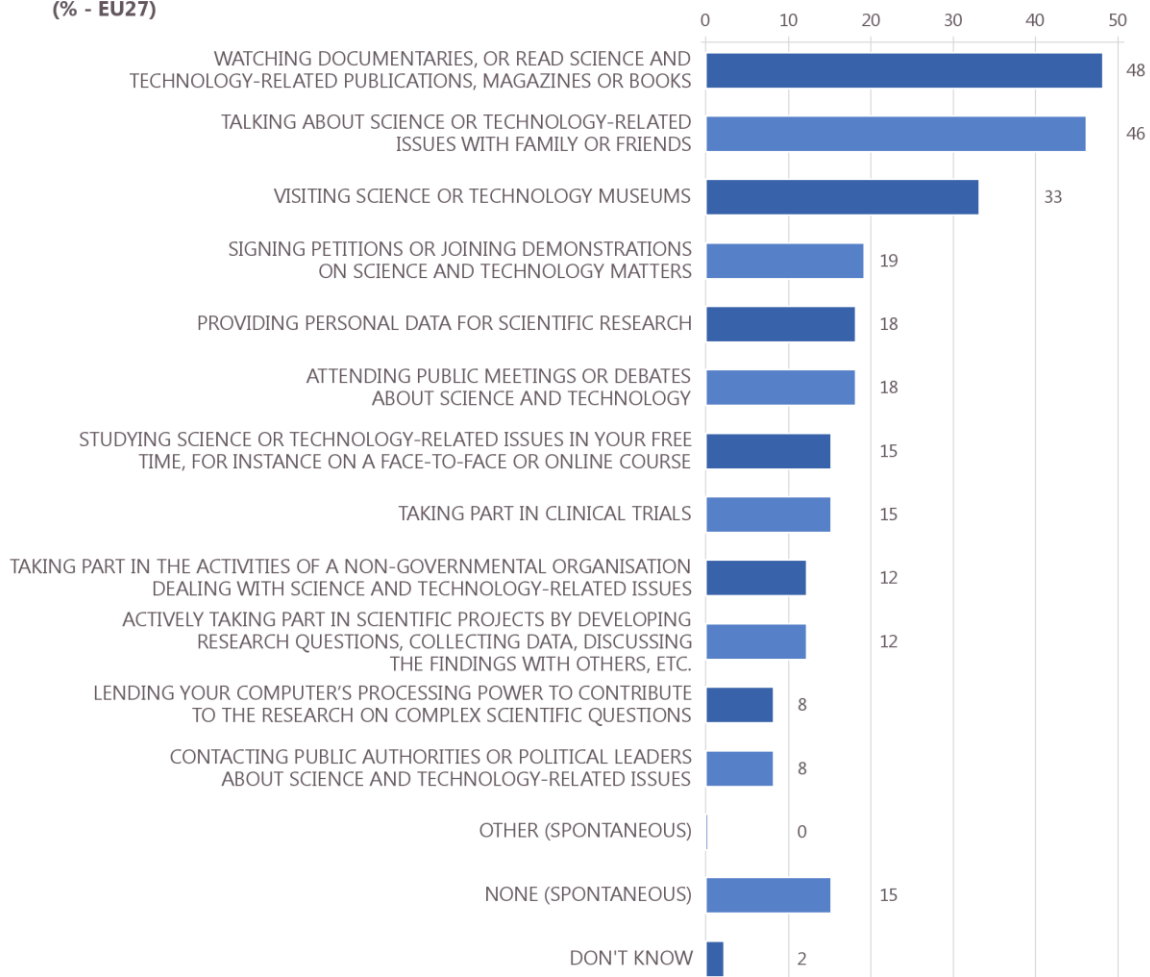
When asked to consider ways of increasing their engagement with science and technology in the future, Europeans are most likely to say they would consider watching documentaries or reading science and technology-related publications, magazines or books (48%). A similar proportion say they would consider talking about science and technology-related issues with family or friends (46%). These are also the activities that respondents say they are most likely to do at present (as described above), and in general the ranking of the various activities is very similar across the two questions. This suggests that the ways that people already engage with science and technology are also seen as the most appropriate for any future engagement.

One in three respondents (33%) say they would consider visiting science and technology museums, while just under one in five would consider doing each of the following: signing petitions or joining demonstrations on science and technology matters (19%), providing personal data for scientific research (18%), and attending public meetings or debates about science and technology (also 18%). Taking part in clinical trials and studying science and technology-related issues in their free time are options that are both chosen by 15% of respondents, while 12% would consider actively taking part in scientific projects, or taking part in the activities of a non-governmental organisation dealing with science and technology-related issues.

The least popular forms of engagement are contacting public authorities or political leaders about science and technology-related issues (8%), and lending computer processing power to contribute to research on complex scientific questions (also 8%).

**QA15** Thinking now about the future, would you consider increasing your engagement with science and technology by doing any of the following things? Please select all that apply. (MULTIPLE ANSWERS POSSIBLE)

(% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The results are broadly consistent across the 27 EU Member States, in that the same three options are chosen as the preferred forms of engagement in most countries: watching documentaries or reading science and technology-related publications, magazines or books; talking about science and technology-related issues with family or friends; and visiting science and technology museums.

There are some countries where respondents are consistently positive about engaging with science and technology in various ways. Most notably in Ireland, large proportions say they would consider the various options, such as talking about science and technology-related issues with family or friends (62%), visiting science and technology museums (55%), studying science and technology-related issues in their free time (35%) and actively taking part in scientific projects (32%).

Enthusiasm for engaging with science and technology is also high in Portugal (for example 39% would consider signing petitions or joining demonstrations on science and technology matters), Sweden (72% say they would watch documentaries or read science and technology-related publications), Estonia (46% say they would take part in clinical trials) and the Netherlands (44% say they would provide personal data for scientific research).

By contrast, respondents in some countries are consistently less likely to say they would consider the various forms of engagement: Hungary (for example, just 7% say they would consider attending public meetings or debates), Bulgaria (5% would consider studying science and technology-related issues), Poland (5% would take part in the activities of a non-governmental organisation) and Romania (just 27% say they would consider talking about science and technology-related issues with family or friends).

Out of the non-EU countries surveyed, respondents are most likely to say they would consider ways of increasing their engagement with science and technology in Iceland (for example 42% say they would study science and technology-related issues), the UK (36% would consider signing petitions or joining demonstrations) and Turkey, where relatively high proportions would consider the more 'active' forms of engagement, such as taking part in the activities of a non-governmental organisation (30%) or taking part in scientific projects (29%).

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA15 Thinking now about the future, would you consider increasing your engagement with science and technology by doing any of the following things? Please select all that apply. (MULTIPLE ANSWERS POSSIBLE)  
(%)

		Watching documentaries, or read science and technology-related publications, magazines or books	Talking about science or technology-related issues with family or friends	Visiting science or technology museums	Signing petitions or joining demonstrations on science and technology matters	Attending public meetings or debates about science and technology	Providing personal data for scientific research	Studying science or technology-related issues in your free time, for instance on a face-to-face or online course	Taking part in clinical trials	Taking part in the activities of a non-governmental organisation dealing with science and technology-related issues	Actively taking part in scientific projects by developing research questions, collecting data, discussing the findings with others, etc.	Contacting public authorities or political leaders about science and technology-related issues	Lending your computer's processing power to contribute to the research on complex scientific questions	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU27		48	46	33	19	18	18	15	15	12	12	8	8	0	15	2
BE		67	53	39	25	22	39	21	26	16	20	8	14	0	1	0
BG		40	35	23	7	6	3	5	2	5	3	3	1	0	27	5
CZ		56	51	43	17	27	36	24	30	12	20	7	15	0	1	0
DK		59	55	37	27	17	32	20	37	19	15	7	10	1	7	1
DE		52	59	30	25	26	23	17	25	16	13	11	9	1	13	2
EE		71	58	49	16	16	43	29	46	15	14	7	9	0	0	1
IE		70	62	55	34	36	47	35	34	30	32	25	22	0	1	0
EL		51	50	33	9	19	8	23	5	7	10	5	5	1	23	1
ES		42	39	34	10	13	7	12	7	9	6	3	2	0	24	4
FR		45	48	31	18	16	11	13	7	9	8	4	7	0	22	1
HR		57	45	24	18	14	14	18	9	10	10	6	6	0	8	1
IT		40	32	36	17	19	15	9	9	9	12	8	6	0	14	3
CY		52	54	29	11	23	14	32	10	13	15	10	8	0	22	0
LV		58	50	45	16	16	27	18	19	11	12	5	11	0	0	0
LT		54	38	31	23	20	21	23	23	15	17	11	10	0	1	0
LU		66	57	39	30	35	35	25	29	24	21	9	16	0	1	0
HU		53	40	24	9	7	13	10	3	6	5	3	6	0	14	0
MT		58	51	39	22	13	23	18	8	13	14	10	8	0	12	3
NL		67	59	37	35	19	44	26	25	17	23	13	15	0	7	1
AT		44	43	23	31	17	14	14	12	11	13	10	9	1	17	1
PL		33	35	30	10	9	7	13	5	5	7	7	4	0	17	5
PT		70	58	48	39	27	37	34	26	25	26	14	20	0	1	0
RO		32	27	23	12	15	8	11	6	9	9	9	8	1	18	2
SI		60	45	34	18	19	15	25	11	17	15	14	7	1	13	1
SK		37	48	34	17	20	13	15	12	9	9	7	7	0	15	4
FI		71	52	46	22	17	45	26	31	14	15	10	12	0	2	1
SE		72	62	48	30	17	40	30	40	18	21	14	17	0	1	1
TR		50	47	39	23	34	26	33	17	30	29	17	22	0	0	0
MK		36	31	19	9	16	10	15	5	13	10	7	7	0	13	2
AL		17	35	8	11	7	10	10	4	11	8	5	7	0	0	0
ME		28	37	20	16	14	8	16	7	14	13	5	7	0	8	1
RS		43	44	19	12	8	12	9	6	7	8	5	4	0	14	2
NO		61	53	44	26	21	34	20	47	14	17	7	12	0	3	1
CH		66	65	40	28	28	40	21	35	16	18	10	13	0	1	0
UK		72	59	59	36	22	52	27	41	24	27	15	19	0	2	0
IS		73	60	50	25	19	57	42	64	21	27	13	19	0	2	2
XK		23	27	12	16	15	11	20	8	15	20	11	13	0	1	0
BA		39	31	23	17	13	10	10	5	10	13	4	5	0	5	1
		1st MOST FREQUENTLY MENTIONED ITEM				2nd MOST FREQUENTLY MENTIONED ITEM				3rd MOST FREQUENTLY MENTIONED ITEM						



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In the socio-demographic analysis, the following can be observed:

Men are slightly more likely than women to say they would consider increasing their engagement with science and technology, for example by watching documentaries or reading science and technology-related publications, magazines or books (50% vs 46%), attending public meetings or debates about science and technology (21% vs 16%) or studying science or technology-related issues in their free time (18% vs 13%).

There are also differences by age, with older respondents (aged 55 or over) less likely to consider several of the forms of engagement, such as visiting science or technology museums (27% vs 36%-38% in the younger age groups). Respondents aged 15-24 are the most likely to consider some of the items, such as studying science or technology-related issues in their free time (27% compared with 9% of those aged 55 or over), taking part in clinical trials (19% vs 12%) and taking part in the activities of a non-governmental organisation (17% vs 9%).

There are large differences by level of education: respondents who finished education at the age of 15 or younger are less likely to consider the various forms of engagement – in fact, a third (33%) say they would consider none of them (compared with 9% of those who left education at the age of 20 or above). Respondents who finished education at the age of 20 or above are more likely to choose all of the various items; for example, 56% would consider watching documentaries or reading science and technology-related publications, magazines or books, compared with 35% of those who left education by the age of 15.

Respondents who never or almost never have difficulties paying bills are more likely to say they would consider several items, including talking about science or technology-related issues with family or friends (49% vs 36% of those who have difficulties most of the time) and visiting science or technology museums (34% vs 24%). However, for several other items the differences are much less pronounced.

Interest in the various forms of engagement is higher among respondents who have a higher level of knowledge about science and technology. For example, 25% of those who answered eight or more questions correctly in the quiz would consider studying science or technology-related issues in their free time, compared with 8% who answered less than five questions correctly.

Respondents who have worked in research, science or innovative technology development are also more likely to consider the various activities. For example, the proportion that would consider watching documentaries or reading science and technology-related publications, magazines or books is higher when the respondent works in research/science/innovative technology development (55%) or when both the respondent and another family member work in a science-related area (66%), compared with respondents with no personal or family connection with this type of work (46%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA15** Thinking now about the future, would you consider increasing your engagement with science and technology by doing any of the following things? Please select all that apply. (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)

	Talking about science or technology-related issues with family or friends	Watching documentaries, or read science and technology-related publications, magazines or books	Visiting science or technology museums	Studying science or technology-related issues in your free time, for instance on a face-to-face or online course	Signing petitions or joining demonstrations on science and technology matters	Attending public meetings or debates about science and technology	Taking part in the activities of a non-governmental organisation dealing with science and technology-related issues	Contacting public authorities or political leaders about science and technology-related issues	Providing personal data for scientific research	Taking part in clinical trials	Lending your computer's processing power to contribute to the research on complex scientific questions	Actively taking part in scientific projects by developing research questions, collecting data, discussing the findings with others, etc.	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
<b>EU27</b>	46	48	33	15	19	18	12	8	18	15	8	12	0	15	2
<b>Gender</b>															
Man	47	50	33	18	18	21	12	9	19	15	11	14	0	13	2
Woman	45	46	33	13	20	16	11	6	17	14	5	10	0	17	2
<b>Age</b>															
15-24	50	47	38	27	22	22	17	7	22	19	11	19	0	9	2
25-39	46	48	37	21	20	21	13	8	19	15	11	16	0	11	2
40-54	47	50	36	16	20	20	12	8	18	15	8	13	0	11	2
55+	44	46	27	9	17	14	9	7	16	12	5	7	0	21	2
<b>Education (end of)</b>															
15-	32	35	19	4	11	8	5	3	10	7	3	4	0	33	3
16-19	44	43	28	9	16	14	8	6	13	10	5	7	0	17	3
20+	52	56	41	22	24	24	15	10	24	19	11	16	0	9	1
Still studying	51	51	40	31	25	28	20	9	25	23	13	25	0	7	2
<b>Socio-professional category</b>															
Self-employed	51	53	40	21	21	21	15	12	19	15	9	16	0	10	2
Managers	53	55	42	24	24	29	17	12	25	19	13	21	1	6	1
Other white collars	48	51	39	17	21	18	12	7	18	14	9	11	0	10	1
Manual workers	43	44	29	11	17	13	8	6	14	12	6	8	0	15	3
House persons	38	40	26	10	13	11	5	6	12	13	5	7	0	23	3
Unemployed	44	43	31	13	14	17	13	6	15	12	7	11	0	20	2
Retired	41	45	24	7	16	12	7	6	16	12	4	5	0	24	2
Students	51	51	40	31	25	28	20	9	25	23	13	25	0	7	2
<b>Difficulties paying bills</b>															
Most of the time	36	41	24	13	18	15	11	7	12	10	8	11	0	22	1
From time to time	39	43	31	13	19	16	10	8	14	11	7	11	0	16	2
Almost never/ Never	49	50	34	17	19	19	12	8	20	16	8	12	0	14	2
<b>Left-right political scale</b>															
Left	51	54	38	19	27	24	16	10	22	17	10	15	0	11	2
Centre	47	48	32	15	17	17	10	7	17	16	7	11	0	14	2
Right	43	44	30	14	15	16	9	8	18	14	8	12	0	13	1
<b>Medical discoveries</b>															
Interested	53	55	37	20	23	23	14	10	23	19	9	16	0	10	1
Moderately interested	46	48	34	14	19	17	11	7	17	13	7	10	0	13	2
Not interested	29	27	19	9	10	9	7	5	9	7	5	7	0	32	4
<b>Scientific discoveries</b>															
Interested	56	59	41	27	24	27	18	11	25	20	14	20	1	8	1
Moderately interested	46	48	33	12	19	16	10	7	17	14	6	9	0	12	2
Not interested	28	25	18	5	10	7	5	4	8	6	3	4	0	34	4
<b>Environmental problems</b>															
Interested	54	56	39	20	28	25	17	11	23	18	10	16	1	10	1
Moderately interested	43	45	31	14	14	14	9	6	16	13	7	10	0	15	2
Not interested	26	25	17	7	9	9	5	5	8	8	5	6	0	33	4
<b>Influence of science and technology</b>															
Positive	48	50	35	16	20	19	12	8	19	16	8	12	0	13	2
Negative	37	32	22	10	17	12	10	10	9	8	8	10	0	23	2
<b>Correct answers to questions about scientific knowledge</b>															
Less than 5 correct answers	32	32	20	8	11	9	7	6	9	8	5	6	0	26	4
Between 5 and 8 correct answers	45	48	33	14	18	16	10	7	17	14	6	11	0	14	2
More than 8 correct answers	59	61	43	25	26	29	19	12	29	23	14	20	0	7	1
<b>Religiosity / Spirituality</b>															
Total 'Not very or not spiritual or religious'	51	52	35	19	21	21	14	8	23	19	11	14	1	13	2
Total 'Neither spiritual or religious nor not spiritual or religious'	45	47	33	14	19	18	11	8	17	14	7	11	0	13	3
Total 'Quite or very spiritual or religious'	40	42	29	12	17	14	10	7	12	11	5	9	0	21	2
<b>Worked in research / science / innovative technology development</b>															
You alone do or did in the past	53	55	41	32	24	28	22	13	29	25	15	30	1	7	1
A family member does or did in the past	55	60	42	26	29	27	19	11	27	22	13	20	0	8	1
Both you and a family member do or did in the past	63	66	41	48	32	38	38	22	36	23	22	39	0	6	0
No	44	46	31	13	17	16	10	7	16	13	7	9	0	16	2

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The main barriers to engagement with science and technology are lack of time (mentioned by 41% of respondents), lack of knowledge (39%) and lack of interest (34%). In relation to science and technology activities or events, almost a third (28%) cite lack of information about these activities or events and more than one in five (21%) cite lack or poor quality of activities or events in their area.

One in six respondents (16%) say that lack of financial resources is a barrier, while the same proportion (16%) cite privacy concerns. Finally, 13% of Europeans feel that they would not be welcomed or that it is 'not something for them'.

**QA16** Sometimes people find it difficult to engage with science and technology. Which of the following, if any, are the main barriers for you? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Among the 27 EU Member States, lack of time is most frequently mentioned by respondents as a barrier to engagement with science and technology in Cyprus (59%), Sweden (56%) and Luxembourg (55%). Lack of knowledge is cited most frequently by respondents in Portugal (56%), and Belgium, Czechia and Luxembourg (all 52%), while lack of interest is most likely to be mentioned by those in Austria and Croatia (both 44%), and Bulgaria (40%).

Respondents in Portugal (60%) and Ireland (47%) are most likely to cite a lack of information on activities and events as a barrier, while these two countries also rank highest for lack or poor quality of activities or events in their area: Ireland (49%) and Portugal (35%).

A lack of financial resources is mentioned most frequently by respondents in Romania (33%), Portugal (32%), Estonia (29%) and Lithuania (28%), while respondents in Portugal (27%), and Ireland and Malta (both 23%) are most likely to mention privacy concerns. Respondents in Latvia (29%), Luxembourg (23%) and Belgium (20%) are most likely to feel that they would not be welcomed or that it is 'not something for them'.

Looking at the non-EU countries surveyed, the main differences are that respondents in Turkey (48%) and Kosovo (41%) are most likely to mention lack of financial resources as a barrier to engagement with science and technology, while those in Turkey (44%) are particularly likely to mention the lack or poor quality of activities or events in their area. Respondents in Albania (44%) and the UK (40%) are most likely to cite a lack of information on activities and events as a barrier.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

QA16 Sometimes people find it difficult to engage with science and technology. Which of the following, if any, are the main barriers for you? (MULTIPLE ANSWERS POSSIBLE)  
(%)

		Lack of time	Lack of knowledge in the field of science and technology	Lack of interest	Lack of information on activities or events related to science and technology	Lack of poor quality of activities or events related to science and technology in the area where you live	Lack of financial resources	Privacy concerns, e.g. fear of personal data misuse	Feeling that you would not be welcomed or that it is not something for you	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU27		41	39	34	28	21	16	16	13	1	2	1
BE		52	52	29	46	17	17	20	20	0	1	0
BG		29	38	40	20	11	19	9	13	0	3	2
CZ		51	52	23	35	21	19	18	16	0	1	0
DK		50	32	38	29	13	13	11	13	1	2	0
DE		45	35	34	25	18	12	19	13	2	5	0
EE		45	46	20	33	25	29	17	15	0	1	0
IE		47	41	17	47	49	23	23	16	0	1	0
EL		35	51	31	34	27	20	15	16	1	2	0
ES		40	33	36	25	22	9	7	5	0	2	1
FR		42	47	38	26	14	15	20	13	1	3	0
HR		43	39	44	27	22	23	18	18	0	1	0
IT		35	39	31	31	28	17	14	15	0	1	1
CY		59	43	32	29	21	24	16	13	0	2	0
LV		41	47	24	39	21	26	14	29	0	0	0
LT		36	44	31	33	29	28	21	18	0	0	0
LU		55	52	28	45	23	14	19	23	0	1	0
HU		38	32	33	21	18	22	10	14	0	2	1
MT		46	44	38	36	25	14	23	10	1	3	2
NL		48	44	30	27	12	10	21	12	0	3	0
AT		36	36	44	24	17	16	16	16	1	4	0
PL		34	27	39	15	16	17	11	11	0	1	2
PT		40	56	21	60	35	32	27	13	0	0	0
RO		32	34	34	30	30	33	16	19	1	1	2
SI		45	34	36	28	22	20	14	14	1	2	0
SK		44	31	33	30	25	25	14	16	0	3	1
FI		45	32	27	28	19	15	19	11	0	1	0
SE		56	37	31	38	25	15	12	10	0	1	0
TR		39	35	32	38	44	48	27	14	0	0	0
MK		33	34	45	26	24	34	14	14	0	2	0
AL		11	16	11	44	14	16	12	11	0	0	0
ME		27	27	49	29	22	24	12	10	0	0	0
RS		31	41	43	20	19	16	12	13	0	1	3
NO		45	37	35	38	25	12	15	10	0	1	0
CH		52	52	32	33	12	14	24	20	0	1	0
UK		53	44	19	40	35	23	20	19	0	2	0
IS		50	48	34	27	22	14	14	15	0	2	2
XK		30	24	37	18	21	41	12	9	0	0	0
BA		34	33	37	24	27	28	10	11	0	0	0
		1st MOST FREQUENTLY MENTIONED ITEM			2nd MOST FREQUENTLY MENTIONED ITEM			3rd MOST FREQUENTLY MENTIONED ITEM				

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In the socio-demographic analysis, the barriers to engagement with science and technology can differ according to groups:

While barriers to engagement are mostly similar for men and women, women are more likely to mention lack of knowledge in the field (41% vs 36%) and lack of interest (36% vs 31%), while men are more likely to mention lack of time (43% vs 39%) and lack or poor quality of activities or events in their area (22% vs 19%).

There are differences by age group. Respondents aged 25-39 and 40-54 are the most likely to say that lack of time is a barrier (52% and 50% respectively), while lack of financial resources is mentioned most frequently by 15-24 year olds (20%). Those aged 55 or over are the most likely to mention lack of knowledge in the field of science and technology (42%). Lack of interest is mentioned more by 15-24 year olds (36%) and by those aged 55 or over (37%) than by those aged 25-39 (30%) or those aged 40-54 (31%).

The main difference by level of education is that more highly educated respondents (who finished education at the age of 20 or above) are more likely to say lack of time is a barrier (49% vs 24% of those who left education by the age of 15), but are less likely to cite lack of interest (26% vs 47%).

Among respondents who are interested in scientific discoveries, the main barrier is lack of time (47%). These respondents are also more likely than those who are not interested in scientific discoveries to mention lack or poor quality of activities or events in their area (25% vs 14%) and lack of information about these activities or events (32% vs 18%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA16** Sometimes people find it difficult to engage with science and technology. Which of the following, if any, are the main barriers for you? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)

	Lack of time	Lack of financial resources	Lack of interest	Lack of information on activities or events related to science and technology	Lack of knowledge in the field of science and technology	Lack or poor quality of activities or events related to science and technology in the area where you live	Feeling that you would not be welcomed or that it is not something for you	Privacy concerns, e.g. fear of personal data misuse	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
<b>EU27</b>	41	16	34	28	39	21	13	16	1	2	1
<b>Gender</b>											
Man	43	17	31	28	36	22	13	15	1	3	1
Woman	39	15	36	28	41	19	13	16	1	2	1
<b>Age</b>											
15-24	45	20	36	30	38	21	15	15	0	3	1
25-39	52	18	30	30	34	21	13	17	1	2	0
40-54	50	17	31	28	37	20	12	17	1	2	0
55+	27	13	37	26	42	20	13	15	1	3	1
<b>Education (end of)</b>											
15-	24	14	47	23	44	19	13	11	1	2	1
16-19	37	18	36	26	40	20	14	16	0	2	1
20+	49	13	26	31	36	22	12	18	1	3	0
Still studying	47	21	35	31	36	22	14	14	1	3	0
<b>Socio-professional category</b>											
Self-employed	51	14	27	29	34	25	12	15	1	1	0
Managers	57	11	23	31	37	22	12	17	1	2	0
Other white collars	49	16	31	29	38	20	11	17	1	1	1
Manual workers	47	20	35	26	37	18	14	17	0	1	0
House persons	36	15	39	24	42	20	16	16	0	1	0
Unemployed	32	21	40	32	38	23	14	16	1	2	0
Retired	19	13	39	25	43	20	13	14	1	4	1
Students	47	21	35	31	36	22	14	14	1	3	0
<b>Difficulties paying bills</b>											
Most of the time	36	28	35	29	44	25	16	16	0	0	0
From time to time	37	23	35	30	41	22	16	17	0	1	0
Almost never/ Never	42	13	33	27	38	20	12	15	1	3	1
<b>Left-right political scale</b>											
Left	44	16	31	31	40	23	12	15	1	2	0
Centre	42	16	34	28	39	20	14	17	1	2	1
Right	38	17	34	27	37	20	14	15	1	2	1
<b>Medical discoveries</b>											
Interested	43	18	25	32	38	24	13	18	1	3	0
Moderately interested	41	15	35	27	40	20	13	15	1	2	0
Not interested	34	15	53	18	34	14	13	12	0	2	1
<b>Scientific discoveries</b>											
Interested	47	18	21	32	34	25	12	18	1	4	0
Moderately interested	41	16	34	29	42	20	13	16	0	2	1
Not interested	29	13	57	18	39	14	14	12	0	1	1
<b>Environmental problems</b>											
Interested	45	15	25	32	40	23	12	18	1	3	0
Moderately interested	39	17	38	27	39	20	14	15	0	2	0
Not interested	32	16	50	17	33	15	12	12	1	2	2
<b>Influence of science and technology</b>											
Positive	43	16	32	29	39	21	12	16	1	2	0
Negative	34	19	37	22	36	19	18	19	1	2	0
<b>Correct answers to questions about scientific knowledge</b>											
Less than 5 correct answers	30	17	43	24	38	17	15	15	1	2	1
Between 5 and 8 correct answers	39	17	34	28	40	21	14	17	1	2	0
More than 8 correct answers	54	12	25	30	35	22	9	14	1	4	0
<b>Religiosity / Spirituality</b>											
Total 'Not very or not spiritual or religious'	46	15	33	28	38	18	13	16	1	3	0
Total 'Neither spiritual or religious nor not spiritual or religious'	40	16	32	29	38	23	13	16	1	2	0
Total 'Quite or very spiritual or religious'	34	18	38	27	40	20	15	16	1	2	1
<b>Worked in research / science / innovative technology development</b>											
You alone do or did in the past	43	15	22	27	24	23	11	20	1	5	0
A family member does or did in the past	44	13	21	32	38	22	14	19	1	4	0
Both you and a family member do or did in the past	57	15	16	30	36	23	11	19	1	8	0
No	40	16	36	27	40	20	13	15	1	2	1

## **VI. YOUNG PEOPLE, GENDER EQUALITY, AND SOCIAL RESPONSIBILITY IN SCIENCE AND TECHNOLOGY**





# 1. Young people and science

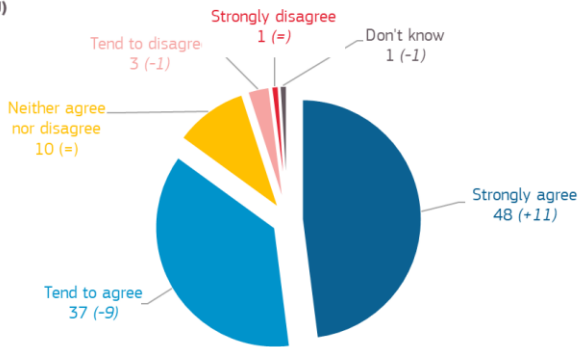
Respondents were asked to say how much they agreed or disagreed with three statements about science and technology in relation to young people<sup>37</sup>:

- “Young people’s interest in science is essential for our future prosperity”;
- “Science prepares the younger generation to act as well-informed citizens”;
- “Thanks to science and technology, there will be more opportunities for future generations”.

