



# Special Eurobarometer 460

## Summary

### Attitudes towards the impact of digitisation and automation on daily life

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Survey requested by the European Commission,  
Directorate-General for Communications Networks, Content and Technology  
and co-ordinated by the Directorate-General for Communication

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The interpretations and opinions contained in it are solely those of the authors.

Special Eurobarometer 460 – Wave EB87.1 – TNS opinion & social





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(DG COMM "Strategic Communication" Unit)

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## INTRODUCTION

Digital technology is having an increasingly pervasive impact on every aspect of economic and social life in the European Union, from the increasing use of robots and artificial intelligence, to e-health and online public services. In an increasingly digital world, it is important that citizens have the skills and confidence to make the most of these digital technologies and opportunities.

One aspect of digital technology – the use of robots and automation – has played a role in manufacturing for a number of years. Robots and artificial intelligence are increasingly being applied to other areas, such as drones for delivery, and the potential for driverless cars.

The use of robots has already revolutionised many aspects of manufacturing, and innovations here are continuing. The increasing use of robots and artificial intelligence in other aspects of work and home life is expected to have an even more profound impact on European society in the next decades. However, there are also concerns about the increasing impact of digital technologies in daily life, as well as potential future impacts of robots and artificial intelligence on jobs in particular.

This Special Eurobarometer is designed to gauge public opinion in a range of areas related to digital technologies, robots and artificial intelligence. It follows on from previous surveys in this area in 2014<sup>1</sup> and 2012<sup>2</sup>. It covers the following areas:

- The impact of digital technologies on society, the economy and quality of life.
- Citizen's self-reported level of skills to make use of digital technologies at work, for learning, and to use online public services.
- The way social network users judge the trustworthiness of stories seen on these sites.
- The use of robots at home or at work. Attitudes towards robots and artificial intelligence, including their impact on jobs, and the level of comfort citizens have with robots performing a range of tasks.
- The use of online healthcare, citizens' desire for online access to their own health and wellbeing data, and their willingness to share this with others.
- Actions Internet users have taken as a result of online privacy and security concerns.

This survey was carried out by TNS Political & Social network in the 28 Member States of the European Union between the 18<sup>th</sup> and 27<sup>th</sup> of March 2017. Some 27,901 EU citizens from different social and demographic categories were interviewed face-to-face at home and in their native language on behalf of the Directorate-General for Communications Networks, Content and Technology. The methodology used is that of Eurobarometer surveys as carried out by the Directorate-General for Communication ("Strategic Communication" Unit)<sup>3</sup>. It is the same for all countries and territories covered in the survey. A technical note concerning the interviews conducted by the member institutes of the TNS Opinion & Social network is annexed to full version of the report. It also specifies the interview methods and the confidence intervals<sup>4</sup>.

*We wish to thank the people throughout the European Union*

*who have given their time to take part in this survey.*

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

<sup>1</sup> [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_427\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_427_en.pdf)

<sup>2</sup> [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_390\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_390_en.pdf)

<sup>3</sup> <http://ec.europa.eu/commfrontoffice/publicopinion/>

<sup>4</sup> The results tables are included in the annex of the full report. It should be noted that the total of the percentages in the tables of this report may exceed 100% when a respondent has the possibility of giving several answers to the question.

## KEY FINDINGS

### **Most of respondents are positive about the impact the most recent digital technologies have had on society, the economy and their quality of life**

- Three quarters (75%) think the most recent digital technologies have a positive impact on the economy, while 67% think these technologies have a positive impact on their quality of life and 64% think these technologies have a positive impact on society

### **The majority of respondents consider themselves sufficiently skilled in the use of digital technology in a range of aspects of life and work. However, there are large differences in perceptions across countries, age groups or educational backgrounds**

- 71% agree they consider themselves sufficiently skilled in the use of digital technology in their daily lives, while 65% consider themselves sufficiently skilled in the use of digital technology to use online public services and 64% say they are sufficiently skilled to benefit from digital and online learning opportunities.
- Amongst respondents who work, 80% believe they are sufficiently skilled in the use of digital technologies to do their job.
- Amongst those who have not retired, 73% consider themselves sufficiently skilled in the use of digital technologies to do a future job if they were to find a job or to change jobs within the next twelve months.
- It is important to highlight that these results reflect self-assessment by individuals. There are large differences in perceptions related to digital skills across Europe, depending on the country, age or educational backgrounds. For instance, the longer respondents remained in education, the more likely they are to believe they are sufficiently skilled in the use of digital technologies to do their job: 90%-74% compared with 52% of those with the lowest education level.