The chart below shows the extent to which respondents in EU Member States agree or disagree with the statement “Young people’s interest in science is essential for our future prosperity”.

The large majority of respondents (85%) agree that young people’s interest in science is essential for our future prosperity, with around half (48%) saying that they “strongly agree”. A very small minority of respondents (4%) disagree that young people’s interest in science is essential, with fewer still (1%) saying they “strongly disagree”. One in ten respondents (10%) are neutral, saying they neither agree nor disagree.

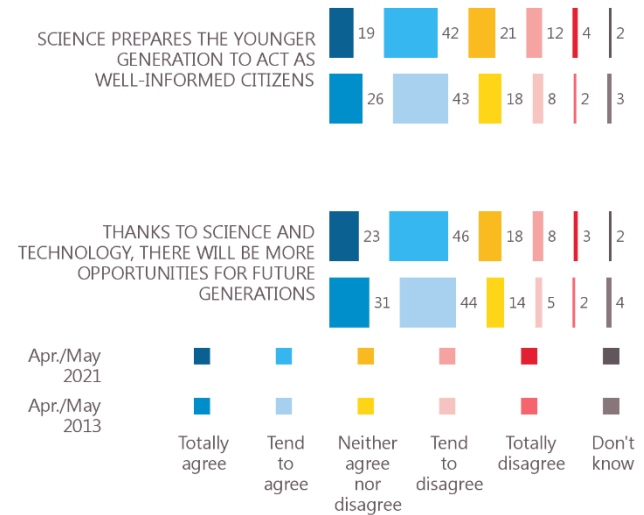
**QA9.6** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree. Young people’s interest in science is essential for our future prosperity? (% - EU)



(Apr/May 2021 - Jan/Feb 2005)

The following chart shows the extent to which respondents agree or disagree with the statements “Science prepares the younger generation to act as well-informed citizens”, and “Thanks to science and technology, there will be more opportunities for future generations”.

**QA10** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree. (% - EU27)



Around seven in ten respondents (69%) agree that “Thanks to science and technology, there will be more opportunities for future generations”, with just under one in four (23%) saying that they “totally agree”. One in nine respondents (11%) disagree, with only a small proportion (3%) saying that they “totally disagree”. Just under one in five respondents (18%) neither agree nor disagree with the statement.

Across these three measures, respondents are least likely to agree that “Science prepares the younger generation to act as well-informed citizens”. Nevertheless, around six in ten respondents (61%) agree, with around one in five (19%) saying that they “totally agree”. Around one in six respondents (16%) disagree with the statement, with only a small proportion (4%) saying they “totally disagree”. One in five respondents (21%) are neutral.

One of these measures - young people’s interest in science is essential for our future prosperity - was included in an earlier Eurobarometer Survey (Special Eurobarometer 224 EB 63.1) conducted in 2005, with the other two measures included in a Eurobarometer Survey (Special Eurobarometer 401 EB 79.2) conducted in 2013.

Since 2005, there has been a small increase in the proportion of respondents who agree that young people’s interest in science is essential for our future prosperity (+2 percentage points), with a large increase in the proportion who says they “strongly agree” (+11 points).

Since 2013, the proportion of respondents who agree that science prepares the younger generation to act as well-informed citizens

<sup>37</sup> Two of the statements are taken from QA10 and one from QA9.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

has fallen somewhat (-8 pp), driven by a decrease in the proportion who say they “totally agree” (-7 pp) and a small decrease in those who say they “tend to agree” (-1 pp). Similarly, there has been a drop in the proportion of respondents who agree that thanks to science and technology, there will be more opportunities for future generations (-6 pp), again driven by a decrease in the proportion who say they “totally agree” (-8 pp), though there is a small increase in the proportion who say they “tend to agree” (+2 pp).

Attitudes towards these statements vary considerably both within the EU and among the non-EU countries included in the survey.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The majority of respondents in all EU Member States agree with the statement “Young people’s interest in science is essential for our future prosperity”:

Respondents in Portugal (98%), Sweden, Estonia, Ireland and Belgium (96% in each) and Cyprus (95%) are most likely to agree that young people’s interest in science is essential for our future prosperity, compared with the EU average of 85%. Respondents in Portugal (80%) are particularly likely to “strongly agree” with the statement, followed by respondents in Cyprus (72%) and Ireland (69%), compared with the EU average of 48%. Respondents in Austria (71%) and Romania (68%) are the least likely to agree that young people’s interest in science is essential for our future prosperity.

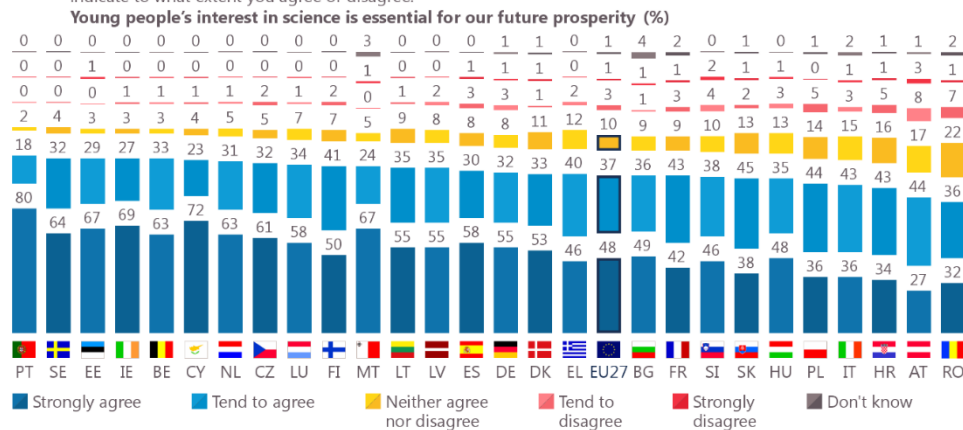
Among the non-EU countries surveyed, the proportion of respondents who agree that young people’s interest in science is essential for our future prosperity is highest in Norway (95%) and the UK (94%), with more than six in ten respondents in each country (67% and 64% respectively) saying that they “strongly agree”. Respondents in Albania (28%) are particularly unlikely to agree with the statement, compared with the EU average of 85%, with a relatively large proportion (41%) saying they neither agree nor disagree (compared to 10% for the EU as a whole). The only other non-EU countries where less than three-quarters of respondents agree that young people’s interest in science is essential for our future prosperity are Montenegro (70%) and Serbia (72%).

Comparing the current results to the 2005 findings, the proportion of respondents who agree that young people’s interest in science is essential for our future prosperity has increased in 19 EU Member States, with the most notable shifts in Bulgaria and Sweden

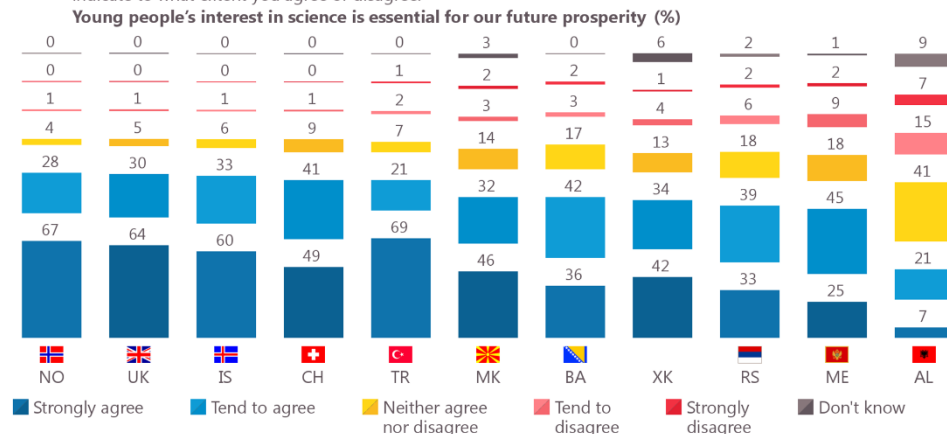
(both +15 pp), Czechia (+13 pp), Belgium (+12 pp), Luxembourg and the Netherlands (both +11 pp), and Ireland (+10 pp). Among the seven EU Member States where the proportion of respondents who agree with this statement has decreased, the most notable shifts are in Romania (-14 pp), Croatia (-9 pp) and Austria (-8 pp).

Among the non-EU countries surveyed, the most notable changes are an increase in the proportion of respondents who agree that young people’s interest in science is essential for our future prosperity in Switzerland and Norway (both +11 pp), and Turkey (+10 pp).

QA9.6 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



QA9.6 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA9.6 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.

**Young people's interest in science is essential for our future prosperity (%)**

		Strongly agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Strongly disagree		Don't know		Total 'Agree'		Total 'Disagree'	
		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005		Diff: April/May 2021 - January/February 2005	
EU27		48	▲ 11	37	▼ 9	10	=	3	▼ 1	1	=	1	85	▲ 2	4	▼ 1	
BG		49	▲ 10	36	▲ 5	9	▼ 1	1	▼ 4	1	▼ 1	4	85	▲ 15	2	▼ 5	
SE		64	▲ 29	32	▼ 14	4	▼ 9	0	▼ 4	0	▼ 1	0	96	▲ 15	0	▼ 5	
CZ		61	▲ 21	32	▼ 8	5	▼ 8	2	▼ 3	0	▼ 1	0	93	▲ 13	2	▼ 4	
BE		63	▲ 19	33	▼ 7	3	▼ 6	1	▼ 3	0	▼ 3	0	96	▲ 12	1	▼ 6	
LU		58	▲ 17	34	▼ 6	7	▼ 1	1	▼ 5	0	▼ 3	0	92	▲ 11	1	▼ 8	
NL		63	▲ 18	31	▼ 7	5	▼ 4	1	▼ 3	0	▼ 3	0	94	▲ 11	1	▼ 6	
IE		69	▲ 27	27	▼ 17	3	▼ 5	1	▼ 1	0	▼ 1	0	96	▲ 10	1	▼ 2	
DK		53	▲ 16	33	▼ 7	11	▼ 4	1	▼ 3	1	▼ 1	1	86	▲ 9	2	▼ 4	
ES		58	▲ 23	30	▼ 14	8	▼ 5	3	▲ 1	1	=	0	88	▲ 9	4	▲ 1	
HU		48	▲ 9	35	=	13	▼ 2	3	▼ 3	1	▼ 2	0	83	▲ 9	4	▼ 5	
PT		80	▲ 33	18	▼ 24	2	▼ 3	0	▼ 2	0	▼ 1	0	98	▲ 9	0	▼ 3	
FI		50	▲ 22	41	▼ 14	7	▼ 2	2	▼ 4	0	▼ 1	0	91	▲ 8	2	▼ 5	
FR		42	▲ 19	43	▼ 12	9	▼ 1	3	▼ 3	1	▼ 2	2	85	▲ 7	4	▼ 5	
LV		55	▲ 8	35	▼ 3	8	=	2	▼ 1	0	=	0	90	▲ 5	2	▼ 1	
DE		55	▲ 16	32	▼ 12	8	▼ 2	3	▼ 2	1	=	1	87	▲ 4	4	▼ 2	
EE		67	▲ 7	29	▼ 3	3	▼ 2	0	▼ 1	1	▲ 1	0	96	▲ 4	1	=	
CY		72	▲ 16	23	▼ 12	4	▼ 3	1	=	0	▼ 1	0	95	▲ 4	1	▼ 1	
EL		46	▲ 2	40	=	12	▲ 3	2	▼ 1	0	▼ 2	0	86	▲ 2	2	▼ 3	
MT		67	▲ 19	24	▼ 17	5	▲ 1	0	▼ 1	1	▼ 1	3	91	▲ 2	1	▼ 2	
IT		36	▲ 11	43	▼ 11	15	▲ 1	3	=	1	=	2	79	=	4	=	
SK		38	▲ 2	45	▼ 5	13	▲ 2	2	=	1	▲ 1	1	83	▼ 3	3	▲ 1	
LT		55	=	35	▼ 4	9	▲ 5	1	=	0	=	0	90	▼ 4	1	=	
PL		36	▼ 4	44	▼ 1	14	▲ 7	5	=	0	=	1	80	▼ 5	5	=	
SI		46	▼ 2	38	▼ 3	10	▲ 2	4	▲ 2	2	▲ 2	0	84	▼ 5	6	▲ 4	
AT		27	▼ 6	44	▼ 2	17	▲ 7	8	▲ 4	3	=	1	71	▼ 8	11	▲ 4	
HR		34	▼ 9	43	=	16	▲ 7	5	▲ 3	1	=	1	77	▼ 9	6	▲ 3	
RO		32	▼ 21	36	▲ 7	22	▲ 11	7	▲ 4	1	▲ 1	2	68	▼ 14	8	▲ 5	
TR		69	▲ 6	21	▲ 4	7	▼ 2	2	▼ 2	1	0	0	90	▲ 10	3	▼ 2	
MK		46	N/A	32	N/A	14	N/A	3	N/A	2	N/A	3	78	N/A	5	N/A	
AL		7	N/A	21	N/A	41	N/A	15	N/A	7	N/A	9	28	N/A	22	N/A	
ME		25	N/A	45	N/A	18	N/A	9	N/A	2	N/A	1	70	N/A	11	N/A	
RS		33	N/A	39	N/A	18	N/A	6	N/A	2	N/A	2	72	N/A	8	N/A	
NO		67	▲ 29	28	▼ 18	4	▼ 4	1	▼ 5	0	▼ 1	0	95	▲ 11	1	▼ 6	
CH		49	▲ 17	41	▼ 6	9	▼ 3	1	▼ 6	0	▼ 1	0	90	▲ 11	1	▼ 7	
UK		64	▲ 20	30	▼ 12	5	▼ 2	1	▼ 3	0	▼ 1	0	94	▲ 8	1	▼ 4	
IS		60	▲ 20	33	▼ 15	6	▼ 1	1	▼ 1	0	▼ 1	0	93	▲ 5	1	▼ 2	
XK		42	N/A	34	N/A	13	N/A	4	N/A	1	N/A	6	76	N/A	5	N/A	
BA		36	N/A	42	N/A	17	N/A	3	N/A	2	N/A	0	78	N/A	5	N/A	

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The majority of respondents in 22 EU Member States agree with the statement “Science prepares the younger generation to act as well-informed citizens”:

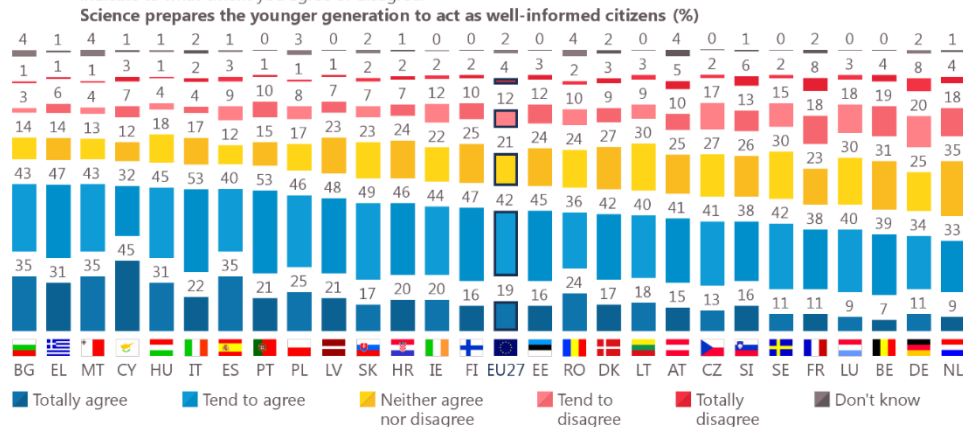
At least three-quarters of respondents agree that science prepares the younger generation to act as well-informed citizens in Bulgaria, Greece and Malta (78% in each), Cyprus (77%), Hungary (76%) and Italy and Spain (both 75%), compared with the EU average of 61%. Cyprus has a particularly high proportion of respondents (45%) who say they ‘totally agree’ with this statement, and at least three in ten respondents say they ‘totally agree’ in Bulgaria, Malta and Spain (35% in each), and Greece and Hungary (both 31%), compared with the EU average of 19%. The lowest levels of agreement on this measure are seen in the Netherlands (42%), Germany (45%), Belgium (46%), and France and Luxembourg (49% in each).

Among the non-EU countries surveyed, a notably high proportion of respondents in Turkey (82%) and Kosovo (76%) agree that science prepares the younger generation to act as well-informed citizens, with just under half of respondents in Turkey (46%) and just over a third of respondents in Kosovo (36%) saying that they “totally agree”. Albania is the only country where only a minority of respondents (32%) agree with this statement, and it has a particularly high proportion (43%) who say they “neither agree nor disagree”.

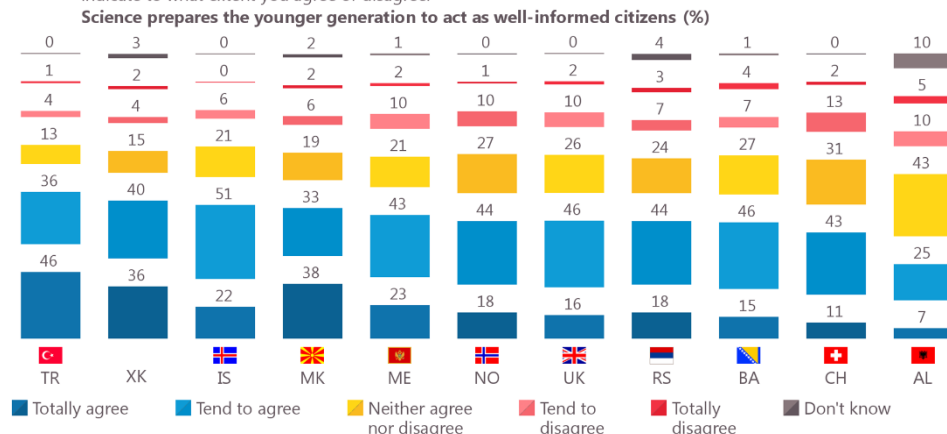
Comparing the current results with those in 2013, in most EU Member States (23) the proportion of respondents who agree that science prepares the younger generation to act as well-informed citizens has decreased, with the biggest shifts in Denmark (-18 pp), Finland (-21 pp), Luxembourg (-16 pp), and Estonia and Lithuania (both -15 pp), and with a further ten EU Member States<sup>38</sup> showing declines of between 10 and 14 percentage points. Italy, Cyprus and Hungary are the only EU Member States where the proportion of respondents who agree that science prepares the younger generation to act as well-informed citizens has increased, and the increases are small (no more than +3 pp). In Slovakia there has been no change in the proportion who agree with this statement.

The only non-EU country where this measure was included in the 2013 survey is the UK, and it shows a small increase in the proportion of respondents who agree that science prepares the younger generation to act as well-informed citizens (+3 pp).

**QA10.3** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.3** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



<sup>38</sup> Belgium, Bulgaria, Czechia, Ireland, Croatia, Latvia, the Netherlands, Austria, Romania and Slovenia.

**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.3 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Science prepares the younger generation to act as well-informed citizens (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'
		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013		Diff. April/May 2021 - April/May 2013
EU27		19	▼ 7	42	▼ 1	21	▲ 3	12	▲ 4	4	▲ 2	2	61	▼ 8	16	▲ 6
HU		31	▲ 2	45	▲ 1	18	=	4	▼ 2	1	▼ 1	1	76	▲ 3	5	▼ 3
IT		22	▼ 3	53	▲ 5	17	▼ 2	4	=	2	=	2	75	▲ 2	6	=
CY		45	▲ 7	32	▼ 5	12	▼ 7	7	▲ 3	3	▲ 2	1	77	▲ 2	10	▲ 5
SK		17	▼ 1	49	▲ 1	23	▲ 1	7	▲ 1	2	▲ 1	2	66	=	9	▲ 2
EL		31	▼ 1	47	▼ 1	14	=	6	▲ 2	1	=	1	78	▼ 2	7	▲ 2
PL		25	▲ 3	46	▼ 5	17	▲ 2	8	=	1	=	3	71	▼ 2	9	=
PT		21	▼ 5	53	▲ 2	15	▲ 2	10	▲ 5	1	=	0	74	▼ 3	11	▲ 5
ES		35	▼ 2	40	▼ 2	12	▲ 3	9	▲ 4	3	=	1	75	▼ 4	12	▲ 4
MT		35	▼ 10	43	▲ 5	13	▲ 5	4	▲ 1	1	▲ 1	4	78	▼ 5	5	▲ 2
FR		11	▼ 5	38	▼ 3	23	▲ 3	18	▲ 3	8	▲ 4	2	49	▼ 8	26	▲ 7
BG		35	▼ 21	43	▲ 11	14	▲ 6	3	▲ 2	1	=	4	78	▼ 10	4	▲ 2
NL		9	▼ 5	33	▼ 5	35	▲ 7	18	▲ 5	4	▲ 1	1	42	▼ 10	22	▲ 6
RO		24	▼ 10	36	=	24	▲ 4	10	▲ 7	2	=	4	60	▼ 10	12	▲ 7
HR		20	▼ 16	46	▲ 5	24	▲ 8	7	▲ 3	2	▲ 1	1	66	▼ 11	9	▲ 4
LV		21	▼ 12	48	▲ 1	23	▲ 10	7	▲ 3	1	=	0	69	▼ 11	8	▲ 3
BE		7	▼ 8	39	▼ 4	31	▲ 3	19	▲ 8	4	▲ 2	0	46	▼ 12	23	▲ 10
AT		15	▼ 5	41	▼ 7	25	▲ 1	10	▲ 5	5	▲ 4	4	56	▼ 12	15	▲ 9
SI		16	▼ 10	38	▼ 3	26	▲ 8	13	▲ 5	6	▲ 3	1	54	▼ 13	19	▲ 8
CZ		13	▼ 10	41	▼ 4	27	▲ 6	17	▲ 11	2	▲ 1	0	54	▼ 14	19	▲ 12
IE		20	▼ 13	44	▼ 1	22	▲ 9	12	▲ 7	2	=	0	64	▼ 14	14	▲ 7
EE		16	▼ 15	45	=	24	▲ 8	12	▲ 8	3	▲ 2	0	61	▼ 15	15	▲ 10
LT		18	▼ 15	40	=	30	▲ 13	9	▲ 3	3	▲ 2	0	58	▼ 15	12	▲ 5
LU		9	▼ 11	40	▼ 5	30	▲ 13	18	▲ 7	3	=	0	49	▼ 16	21	▲ 7
DK		17	▼ 12	42	▼ 6	27	▲ 11	9	▲ 5	3	▲ 2	2	59	▼ 18	12	▲ 7
SE		11	▼ 18	42	=	30	▲ 10	15	▲ 9	2	=	0	53	▼ 18	17	▲ 9
FI		16	▼ 22	47	▲ 1	25	▲ 16	10	▲ 6	2	=	0	63	▼ 21	12	▲ 6
DE		11	▼ 17	34	▼ 8	25	▲ 8	20	▲ 13	8	▲ 6	2	45	▼ 25	28	▲ 19
TR		46	N/A	36	N/A	13	N/A	4	N/A	1	N/A	0	82	N/A	5	N/A
MK		38	N/A	33	N/A	19	N/A	6	N/A	2	N/A	2	71	N/A	8	N/A
AL		7	N/A	25	N/A	43	N/A	10	N/A	5	N/A	10	32	N/A	15	N/A
ME		23	N/A	43	N/A	21	N/A	10	N/A	2	N/A	1	66	N/A	12	N/A
RS		18	N/A	44	N/A	24	N/A	7	N/A	3	N/A	4	62	N/A	10	N/A
UK		16	▼ 3	46	▲ 6	26	▲ 2	10	▲ 1	2	▼ 3	0	62	▲ 3	12	▼ 2
IS		22	N/A	51	N/A	21	N/A	6	N/A	0	N/A	0	73	N/A	6	N/A
NO		18	N/A	44	N/A	27	N/A	10	N/A	1	N/A	0	62	N/A	11	N/A
CH		11	N/A	43	N/A	31	N/A	13	N/A	2	N/A	0	54	N/A	15	N/A
XK		36	N/A	40	N/A	15	N/A	4	N/A	2	N/A	3	76	N/A	6	N/A
BA		15	N/A	46	N/A	27	N/A	7	N/A	4	N/A	1	61	N/A	11	N/A

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Focusing on the current survey, the majority of respondents in all EU Member States agree that "Thanks to science and technology, there will be more opportunities for future generations":

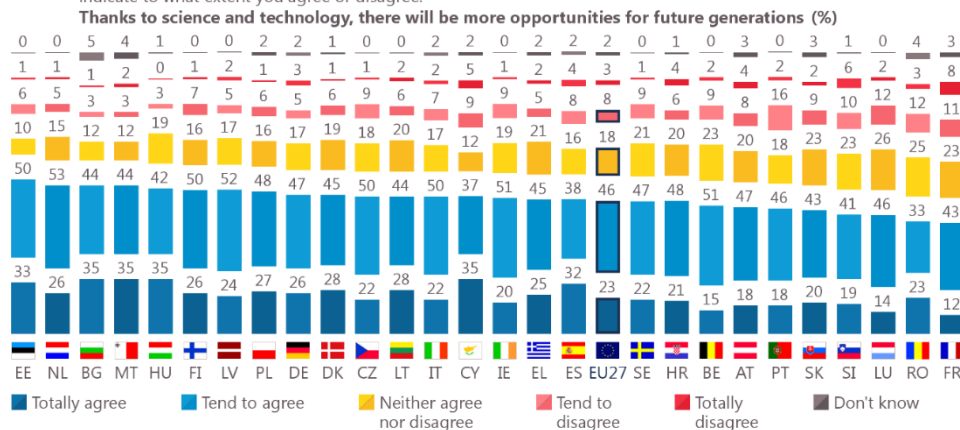
Agreement is highest in Estonia (83%), followed by the Netherlands, Bulgaria and Malta (79% in each), compared with the EU average of 69%. Around a third of respondents in Spain (32%), Estonia (33%), and Bulgaria, Malta, Hungary and Cyprus (35% in each) say they 'totally agree' with this statement, compared with the EU average of 23%. The lowest levels of agreement are in Romania (56%) and France (55%).

Among the non-EU countries surveyed, respondents in Turkey (81%), Norway (76%) and Kosovo (75%) are most likely to agree that thanks to science and technology, there will be more opportunities for future generations, with notably high proportions saying they 'totally agree' in Turkey (45%) and Kosovo (39%). As seen in relation to the two measures already reported on in this section, a relatively low proportion of respondents in Albania (32%) agree with the statement, and a relatively high proportion (40%) say they neither agree nor disagree (compared with the EU average of 18%).

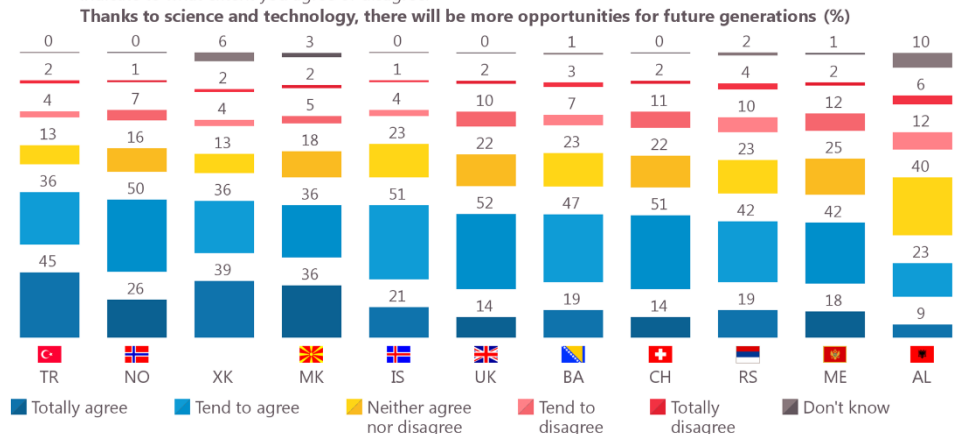
Comparing the current results to those of 2013, there are 23 EU Member States where the proportion of respondents who agree that science and technology will provide more opportunities for future generations has dropped, with the largest declines in Luxembourg (-20 pp), Sweden (-16 pp), France (-15 pp), Austria (-13 pp), Denmark (-12 pp), Romania (-11 pp), and Belgium and Ireland (both -10 pp). Among the four countries showing an increase in the proportions agreeing with this statement, the shifts are small, with the most notable in Italy (+5 pp).

Again, the UK is the only non-EU country where this measure was included in the 2013 survey, and it shows a notable decline in the proportion of respondents who agree that science and technology will provide more opportunities for future generations (-13 pp).

**QA10.5** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**QA10.5** The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA10.5 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.

**Thanks to science and technology, there will be more opportunities for future generations (%)**

		Totally agree		Tend to agree		Neither agree nor disagree		Tend to disagree		Totally disagree		Don't know		Total 'Agree'		Total 'Disagree'	
		April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013	April/May 2021	Diff. April/May 2021 - April/May 2013		
EU27		23	▼ 8	46	▲ 2	18	▲ 4	8	▲ 3	3	▲ 1	2		69	▼ 6	11	▲ 4
IT		22	▼ 1	50	▲ 6	17	▼ 3	7	▲ 1	2	=	2		72	▲ 5	9	▲ 1
CZ		22	▼ 5	50	▲ 8	18	▼ 1	9	▲ 2	1	▼ 1	0		72	▲ 3	10	▲ 1
CY		35	▼ 3	37	▲ 6	12	▼ 9	9	▲ 1	5	▲ 3	2		72	▲ 3	14	▲ 4
HU		35	▲ 5	42	▼ 4	19	▲ 2	3	=	0	▼ 2	1		77	▲ 1	3	▼ 2
MT		35	▼ 4	44	▲ 2	12	▲ 4	3	=	2	▲ 2	4		79	▼ 2	5	▲ 2
ES		32	▼ 2	38	▼ 1	16	▲ 6	8	▲ 1	4	▼ 1	2		70	▼ 3	12	=
BG		35	▼ 10	44	▲ 6	12	▲ 1	3	▲ 2	1	=	5		79	▼ 4	4	▲ 2
EE		33	▼ 13	50	▲ 9	10	▲ 2	6	▲ 4	1	=	0		83	▼ 4	7	▲ 4
HR		21	▼ 9	48	▲ 5	20	▲ 1	6	▲ 2	4	▲ 2	1		69	▼ 4	10	▲ 4
PT		18	▼ 1	46	▼ 3	18	▲ 1	16	▲ 11	2	▲ 1	0		64	▼ 4	18	▲ 12
SI		19	▼ 6	41	▲ 2	23	▲ 1	10	▲ 2	6	▲ 2	1		60	▼ 4	16	▲ 4
EL		25	=	45	▼ 5	21	▲ 5	5	=	2	▲ 1	2		70	▼ 5	7	▲ 1
PL		27	▼ 6	48	▲ 1	16	▲ 3	6	▲ 3	1	▲ 1	2		75	▼ 5	7	▲ 4
SK		20	▼ 2	43	▼ 3	23	=	9	▲ 4	2	▲ 1	3		63	▼ 5	11	▲ 5
LV		24	▼ 13	52	▲ 7	17	▲ 6	5	▲ 1	2	▲ 1	0		76	▼ 6	7	▲ 2
DE		26	▼ 5	47	▼ 2	17	▲ 5	5	▲ 1	3	▲ 2	2		73	▼ 7	8	▲ 3
FI		26	▼ 12	50	▲ 5	16	▲ 7	7	▲ 1	1	=	0		76	▼ 7	8	▲ 1
LT		28	▼ 11	44	▲ 2	20	▲ 9	6	▲ 3	2	▲ 2	0		72	▼ 9	8	▲ 5
NL		26	▼ 24	53	▲ 15	15	▲ 7	5	▲ 2	1	▲ 1	0		79	▼ 9	6	▲ 3
BE		15	▼ 9	51	▼ 1	23	▲ 8	9	▲ 2	2	▲ 1	0		66	▼ 10	11	▲ 3
IE		20	▼ 18	51	▲ 8	19	▲ 10	9	▲ 6	1	=	0		71	▼ 10	10	▲ 6
RO		23	▼ 11	33	=	25	▲ 6	12	▲ 7	3	▲ 2	4		56	▼ 11	15	▲ 9
DK		28	▼ 17	45	▲ 5	19	▲ 9	6	▲ 4	1	▼ 1	1		73	▼ 12	7	▲ 3
AT		18	▼ 8	47	▼ 5	20	▲ 5	8	▲ 3	4	▲ 3	3		65	▼ 13	12	▲ 6
FR		12	▼ 10	43	▼ 5	23	▲ 8	11	▲ 2	8	▲ 5	3		55	▼ 15	19	▲ 7
SE		22	▼ 24	47	▲ 8	21	▲ 11	9	▲ 7	1	▼ 1	0		69	▼ 16	10	▲ 6
LU		14	▼ 12	46	▼ 8	26	▲ 15	12	▲ 7	2	=	0		60	▼ 20	14	▲ 7
TR		45	N/A	36	N/A	13	N/A	4	N/A	2	N/A	0		81	N/A	6	N/A
MK		36	N/A	36	N/A	18	N/A	5	N/A	2	N/A	3		72	N/A	7	N/A
AL		9	N/A	23	N/A	40	N/A	12	N/A	6	N/A	10		32	N/A	18	N/A
ME		18	N/A	42	N/A	25	N/A	12	N/A	2	N/A	1		60	N/A	14	N/A
RS		19	N/A	42	N/A	23	N/A	10	N/A	4	N/A	2		61	N/A	14	N/A
UK		14	▼ 24	52	▲ 11	22	▲ 9	10	▲ 6	2	=	0		66	▼ 13	12	▲ 6
IS		21	N/A	51	N/A	23	N/A	4	N/A	1	N/A	0		72	N/A	5	N/A
NO		26	N/A	50	N/A	16	N/A	7	N/A	1	N/A	0		76	N/A	8	N/A
CH		14	N/A	51	N/A	22	N/A	11	N/A	2	N/A	0		65	N/A	13	N/A
XK		39	N/A	36	N/A	13	N/A	4	N/A	2	N/A	6		75	N/A	6	N/A
BA		19	N/A	47	N/A	23	N/A	7	N/A	3	N/A	1		66	N/A	10	N/A



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are only a few consistent patterns when it comes to responses by different socio-demographic groups.

When it comes to whether 'young people's interest in science is essential to our future prosperity', there is no difference by gender (83% of men agree vs 83% of women) and little difference by age (83% of people aged 15-24 agree vs 85% of people aged 55+). Respondents who have completed full-time education aged 20 or over are more likely to agree (90%) than those who left education aged 16-19 (82%) or aged 15 or under (78%). Respondents who never/almost never have difficulties paying bills are also more likely to agree with this statement (87%) than those who have difficulty paying bills most of the time (77%). When it comes to 'young people's interest in science is essential for our future prosperity', managers (89%) and students (87%) are somewhat more likely to agree than other occupational groups, particularly housepersons (81%) and those who are unemployed (82%).

For the statement that 'science prepares the younger generation to act as well-informed citizens', there is very little difference by gender (61% of men agree vs. 60% of women) and differences related to age range from 59% for respondents aged 40-54 to 61% for those aged 15-24 and 55+. When it comes to educational level, respondents who are still studying (64%) are more likely to agree with the statement than those who have completed full-time education aged 20 or over (58%). People who have difficulties paying their bills most of the time are less likely to agree (57%) than those who have difficulties paying their bills from time to time (63%). Differences related to occupation are relatively small, ranging from 57% among managers to 64% among students.

Looking at whether 'thanks to science and technology there will be more opportunities for future generations', men are slightly more likely to agree (71%) than women (67%). Respondents aged 15-24 are also more likely to agree with this statement (75%) than those aged 25-39 (70%) or those aged 40-54 or 55 and over (both 67%). Those who are still studying are also more likely to agree with the statement (76%) than people who have completed full-time education aged 15 or under (63%). Respondents who 'never' or 'almost never' have difficulties paying their household bills are more likely to agree (70%) than those who have difficulties 'from time to time' (67%) or those who have difficulties 'most of the time' (57%). Managers (73%) and students (76%) along with the self-employed (73%), are more likely to agree that science and technology will provide more opportunities for future generations especially when compared to housepersons (64%) and unemployed people (62%). Respondents who use the internet everyday are also more likely to agree with this statement (71%) than those who use it sometimes/often (63%) or never (61%).

Respondents who think that the overall influence of science and technology on society is positive and those who are more interested in new scientific discoveries and developments, new medical discoveries and environmental problems are more likely to agree with all three statements.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA9.6/10.3/10.5** The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.  
(% - Total 'Agree')

	Young people's interest in science is essential for our future prosperity	Science prepares the younger generation to act as well-informed citizens	Thanks to science and technology, there will be more opportunities for future generations
<b>EU27</b>	85	61	69
<b>Gender</b>			
Man	86	61	71
Woman	83	60	67
<b>Age</b>			
15-24	83	61	75
25-39	86	60	70
40-54	84	59	67
55+	85	61	67
<b>Education (end of)</b>			
15-	78	62	63
16-19	82	62	68
20+	90	58	70
Still studying	87	64	76
<b>Socio-professional category</b>			
Self-employed	85	62	73
Managers	89	57	73
Other white collars	86	63	69
Manual workers	82	59	66
House persons	81	60	64
Unemployed	82	58	62
Retired	84	61	67
Students	87	64	76
<b>Difficulties paying bills</b>			
Most of the time	77	57	57
From time to time	79	63	67
Almost never/ Never	87	60	70
<b>Use of the Internet</b>			
Everyday	86	61	71
Often/Sometimes	77	58	63
Never	74	63	61
<b>Left-right political scale</b>			
Left	88	61	70
Centre	85	60	69
Right	82	62	71
<b>Medical discoveries</b>			
Interested	91	62	73
Moderately interested	84	61	68
Not interested	70	56	61
<b>Scientific discoveries</b>			
Interested	92	62	75
Moderately interested	85	61	68
Not interested	72	57	59
<b>Environmental problems</b>			
Interested	91	61	71
Moderately interested	83	62	71
Not interested	68	53	56
<b>Influence of science and technology</b>			
Positive	88	64	73
Negative	63	38	45
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	73	57	60
Between 5 and 8 correct answers	85	63	69
More than 8 correct answers	94	58	75
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	88	56	69
Total 'Neither spiritual or religious nor not spiritual or religious'	84	63	70
Total 'Quite or very spiritual or religious'	82	63	67
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	89	58	72
A family member does or did in the past	89	58	68
Both you and a family member do or did in the past	96	54	71
No	84	61	69

## 2. Gender equality and science and technology

This section examines people's opinions on gender equality in general and in particular in relation to science and technology. Respondents were presented with a list of statements and asked how much they agreed or disagreed with each<sup>39</sup>:

- "Overall, promoting gender equality is important for you personally";
- "Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society";
- "Gender equality in the science and technology workplace would improve the outcomes of science and technology";
- "Gender equality in the science and technology workforce would improve business profits and the economy";
- "Science and technology pay sufficient attention to differences between women's and men's needs".

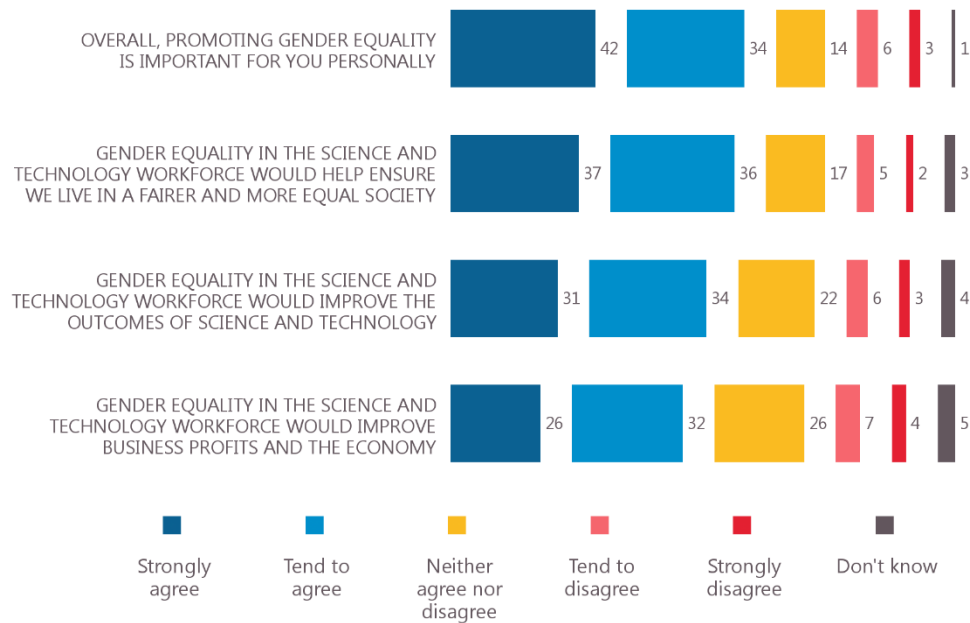
At the EU level, three-quarters of respondents (76%) agree that "Overall, promoting gender equality is important for you personally", with just over two-fifths (42%) saying that they "strongly agree". Fewer than one in ten respondents (9%) disagree with the statement, with only 3% saying they "strongly disagree". One in seven respondents (14%) neither agree nor disagree with the statement.

Just under three-quarters of respondents (73%) agree that "Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society", with proportions evenly divided between those who say they "strongly agree" (37%) and those who "tend to agree" (36%). Only a small proportion of respondents disagree (7%), with a small minority saying they "strongly disagree" (2%). One in six respondents (17%) are neutral.

Around two-thirds of respondents (65%) agree that "Gender equality in the science and technology workplace would improve the outcomes of science and technology", with opinion broadly evenly divided between those who "strongly agree" (31%) and those who "tend to agree" (34%). Fewer than one in ten respondents (9%) disagree, with a small minority saying they 'strongly disagree' (3%). Just over one in five respondents (22%) hold a neutral view on this measure.

A somewhat smaller majority of respondents (58%) agree that "Gender equality in the science and technology workforce would improve business profits and the economy", with around one in four respondents saying they 'strongly agree' (26%). One in nine respondents (11%) disagree, with only a small proportion (4%) saying that they 'strongly disagree'. A quarter of respondents (26%) are neutral.

**QA18** How strongly do you agree or disagree with each of the following statements?  
 (% - EU27)



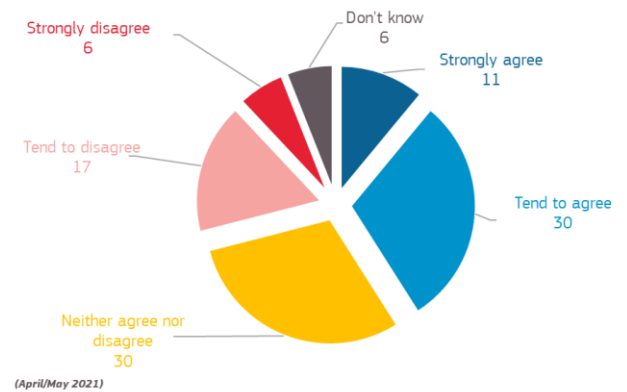
<sup>39</sup> Four of the statements are taken from QA18 and one from QA17.

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Across these five measures, respondents are least likely to agree that *“Science and technology pay sufficient attention to differences between women’s and men’s needs”*:

Around two in five respondents (41%) agree that science and technology pay sufficient attention to differences between women’s and men’s needs, of whom one in nine (11%) “strongly agree”. Just under a quarter of respondents (23%) disagree, with only a small minority (6%) saying they “strongly disagree”. A higher proportion of respondents (30%) say they neither agree nor disagree with this statement than is the case for the other four measures.

QA17.5 How strongly do you agree or disagree with the following statements?  
**Science and technology pay sufficient attention to differences between women’s and men’s needs (% - EU)**

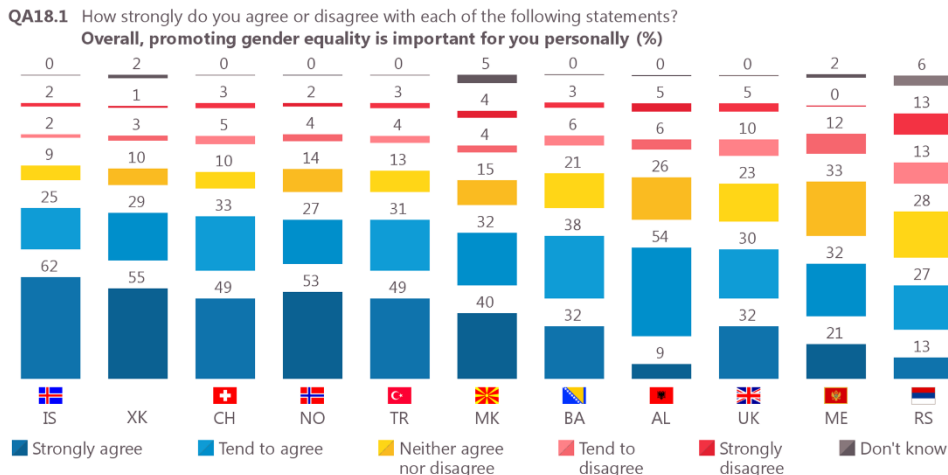
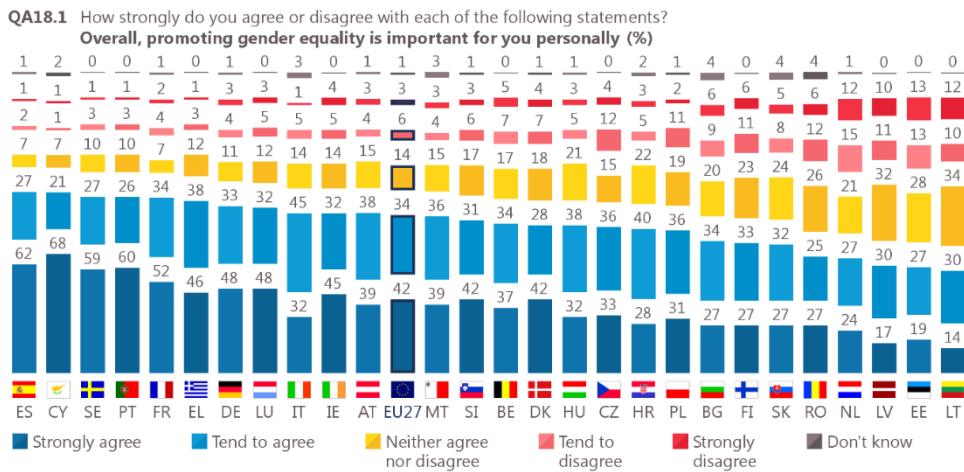


## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

In most EU Member States (24), the majority of respondents agree that “Promoting gender equality is important for you personally”.

Respondents are most likely to agree that promoting gender equality is important for them personally in Spain and Cyprus (both 89%), and Sweden, Portugal and France (86% in each). This compares with the EU average of 76%. In all these countries the majority of respondents “strongly agree”, with the highest proportion in Cyprus (68%) – compared with the EU average of 42%. There are only three EU Member States where a minority of respondents agree that promoting gender equality is important for them personally: Lithuania (44%), Estonia (46%) and Latvia (47%).

Among the non-EU countries surveyed, respondents in Iceland (87%) are most likely to agree that promoting gender equality is important to them, with just over six in ten (62%) saying they “strongly agree”, while respondents in Serbia (40%) are the least likely to agree with this statement – the only non-EU country where only a minority agree.



## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

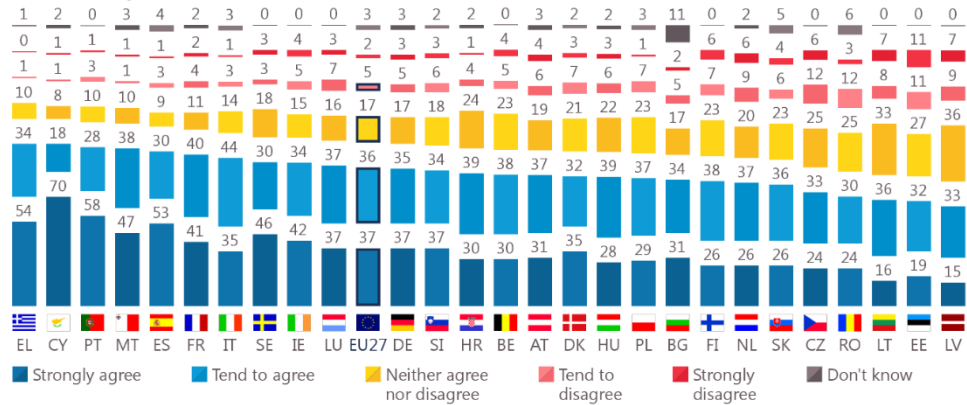
In all but one Member State, the majority of respondents agree that “Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society”.

People are most likely to agree that gender equality in the science and technology workforce would help ensure a fairer and more equal society in Greece and Cyprus (both 88%), Portugal (86%), Malta (85%) and Spain (83%). This compares with the EU average of 73%. Seven in ten respondents (70%) in Cyprus say that they “strongly agree” – notably higher than the proportion in any other country and the EU average of 37%. The majority of respondents also “strongly agree” with this statement in Portugal (58%), Greece (54%) and Spain (53%).

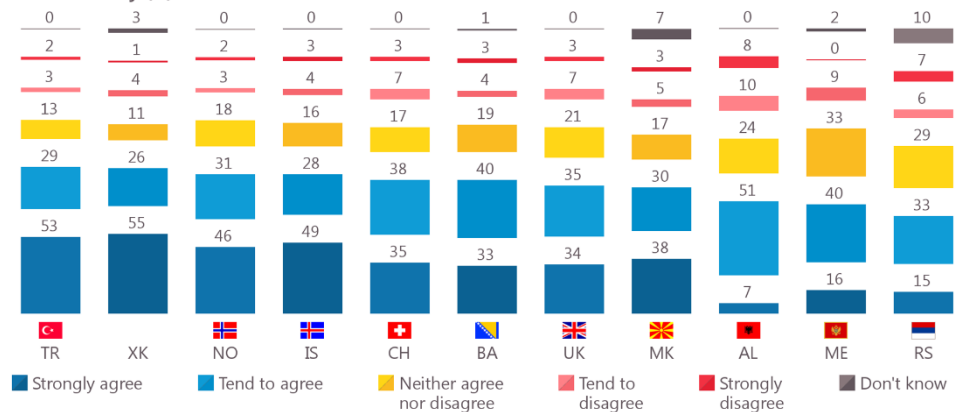
Latvia is the only EU country where a minority of respondents (48%) agree that gender equality in the science and technology workforce would help ensure a fairer and more equal society, with more than a third (36%) saying they neither agree nor disagree with the statement.

Among the non-EU countries surveyed, respondents are most likely to agree that gender equality in the science and technology workforce would help ensure a fairer and more equal society in Turkey (82%) and Kosovo (81%), with the majority in both saying they “strongly agree” – Kosovo (55%) and Turkey (53%). Serbia is the only country where a minority of respondents (48%) agree with the statement, with around three in ten (29%) saying they neither agree nor disagree.