### **Trust in online social network stories is weak and predominantly related to the reliability of the source (media brand, organisation)**

- The main criterion for considering a story on social media to be trustworthy is the fact a story comes from a reliable source (36%), followed by whether the story looks well referenced (19%) or if the respondent trusts the person who shared it (17%).
- Only 7% of respondents consider stories published on online social networks are generally trustworthy.

### **Attitudes to robots and artificial intelligence are generally positive and depend greatly on the level of information of respondents in these topics**

- More than six in ten have a positive view of robots and artificial intelligence (61%).
- The opinion on robot/AI depends strongly on the exposition to information/knowledge. Respondents who have heard, read or seen something about artificial intelligence in the last 12 months are more likely to have a positive view of artificial intelligence and robots (75% vs. 49% who have not).
- More than eight in ten respondents agree robots are necessary as they can do jobs that are too hard or too dangerous for people (84%), and 68% agree robots and artificial intelligence are a good thing for society because they help people do their jobs or carry out daily tasks at home.

**However, respondents express widespread concerns that the use of robots and artificial intelligence leads to job losses and consider that these technologies need careful management**

- Almost nine in ten respondents agree robots and artificial intelligence are technologies that require careful management (88%).
- Almost three quarters agree that due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created (74%), and almost as many agree robots and artificial intelligence steal people's jobs (72%).
- More than four in ten respondents who are currently working think their current job could at least partly be done by a robot or artificial intelligence (44%).

**A minority of respondents are comfortable with robots performing a range of tasks**

- Although the majority of respondents have not used a robot at home or at work (85%), one third of them say they would be comfortable having a robot assist them at work (35%). This is a decline of 12 percentage points since 2014. More than one third are also comfortable with receiving goods delivered by a drone or a robot (35%).
- More than one quarter of respondents are comfortable with having a robot to provide them services and companionship when infirm or elderly (26%, -4 pp since 2014) or with having a medical operation performed on them by a robot (26%, +2 pp).
- Less than a quarter of respondents (22%) would be comfortable being driven in a driverless car in traffic.

**Respondents are much more willing to share their health and wellbeing data with doctors and healthcare professionals than with public authorities or public sector companies or with private sector companies – even if anonymised and for research purposes.**

- In the last 12 months, less than one in five respondents have used health and care services provided online (18%).
- Over half of all respondents would like online access to their medical and health records (52%).
- Almost two thirds would be willing to give their health and personal wellbeing data to their doctor or health care professional (65%).
- More than one in five respondents would be willing to give anonymised data to public authorities or public sector companies for medical research purposes (21%), or to private sector companies for the same reason (14%). One in twenty (5%) would be willing to give their anonymised data to private sector companies for commercial purposes.
- Almost one quarter (23%) would not be willing to give access to their personal health and wellbeing data under any circumstances.

**Most Internet users have taken at least some action due to privacy and security concerns when using the Internet**

- Amongst Internet users, the most common actions in the last three years in response to privacy and security concerns have been installing or changed their antivirus software (45%), being less likely to give personal information on websites (39%), only using their own computer (36%), or only opening emails from people and addresses they know (35%).
- The majority say the security and privacy features of an IT product play a role in their choice: 27% say these play a great role in their choice, and they are ready to pay more for better security and privacy features, while 34% say they are not willing to pay more, although these aspects have some role in their choice.