**QA18.4** How strongly do you agree or disagree with each of the following statements?  
**Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society (%)**



**QA18.4** How strongly do you agree or disagree with each of the following statements?  
**Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society (%)**



## Special Eurobarometer 516

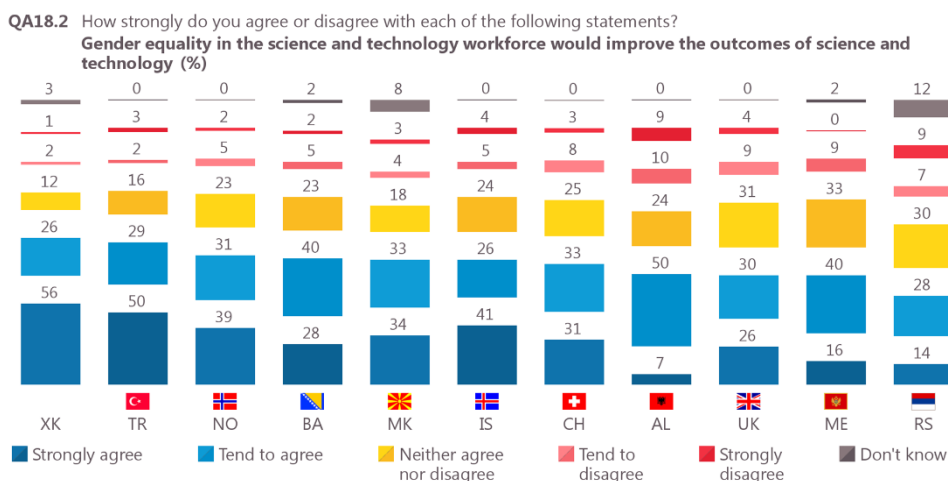
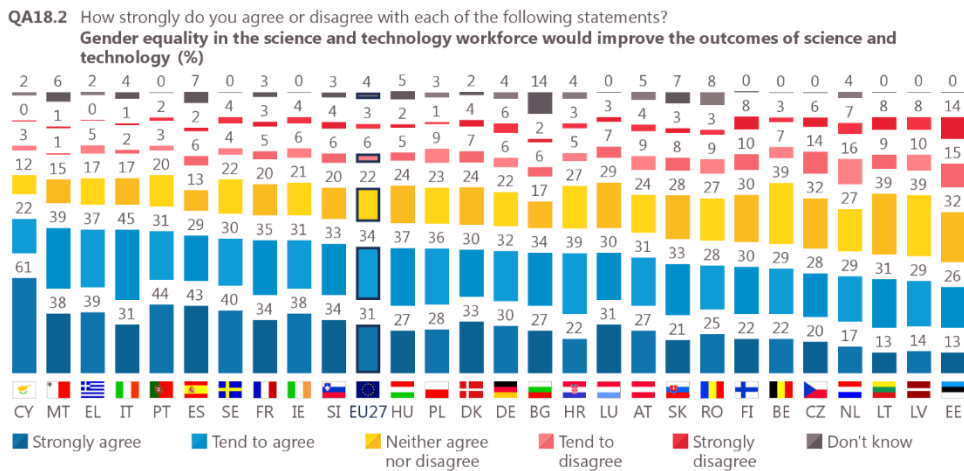
### European citizens' knowledge and attitudes towards science and technology

In most EU Member States (22), the majority of respondents agree that “Gender equality in the science and technology workplace would improve the outcomes of science and technology”.

Respondents are most likely to agree that gender equality in the science and technology workplace would improve the outcomes of science and technology in Cyprus (83%), Malta (77%), and Greece and Italy (both 76%). This compares with an average of 65% at the EU level. The majority of respondents (61%) in Cyprus say they “strongly agree” – considerably higher than in any other country and compared with the EU average of 31%.

The EU Member States where only a minority of respondents agree with this statement are Estonia (39%), Latvia (43%), Lithuania (44%), the Netherlands (46%) and Czechia (48%). Relatively large proportions of respondents say they neither agree nor disagree with this statement in Lithuania and Latvia (both 39%), Estonia (32%) and Belgium (39%), compared with the EU average of 22%.

Among the non-EU countries surveyed, respondents in Kosovo (82%) and Turkey (79%) are most likely to agree that gender equality in the science and technology workplace would improve the outcomes of science and technology. The majority of respondents ‘strongly agree’ in Kosovo (56%). The only country where a minority of respondents agree with this statement is Serbia (43%). A relatively large proportion of respondents in Montenegro (33%) and the UK (31%) say they neither agree nor disagree with this statement.



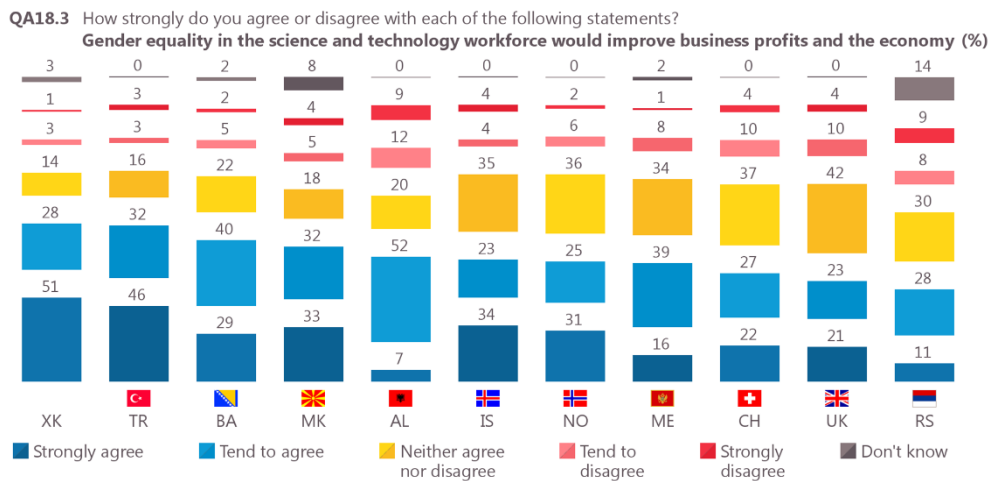
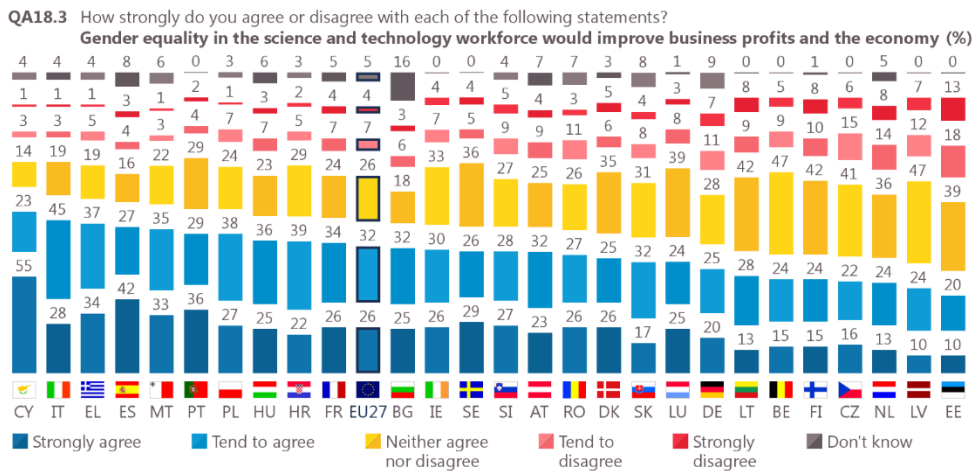
## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

There are 17 EU Member States where the majority of respondents agree that “Gender equality in the science and technology workforce would improve business profits and the economy”.

Respondents are most likely to agree that gender equality in the science and technology workforce would improve business profits and the economy in Cyprus (78%), Italy (73%) and Greece (71%). This compares with an EU average of 58%. The majority of respondents say they “strongly agree” in Cyprus (55%) – notably higher than proportions in any other country and the EU average of 26%.

The EU Member States where respondents are least likely to agree that gender equality in the science and technology workforce would improve business profits and the economy are Estonia (30%), Latvia (34%), the Netherlands (37%), Czechia (38%), and Belgium and Finland (39% in each). All of these countries have notably high proportions of respondents who say they neither agree nor disagree with the statement, ranging from 47% in Belgium and Latvia to 36% in the Netherlands – and compared with the EU average of 26%.

Among the non-EU countries surveyed, respondents are most likely to agree that gender equality in the science and technology workforce would improve business profits and the economy in Kosovo (79%) and Turkey (78%). In both these countries a notably high proportion of respondents say they “strongly agree” – 51% in Kosovo and 46% in Turkey. Respondents are least likely to agree that gender equality would improve business profits and the economy in Serbia (39%) followed by the UK (44%). The UK has a notably large proportion of respondents who say they neither agree nor disagree (42%), as does Switzerland (37%) and Norway (36%).





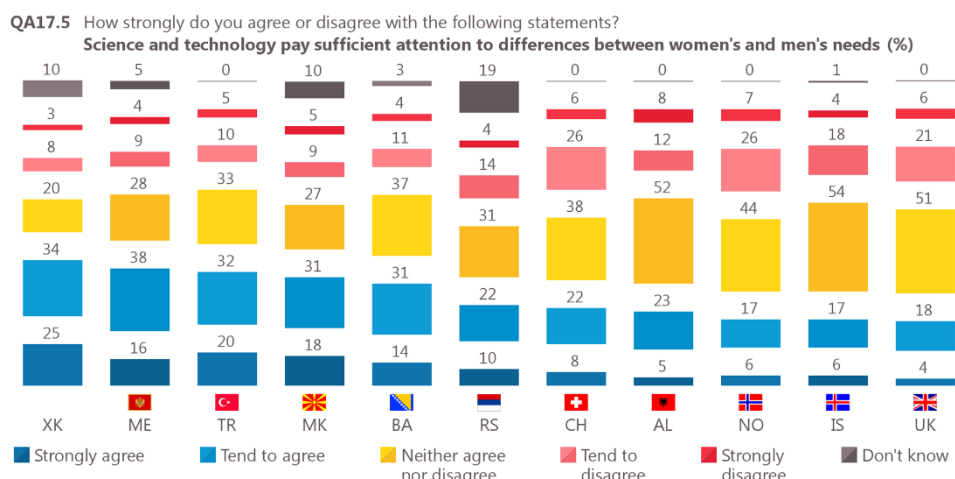
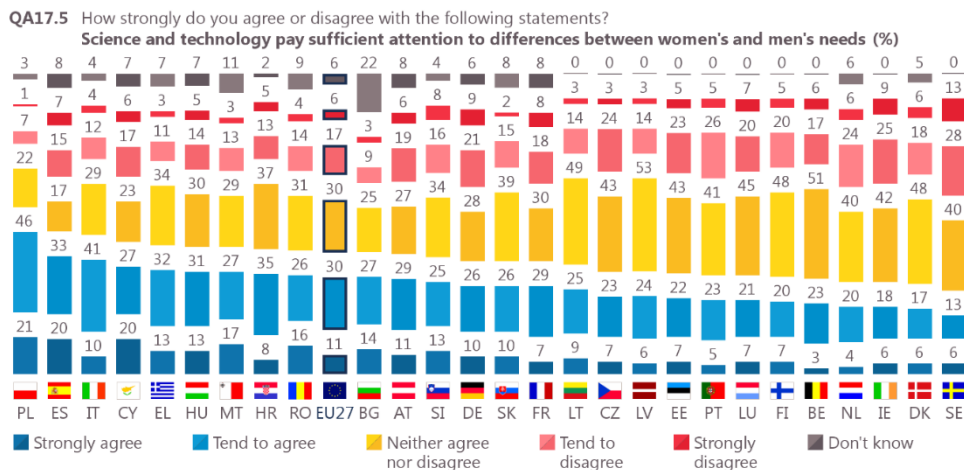
## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are only three EU Member States where a majority of respondents agree that “Science and technology pay sufficient attention to differences between women’s and men’s needs”: Poland (67%), Spain (53%) and Italy (51%). This compares with an EU average of 41%. Around one in five respondents say they “strongly agree” in Poland (21%) and Spain (20%), with a similar proportion holding this view in Cyprus (20%) – compared with the EU average of 11%.

Respondents are least likely to agree that science and technology pay sufficient attention to differences between women’s and men’s needs in Sweden (19%), Denmark (23%), and the Netherlands and Ireland (24% in each). Denmark has a particularly high proportion of respondents (48%) who say they neither agree nor disagree with the statement, as does Latvia (53%), Belgium (51%), Lithuania (49%) and Finland (48%), compared with the EU average of 30%.

Among the non-EU countries surveyed, respondents in Kosovo (59%), Montenegro (54%) and Turkey (52%) are most likely to agree that science and technology pay sufficient attention to differences between the needs of women and men. One in four respondents (25%) “strongly agree” in Kosovo, with one in five (20%) holding this view in Turkey. Respondents are least likely to agree with this statement in the UK (22%), Norway and Iceland (both 23%). The majority of respondents in Iceland (54%) and the UK (51%) say they neither agree nor disagree with this statement, as do 52% of respondents in Albania.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are consistent patterns that emerge in terms of the people in different socio-demographic and key variable groups who are more likely to agree with four of the five statements.

Starting with the statement on *'science and technology pays sufficient attention to differences between women's and men's needs'*, there are some marked differences on some of the key variables:

- men (46%) are more likely than women (38%) to agree with the statement.
- people who think that the overall influence of science and technology on society is positive (44%) are more likely to agree than those who think it is negative (34%);
- people who agree that promoting gender equality is important to them are more likely to agree (44%) than those who disagree (36%);
- those who got less than five correct answers in the quiz are more likely to agree (41%) than those who got five to eight correct (44%) and more than eight (38%);
- and people who are quite/very religious or spiritual are more likely to agree (43%) than those who are not very/not at all religious or spiritual (37%).

Focusing now on the four other statements, more consistent patterns emerge, with the following socio-demographic groups more likely to agree with the statements:

- Women, compared with men, with similar differences (6-8% points);
- Younger people, with the most marked differences seen in relation to the 'promotion of gender equality being important to them', where 81% of those aged 15-24 agree compared to 73% of those 55 and over. Respondents aged 15-24 are also more likely to agree (78%) that 'gender equality in the science and technology workforce is helping to ensure a fairer and more equal society' than those aged 55 and over (71%). People who have stayed in education longer (age 16 and over), with the most marked difference seen in relation to 'promoting gender equality being important to them', with more who completed full-time education aged 20 or over agreeing (79%) than those who left education aged 15 or under (68%).
- People who use the internet, with the most notable differences seen in relation to agreement that 'promoting gender equality is personally important' (78% who use it every day vs 62% who never use it); and a similar pattern seen for agreement that 'gender equality in the science and technology workforce helps ensure a fairer and more equal society' (75% who use the internet every vs 60% who never use it).

In terms of people's financial situation, there are no consistent patterns and differences between the groups tend to be small. The most notable difference relate to the statement about 'promoting gender equality being important personally': respondents who have difficulties paying household bills 'most of the time' (72% agree), 'from time to time' (71%), and 'never' or 'almost never' (78%).

Looking at differences across key variable groups, the proportion of respondents who agree with these four statements is higher among people who think that the overall influence of science and technology on society is positive; and those who are interested in

new scientific discoveries and developments, new medical discoveries and environmental problems.

There are particularly large differences in relation to *"Overall, promoting gender equality is important for you personally"* as a cross-variable on the other three statements:

- For the statement "Gender equality in the science and technology workforce would help ensure a fairer and more equal society", 86% of those who consider promoting gender equality to be important to them personally agree with the statement, compared with 30% of those who do not consider it to be important.
- For the statement "Gender equality in the science and technology workforce would improve the outcomes of science and technology", 77% who agree that gender equality in the science and technology workforce would improve the outcomes of science and technology and 22% who disagree with that statement respectively agree with the statement.
- For the statement "Gender equality in the science and technology workforce would improve business profits and the economy", 69% who agree that gender equality in the science and technology workforce would improve business profits and the economy and 18% who disagree with that statement respectively agree with the statement.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA18T/17.5** How strongly do you agree or disagree with each of the following statements?  
(% - Total Agree)

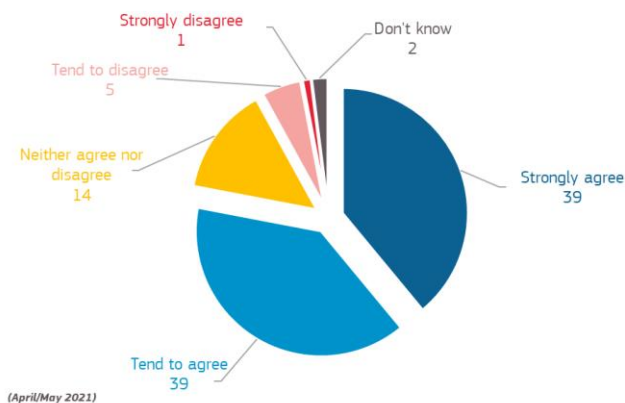
	Overall, promoting gender equality is important for you personally	Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society	Gender equality in the science and technology workforce would improve the outcomes of science and technology	Gender equality in the science and technology workforce would improve business profits and the economy	Science and technology pay sufficient attention to differences between women's and men's needs
EU27	76	73	65	58	41
<b>Gender</b>					
Man	72	70	62	54	46
Woman	80	76	68	61	38
<b>Age</b>					
15-24	81	78	67	60	44
25-39	78	75	65	59	45
40-54	77	73	66	58	42
55+	73	71	64	54	39
<b>Education (end of)</b>					
15-	68	68	60	54	39
16-19	75	73	66	59	44
20+	79	75	65	56	41
Still studying	84	80	71	61	42
<b>Socio-professional category</b>					
Self-employed	73	73	66	56	45
Managers	80	75	64	55	40
Other white collars	76	73	65	61	44
Manual workers	75	71	64	58	44
House persons	72	71	63	56	42
Unemployed	80	78	66	62	40
Retired	72	71	64	55	39
Students	84	80	71	61	42
<b>Difficulties paying bills</b>					
Most of the time	72	72	63	60	39
From time to time	71	70	64	60	45
Almost never/ Never	78	74	65	56	41
<b>Use of the Internet</b>					
Everyday	78	75	67	58	42
Often/Sometimes	71	70	62	54	46
Never	62	60	56	54	39
<b>Left-right political scale</b>					
Left	83	82	72	61	41
Centre	76	73	64	57	41
Right	66	64	59	53	46
<b>Medical discoveries</b>					
Interested	82	80	70	60	42
Moderately interested	75	72	64	57	41
Not interested	62	60	54	51	43
<b>Scientific discoveries</b>					
Interested	81	78	68	59	43
Moderately interested	77	74	67	59	41
Not interested	65	63	55	52	40
<b>Environmental problems</b>					
Interested	85	81	72	62	39
Moderately interested	73	70	63	56	44
Not interested	56	55	48	48	41
<b>Influence of science and technology</b>					
Positive	78	75	67	60	44
Negative	62	61	53	47	34
<b>Promoting gender equality is important personally</b>					
Total 'Agree'	100	86	77	69	44
Total 'Disagree'		30	22	18	36
<b>Correct answers to questions about scientific knowledge</b>					
Less than 5 correct answers	65	62	58	55	41
Between 5 and 8 correct answers	77	74	66	59	44
More than 8 correct answers	84	80	68	56	38
<b>Religiosity / Spirituality</b>					
Total 'Not very or not spiritual or religious'	79	74	63	54	37
Total 'Neither spiritual or religious nor not spiritual or religious'	76	74	67	59	44
Total 'Quite or very spiritual or religious'	71	71	64	60	43
<b>Worked in research / science / innovative technology development</b>					
You alone do or did in the past	74	69	63	54	45
A family member does or did in the past	81	77	66	55	38
Both you and a family member do or did in the past	83	79	63	51	28
No	76	73	65	58	42

### 3. Social responsibility in science and technology

The final section of this chapter looks at people's attitudes towards social responsibility in science and technology.

The chart below shows the extent to which respondents in EU Member States agree or disagree with the statement "Science and technology should consider the needs of all groups of people when developing new solutions and products".

QA17.6 How strongly do you agree or disagree with the following statements?  
Science and technology should consider the needs of all groups of people when developing new solutions and products (% - EU)

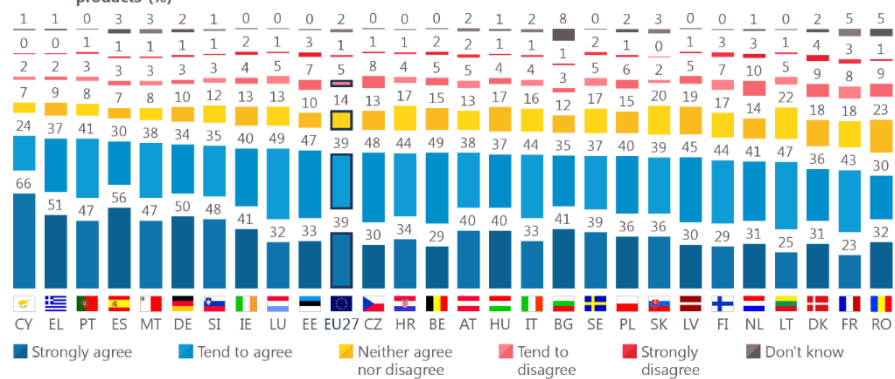


At the EU level, just under eight in ten respondents (78%) agree that science and technology should consider the needs of all groups of people when developing new solutions and products, divided evenly between the proportions who "strongly agree" (39%) and "tend to agree" (39%). A small minority of respondents disagree with this statement (6%), with only a very small proportion (1%) saying they "strongly disagree". One in seven respondents (14%) neither agree nor disagree with the statement.

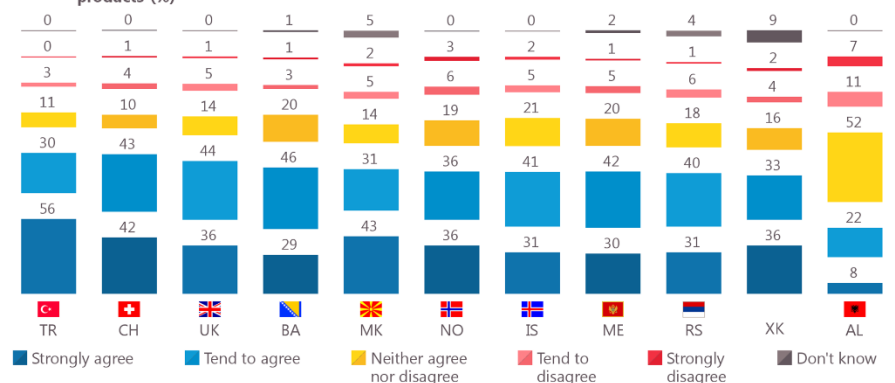
The majority of respondents in all EU Member States agree that science and technology should consider the needs of all groups of people when developing new solutions and products. Respondents are most likely to agree with the statement in Cyprus (90%), Greece and Portugal (both 88%), and Spain (86%). This compares with the EU average of 78%. The majority of respondents say they "strongly agree" in Cyprus (66% - notably higher than anywhere else), Spain (56%) and Greece (51%), compared with the EU average of 39%. Respondents are least likely to agree with this view in Romania (62%), France (66%) and Denmark (67%).

Among the non-EU countries surveyed, Turkey (86%) has the highest proportion of respondents who say they agree that science and technology should consider the needs of all groups of people when developing new solutions and products, with more than half of respondents (56%) saying they "strongly agree"; it is followed by Switzerland (85%). Albania (30%) is the only country where a minority of respondents agree with the statement – a significantly lower proportion than in any other country. Just over half of respondents in Albania (52%) say they neither agree nor disagree with the statement.

QA17.6 How strongly do you agree or disagree with the following statements?  
Science and technology should consider the needs of all groups of people when developing new solutions and products (%)



QA17.6 How strongly do you agree or disagree with the following statements?  
Science and technology should consider the needs of all groups of people when developing new solutions and products (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Patterns across different socio-demographic groups are quite consistent. There are only slight differences across most groups.

The most marked differences can be seen in relation to internet usage. Among those who use the internet every day, 79% agree that science and technology should consider the needs of all groups of people when developing new solutions and products, compared with 74% of those who use the internet sometimes or often and 67% of non-users.

In terms of the key variable groups, people who are particularly likely to agree with this statement are those who are interested in new medical discoveries, new scientific discoveries and technological developments, and environmental problems; those who think that the overall influence of science and technology on society is positive; and people who perform well in the 'quiz'.

QA17.6 How strongly do you agree or disagree with the following statements?

Science and technology should consider the needs of all groups of people when developing new solutions and products (% - EU)

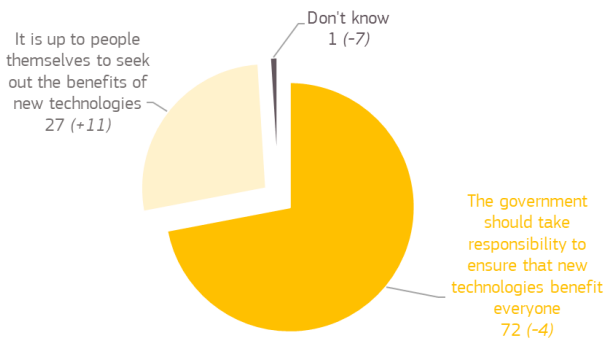
	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU27	39	39	14	5	1	2	78	6
<b>Gender</b>								
Man	40	38	13	5	2	2	78	7
Woman	38	39	14	5	1	3	77	6
<b>Age</b>								
15-24	39	36	17	5	1	2	75	6
25-39	38	40	14	5	2	1	78	7
40-54	38	40	13	6	1	2	78	7
55+	40	37	13	5	1	4	77	6
<b>Education (end of)</b>								
15-	40	35	14	4	1	6	75	5
16-19	37	40	15	5	1	2	77	6
20+	41	40	11	6	1	1	81	7
Still studying	42	37	14	4	1	2	79	5
<b>Socio-professional category</b>								
Self-employed	39	39	13	6	1	2	78	7
Managers	39	41	11	7	1	1	80	8
Other white collars	35	42	15	5	1	2	77	6
Manual workers	38	38	15	5	2	2	76	7
House persons	36	39	14	6	1	4	75	7
Unemployed	43	35	14	5	1	2	78	6
Retired	40	37	14	4	1	4	77	5
Students	42	37	14	4	1	2	79	5
<b>Difficulties paying bills</b>								
Most of the time	40	34	16	5	1	4	74	6
From time to time	35	39	17	6	1	2	74	7
Almost never/ Never	40	39	13	5	1	2	79	6
<b>Use of the Internet</b>								
Everyday	40	39	13	5	1	2	79	6
Often/Sometimes	35	39	16	5	3	2	74	8
Never	32	35	18	6	1	8	67	7
<b>Left-right political scale</b>								
Left	44	37	11	5	1	2	81	6
Centre	38	40	14	5	1	2	78	6
Right	34	40	16	7	2	1	74	9
<b>Medical discoveries</b>								
Interested	47	36	10	4	1	2	83	5
Moderately interested	35	42	15	5	1	2	77	6
Not interested	30	36	20	7	2	5	66	9
<b>Scientific discoveries</b>								
Interested	46	35	11	5	2	1	81	7
Moderately interested	37	41	14	5	1	2	78	6
Not interested	32	36	19	6	2	5	68	8
<b>Environmental problems</b>								
Interested	48	35	10	5	1	1	83	6
Moderately interested	34	42	16	5	1	2	76	6
Not interested	26	35	23	8	2	6	61	10
<b>Influence of science and technology</b>								
Positive	40	40	13	4	1	2	80	5
Negative	31	32	21	10	3	3	63	13
<b>Correct answers to questions about scientific knowledge</b>								
Less than 5 correct answers	29	38	20	5	1	7	67	6
Between 5 and 8 correct answers	40	39	14	5	1	1	79	6
More than 8 correct answers	45	39	9	5	1	1	84	6
<b>Religiosity / Spirituality</b>								
Total 'Not very or not spiritual or religious'	39	38	13	6	2	2	77	8
Total 'Neither spiritual or religious nor not spiritual or religious'	38	39	15	5	1	2	77	6
Total 'Quite or very spiritual or religious'	41	37	13	4	1	4	78	5
<b>Worked in research / science / innovative technology development</b>								
You alone do or did in the past	41	36	13	8	2	0	77	10
A family member does or did in the past	42	36	13	6	2	1	78	8
Both you and a family member do or did in the past	43	29	11	11	4	2	72	15
No	38	39	14	5	1	3	77	6

## Special Eurobarometer 516 European citizens' knowledge and attitudes towards science and technology

Respondents were read out a series of paired statements and asked to choose which one of the two statements was closest to their point of view.

The chart below shows the proportions of respondents at an EU level who either chose the statement *"The government should take responsibility to ensure that new technologies benefit everyone"* or *"It is up to people themselves to seek out the benefits of new technologies"* as being closest to their point of view.

**QA13D** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)



(Apr./May 2021 - Jan/Feb 2010)

Within the EU, just over seven in ten respondents (72%) think that the government should take responsibility to ensure that new technologies benefit everyone, compared with just over one in four (27%) who choose the alternative option.

This measure was included in an earlier Eurobarometer Survey (Special Eurobarometer 340 EB 73.1) conducted in 2010. Since then, there has been a notable increase in the proportion of respondents who think it is up to people themselves to seek out the benefits of new technologies (+11 percentage points), a smaller drop in the proportion who think that the government should take responsibility to ensure that new technologies benefit everyone (-4 pp), and a somewhat larger drop in the proportion who say they 'don't know' which of the two statements comes closest to their point of view (-7 pp).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The majority of respondents in all EU Member States take the view that *"The government should take responsibility to ensure new technologies benefit everyone"*.

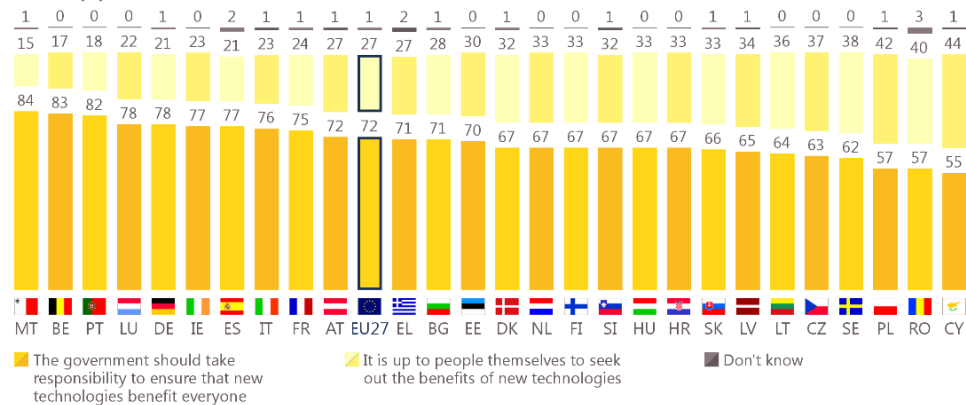
Respondents are most likely to think that the government should take responsibility to ensure new technologies benefit everyone in Malta (84%), Belgium (83%) and Portugal (82%), with the lowest proportions in Cyprus (55%), and Poland and Romania (both 57%). This compares with the EU average of 72%. Respondents are most likely to take the alternative view – that it is up to people themselves to seek out the benefits of new technologies – in Cyprus (44%), Poland (42%), Romania (40%), Sweden (38%) and Czechia (37%). This compares with an average of 27% at the EU level.

Among the non-EU countries surveyed, respondents in Norway (83%), followed by those in the UK (77%), are most likely to take the view that the government should take responsibility to ensure new technologies benefit everyone. Again, this view is held by a majority in all non-EU countries, with the lowest proportions in Iceland and Kosovo (both 60%).

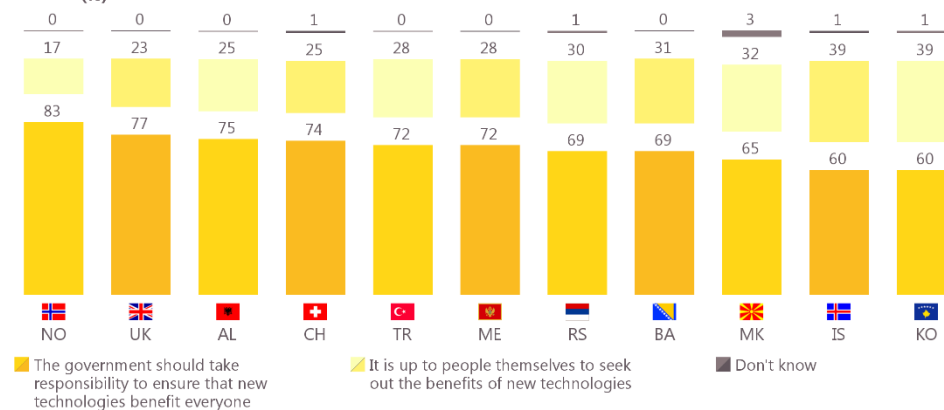
Comparing the current results with those from 2010, there are 19 EU Member States where the proportion of respondents who think that the government should take responsibility to ensure that new technologies benefit everyone has dropped, with the most marked changes in Cyprus (-23 percentage points), Czechia (-19 pp), the Netherlands (-18 pp), Slovakia (-14 pp), Slovenia (-13 pp), Greece and Hungary (-11 pp), and Finland (-10 pp). Among the seven EU Member States where the proportion of respondents who take this view has increased, increases tend to be small with the largest in Portugal (+6 percentage points) and Ireland (+5 pp).

Among the non-EU countries surveyed, the most notable change is an increase in the proportion of respondents who take the view that the government should take responsibility to ensure new technologies benefit everyone in Iceland (+6 percentage points).

**QA13d** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13d** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

QA13d Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)

		The government should take responsibility to ensure that new technologies benefit everyone	Diff. April/May 2021 - January/February 2010	It is up to people themselves to seek out the benefits of new technologies	Diff. April/May 2021 - January/February 2010	Don't know
EU27		72	▼ 4	27	▲ 11	1
CY		55	▼ 23	44	▲ 25	1
CZ		63	▼ 19	37	▲ 24	0
NL		67	▼ 18	33	▲ 22	0
SI		67	▼ 13	32	▲ 18	1
RO		57	▼ 1	40	▲ 17	3
LT		64	▼ 3	36	▲ 16	0
SK		66	▼ 14	33	▲ 16	1
HR		67	▼ 8	33	▲ 15	0
HU		67	▼ 11	33	▲ 15	0
EE		70	▼ 7	30	▲ 14	0
FI		67	▼ 10	33	▲ 14	0
EL		71	▼ 11	27	▲ 12	2
ES		77	▼ 9	21	▲ 12	2
PL		57	▲ 2	42	▲ 12	1
IE		77	▲ 5	23	▲ 11	0
BG		71	▼ 7	28	▲ 10	1
DK		67	▼ 7	32	▲ 10	1
LV		65	▼ 3	34	▲ 10	1
DE		78	▼ 1	21	▲ 8	1
IT		76	▲ 1	23	▲ 8	1
FR		75	▲ 1	24	▲ 7	1
PT		82	▲ 6	18	▲ 7	0
LU		78	=	22	▲ 6	0
AT		72	▼ 1	27	▲ 6	1
MT		84	▼ 2	15	▲ 5	1
SE		62	▲ 5	38	▲ 3	0
BE		83	▲ 3	17	▲ 1	0
TR		72	▲ 4	28	▲ 16	0
MK		65	N/A	32	N/A	3
AL		75	N/A	25	N/A	0
ME		72	N/A	28	N/A	0
RS		69	N/A	30	N/A	1
UK		77	▼ 4	23	▲ 11	0
CH		74	▲ 4	25	▲ 4	1
NO		83	▲ 4	17	▲ 2	0
IS		60	▲ 6	39	▼ 2	1
XK		60	N/A	39	N/A	1
BA		69	N/A	31	N/A	0



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Differences across socio-demographic groups tend to be small. The most notable differences between socio-demographic groups are in relation to age and occupational status, although even here the differences are relatively small:

People aged 40-54 (73%) and 55 and over (75%), are somewhat more likely than average to agree that the government should take responsibility to ensure that new technologies benefit everyone than those aged 15-24 (66%) and 25-39 (69%);

People who are unemployed (76%) and those who are retired (75%) are somewhat more likely than average to agree that the government should take responsibility, when compared with students (69%).

There is more marked variation in relation to the key variable groups. Most notably, the proportion of respondents who agree that it should be the government's responsibility to ensure that new technologies benefit everyone is higher among people who think that the overall influence of science and technology on society is positive; those who are more interested in environmental problems and new medical discoveries; and those who perform better in the 'quiz'.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA13D** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

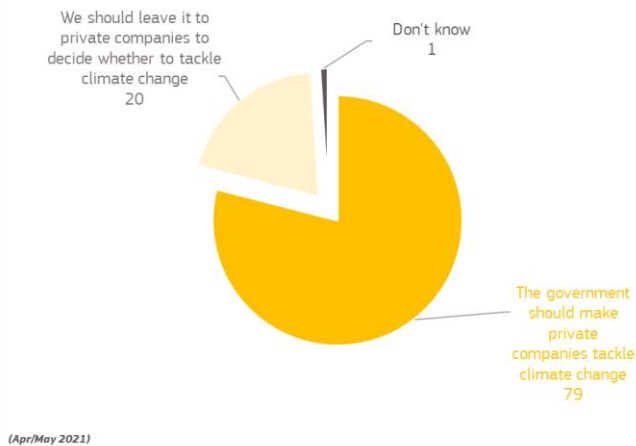
	The government should take responsibility to ensure that new technologies benefit everyone	It is up to people themselves to seek out the benefits of new technologies	Don't know
EU27	72	27	1
<b>Gender</b>			
Man	71	28	1
Woman	73	26	1
<b>Age</b>			
15-24	66	33	1
25-39	69	30	1
40-54	73	27	0
55+	75	23	2
<b>Education (end of)</b>			
15-	76	22	2
16-19	71	28	1
20+	73	26	1
Still studying	69	30	1
<b>Socio-professional category</b>			
Self-employed	70	30	0
Managers	72	27	1
Other white collars	71	28	1
Manual workers	70	29	1
House persons	73	25	2
Unemployed	76	23	1
Retired	75	23	2
Students	69	30	1
<b>Difficulties paying bills</b>			
Most of the time	71	26	3
From time to time	71	28	1
Almost never/ Never	72	27	1
<b>Left-right political scale</b>			
Left	76	23	1
Centre	73	26	1
Right	66	34	0
<b>Medical discoveries</b>			
Interested	75	24	1
Moderately interested	72	27	1
Not interested	65	32	3
<b>Scientific discoveries</b>			
Interested	72	28	0
Moderately interested	74	25	1
Not interested	68	29	3
<b>Environmental problems</b>			
Interested	77	23	0
Moderately interested	71	28	1
Not interested	61	36	3
<b>Influence of science and technology</b>			
Positive	73	26	1
Negative	65	34	1
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	66	31	3
Between 5 and 8 correct answers	71	28	1
More than 8 correct answers	79	21	0
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	72	28	0
Total 'Neither spiritual or religious nor not spiritual or religious'	73	26	1
Total 'Quite or very spiritual or religious'	71	27	2
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	66	33	1
A family member does or did in the past	73	26	1
Both you and a family member do or did in the past	68	32	0
No	72	27	1

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The chart below shows the proportions of respondents at the EU level who either chose the statement: *"The government should make private companies tackle climate change"* or *"We should leave it to private companies to decide whether to tackle climate change"* as being closest to their point of view.

**QA13E** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)



Around eight in ten respondents (79%) think that the government should make private companies tackle climate change, compared with one in five respondents (20%) who take the view that it should be left to private companies to decide whether to tackle climate change.

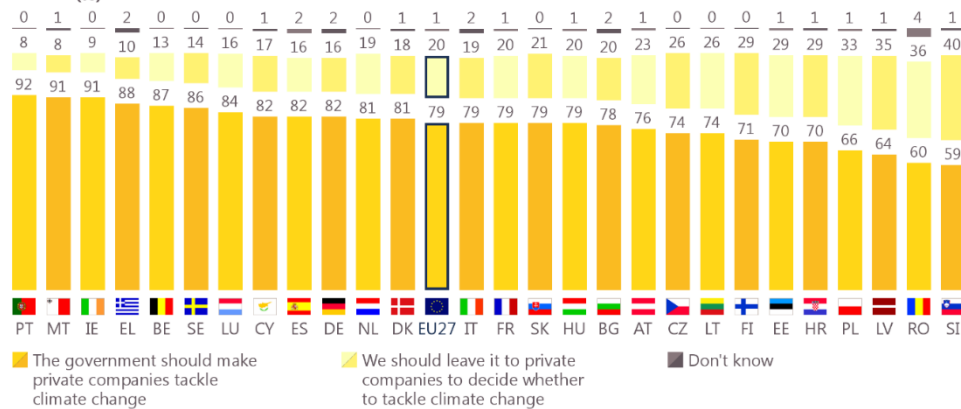
The majority of respondents in all EU Member States take the view that *"The government should make private companies tackle climate change"*:

Respondents are most likely to think that the government should make private companies tackle climate change in Portugal (92%), Malta and Ireland (both 91%), Greece (88%), and Belgium (87%). They are least likely to think this in Slovenia (59%), Romania (60%) and Latvia (64%).

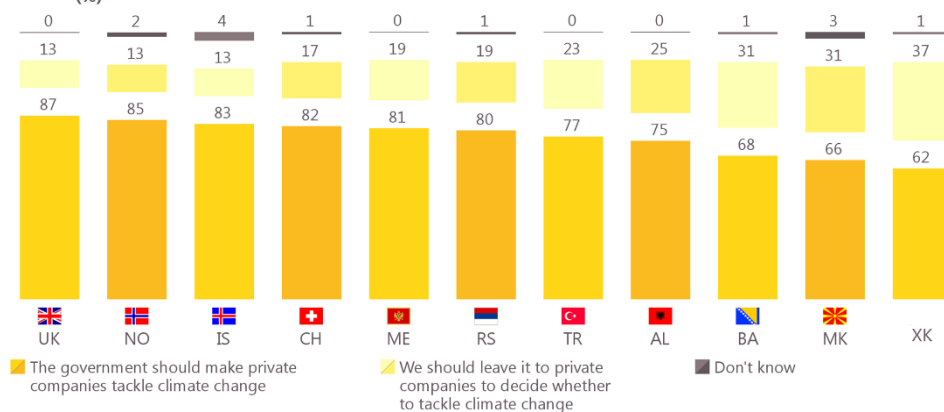
The majority of respondents in all the non-EU countries surveyed also take the view that the government should make private companies tackle climate change, with the highest proportions in the UK (87%) and Norway (85%) and the lowest in Kosovo (62%), North Macedonia (66%) and Bosnia and Herzegovina (68%).

There are only minor differences between socio-demographic groups in relation to this question. The largest difference is between people who use the internet every day (80% agree) and those who never use it (70% agree).

**QA13e** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13e** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

As seen earlier in relation to agreement that it should be the government's responsibility to ensure that new technologies benefit everyone, there is also more marked variation in relation to the key variable groups on this measure.

Most notably, the proportion of respondents who agree that the government should make private companies tackle climate change is higher among people who think that the overall influence of science and technology on society is positive; those who are more interested in environmental problems, new scientific discoveries and new medical discoveries; those who perform better in the 'quiz' and those who have, or did have in the past, a professional association with research, science and innovative technology development, through both their own work and that of a family member.

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA13E** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

	The government should make private companies tackle climate change	We should leave it to private companies to decide whether to tackle climate change	Don't know
EU27	79	20	1
<b>Gender</b>			
Man	79	20	1
Woman	78	20	2
<b>Age</b>			
15-24	78	21	1
25-39	77	23	0
40-54	79	20	1
55+	80	18	2
<b>Education (end of)</b>			
15-	78	19	3
16-19	76	23	1
20+	82	18	0
Still studying	81	18	1
<b>Socio-professional category</b>			
Self-employed	79	20	1
Managers	82	17	1
Other white collars	77	22	1
Manual workers	76	23	1
House persons	74	23	3
Unemployed	78	22	0
Retired	80	18	2
Students	81	18	1
<b>Difficulties paying bills</b>			
Most of the time	75	22	3
From time to time	75	24	1
Almost never/ Never	80	19	1
<b>Left-right political scale</b>			
Left	85	14	1
Centre	78	21	1
Right	71	28	1
<b>Medical discoveries</b>			
Interested	82	17	1
Moderately interested	78	21	1
Not interested	70	27	3
<b>Scientific discoveries</b>			
Interested	82	17	1
Moderately interested	80	19	1
Not interested	69	27	4
<b>Environmental problems</b>			
Interested	87	12	1
Moderately interested	76	23	1
Not interested	57	38	5
<b>Influence of science and technology</b>			
Positive	80	19	1
Negative	67	31	2
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	68	28	4
Between 5 and 8 correct answers	78	21	1
More than 8 correct answers	88	12	0
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	80	19	1
Total 'Neither spiritual or religious nor not spiritual or religious'	78	21	1
Total 'Quite or very spiritual or religious'	78	20	2
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	78	21	1
A family member does or did in the past	82	17	1
Both you and a family member do or did in the past	91	9	0
No	78	21	1

# VII. COMPARATIVE ADVANTAGE OF THE EU IN SCIENCE



**Special Eurobarometer 516**  
**European citizens' knowledge and attitudes towards science and technology**

## 1. Cooperation with the rest of the world

Respondents were asked which of the following two statements came closest to their point of view:

- *"We should co-operate enthusiastically with the rest of the world and not isolate ourselves";*
- *"Our lives are threatened by organised crime and terrorism, from which we urgently need to protect ourselves".*

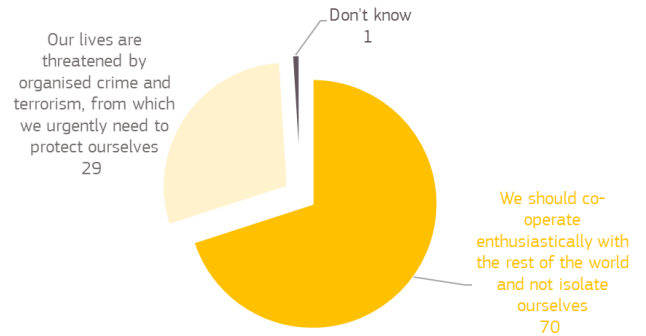
Seven in ten (70%) respondents say the statement that we should cooperate enthusiastically with the rest of the world and not isolate ourselves is closest to their opinion, while 29% say the view that our lives are threatened by organised crime and terrorism, from which we urgently need to protect ourselves is the best match to their own. Just 1% say they don't know.

The majority of respondents in each Member State say cooperating enthusiastically with the rest of the world and not isolating ourselves is closest to their point of view, although proportions range from 87% in Ireland, 84% in Portugal, and 81% in Estonia to 54% in Croatia, 55% in Romania and 56% in Slovakia, Cyprus and Greece.

The largest shares of respondents whose point of view is closest to the need for protection are in Croatia (46%), Slovakia (44%) and Cyprus (43%).

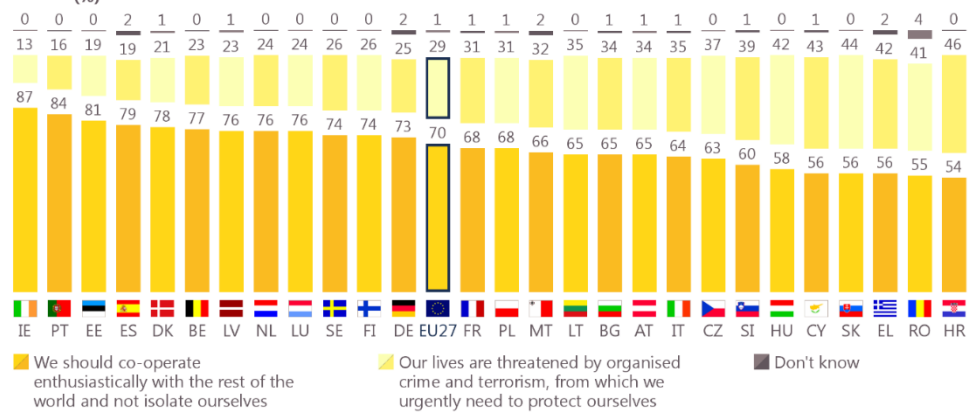
In the non-EU countries surveyed, the majority in every country also says cooperation without isolation is closest to their view, with proportions ranging from 84% in Norway to 55% in North Macedonia.

**QA13F** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU 27)

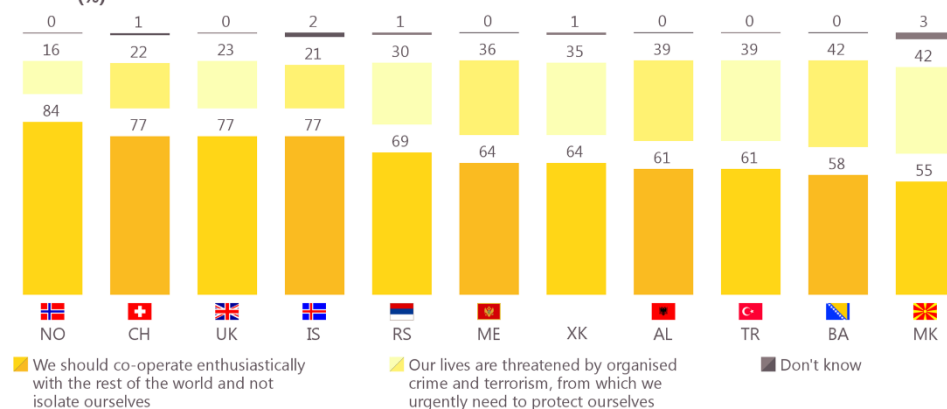


(Apr./May 2021)

**QA13f** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



**QA13f** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (%)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The majority of respondents in each socio-demographic group say the statement “*we should co-operate enthusiastically with the rest of the world and not isolate ourselves*” is closest to their view, though there are differences in the strength of the skew towards that opinion.

For example, the younger the respondent, the more likely they are to say this view is the closest to their own, with 74% of 15-24 year olds saying this, compared to 65% of those aged 55 and older.

Those who remain in education longer, and those who experience fewer financial difficulties are also most likely to say this view best matches their own. For example, 77% of those who completed education aged 20 or older say this, compared to 58% of those who completed aged 15 or younger.

Students and managers (both 80%) are the most likely to hold this view, particularly compared to housepersons and retired persons (both 63%).

Although the majority of respondents across the political spectrum say cooperation best matches their view, the strongest support is from those who place themselves on the left of the political spectrum (79%), compared to 69% in the centre and 59% on the right.







Respondents who think the influence of science and technology is positive (72%) are more likely to think we should cooperate enthusiastically than those who think it is negative (53%). Respondents who did better in the quiz, or who have been involved in research, science, or innovative technology development, are also more likely to pick this statement.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA13F** Below are a series of questions with two statements each. For each pair, please select the statement which comes closest to your point of view. Please select one (% - EU)

	We should co-operate enthusiastically with the rest of the world and not isolate ourselves	Our lives are threatened by organised crime and terrorism, from which we urgently need to protect ourselves	Don't know
EU27	70	29	1
 <b>Gender</b>			
Man	70	29	1
Woman	69	30	1
 <b>Age</b>			
15-24	74	25	1
25-39	73	26	1
40-54	71	28	1
55+	65	33	2
 <b>Education (end of)</b>			
15-	58	40	2
16-19	63	36	1
20+	77	22	1
Still studying	80	19	1
 <b>Socio-professional category</b>			
Self-employed	73	26	1
Managers	80	19	1
Other white collars	72	28	0
Manual workers	64	35	1
House persons	63	35	2
Unemployed	66	33	1
Retired	63	35	2
Students	80	19	1
 <b>Difficulties paying bills</b>			
Most of the time	59	39	2
From time to time	63	36	1
Almost never/ Never	72	27	1
 <b>Left-right political scale</b>			
Left	79	20	1
Centre	69	30	1
Right	59	41	0
<b>Medical discoveries</b>			
Interested	72	27	1
Moderately interested	70	29	1
Not interested	62	35	3
<b>Scientific discoveries</b>			
Interested	75	24	1
Moderately interested	70	29	1
Not interested	58	39	3
<b>Environmental problems</b>			
Interested	77	22	1
Moderately interested	67	32	1
Not interested	54	43	3
<b>Influence of science and technology</b>			
Positive	72	27	1
Negative	53	46	1
<b>Correct answers to questions about scientific knowledge</b>			
Less than 5 correct answers	55	42	3
Between 5 and 8 correct answers	68	31	1
More than 8 correct answers	85	14	1
<b>Religiosity / Spirituality</b>			
Total 'Not very or not spiritual or religious'	73	26	1
Total 'Neither spiritual or religious nor not spiritual or religious'	70	29	1
Total 'Quite or very spiritual or religious'	63	35	2
<b>Worked in research / science / innovative technology development</b>			
You alone do or did in the past	74	25	1
A family member does or did in the past	78	21	1
Both you and a family member do or did in the past	95	5	0
No	68	31	1

## 2. Comparative advantage of the EU in making scientific discoveries

Respondents were asked whether they thought researchers in several countries were ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries.

The majority of respondents (58%) think researchers in *China* are ahead of those in the EU in making scientific discoveries. Just over one in five (21%) say researchers in the EU and China are at the same level, while 12% think they are behind those in the EU. Almost one in ten (9%) say they don't know.

Almost six in ten (57%) respondents think researchers in the *United States* are, on average, ahead of researchers in the EU. Just over one-quarter (27%) think they are at the same level, while 9% think scientists in the United States are behind the EU on average. More than one in twenty say they don't know (7%).