## I. IMPACT AND USE OF DIGITAL TECHNOLOGIES

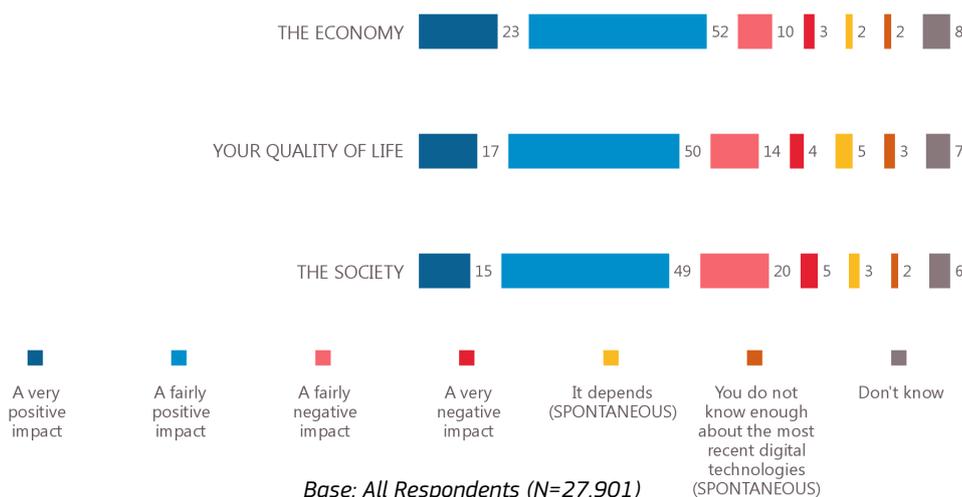
Respondents were asked about the impact of most recent digital technologies on economy, society and their quality of life<sup>5</sup>.

Across the EU, three quarters of respondents (75%) answered that the most recent digital technologies have a positive impact on the **economy**, 23% consider the impact "very positive", while 52% consider it "somewhat positive". More than one in ten 13% think the impact is negative overall, and 3% think it is "very negative".

More than two-thirds (67%) answered that these technologies have a positive impact on **their quality of life**: 17% answered "very positive", while 50% answered "somewhat positive". Almost one in five (18%) think the impact is negative overall, with 4% thinking it is "very negative".

Finally, almost two-thirds of respondents (64%) answered that the most recent digital technologies have a positive impact on **society**: 15% consider the impact "very positive", while 49% consider it "somewhat positive". One quarter think the impact is negative overall (25%), with 5% thinking it is "very negative".

QD1 In your view, what impact do the most recent digital technologies currently have on: (% - EU)

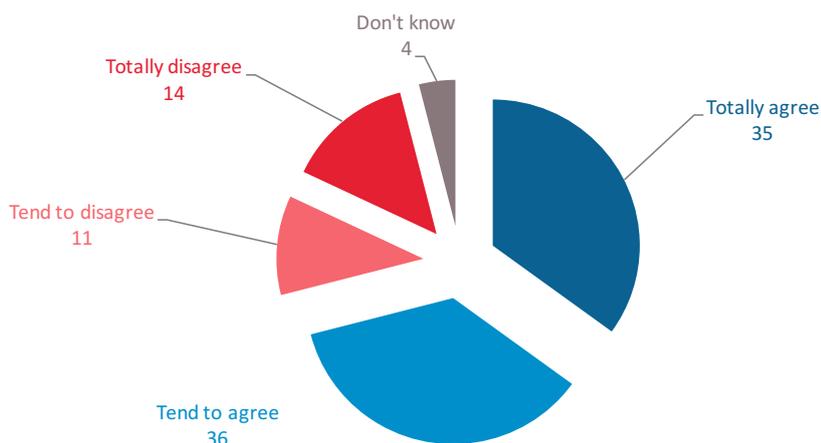


<sup>5</sup> QD1 In your view, what impact do the most recent digital technologies currently have on: The economy; The society; Your quality of life.

## II. DIGITAL SKILLS

More than seven in ten respondents (71%) consider themselves sufficiently skilled in the use of digital technology in their daily lives, with 35% "totally agreeing" and 36% "tending to agree"<sup>6</sup>. One quarter disagrees (25%), with 14% "totally disagreeing".