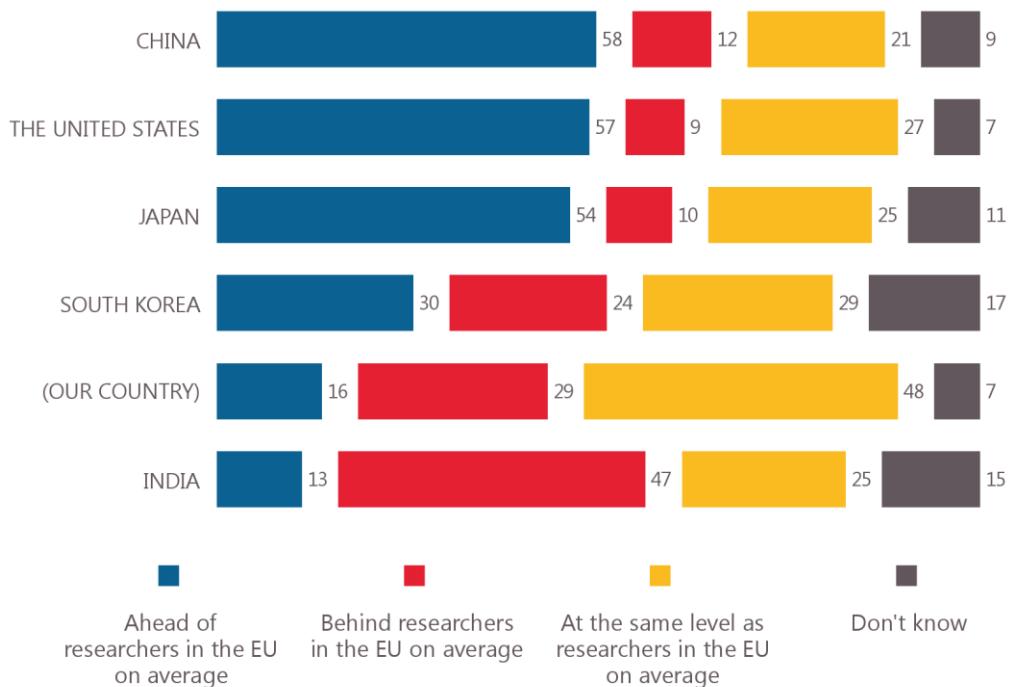
When asked about researchers in *Japan*, 54% of respondents think they are ahead of those in the EU on average in making new scientific discoveries, 25% say they are at the same level, and 10% think they are behind those in the EU. Just over one in ten (11%) say they don't know.

Opinion about researchers in *South Korea* is more divided. Three in ten (30%) respondents think they are ahead of their counterparts in the EU, 29% that they are at the same level, and 24% think they are behind researchers in the EU. Almost one in five say they don't know (17%).

More than one in ten (16%) respondents think researchers in *their own country* are ahead of EU researchers on average when it comes to making new scientific discoveries. Almost half (48%) think they are at the same level, while 29% think researchers in their country are behind those in the EU.

Just over one in ten (13%) respondents think researchers in *India* are ahead of those in the EU in terms of making new scientific discoveries. One quarter (25%) think they are at the same level, while almost half (47%) think they are behind EU researchers. More than one in ten (15%) say they don't know.

**QA19** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries? (% - EU27)



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

In 23 countries, the majority of respondents think researchers in the United States are on average ahead of researchers in the EU in making new scientific discoveries. This view is most widely held in Spain (78%), Luxembourg (75%) and Cyprus (71%), and least widespread in Sweden (38%), Denmark (41%), and Finland and Estonia (both 43%).

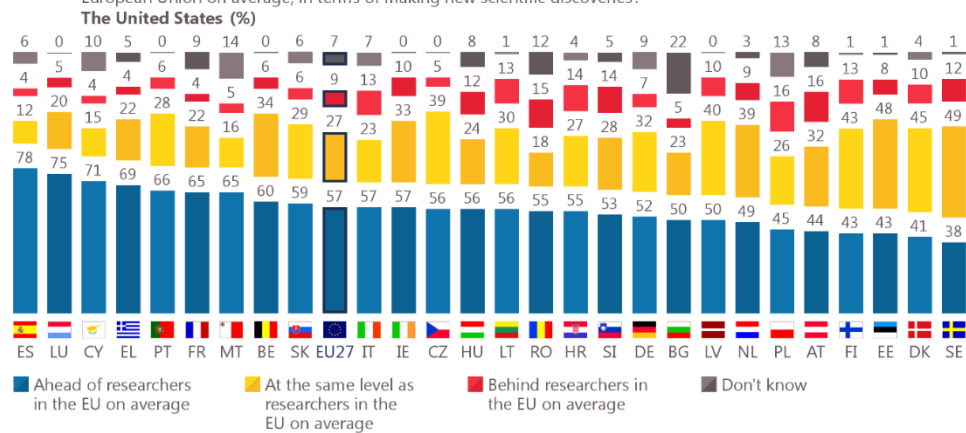
Respondents in Sweden (49%), Estonia (48%) and Denmark (45%) are most likely to say researchers in the United States are at the same level as those in the EU, while in Finland opinion is split between researchers in the United States being ahead of those in the EU (43%) and at the same level (43%).

In 13 Member States at least one in ten respondents say researchers in the US are behind those in the EU, with the largest proportions seen in Poland and Austria (both 16%), and Romania (15%).

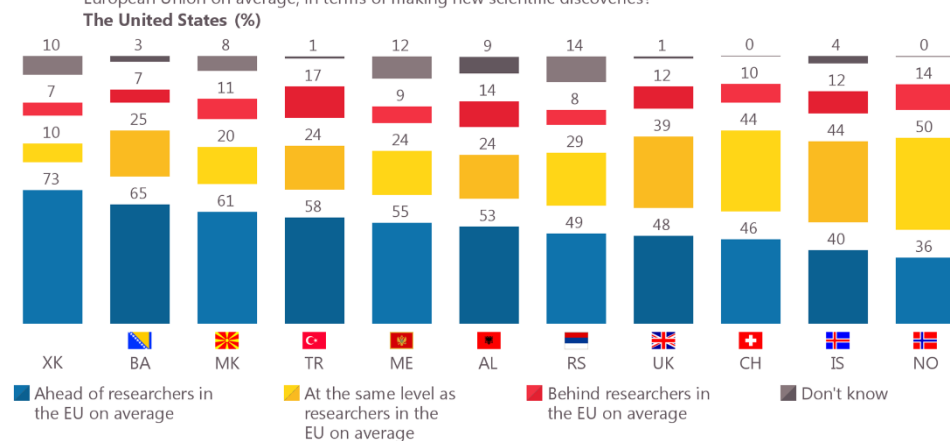
The proportion of respondents who say they don't know is particularly high in Bulgaria (22%).

The majority of respondents in all but two of the non-EU countries surveyed think researchers in the United States are ahead of those in the EU, with the proportion highest in Kosovo (73%). The exceptions are Norway and Iceland, where the majority think researchers in the United States and the EU are at the same level (50% and 44% respectively).

**QA19.1** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



**QA19.1** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



## **Special Eurobarometer 516**

### **European citizens' knowledge and attitudes towards science and technology**

For each country asked about, the socio-demographic analysis focuses on those who think researchers in that country are ahead of those in the EU.

In the case of researchers in the United States, the socio-demographic analysis shows little difference in opinion based on age or financial situation (though respondents who have difficulty paying bills most of the time are less likely to think that researchers in the US are at the same level as those in the EU (22%) than respondents who never/almost never have difficulty paying bills (28%)). However, it does illustrate that men are more likely than women to think researchers in the United States are ahead of those in the EU (60% vs 55%). In addition, the longer a respondent remained in education, the more likely they are to think researchers in the United States are ahead, but the overall difference is relatively small (6 pp).







The analysis also highlights that unemployed persons are the most likely to think researchers in the United States are ahead of EU researchers – particularly compared to housepersons (65% vs 54%).

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

**QA19.1** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?

The United States (% - EU)

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	57	9	27	7
 <b>Gender</b>				
Man	60	9	25	6
Woman	55	8	28	9
 <b>Age</b>				
15-24	57	8	28	7
25-39	59	9	27	5
40-54	59	9	26	6
55+	56	8	26	10
 <b>Education (end of)</b>				
15-	53	8	23	16
16-19	57	10	25	8
20+	59	7	29	5
Still studying	58	8	28	6
 <b>Socio-professional category</b>				
Self-employed	59	11	24	6
Managers	59	8	29	4
Other white collars	55	10	28	7
Manual workers	57	10	26	7
House persons	54	7	27	12
Unemployed	65	6	24	5
Retired	56	7	26	11
Students	58	8	28	6
 <b>Difficulties paying bills</b>				
Most of the time	57	11	22	10
From time to time	56	13	24	7
Almost never/ Never	58	7	28	7
 <b>Left-right political scale</b>				
Left	58	9	28	5
Centre	57	8	28	7
Right	58	12	25	5
<b>Medical discoveries</b>				
Interested	62	8	25	5
Moderately interested	56	9	28	7
Not interested	49	10	25	16
<b>Scientific discoveries</b>				
Interested	62	8	26	4
Moderately interested	57	9	28	6
Not interested	51	9	23	17
<b>Environmental problems</b>				
Interested	61	7	27	5
Moderately interested	57	9	27	7
Not interested	49	12	23	16
<b>Influence of science and technology</b>				
Positive	58	8	27	7
Negative	54	15	22	9
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	50	10	23	17
Between 5 and 8 correct answers	59	9	26	6
More than 8 correct answers	59	6	31	4
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	58	7	28	7
Total 'Neither spiritual or religious nor not spiritual or religious'	58	10	26	6
Total 'Quite or very spiritual or religious'	55	9	24	12
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	56	11	27	6
A family member does or did in the past	56	11	29	4
Both you and a family member do or did in the past	60	7	30	3
No	58	8	26	8

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

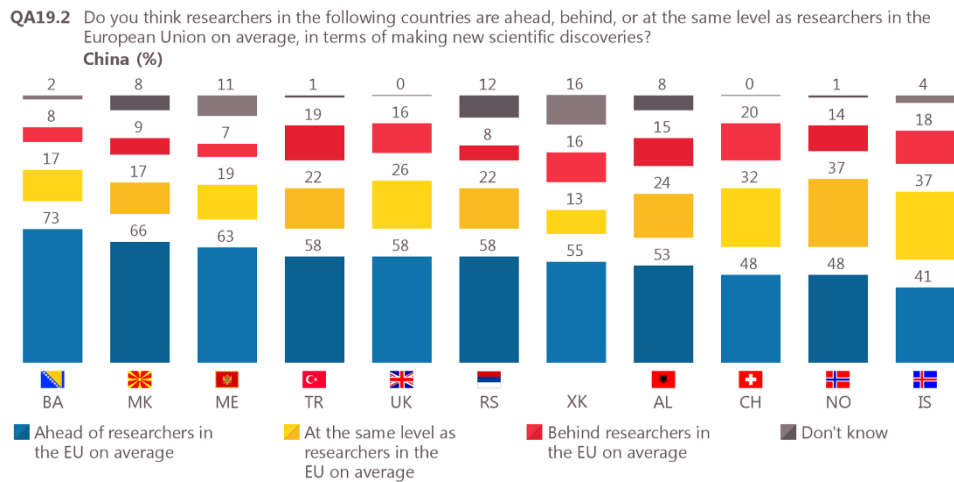
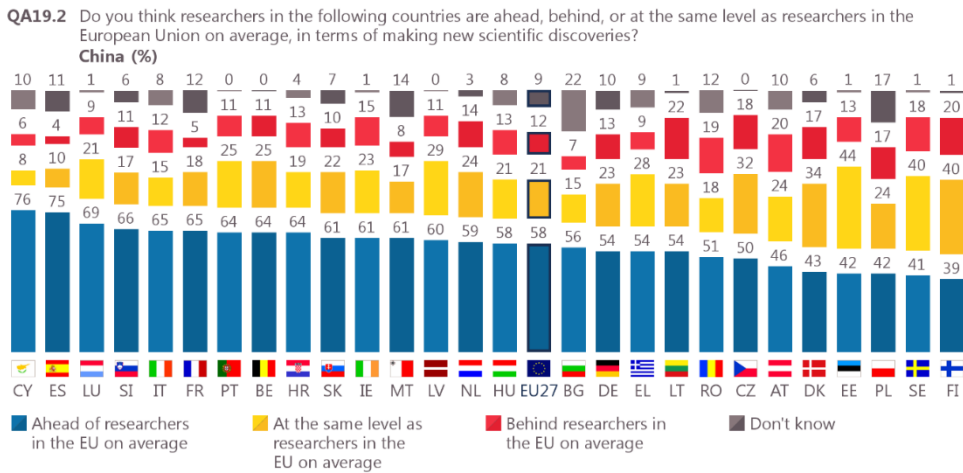
In all but one Member State a majority of respondents think researchers in China are ahead of those in the EU when it comes to making new scientific discoveries, although proportions vary from 76% in Cyprus, 75% in Spain, and 69% in Luxembourg to 41% in Sweden, and 42% in Poland and Estonia. The exception is Finland, where 40% say researchers in China are at the same level as those in the EU and 39% say those in China are ahead.

Respondents in Estonia (44%), and Finland and Sweden (both 40%) are the most likely to say researchers in China and the EU are at the same level. This compares with Cyprus where fewer than one in ten (8%) have this view.

In 20 countries at least one in ten respondents think researchers in China are behind those in the EU, with those in Lithuania (22%), and Austria and Finland (both 20%) the most likely to hold this opinion.

Once again, the proportion of respondents in Bulgaria that say they don't know is high (22%).

A majority of respondents in each of the non-EU countries surveyed think researchers in China are ahead of those in the EU on average, with proportions ranging from 73% in Bosnia and Herzegovina to 41% in Iceland.



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis shows few differences based on gender, education level or financial situation, but it does highlight that those aged 55 and older (55%) are less likely to say researchers in China are ahead of those in the EU, especially compared to those aged 15-24 (61%).

It also shows unemployed respondents are the most likely to say researchers in China are ahead, particularly compared to retired persons (67% vs 54%).

**QA19.2** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?

China (% - EU)

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	58	12	21	9
<b>Gender</b>				
Man	58	13	22	7
Woman	59	11	19	11
<b>Age</b>				
15-24	61	11	21	7
25-39	60	13	20	7
40-54	60	12	20	8
55+	55	11	21	13
<b>Education (end of)</b>				
15-	54	9	18	19
16-19	59	12	19	10
20+	58	12	23	7
Still studying	62	11	21	6
<b>Socio-professional category</b>				
Self-employed	61	13	17	9
Managers	59	13	23	5
Other white collars	58	13	21	8
Manual workers	59	12	20	9
House persons	55	12	18	15
Unemployed	67	9	17	7
Retired	54	11	22	13
Students	62	11	21	6
<b>Difficulties paying bills</b>				
Most of the time	61	15	14	10
From time to time	59	13	19	9
Almost never/ Never	58	11	22	9
<b>Left-right political scale</b>				
Left	60	11	23	6
Centre	59	11	21	9
Right	58	16	19	7
<b>Medical discoveries</b>				
Interested	62	11	20	7
Moderately interested	58	12	21	9
Not interested	49	13	20	18
<b>Scientific discoveries</b>				
Interested	61	12	22	5
Moderately interested	59	12	21	8
Not interested	52	11	18	19
<b>Environmental problems</b>				
Interested	62	11	20	7
Moderately interested	58	12	21	9
Not interested	50	13	19	18
<b>Influence of science and technology</b>				
Positive	59	12	21	8
Negative	61	13	16	10
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	53	11	16	20
Between 5 and 8 correct answers	61	11	20	8
More than 8 correct answers	56	13	26	5
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	60	11	22	7
Total 'Neither spiritual or religious nor not spiritual or religious'	58	13	20	9
Total 'Quite or very spiritual or religious'	56	11	20	13
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	53	19	22	6
A family member does or did in the past	58	14	23	5
Both you and a family member do or did in the past	54	17	23	6
No	59	11	20	10

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

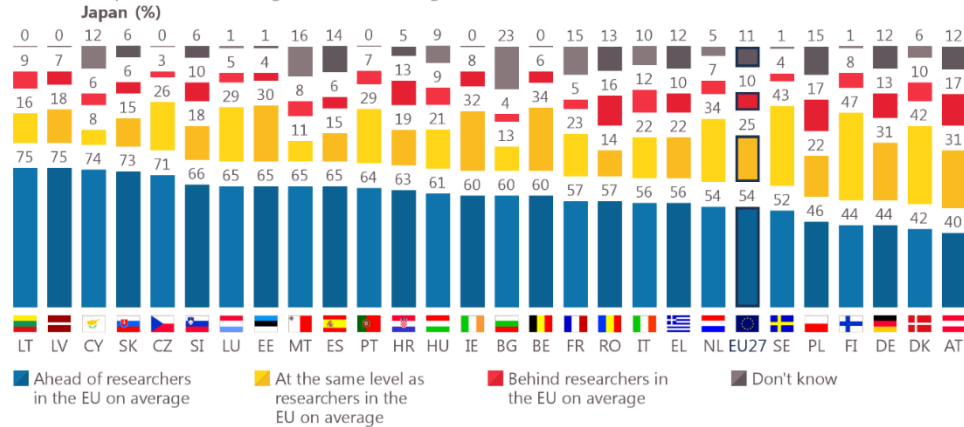
In all but two Member States, respondents are most likely to say researchers in Japan are ahead of those in the EU. This view is most widespread in Latvia and Lithuania (both 75%), and Cyprus (74%), and least widespread in Austria (40%), Denmark (42%), and Finland and Germany (both 44%). In Finland, respondents are most likely to say researchers in Japan and the EU are at the same level (47%), while in Denmark opinion is evenly split between those who say researchers in Japan are ahead of or at the same level as their EU counterparts (both 42%).

The highest proportions of respondents who think researchers in Japan are at the same level as those in the EU are in Finland (47%), Sweden (43%) and Denmark (42%).

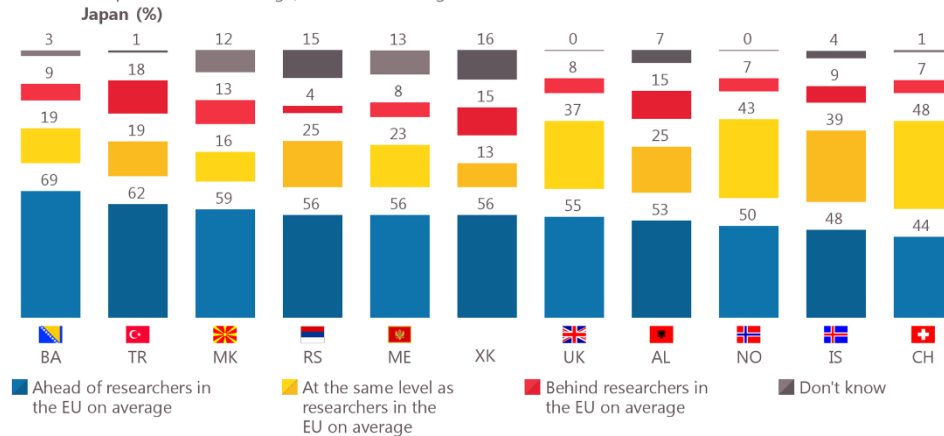
In nine Member States at least one in ten respondents think researchers in Japan are behind those in the EU, with the highest proportions in Poland and Austria (both 17%) and Romania (16%).

Respondents in all but one of the non-EU countries surveyed are most likely to say researchers in Japan are ahead of those in the EU, with proportions ranging from 69% in Bosnia Herzegovina to 48% in Iceland. The exception is Switzerland, where respondents are most likely to say researchers in Japan and the EU are at the same level (48%).

QA19.3 Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



QA19.3 Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?





## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis reveals no notable differences based on gender, age, education level or financial situation.

However, it does show that unemployed persons are the most likely to say researchers in Japan are ahead of those in the EU, particularly when compared to retired persons (61% vs 51%).

**QA19.3** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?

Japan (% - EU)

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	54	10	25	11
<b>Gender</b>				
Man	55	10	27	8
Woman	55	9	23	13
<b>Age</b>				
15-24	55	12	23	10
25-39	57	11	25	7
40-54	57	9	24	10
55+	51	9	26	14
<b>Education (end of)</b>				
15-	52	8	18	22
16-19	57	10	22	11
20+	54	9	29	8
Still studying	55	11	25	9
<b>Socio-professional category</b>				
Self-employed	55	12	23	10
Managers	54	10	29	7
Other white collars	57	10	25	8
Manual workers	57	10	22	11
House persons	49	8	24	19
Unemployed	61	8	21	10
Retired	51	8	26	15
Students	55	11	25	9
<b>Difficulties paying bills</b>				
Most of the time	55	14	17	14
From time to time	56	11	22	11
Almost never/ Never	54	9	26	11
<b>Left-right political scale</b>				
Left	54	9	28	9
Centre	55	10	25	10
Right	57	12	23	8
<b>Medical discoveries</b>				
Interested	57	10	25	8
Moderately interested	54	10	26	10
Not interested	48	11	21	20
<b>Scientific discoveries</b>				
Interested	56	10	27	7
Moderately interested	56	10	24	10
Not interested	47	10	21	22
<b>Environmental problems</b>				
Interested	56	8	27	9
Moderately interested	54	11	24	11
Not interested	50	10	20	20
<b>Influence of science and technology</b>				
Positive	55	9	26	10
Negative	54	14	19	13
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	50	11	18	21
Between 5 and 8 correct answers	58	10	23	9
More than 8 correct answers	51	8	34	7
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	55	9	27	9
Total 'Neither spiritual or religious nor not spiritual or religious'	54	11	25	10
Total 'Quite or very spiritual or religious'	55	9	21	15
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	46	16	31	7
A family member does or did in the past	56	9	28	7
Both you and a family member do or did in the past	47	9	35	9
No	55	9	24	12

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

Luxembourg (52%) is the only country where at least half of all respondents think researchers in South Korea are ahead of those in the EU. At least four in ten respondents in Czechia (41%), and Ireland, Cyprus, Latvia and Lithuania (all 40%) say the same. Overall, this is the most common response in 11 countries.

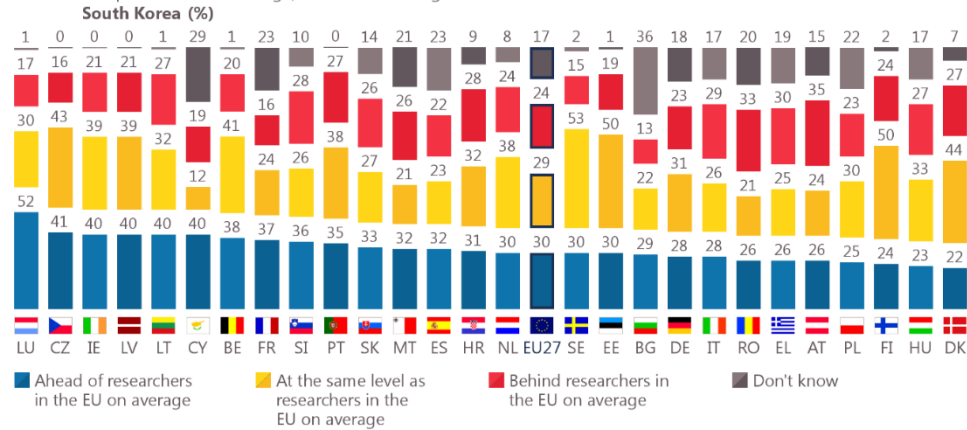
In 12 countries, respondents most often say researchers in South Korea and the EU are at the same level, and this opinion is most widely held in Sweden (53%), and Finland and Estonia (both 50%). In every Member State more than one in ten think this way.

There are four countries where respondents are most likely to say researchers in South Korea are behind those in the EU: Austria (35%), Romania (33%), Greece (30%) and Italy (29%). In every Member State more than one in ten respondents hold this opinion.

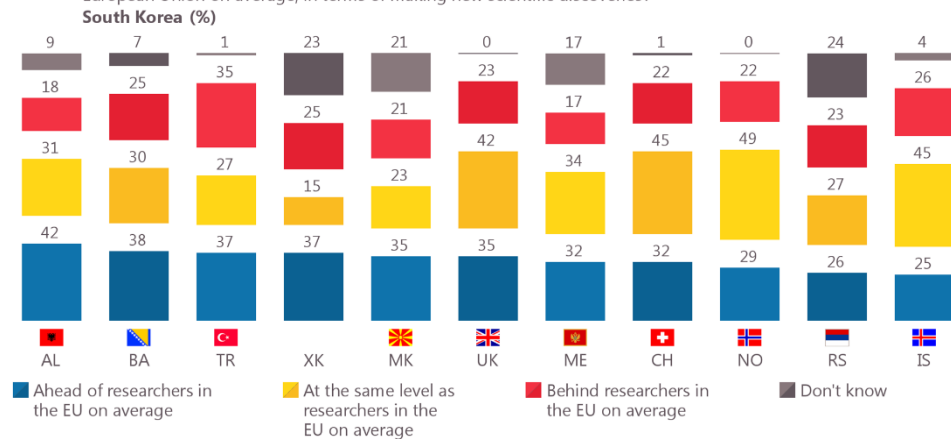
In seven countries at least one in five respondents say they don't know, with the highest levels in Bulgaria (36%) and Cyprus (29%).

There are five non-EU countries where respondents most often say researchers in South Korea are ahead of those in the EU, with the highest proportion observed in Albania (42%). In the remaining six countries the most common response is that they are at the same level, with the largest proportion seen in Norway (49%).

QA19.4 Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



QA19.4 Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The socio-demographic analysis does not highlight any notable differences in opinion based on gender, age, occupation level or financial status.

However, it does show those who finished education aged 16 or older are more likely to say researchers in South Korea are ahead of those in the EU (31% vs 22% who completed aged 15 or younger).

**QA19.4** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?  
**South Korea (% - EU)**

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	30	24	29	17
<b>Gender</b>				
Man	32	24	31	13
Woman	28	23	28	21
<b>Age</b>				
15-24	33	24	29	14
25-39	32	24	31	13
40-54	31	25	29	15
55+	27	22	29	22
<b>Education (end of)</b>				
15-	22	24	21	33
16-19	31	24	27	18
20+	31	23	34	12
Still studying	33	22	32	13
<b>Socio-professional category</b>				
Self-employed	32	26	26	16
Managers	31	23	35	11
Other white collars	31	25	31	13
Manual workers	31	25	27	17
House persons	23	22	29	26
Unemployed	33	23	28	16
Retired	28	21	28	23
Students	33	22	32	13
<b>Difficulties paying bills</b>				
Most of the time	32	26	22	20
From time to time	30	27	26	17
Almost never/ Never	30	22	31	17
<b>Left-right political scale</b>				
Left	31	23	32	14
Centre	30	24	29	17
Right	31	27	30	12
<b>Medical discoveries</b>				
Interested	32	24	30	14
Moderately interested	30	23	31	16
Not interested	27	23	25	25
<b>Scientific discoveries</b>				
Interested	33	24	32	11
Moderately interested	30	24	30	16
Not interested	24	23	24	29
<b>Environmental problems</b>				
Interested	31	23	31	15
Moderately interested	30	23	30	17
Not interested	28	24	24	24
<b>Influence of science and technology</b>				
Positive	30	24	31	15
Negative	33	27	21	19
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	26	23	22	29
Between 5 and 8 correct answers	31	25	29	15
More than 8 correct answers	33	19	37	11
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	33	21	32	14
Total 'Neither spiritual or religious nor not spiritual or religious'	30	25	29	16
Total 'Quite or very spiritual or religious'	26	26	26	22
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	31	27	32	10
A family member does or did in the past	38	20	31	11
Both you and a family member do or did in the past	32	22	33	13
No	29	24	29	18

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are only two Member States where at least one in five respondents think researchers in India are ahead of those in the EU in terms of scientific discoveries: Luxembourg (23%) and Slovenia (20%). Overall, at least one in ten respondents in 21 countries hold this view.