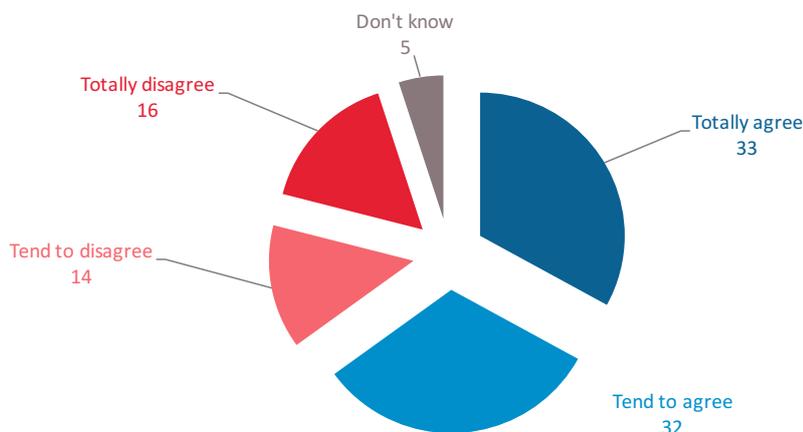
**QD4.1** To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies...  
... in your daily life (% - EU)



Base: All Respondents (N=27,901)

Almost two-thirds of respondents (65%) agree they consider themselves sufficiently skilled to use online public services, with 33% "totally agreeing" and 32% "tending to agree"<sup>7</sup>. Three in ten disagree, with 16% saying they "totally disagree".

**QD4.4** To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies...  
... to use online public services, such as filing a tax declaration or applying for a visa online (% - EU)



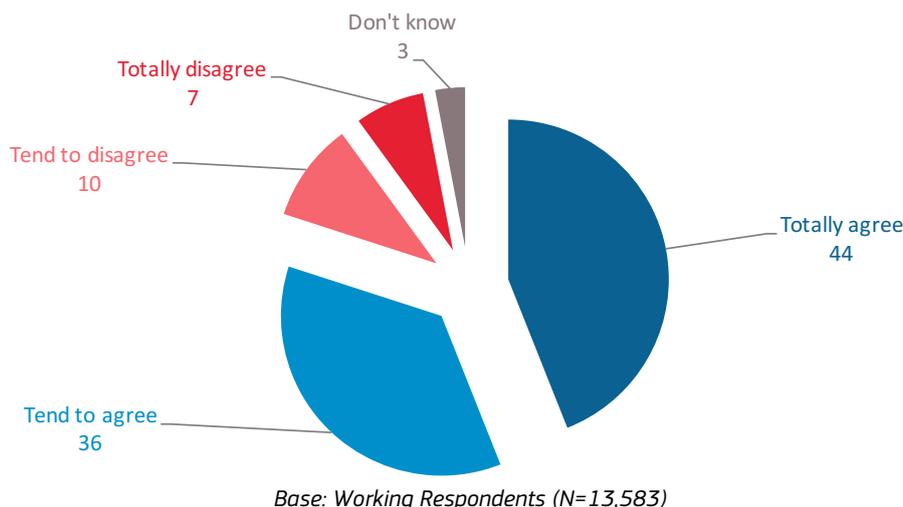
Base: All Respondents (N=27,901)

<sup>6</sup> QD4.1 To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies in your daily life

<sup>7</sup> QD4.4 To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies to use online public services

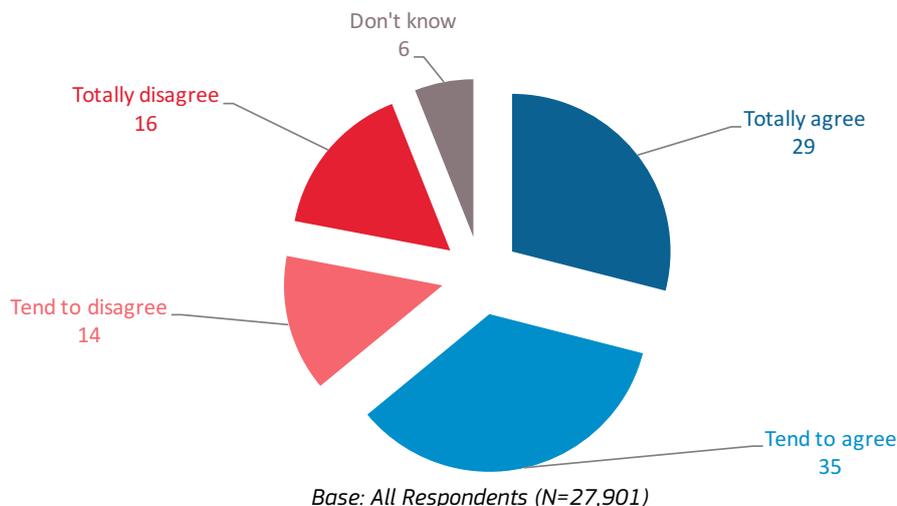
Amongst respondents who work, more than two thirds (80%) agree they are sufficiently skilled in the use of digital technologies to do their job, with 44% saying they "totally agree" and 36% that they "tend to agree"<sup>8</sup>. Fewer than one in five disagree (17%), with 7% saying they "totally disagree".