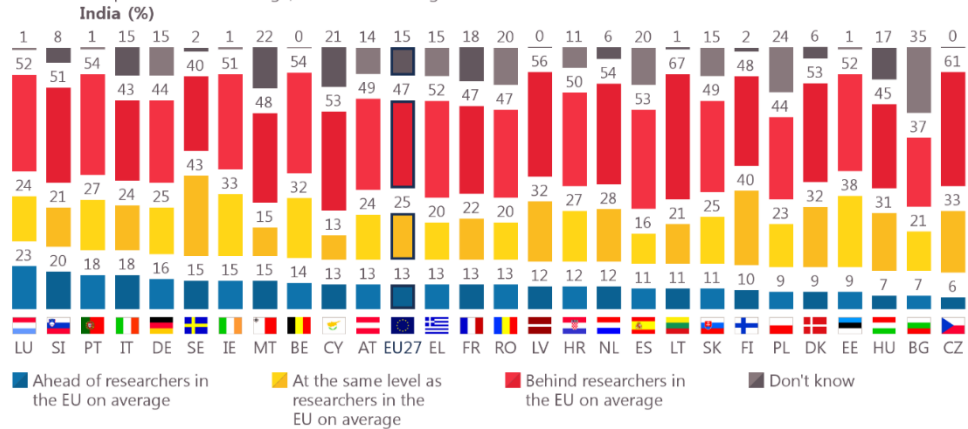
Sweden (43%) is the only country where respondents most often say researchers in India and the EU are at the same level.

In all but one Member State, respondents are most likely to say researchers in India are behind those in the EU on average, although proportions range from 67% in Lithuania, 61% in Czechia, and 56% in Latvia to 37% in Bulgaria, 43% in Italy, and 44% in Poland and Germany.

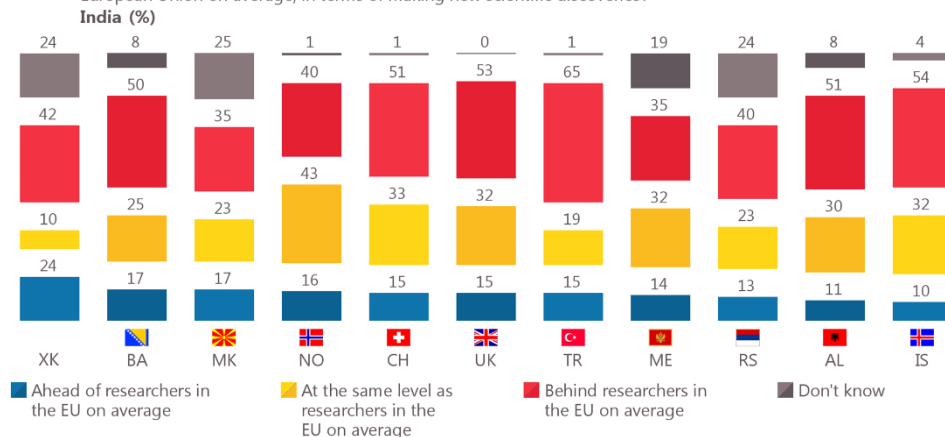
There are six countries where at least one in five respondents say they don't know, with the highest proportion in Bulgaria (35%).

Looking at the non-EU countries surveyed shows that except for Norway, respondents most often say researchers in India are behind those in the EU, with the highest proportion seen in Turkey (65%). In Norway, respondents are most likely to say researchers in India and the EU are at the same level (43%).

**QA19.5** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



**QA19.5** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

There are no notable differences in the socio-demographic analysis and results are remarkably consistent across key groups.

**QA19.5** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?  
**India** (% - EU)

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	13	47	25	15
<b>Gender</b>				
Man	15	48	25	12
Woman	12	46	24	18
<b>Age</b>				
15-24	10	55	22	13
25-39	13	53	23	11
40-54	15	48	24	13
55+	14	41	26	19
<b>Education (end of)</b>				
15-	12	40	20	28
16-19	14	46	24	16
20+	14	49	27	10
Still studying	11	54	24	11
<b>Socio-professional category</b>				
Self-employed	17	45	24	14
Managers	14	50	28	8
Other white collars	13	50	25	12
Manual workers	14	49	22	15
House persons	11	46	22	21
Unemployed	13	54	19	14
Retired	14	40	26	20
Students	11	54	24	11
<b>Difficulties paying bills</b>				
Most of the time	15	50	18	17
From time to time	13	49	23	15
Almost never/ Never	14	47	25	14
<b>Left-right political scale</b>				
Left	15	48	26	11
Centre	13	49	24	14
Right	14	49	26	11
<b>Medical discoveries</b>				
Interested	15	49	24	12
Moderately interested	13	48	25	14
Not interested	11	41	25	23
<b>Scientific discoveries</b>				
Interested	15	50	26	9
Moderately interested	13	48	25	14
Not interested	11	40	22	27
<b>Environmental problems</b>				
Interested	14	49	25	12
Moderately interested	13	48	24	15
Not interested	13	41	23	23
<b>Influence of science and technology</b>				
Positive	13	48	25	14
Negative	15	45	24	16
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	12	40	21	27
Between 5 and 8 correct answers	14	49	24	13
More than 8 correct answers	15	49	28	8
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	13	49	26	12
Total 'Neither spiritual or religious nor not spiritual or religious'	15	47	24	14
Total 'Quite or very spiritual or religious'	12	45	23	20
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	15	48	27	10
A family member does or did in the past	16	47	29	8
Both you and a family member do or did in the past	15	51	21	13
No	13	47	24	16

## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

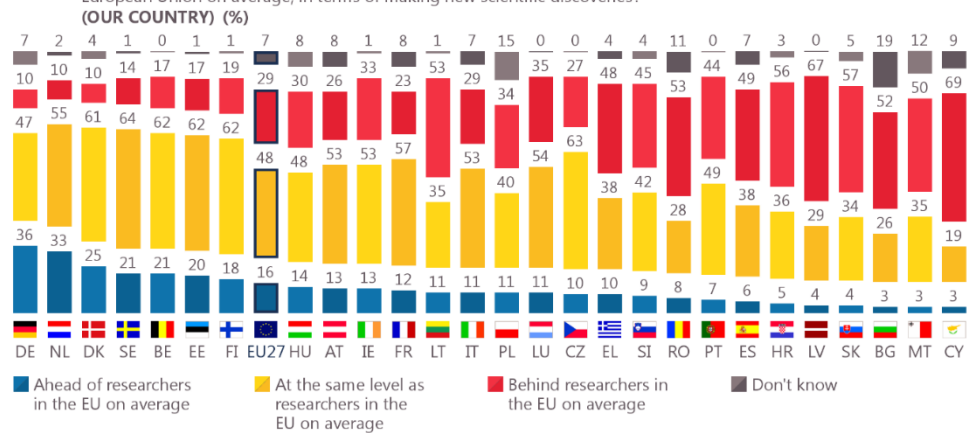
Respondents in Germany (36%), the Netherlands (33%) and Denmark (25%) are most likely to say researchers in their own country are ahead of those in the EU on average. Only a minority of respondents in every country think this way.

In 16 countries the most common opinion is that researchers in the respondent's country are at the same level as those in the EU, and this is particularly the case in Sweden (64%), Czechia (63%), and Finland, Belgium and Estonia (all 62%). Cyprus is the only country where fewer than one in five thinks this way.

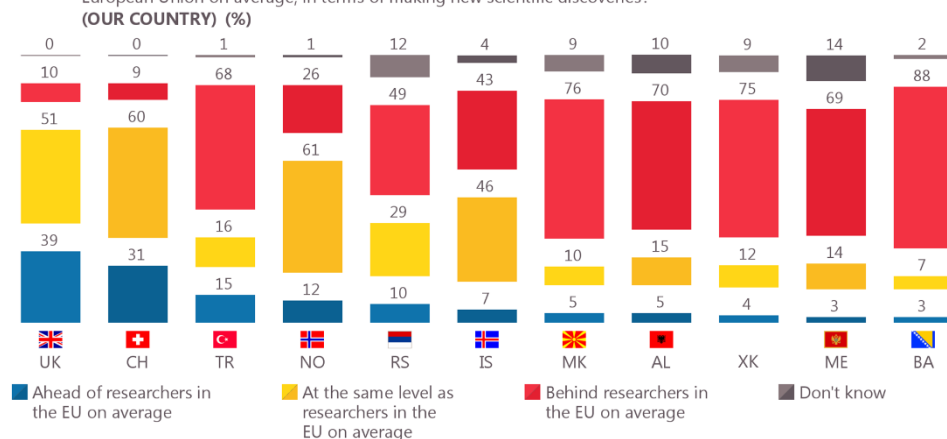
In 11 countries respondents are most likely to think researchers in their country are behind those in the EU, with the highest levels seen in Cyprus (69%), Latvia (67%) and Slovakia (57%). Overall, at least one in ten respondents in every Member State thinks this way.

Outside of the EU countries surveyed, respondents in the UK (39%) and Switzerland (31%) are most likely to say that researchers in their own country are ahead of those in the EU. In Norway (61%) and Iceland (46%), the highest proportion of respondents state that researchers in their countries are at the same level as those in the EU. Finally, there are six countries where respondents most often say researchers in their country are behind those in the EU, with the largest proportion in Bosnia and Herzegovina (88%).

**QA19.6** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



**QA19.6** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?



## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

The only notable difference in the socio-demographic analysis is that the longer a respondent remained in education, the more likely they are to say that researchers in their own country are ahead of those in the EU.

For example, 20% of those who completed education aged 20 or older think this way, compared to 13% who completed education aged 15 or younger.

**QA19.6** Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?  
(OUR COUNTRY) (% - EU)

	Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researchers in the EU on average	Don't know
EU27	16	29	48	7
<b>Gender</b>				
Man	18	29	47	6
Woman	14	29	49	8
<b>Age</b>				
15-24	16	25	53	6
25-39	16	32	47	5
40-54	17	31	46	6
55+	16	27	48	9
<b>Education (end of)</b>				
15-	13	28	45	14
16-19	15	32	46	7
20+	20	27	49	4
Still studying	17	24	55	4
<b>Socio-professional category</b>				
Self-employed	18	33	42	7
Managers	21	25	50	4
Other white collars	15	30	49	6
Manual workers	14	34	45	7
House persons	14	28	48	10
Unemployed	13	38	45	4
Retired	17	25	48	10
Students	17	24	55	4
<b>Difficulties paying bills</b>				
Most of the time	13	40	39	8
From time to time	13	33	47	7
Almost never/ Never	17	27	49	7
<b>Left-right political scale</b>				
Left	17	26	52	5
Centre	17	28	49	6
Right	18	34	43	5
<b>Medical discoveries</b>				
Interested	20	28	48	4
Moderately interested	15	29	50	6
Not interested	12	30	43	15
<b>Scientific discoveries</b>				
Interested	21	28	47	4
Moderately interested	15	29	50	6
Not interested	12	29	44	15
<b>Environmental problems</b>				
Interested	19	26	50	5
Moderately interested	16	29	48	7
Not interested	11	35	39	15
<b>Influence of science and technology</b>				
Positive	17	28	49	6
Negative	15	36	42	7
<b>Correct answers to questions about scientific knowledge</b>				
Less than 5 correct answers	12	35	38	15
Between 5 and 8 correct answers	15	31	49	5
More than 8 correct answers	23	18	55	4
<b>Religiosity / Spirituality</b>				
Total 'Not very or not spiritual or religious'	19	25	51	5
Total 'Neither spiritual or religious nor not spiritual or religious'	16	30	48	6
Total 'Quite or very spiritual or religious'	14	32	44	10
<b>Worked in research / science / innovative technology development</b>				
You alone do or did in the past	23	30	41	6
A family member does or did in the past	19	27	51	3
Both you and a family member do or did in the past	31	21	45	3
No	15	29	48	8

# CONCLUSION





## Special Eurobarometer 516

### European citizens' knowledge and attitudes towards science and technology

This report provides a summary of the results of the Special Eurobarometer on “European citizens’ knowledge and attitudes towards science and technology”. This Eurobarometer is the latest in a long line of surveys on science and technology (S&T) stretching back to the late 1970s. It gathers the views of 37,103 people in April-May 2021 resident in 38 different countries – EU27, EU Enlargement countries, EFTA states, and the UK. This 2021 edition is the largest to date in terms of the number of people and countries surveyed and the breadth and depth of the questionnaire. It is also the first to be conducted in close to seven years, meaning that it helps fill a significant gap in our understanding of European citizens’ knowledge and attitudes towards S&T.

The results of this edition undoubtedly reflect the unprecedented crises that we are facing – notably the Covid-19 pandemic, but also climate change and biodiversity loss. At the same time, many of the results show remarkable congruence with previous survey findings, suggesting that while short-term contextual background does play a role in influencing attitudes, this does not disrupt significantly the longer-term trends and patterns.

The survey covered citizens’ knowledge about S&T, views on the impacts of S&T, views on the governance of S&T, attitudes towards scientists, citizens’ engagement in S&T, aspects related to young people, gender equality, and social responsibility, and the comparative advantage of the EU to elsewhere in the world.

As such, the survey reveals reassuring results, notably:

- EU citizens have a very high level of interest in S&T, in particular in new medical discoveries and in environmental problems;
- A large majority of EU citizens considers the influence of S&T on our way of life as positive, with strikingly high appreciation for some technologies such as solar, wind power and the development of vaccines;
- There is a very high level of support for the principle of open access to the results of publicly funded research;
- A large majority of EU citizens agrees that involving non-scientists in research and innovation (R&I) ensures that science and technology respond to the needs, values and expectations of society;
- More than two-thirds of EU citizens believe that scientists should intervene in political debates to ensure that decisions take into account scientific evidence;
- EU citizens have a positive view of scientists, believing that important qualities for scientists include intelligence, honesty, reliability, and morality.

The survey also exposes results that suggest work needs to continue to increase knowledge of science in the general public, combat disinformation, and align research and innovation with the needs, values and expectations of society:

- Although there have been improvements in levels of scientific knowledge in some areas of science there are still low levels of knowledge across some socio-economic and demographic groups and countries;
- Many EU citizens are markedly critical of where the benefits of R&I flow – for instance thinking that S&T mostly helps improve the lives of those who are already better off (57%) and going mostly to developed countries rather than developing ones (70%);
- A quarter of EU citizens do not believe that S&T pays sufficient attention to differences between women’s and men’s needs.

While the results can be taken at aggregate level, for instance for the EU27 as a whole, they are more striking when considering socio-demographic factors. Very few questions elicit cross-the-board consensus, though those questions that do may deserve particular attention from a policy perspective. For the majority of questions, however, results show clear patterns tracking social gradients related to age, sex, education, and actual and/or perceived marginalisation. An implication for research and innovation policy is that social differences and cleavages in opinion, knowledge and expectations probably matter. Finding ways to tackle them could build support for – and increase engagement with – science and technology and help respond to future challenges.

## Technical Specifications

Between 13 April and 11 May 2021, Kantar - on behalf of Kantar Belgium - carried out the wave 95.2 of the Eurobarometer survey, at request of the European Commission, Directorate-General for Communication, "Media monitoring and Eurobarometer" Unit.

Wave 95.2 covers the population of the respective nationalities of the European Union Member States, resident in each of the 27 Member States and aged 15 years and over.

Wave 95.2 has also been conducted in 11 other countries or territories outside the EU: five candidate countries (Albania, Montenegro, North Macedonia, Serbia and Turkey), as well as in Bosnia and Herzegovina, Iceland, Kosovo, Norway, Switzerland and the United Kingdom.

In these countries and territories, the survey covers the national population of citizens and the population of citizens of all the European Union Member States that are residents in these countries and territories and have a sufficient command of the national languages to answer the questionnaire.

The basic sample design, applying in all countries and territories, was a multi-stage, random (probability) one. In each country, a number of sampling points was drawn with probability proportional to population size (for a total coverage of the country) and to population density.

In order to do so, the sampling points were drawn systematically from each of the "administrative regional units", after stratification by individual unit and type of area. They thus represent the whole territory of the countries surveyed according to the EUROSTAT NUTS II (or equivalent) and according to the distribution of the resident population of the respective nationalities in terms of metropolitan, urban and rural areas.

In each of the selected sampling points, a starting address was drawn, at random. Further addresses (every Nth address) were selected by standard "random route" procedures, from the initial address. In each household, the respondent was drawn at random (following the "closest birthday rule"). If no one answered the interviewer in a household, or if the selected respondent was not available (e.g. not present or busy), the interviewer revisited the same household up to three additional times (four contact attempts in total). Interviewers never indicated that the survey was conducted on behalf of the European Commission beforehand; they may have given this information once the survey was completed, upon request.

The recruitment phase was slightly different in the Netherlands. In this country, a sample of addresses within each areal sampling point (1km<sup>2</sup> grid) were selected from the address or population register. The selection of addresses was done randomly. Households were then contacted by telephone and recruited to take part in the survey.

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

COUNTRIES	INSTITUTES	N° INTERVIEWS	FIELDWORK DATES		POPULATION 15+	PROPORTION EU27	
BE	Belgium	Kantar Belgium	1.014	19/04/2021	05/05/2021	9.188.369	2,45%
BG	Bulgaria	Kantar TNS BBSS	1.049	13/04/2021	09/05/2021	5.995.194	1,60%
CZ	Czechia	Kantar Czechia	1.038	19/04/2021	27/04/2021	8.956.740	2,39%
DK	Denmark	Kantar Gallup	1.070	14/04/2021	10/05/2021	4.848.611	1,29%
DE	Germany	Kantar Deutschland	1.525	13/04/2021	10/05/2021	71.728.398	19,10%
EE	Estonia	Kantar Emor	1.022	15/04/2021	10/05/2021	1.073.224	0,29%
IE	Ireland	Kantar Belgium	1.011	19/04/2021	10/05/2021	3.896.482	1,04%
EL	Greece	Kantar Greece	1.056	13/04/2021	09/05/2021	9.187.524	2,45%
ES	Spain	TNS Investigación de Mercados y Opinión	1.005	14/04/2021	09/05/2021	40.006.943	10,65%
FR	France	Kantar Public France	1.015	13/04/2021	05/05/2021	52.732.499	14,04%
HR	Croatia	Hendal	1.016	13/04/2021	10/05/2021	3.488.460	0,93%
IT	Italy	Kantar Italia	1.017	13/04/2021	30/04/2021	52.397.331	13,95%
CY	Rep. of Cyprus	CYMAR Market Research	506	13/04/2021	25/04/2021	734.695	0,20%
LV	Latvia	Kantar TNS Latvia	1.009	14/04/2021	04/05/2021	1.568.124	0,42%
LT	Lithuania	TNS LT	1.028	14/04/2021	06/05/2021	2.300.257	0,61%
LU	Luxembourg	Kantar Belgium	520	19/04/2021	05/05/2021	503.275	0,13%
HU	Hungary	Kantar Hoffmann	1.044	13/04/2021	28/04/2021	8.351.017	2,22%
MT	Malta	MISCO International	525	16/04/2021	03/05/2021	426.055	0,11%
NL	Netherlands	Kantar Netherlands	1.076	14/04/2021	07/05/2021	14.165.638	3,77%
AT	Austria	Das Österreichische Gallup Institut	1.007	13/04/2021	02/05/2021	7.580.083	2,02%
PL	Poland	Kantar Polska	1.008	13/04/2021	06/05/2021	32.139.021	8,56%
PT	Portugal	Marktest – Marketing, Organização e Formação	1.031	19/04/2021	03/05/2021	8.869.051	2,36%
RO	Romania	Centrul Pentru Studierea Opiniei si Pietei (CSOP)	1.051	13/04/2021	05/05/2021	16.372.216	4,36%
SI	Slovenia	Mediana DDO	1.024	14/04/2021	09/05/2021	1.767.202	0,47%
SK	Slovakia	Kantar Czechia	1.079	14/04/2021	04/05/2021	4.592.379	1,22%
FI	Finland	Kantar TNS Oy	1.030	16/04/2021	10/05/2021	4.488.064	1,20%
SE	Sweden	Kantar Sifo	1.051	14/04/2021	07/05/2021	8.149.850	2,17%
TOTAL EU27			26.827	13/04/2021	10/05/2021	375.506.702	100%*

\* It should be noted that the total percentage shown in this table may exceed 100% due to rounding

\*\* Recruitments in Belgium, Czechia, Ireland, Luxembourg, Portugal and Slovakia are carried out by Kantar Belgium, Kantar Czechia, Ronin International, Infas, Kantar Portugal and Kantar Slovakia. Non-probabilistic sample in Turkey was randomly drawn from Kantar's LifePoints panel.

UK	United Kingdom	Kantar UK Limited	1.003	14/04/2021	11/05/2021	53.082.345	
TR	Turkey	Kantar TNS Piar	1.004	15/04/2021	10/05/2021	62.644.678	
MK	North Macedonia	Kantar TNS BBSS	1.036	15/04/2021	06/05/2021	1.736.495	
ME	Montenegro	TMG Insights	504	14/04/2021	09/05/2021	510.415	
RS	Serbia	TMG Insights	1.005	14/04/2021	08/05/2021	5.966.740	
AL	Albania	Index Kosovo	1.014	14/04/2021	05/05/2021	2.344.814	
BA	Bosnia and Herzegovina	Kantar TNS BBSS	1.009	14/04/2021	09/05/2021	2.987.440	
IS	Iceland	Gallup Iceland	520	14/04/2021	10/05/2021	289.125	
XK	Territory of Kosovo	Index Kosovo	1.057	15/04/2021	10/05/2021	1.357.100	
NO	Norway	Kantar Norway	1.041	14/04/2021	06/05/2021	4.392.175	
CH	Switzerland	Demo SCOPE AG	1.083	15/04/2021	10/05/2021	7.259.209	
TOTAL			37.103	13/04/2021	11/05/2021	518.077.238	

## Special Eurobarometer 516

### European citizen's knowledge and attitudes towards science and technology

	COUNTRIES	N° OF CAPI INTERVIEWS	N° OF CAWI INTERVIEWS	TOTAL N° INTERVIEWS
BE	Belgium		1.014	1.014
BG	Bulgaria	1.049		1.049
CZ	Czechia		1.038	1.038
DK	Denmark	355	715	1.070
DE	Germany	1.525		1.525
EE	Estonia		1.022	1.022
IE	Ireland		1.011	1.011
EL	Greece	1.056		1.056
ES	Spain	1.005		1.005
FR	France	1.015		1.015
HR	Croatia	1.016		1.016
IT	Italy	1.017		1.017
CY	Rep. of Cyprus	506		506
LV	Latvia		1.009	1.009
LT	Lithuania		1.028	1.028
LU	Luxembourg		520	520
HU	Hungary	1.044		1.044
MT	Malta	327	198	525
NL	Netherlands	784	292	1.076
AT	Austria	1.007		1.007
PL	Poland	1.008		1.008
PT	Portugal		1.031	1.031
RO	Romania	1.051		1.051
SI	Slovenia	694	330	1.024
SK	Slovakia	817	262	1.079
FI	Finland		1.030	1.030
SE	Sweden		1.051	1.051
	TOTAL EU27	15.276	11.551	26.827
UK	United Kingdom		1.003	1.003
TR	Turkey	288	716	1.004
MK	North Macedonia	1.036		1.036
ME	Montenegro	504		504
RS	Serbia	1.005		1.005
AL	Albania	1.014		1.014
BA	Bosnia and Herzegovina	1.009		1.009
IS	Iceland		520	520
XK	Territory of Kosovo	1.057		1.057
NO	Norway		1.041	1.041
CH	Switzerland		1.083	1.083
	TOTAL	21.189	15.914	37.103

CAPI : Computer-Assisted Personal interviewing

CAWI : Computer-Assisted Web interviewing

#### Consequences of the coronavirus pandemic on fieldwork

##### ■ Face-to-face interviewing

Where feasible, interviews were conducted face-to-face in people's homes or on their doorstep and in the appropriate national language. Countries where only face-to-face interviewing took place are: Bulgaria, Germany, Greece, Spain, France, Croatia, Italy, Cyprus, Hungary, Austria, Poland, Romania, Turkey, North Macedonia, Montenegro, Serbia, Albania, Bosnia and Herzegovina, and the territory of Kosovo. In all countries and territories where face-to-face interviewing was feasible CAPI (Computer Assisted Personal Interviewing) was used. For all interviews conducted face-to-face, hygiene and physical distancing measures were respected at all times in line with government regulations, and whenever possible, interviews were conducted outside homes (e.g. on doorsteps) to remain in open air and maintain social distance.

##### ■ Face-to-face and online interviewing

In Denmark, Malta, the Netherlands, Slovenia, Slovakia and Turkey: face-to-face interviewing was feasible but it was not possible to reach the target number of face-to-face interviews within the fieldwork period due to the impact of Covid-19 restrictions: many potential respondents were reluctant to open their homes to interviewers, even if they respected hygiene rules and physical distancing, such as wearing masks and using hydro-alcoholic gel.

Therefore, to hit the target number of interviews within the fieldwork period, additional interviews were conducted online with Computer-Assisted Web Interviewing (CAWI) technique.

##### ■ Online interviewing

In Belgium, Czechia, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Portugal, Finland, Sweden, United Kingdom, Iceland, Norway and Switzerland: face-to-face interviews were not possible. Therefore all interviews were conducted online with CAWI technique.

#### Recruitment for online interviews

##### ■ In the EU

The online design in each country differed based on what was feasible within the fieldwork period.

Where possible, the online sample was based on a probabilistic sample design. Those recruited to the online survey were recruited through a single mobile frame or dual frame Random Digit Dialling (RDD) design. In this way the entire phone owning population in each country had a non-zero chance of being sampled. The choice of whether to use a single mobile frame or dual frame (mobile and landline) was dependent on the countries' landline infrastructure. Where the landline infrastructure is suitably advanced to support a significant minority of residential households with landline phones, a dual frame design is employed. The mix of mobile and landline sample is designed to maximise the representativeness of the responding sample. The RDD sample for both the mobile and landline sample is drawn from the country's telephone numbering plan. The landline sample frame is stratified by NUTS3 regions based on their prefix and the mobile by operator before a systematic random sample of numbers is generated proportional in size to the total generatable numbers in each stratum. Respondents were recruited using this sample design in **Belgium, Czechia, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovenia and Slovakia.**

In **Finland, Denmark, and Sweden** RDD samples were not used. Instead, the telephone sample was drawn from the country telephone directory. In these three countries the telephone directories offer comprehensive coverage of the phone-owning population, storing both landline and mobile phone numbers for each individual.