**QD4.2** To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies...  
 ... to do your job (% - EU)



Almost two-thirds of respondents (64%) agree they are sufficiently skilled in the use of digital technologies to benefit from digital and online learning opportunities, with 29% saying they "totally agree" and 35% that they "tend to agree"<sup>9</sup>. Three in ten disagree, with 16% saying they "totally disagree".

**QD4.5** To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies...  
 ... to benefit from digital and online learning opportunities (% - EU)

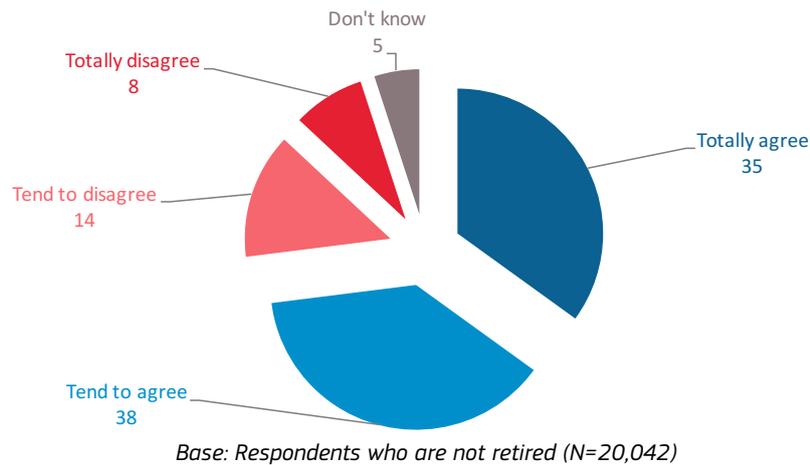


<sup>8</sup> QD4.2 To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies to do your job

<sup>9</sup> QD4.5 To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies to benefit from digital and online learning opportunities

Almost three quarters of those who are not retired agree they consider themselves sufficiently skilled in the use of digital technologies to do a future job if they were to find a job or to change jobs within the next twelve months (73%)<sup>10</sup>. More than one third "totally agrees" (35%), while 38% "tend to agree". Just over one in five disagrees (22%), with 8% "totally disagreeing".

**QD4.3** To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies...  
 ... to do a future job if you were to find a job or to change jobs within the next twelve months (% - EU)



<sup>10</sup> QD4.3 To what extent do you agree or disagree with the following statements regarding your skills in the use of digital technologies: You consider yourself to be sufficiently skilled in the use of digital technologies to do a future job if you were to find a job or to change jobs within the next twelve months

### III. ATTITUDES TOWARDS CONTENT ON ONLINE SOCIAL NETWORKS

Respondents who use social networks were asked what makes them consider a story they see on a social network to be trustworthy<sup>11</sup>.

Respondents are most likely to say that the fact that a story comes from a reliable source makes them consider it trustworthy (36%). However, almost as many (32%) say they generally do not trust stories published on online social networks. These are the two most common answers by some margin. Almost one in five say they consider a story trustworthy if it looks well-referenced (19%), while 17% say they consider it trustworthy if they trust the person who shared it.

Less than one in ten respondents say trust in a story depends on their trust in the social network where the story is published (8%). Almost as many (7%) say they generally trust stories published on social networks (7%).

**QD5** When you see or read a story published on online social networks, what makes you consider the story trustworthy? (MAX. 2 ANSWERS)  
(% - EU)



Base: Respondents who use online social networks (N=15,957)

<sup>11</sup> QD5 When you see or read a story published on online social networks, what makes you consider the story trustworthy? (MAX. 2 ANSWERS)

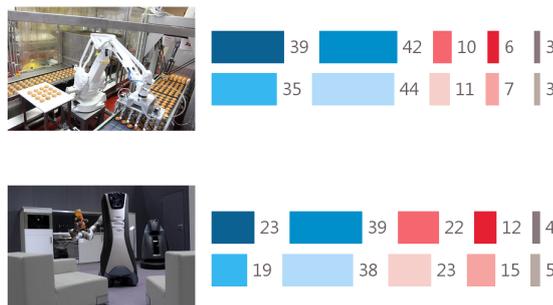
#### IV. ATTITUDES TOWARDS ROBOTICS AND ARTIFICIAL INTELLIGENCE

Respondents were shown two pictures of robots, and, for each picture, they were asked to what extent it corresponded with the idea they have of robots. The first image was of a more machine-like robot used in a factory, while the second was of a human-like robot<sup>12</sup>.

More than eight in ten respondents (81%) say the picture of the machine-like robot in a factory corresponds well to their idea of a robot, with 39% saying it corresponds "very well". Compared to 2014 respondents have remained almost stable (+2 pp) while there is no change compared to 2012. However, there has been a four-point increase in the proportion who say this image corresponds "very well" to their idea of a robot. Fewer than one in five (16%) say this image does not correspond well.

In comparison, fewer respondents say the image of a more human-like robot corresponds well to their idea of a robot (62%). This represents an increase of five points since 2014, but a decline from 2012 (-4 pp). The largest increase is recorded in the proportion who says this image corresponds "very well" to their idea of a robot (+4 pp). More than one third say this image does not correspond to their idea of a robot (34%, -4 pp since 2014).

**QD7** I'm going to show you two pictures. For each of them, please tell me to what extent it corresponds with the idea you have of robots.  
(% - EU)

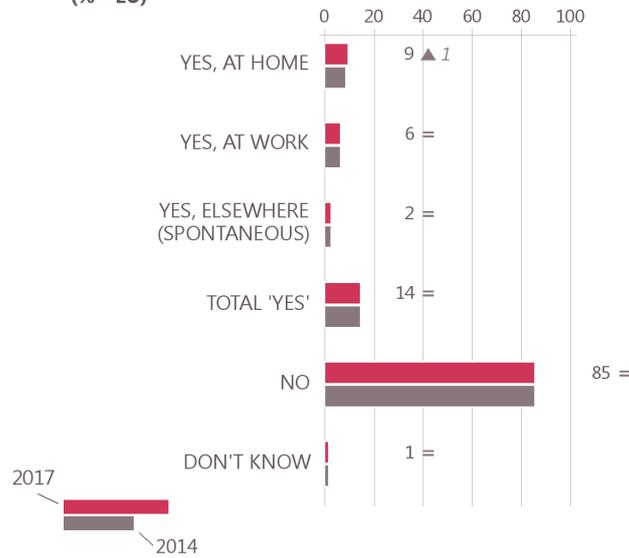


Base: All Respondents (N=27,901)

<sup>12</sup> QD7 I'm going to show you two pictures. For each of them, please tell me to what extent it corresponds with the idea you have of robots?

The majority of respondents have not used a robot at home or at work (85%), while 14% say they have – this is the same proportion as in 2014 (+ 2pp from 2012).