In **the Netherlands**, a proprietary panel called "Nipobase" was used, drawing a random sample from their panel. This panel uses a mix of probability-based sampling to recruit panellists and non-probabilistic approaches to maximise representation where the probability-based approach under-represents, such as in the younger age groups. Nipobase uses a mix of offline and online modes. Offline modes are typically RDD samples and online modes are typically recruitment via targeted websites and social media platforms.

##### ■ Outside the EU:

In **the UK**, recruitment of respondents was carried out either via a face-to-face CAPI mode of data collection based on a clustered multistage random sample of addresses or via a postal invite to an online survey using a completely unclustered random sample of addresses.

In **Norway and Iceland**, stratified random samples were drawn from among probability-based samples. Recruitments were done using offline modes of data collection (telephone and postal) based on a probability sample design.

## Special Eurobarometer 516

### European citizen's knowledge and attitudes towards science and technology

In **Switzerland** samples were randomly drawn from the pseudo-probabilistic sample of Demoscope, in which the frame for selecting households was based on a probability sample. Recruitment was done via the telephone directory – which lists landline numbers only in Switzerland, where landline coverage is very high. However the selection of individuals in the households to join the panel was not random, as demoscope recruited the first person who answered the phone in each household (therefore not implementing any random selection method within the household).

Please note that for some countries where the response rates were not sufficiently large to achieve the target sample size in the fieldwork period, we had to further supplement the samples drawn probabilistically (either face-to-face or phone-to-web) with non-probabilistic panels. This was effectively a 'last resort' option when no other probabilistic design was feasible.

In **Turkey**, the sample was supplemented with a randomly drawn sample from Kantar's LifePoints non-probabilistic sample panel. The LifePoints panel is Kantar's proprietary panel, used exclusively for Kantar clients and the lead source for Kantar's online work, generating close to 30 million completes per year. Members are recruited via online advertising across a wide range of web and social media sites. Adverts are placed with websites with very high footfalls to ensure maximised reach.

In **Lithuania**, from Norstat's panel. Norstat's Lithuania panel has around 20.000 active members recruited mostly in the last 6 months. Around 75% of respondents are recruited in probabilistically (via telephone or face-to-face), while the rest are recruited via online advertising and self-register.

#### Response rates

For each country a comparison between the responding sample and the universe (i.e. the overall population in the country) was carried out. Weights were used to match the responding sample to the universe on gender by age, region and degree of urbanisation. For European estimates (i.e. EU average), an adjustment was made to the individual country weights, weighting them up or down to reflect their age 15+ population as a proportion of the EU age 15+ population.

The response rates are calculated by dividing the total number of complete interviews with the number of all the addresses visited, apart from ones that are not eligible but including those where eligibility is unknown. The following type of addresses are classified as "not eligible" (hence not interviewed): address not found, address demolished, address empty, ineligible household (for examples non-nationals, households with no one aged 15 or over at home during the fieldwork period, etc), language difficulty. For the wave 95.2, the response rates, calculated by Kantar, are:

	COUNTRIES	CAPI Response rates	CAWI Response rates
BE	Belgium		26,7%
BG	Bulgaria	46,0%	
CZ	Czechia		44,4%
DK	Denmark	40,5%	16,3%
DE	Germany	19,5%	
EE	Estonia		32,4%
IE	Ireland		22,3%
EL	Greece	27,1%	
ES	Spain	31,3%	
FR	France	29,7%	
HR	Croatia	47,9%	
IT	Italy	21,4%	
CY	Rep. of Cyprus	44,0%	
LV	Latvia		20,9%
LT	Lithuania		27,5%
LU	Luxembourg		27,2%
HU	Hungary	61,0%	
MT	Malta	82,2%	40,3%
NL	Netherlands	65,2%	48,1%
AT	Austria	41,2%	
PL	Poland	40,5%	
PT	Portugal		37,6%
RO	Romania	55,2%	
SI	Slovenia	48,2%	42,0%
SK	Slovakia	63,8%	25,2%
FI	Finland		35,3%
SE	Sweden		35,7%
UK	United Kingdom		50,5%
TR	Turkey	88,1%	
MK	North Macedonia	67,3%	
ME	Montenegro	94,1%	
RS	Serbia	67,7%	
AL	Albania	72,8%	
BA	Bosnia and Herzegovina	76,5%	
IS	Iceland		26,5%
XK	Territory of Kosovo	75,9%	
NO	Norway		46,9%
CH	Switzerland		8,8%

CAPI : Computer-Assisted Personal interviewing

CAWI : Computer-Assisted Web interviewing

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Margins of error**

Readers are reminded that survey results are estimations, the accuracy of which - everything being equal - rests on the sample size and on the observed percentage. With samples of about 1,000 interviews, the real percentages vary within the following confidence limits:

Statistical Margins due to the sampling process  
(at the 95% level of confidence)

*various sample sizes are in rows*

*various observed results are in columns*

	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	
N=50	6,0	8,3	9,9	11,1	12,0	12,7	13,2	13,6	13,8	13,9	N=50
N=500	1,9	2,6	3,1	3,5	3,8	4,0	4,2	4,3	4,4	4,4	N=500
<b>N=1000</b>	<b>1,4</b>	<b>1,9</b>	<b>2,2</b>	<b>2,5</b>	<b>2,7</b>	<b>2,8</b>	<b>3,0</b>	<b>3,0</b>	<b>3,1</b>	<b>3,1</b>	<b>N=1000</b>
N=1500	1,1	1,5	1,8	2,0	2,2	2,3	2,4	2,5	2,5	2,5	N=1500
N=2000	1,0	1,3	1,6	1,8	1,9	2,0	2,1	2,1	2,2	2,2	N=2000
N=3000	0,8	1,1	1,3	1,4	1,5	1,6	1,7	1,8	1,8	1,8	N=3000
N=4000	0,7	0,9	1,1	1,2	1,3	1,4	1,5	1,5	1,5	1,5	N=4000
N=5000	0,6	0,8	1,0	1,1	1,2	1,3	1,3	1,4	1,4	1,4	N=5000
N=6000	0,6	0,8	0,9	1,0	1,1	1,2	1,2	1,2	1,3	1,3	N=6000
N=7000	0,5	0,7	0,8	0,9	1,0	1,1	1,1	1,1	1,2	1,2	N=7000
N=7500	0,5	0,7	0,8	0,9	1,0	1,0	1,1	1,1	1,1	1,1	N=7500
N=8000	0,5	0,7	0,8	0,9	0,9	1,0	1,0	1,1	1,1	1,1	N=8000
N=9000	0,5	0,6	0,7	0,8	0,9	0,9	1,0	1,0	1,0	1,0	N=9000
N=10000	0,4	0,6	0,7	0,8	0,8	0,9	0,9	1,0	1,0	1,0	N=10000
N=11000	0,4	0,6	0,7	0,7	0,8	0,9	0,9	0,9	0,9	0,9	N=11000
N=12000	0,4	0,5	0,6	0,7	0,8	0,8	0,9	0,9	0,9	0,9	N=12000
N=13000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,9	0,9	N=13000
N=14000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,8	0,8	N=14000
N=15000	0,3	0,5	0,6	0,6	0,7	0,7	0,8	0,8	0,8	0,8	N=15000
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Questionnaire**

**Q1 In your opinion, which of the following are the most influential in determining the status of a country or group of countries in the world?**

(READ OUT – ROTATE – MAX. 2 ANSWERS)

- Military and defence capabilities 1,
- Export of cultural works (films, novels, language, etc.) 2,
- Scientific and technological advancement 3,
- Economic strength 4,
- Availability of natural resources 5,
- Living and working conditions and well-being 6,
- Social, health and welfare services 7,
- Protection of the environment 8,
- Rule of law 9,
- Other (SPONTANEOUS) 10
- Don't know 11

NEW

**Q2 In everyday life, we have to deal with many different issues, where we feel more or less interested. For each of the following, please indicate whether you are...**

(READ OUT – ROTATE - ONE ANSWER PER LINE)

		Very interested	Moderately interested	Not at all interested	DK
1	New medical discoveries	1	2	3	4
2	New scientific discoveries and technological developments	1	2	3	4
3	Sports news	1	2	3	4
4	Culture and arts	1	2	3	4
5	Politics	1	2	3	4
6	Environmental problems including climate change (M)	1	2	3	4

EB 73.1 QC1

**of the following, please indicate whether you are... (M)**

(READ OUT – SAME ORDER AS Q2 - ONE ANSWER PER LINE)

		Very well informed	Moderately well-informed	Poorly informed	DK
1	New medical discoveries	1	2	3	4
2	New scientific discoveries and technological developments	1	2	3	4
3	Sports news	1	2	3	4
4	Culture and arts	1	2	3	4
5	Politics	1	2	3	4
6	Environmental problems including climate change (M)	1	2	3	4

EB73.1 QC2

**Q4. Of the following list of sources of information about developments in science and technology, please choose the two main sources that you use (watch, read, or listen) the most**

(READ OUT – ROTATE – MAX. 2 ANSWERS)

**And now, please choose the source that you use the least.**

- (SHOW SCREEN – READ OUT – ONE ANSWER – FOR Q4b PRESENT ONLY THE ITEMS NOT SELECTED IN Q4A—IF RESPONDENT ANSWERED ITEM 10 AT Q4a THEN SKIP Q4b)
- Television, on a TV set or via the internet 1,
  - Newspapers, either online or in print 2,
  - Online encyclopaedias e.g. Wikipedia 3,
  - Magazines, either online or in print 4,
  - Radio, including podcasts 5,
  - Books, either in print or e-books 6,
  - Online social networks and blogs (e.g. video hosting websites) 7,
  - Scientific journals, either online or in print 8,
  - Other (SPONTANEOUS) 9,
  - You do not look for information about developments in science and technology (SPONTANEOUS) 10
  - DK 11

NEW based on EB79.2 QD4

**Q3 In everyday life, we have to deal with many different issues, where we feel more or less informed. For each**

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q5 Among the following categories of people and organisations, which are the best qualified to explain the impact of scientific and technological developments on society?**  
 (READ OUT – ROTATE – MAX. 3 ANSWERS)

- Scientists working at a university or government-funded research organisation 1,
- Scientists working in an industrial or privately funded research organisation 2,
- Journalists 3,
- Politicians 4,
- Consumer organisations 5,
- Environmental protection associations 6,
- Industry and private companies 7,
- People active on online social networks and bloggers 8,
- Religious leaders or representatives 9,
- The [NATIONALITY] government 10,
- The military 11,
- General practitioners and specialist doctors 12,
- Writers and intellectuals 13,
- Family and friends 14,
- The European Union 15,
- Other (SPONTANEOUS) 16,
- None (SPONTANEOUS) 17
- DK 18

NEW based on Trend 79.2 QD7

**Q6 Do you think that the overall influence of science and technology on society is...? (M)**  
 (READ OUT — ONE ANSWER ONLY)

- Very positive 1
- Fairly positive 2
- Fairly negative 3
- Very negative 4
- DK 5

Modified trend EB79.2 QD5

**Q7 What level of public involvement do you think is appropriate when it comes to decisions about science and technology?**  
 (READ OUT — ONE ANSWER ONLY)

- The public does not need to be involved in decisions about science and technology 1
- Decisions about science and technology should be made by scientists, engineers and politicians, but the public should always be informed 2
- The public should be consulted and public opinion should be seriously considered when making decisions about science and technology 3
- Public opinion should be the main concern when making decisions about science and technology 4
- Other (SPONTANEOUS) 5
- DK 6

NEW based on Trend 73.1 QC4

**negative or no effect on our way of life in the next 20 years? (M)**

(READ OUT – ROTATE - ONE ANSWER PER LINE)

		Very positive effect	Fairly positive effect	Fairly negative effect	Very negative effect	No effect	DK
1	Solar energy	1	2	3	4	5	6
2	Wind energy	1	2	3	4	5	6
3	Information and communication Technology (N)	1	2	3	4	5	6
4	Brain and cognitive enhancement (N)	1	2	3	4	5	6
5	Vaccines and combating infectious diseases (N)	1	2	3	4	5	6
6	Biotechnology and genetic engineering	1	2	3	4	5	6
7	Space exploration	1	2	3	4	5	6
8	Nanotechnology	1	2	3	4	5	6
9	Nuclear energy for energy production (M)	1	2	3	4	5	6
10	Artificial Intelligence (N)	1	2	3	4	5	6

Modified Trend 63.1 QB13

**Q8a The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a**



**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q8b In the coming years, which of the following areas do you think will be affected most by research and innovation?**

(READ OUT – ROTATE--ITEMS 1 AND 2 ALWAYS ASKED ONE AFTER THE OTHER – MAX. 3 ANSWERS)

- |   |     |
|---|-----|
| Fight against climate change                  | 1,  |
| Protection of the environment                 | 2,  |
| Security of citizens                          | 3,  |
| Job creation                                  | 4,  |
| Energy supply                                 | 5,  |
| Health and medical care                       | 6,  |
| Protection of personal data                   | 7,  |
| Reduction of inequalities                     | 8,  |
| Adaptation of society to an ageing population | 9,  |
| Availability and quality of food              | 10, |
| Transport and transport infrastructure        | 11, |
| Education and skills                          | 12, |
| Quality of housing                            | 13, |
| Other (SPONTANEOUS)                           | 14, |
| DK  | 15  |

1QU  
NEW

**Q9 The following are some statements that people have made about science or technology. For each statement, please indicate to what extent you agree or disagree.**

(READ OUT – ROTATE - ONE ANSWER PER LINE)

		Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	DK
1	Science is so complicated that I do not understand much about it	1	2	3	4	5	6
2	In my daily life, it is not important to know about science	1	2	3	4	5	6
3	Scientists spend sufficient time meeting people like me to explain their work	1	2	3	4	5	6
4	I would like to learn more about scientific developments in places like town halls, museums and libraries	1	2	3	4	5	6
5	The results of publicly funded research, such as scientific articles and data, should be made available online free of charge	1	2	3	4	5	6
6	Young people's interest in science is essential for our future prosperity	1	2	3	4	5	6
7	Science and technology can sort out any problem	1	2	3	4	5	6

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

8	There should be no limit to what science is allowed to investigate	1	2	3	4	5	6
9	New inventions will always be found to counteract any harmful consequences of scientific and technological development	1	2	3	4	5	6

NEW with trend statements from 63.1, 73.1, 79.2

**Q10 The following are some statements that people have made about science and technology. For each statement, please indicate to what extent you agree or disagree.**

(READ OUT – ROTATE - ONE ANSWER PER LINE)

		Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	DK
1a	(SPLIT A) Science and technology make our lives easier, healthier and more comfortable	1	2	3	4	5	6
1b	(SPLIT B) Science and technology make our lives healthier	1	2	3	4	5	6
2	Science prepares the younger generation to act as well-informed citizens	1	2	3	4	5	6
3	Thanks to scientific and technological advances, the Earth's natural resources will be inexhaustible	1	2	3	4	5	6
4	Thanks to science and technology, there will be more opportunities for future generations	1	2	3	4	5	6
5	Artificial intelligence and automation will create more jobs than they will eliminate	1	2	3	4	5	6
6	We depend too much on science and not enough on faith	1	2	3	4	5	6
7	The applications of science and technology can threaten human rights	1	2	3	4	5	6
8	Science makes our ways of life change too fast	1	2	3	4	5	6
9	Because of their knowledge, scientists have a power that makes them dangerous	1	2	3	4	5	6

Trend 63.1, 73.1, 79.2 QD9

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q11 To what extent do you agree with the following statements regarding scientists today? (M)**  
 (READ OUT – ROTATE – ONE ANSWER PER LINE)

		Totally agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Totally disagree	DK
1	We can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry Trend 73.1	1	2	3	4	5	6
2	Scientists only look at very specific issues and do not consider problems from a wider perspective (M) Trend 73.1	1	2	3	4	5	6
3	Nowadays, the problems we are facing are so complex that scientists are no longer able to understand them Trend 73.1	1	2	3	4	5	6
4a	(split A) Scientists should not intervene in political debate when decisions ignore scientific evidence (N)	1	2	3	4	5	6
4b	(Split B) Scientists should intervene in political debate to ensure that decisions take into account scientific evidence (N)	1	2	3	4	5	6
5	Scientists should be held accountable for the misuse of their discoveries by other people. (M) Trend 63.1	1	2	3	4	5	6

Trend 63.1, 73.1 (QC8)

**Q12 The following is a list of characteristics that can be associated with scientists today. For each characteristic, indicate if you think it describes scientists well or describes them badly (N)**  
 (READ OUT – ROTATE – ONE ANSWER PER LINE)

		Describes well	Describes badly	DK
1	Reliable	1	2	3
2	Collaborative	1	2	3
3	Narrow minded	1	2	3
4	Bad at communicating	1	2	3
5	Honest	1	2	3
6	Arrogant	1	2	3
7	Altruistic	1	2	3
8	Immoral	1	2	3
9	Intelligent	1	2	3
10	Know best what is good for people	1	2	3

NEW

**Q12 Please choose the three qualities that you think scientists should have: (N)**  
 (READ OUT – ROTATE – MAX. 3 ANSWERS)

- Reliability 1,
- Ability to work together 2,
- Open mindedness 3,
- Communication skills 4,
- Honesty 5,
- Modesty 6,
- Altruism 7,
- Morality 8,
- Intelligence 9,
- Knowledge of what is good for people 10,
- Other (SPONTANEOUS) 11,
- Don't know 12

NEW

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q13 You will be shown a series of statement sets. For each set, which statement comes closest to your point of view?**

(READ OUT – ROTATE)

Q13 a Decisions about science and technology should be based mainly on the advice of experts 1  
 Decisions about science and technology should be based mainly on what the majority of people in a country think 2  
 DK 3

Q13 b Science and technology should be tightly regulated by the government 1  
 Science and technology should be allowed to operate freely in the marketplace like a business 2  
 DK 3

Q13 c Decisions about science and technology should be based primarily on the moral and ethical issues concerned 1  
 Decisions about science and technology should be based primarily on the potential to make new scientific discoveries and develop new technologies 2  
 DK 3

Q13 d The government should take responsibility to ensure that new technologies benefit everyone 1  
 It is up to people themselves to seek out the benefits of new technologies (M) 2  
 DK 3  
 TREND 73.1

Q13 e The government should make private companies tackle climate change 1  
 We should leave it to private companies to decide whether to tackle climate change 2  
 DK 3

Q13 f We should co-operate enthusiastically with the rest of the world and not isolate ourselves 1  
 Our lives are threatened by organised crime and terrorism, from which we urgently need to protect ourselves 2  
 DK 3

NEW BASED ON 73.1 (EXCEPT Q12D, MODIFIED TREND)

**Q14 And now, a few questions on how you engage with science and technology issues.**

**Do you: (M)**

(READ OUT – ROTATE - ONE ANSWER PER LINE)

		Yes, regularly	Yes, occasionally	Hardly ever	No, never	DK
1	Talk about science and technology-related issues with family or friends (N)	1	2	3	4	5
2	Watch documentaries, or read science and technology-related publications, magazines or books (N)	1	2	3	4	5
3	Visit science and technology museums (N)	1	2	3	4	5
4	Study science and technology-related issues in your free time, for instance in a face-to-face or online course (N)	1	2	3	4	5
5	Sign petitions or join demonstrations on science and technology matters such as nuclear power, biotechnology, the environment or climate change (M)	1	2	3	4	5
6	Attend public meetings or debates about science and technology	1	2	3	4	5
7	Take part in the activities of a non-governmental organisation dealing with science and technology related issues	1	2	3	4	5
8	Contact public authorities or political leaders about science and technology-related issues (N)	1	2	3	4	5
9	Provide personal data for scientific research (N)	1	2	3	4	5
10	Take part in clinical trials (N)	1	2	3	4	5

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

11	Lend your computer's processing power to contribute to research on complex scientific questions (N)	1	2	3	4	5
12	Actively take part in scientific projects by developing research questions, collecting data, discussing the findings with others, etc. (N)	1	2	3	4	5

Trend 73.1

**Q15 Thinking now about the future, would you consider increasing your engagement with science and technology by doing any of the following things? Please select all that apply.**

(READ OUT – ROTATE – MULTIPLE ANSWERS POSSIBLE)

- Talking about science or technology-related issues with family or friends 1,
- Watching documentaries, or read science and technology-related publications, magazines or books 2,
- Visiting science or technology museums 3,
- Studying science or technology-related issues in your free time, for instance on a face-to-face or online course 4,
- Signing petitions or joining demonstrations on science and technology matters such as nuclear power, biotechnology, the environment or climate change 5,
- Attending public meetings or debates about science and technology 6,
- Taking part in the activities of a non-governmental organisation dealing with science and technology-related issues 7,
- Contacting public authorities or political leaders about science and technology-related issues 8,
- Providing personal data for scientific research 9,
- Taking part in clinical trials (N) 10,
- Lending your computer's processing power to contribute to the research on complex scientific questions 11,
- Actively taking part in scientific projects by developing research questions, collecting data, discussing the findings with others, etc. (N) 12,
- Other (SPONTANEOUS) 13,
- None (SPONTANEOUS) 14,
- DK 15

NEW

**Q16 Sometimes people find it difficult to engage with science and technology. Which of the following, if any, are the main barriers for you?**

(READ OUT – ROTATE – MULTIPLE ANSWERS POSSIBLE)

- Lack of time 1,
- Lack of financial resources 2,
- Lack of interest 3,
- Lack of information on activities or events related to science and technology 4,
- Lack of knowledge in the field of science and technology 5,
- Lack or poor quality of activities or events related to science and technology in the area where you live 6,
- Feeling that you would not be welcomed or that it is not something for you 7,
- Privacy concerns, e.g. fear of personal data misuse 8,
- Other (SPONTANEOUS) 9,
- None (SPONTANEOUS) 10
- DK 11

NEW

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q17 How strongly do you agree or disagree with each of the following statements? (N)**

(READ OUT – ROTATE – ONE ANSWER PER LINE)

		Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	DK
1	Science and technology do not really benefit people like you	1	2	3	4	5	6
2	Science and technology could be used to improve everyone's lives, but in practice they mostly improve the lives of people who are already better off	1	2	3	4	5	6
3	Science and technology could be used to improve living conditions in less developed countries, but in practice they mostly improve living conditions in well-off countries	1	2	3	4	5	6
4	Science and technology could be used to help improve the environment and tackle climate change, but in practice they mostly help companies make money	1	2	3	4	5	6
5	Science and technology pay sufficient attention to differences between women's and men's needs	1	2	3	4	5	6
6	Science and technology should	1	2	3	4	5	6

	consider the needs of all groups of people when developing new solutions and products						
7	Involving non-scientists in research and technological development ensures that science and technology respond to the needs, values and expectations of society	1	2	3	4	5	6
8	We have no option but to trust those governing science and technology	1	2	3	4	5	6

NEW

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**Q18 How strongly do you agree or disagree with each of the following statements? (N)**

(READ OUT – ROTATE – ITEM 1 ALWAYS ASKED IN FIRST PLACE – ONE ANSWER PER LINE)

		Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	DK
1	Overall, promoting gender equality is important for you personally	1	2	3	4	5	6
2	Gender equality in the science and technology workforce would improve the outcomes of science and technology	1	2	3	4	5	6
3	Gender equality in the science and technology workforce would improve business profits and the economy	1	2	3	4	5	6
4	Gender equality in the science and technology workforce would help ensure we live in a fairer and more equal society	1	2	3	4	5	6

NEW

**Q19 Do you think researchers in the following countries are ahead, behind, or at the same level as researchers in the European Union on average, in terms of making new scientific discoveries?**

(READ OUT – ROTATE – ONE ANSWER PER LINE)

		Ahead of researchers in the EU on average	Behind researchers in the EU on average	At the same level as researcher in the EU on average	DK
1	The United States	1	2	3	4
2	China	1	2	3	4
3	Japan	1	2	3	4
4	South Korea	1	2	3	4
5	India	1	2	3	4
6	[OUR COUNTRY]	1	2	3	4

NEW

**Q20 For each of the following statements, please indicate whether you believe them to be true or false. If you don't know, you can indicate so. (M)**

(READ OUT – ROTATE – ONE ANSWER PER LINE)

		True	False	DK
1	The earliest humans lived at the same time as the dinosaurs	1	2	3
2	The continents on which we live have been moving for millions of years and will continue to move in the future	1	2	3
3	Antibiotics kill viruses as well as bacteria	1	2	3
4	The oxygen we breathe comes from plants	1	2	3
5	Lasers work by focusing sound waves	1	2	3
6	The world's human population is currently more than 10 billion (N)	1	2	3
7	The methods used by the natural sciences and the social sciences are equally scientific (N)	1	2	3
8	Human beings, as we know them today, developed from earlier species of animals (N)	1	2	3
9	Climate change is for the most part caused by natural cycles rather than human activities (N)	1	2	3
10	The cure for cancer exists but is hidden from the public by commercial interests (N)	1	2	3
11	Viruses have been produced in government laboratories to control our freedom (N)	1	2	3

Trend 63.1 QA10

**Special Eurobarometer 516**  
**European citizen's knowledge and attitudes towards science and technology**

**D90.1 On a scale of 1 to 10, how religious or spiritual do you consider yourself? 1 means that you are not at all religious or spiritual, 10 that you are very strongly religious or spiritual. The remaining numbers indicate something between these two positions.**

(READ OUT — ONE ANSWER ONLY)

Not at all religious or spiritual	1
	2
	3
	4
	5
	6
	7
	8
	9
Very strongly religious or spiritual	10
Refusal (SPONTANEOUS)	11
DK	12

NEW

**D90 .2 Do you consider yourself to be...**

(ONE ANSWER ONLY)

Catholic	1
Orthodox Christian	2
Protestant	3
Other Christian	4
Jewish	5
Muslim - Shia	6
Muslim – Sunni	7
Other Muslim	8
Sikh	9
Buddhist	10
Hindu	11
Atheist	12
Non-believer or agnostic	13
Other	14
Refusal (SPONTANEOUS)	15
DK	16

Trend 91.4 SD2

**D91 Were you or your parents born in a country other than (OUR COUNTRY)?**

(READ OUT - MULTIPLE ANSWERS POSSIBLE)

Yes, you yourself were	1
Yes, your mother was	2
Yes, your father was	3
No, neither you nor your parents were born in another country (exclusive)	5
Refusal (SPONTANEOUS)	6
DK	7

NEW

**D92 ab What is the highest level of education that has been achieved by your mother?**

(READ OUT - ONE ANSWER ONLY)

**And by your father?**

(SHOW SCREEN – READ OUT - ONE ANSWER ONLY)

Not completed primary	1
Completed primary	2
Completed secondary	3
Completed post-secondary vocational studies, or higher education to bachelor level or equivalent	4
Completed upper level of education to post-graduate or master degree or equivalent (M)	5
Completed doctoral degree or equivalent (N)	6
Refusal (SPONTANEOUS)	7
DK	8

Modified Trend 88.4

**D93 Have you or a member of your close family (parents, children or siblings) ever worked in research, science or innovative technology development?**

(READ OUT - MULTIPLE ANSWERS POSSIBLE)

Yes, you do or did in the past	1
Yes, a member of your family does or did in the past	2
No (exclusive)	3
DK	4

NEW