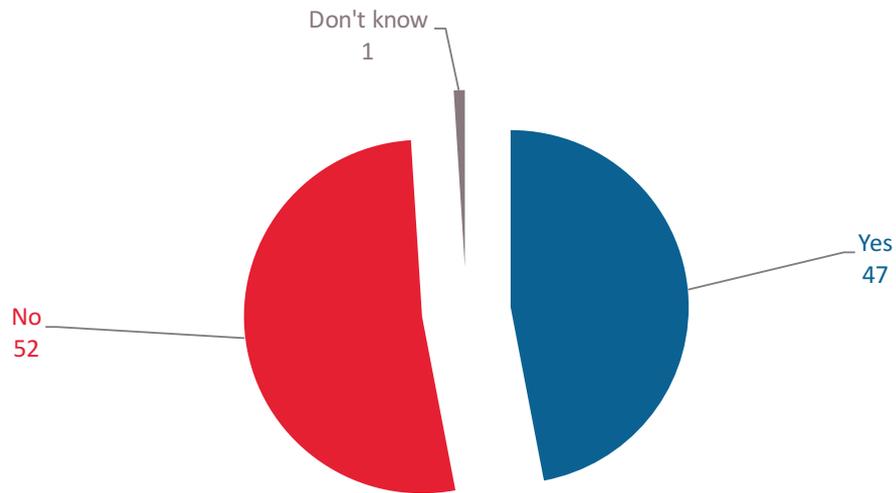
**QD8** Have you ever used or do you currently use a robot at home or at work (e.g. a robotic vacuum cleaner at home or an industrial robot at work)? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



Base: All Respondents (N=27,901)

There is a fairly even split between those who have (47%) and have not (52%) heard, read or seen something about artificial intelligence in the last 12 months<sup>13</sup>.

**QD9** In the last 12 months, have you heard, read or seen anything about artificial intelligence?  
(% - EU)

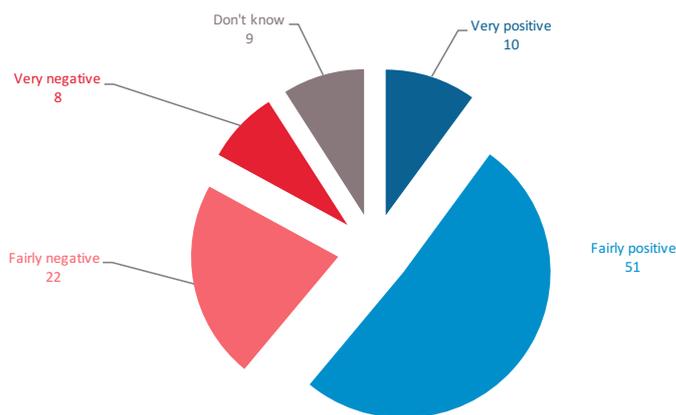


Base: All Respondents (N=27,901)

<sup>13</sup> QD9 In the last 12 months, have you heard, read or seen anything about artificial intelligence?

Just over six in ten respondents (61%) have a positive view of robots and artificial intelligence, while 30% have a negative view<sup>14</sup>. Respondents are more likely to be “fairly positive” (51%) than “very positive” (10%).

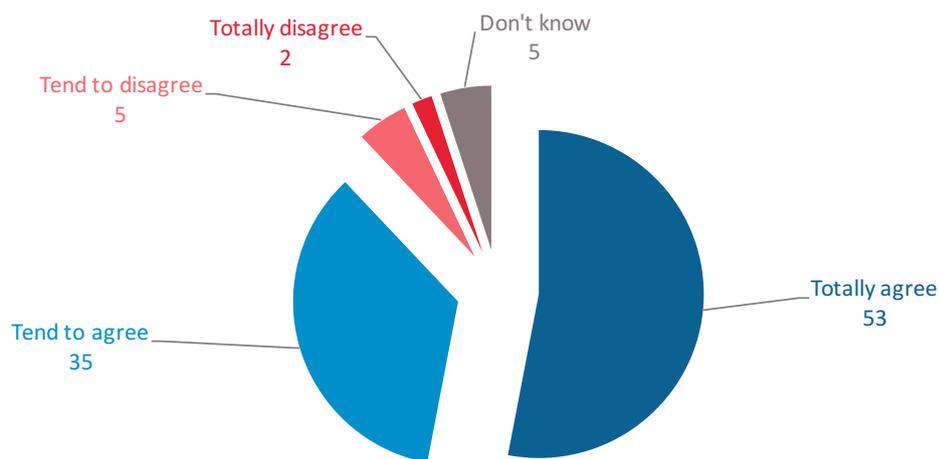
**QD10** Generally speaking, do you have a very positive, fairly positive, fairly negative or very negative view of robots and artificial intelligence?  
(% - EU)



Base: All Respondents (N=27,901)

Almost nine in ten respondents (88%) agree robots and artificial intelligence are technologies that require careful management<sup>15</sup>. More than half (53%) “totally agree”, while a further 35% “tend to agree”. Just 7% disagree.

**QD12.3** Please tell me to what extent you agree or disagree with each of the following statements.  
**Robots and artificial intelligence are technologies that require careful management**  
(% - EU)



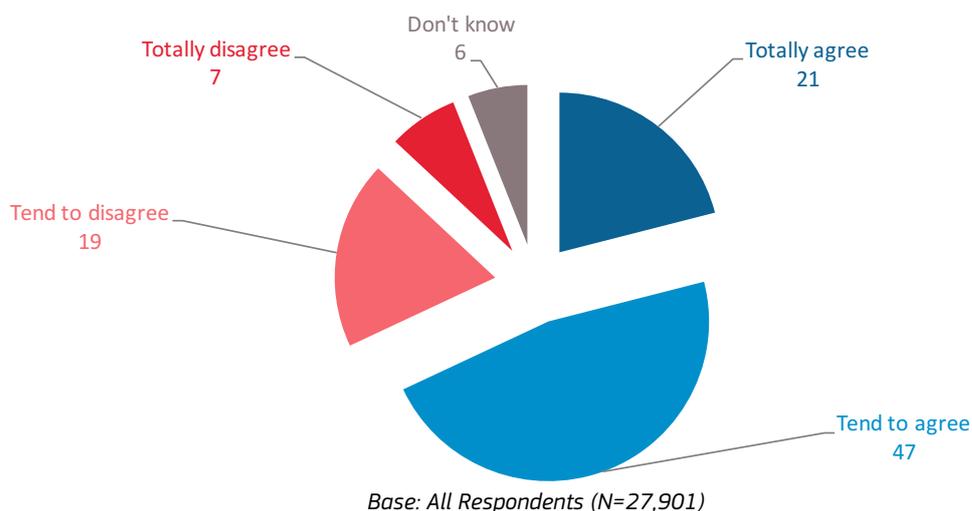
Base: All Respondents (N=27,901)

<sup>14</sup> QD10 Generally speaking, do you have a very positive, fairly positive, fairly negative or very negative view of robots and artificial intelligence?

<sup>15</sup> QD12.3 Please tell me to what extent you agree or disagree with each of the following statements: Robots and artificial intelligence are technologies that require careful management.

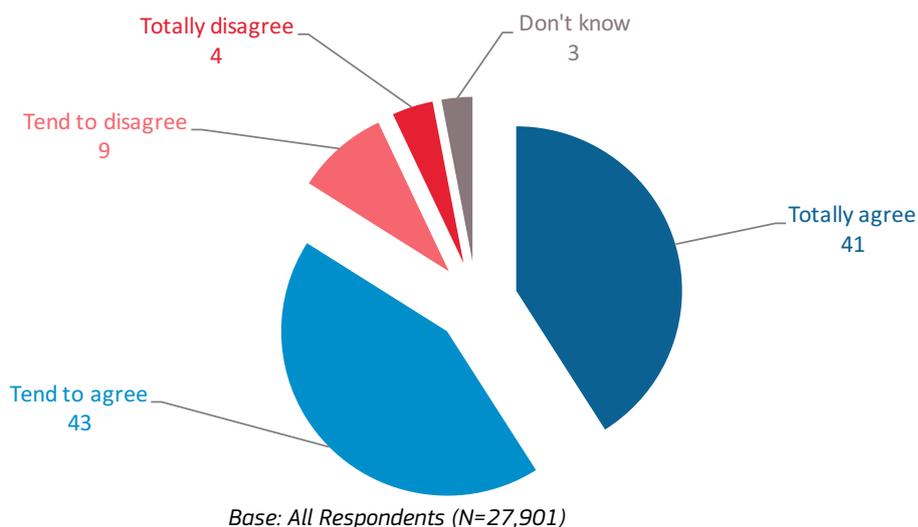
More than two thirds of respondents (68%) agree robots and artificial intelligence are a good thing for society because they help people do their jobs or carry out daily tasks at home, with 21% saying they “totally agree”. Just over one quarter disagrees (26%), with 7% “totally disagreeing”<sup>16</sup>.

**QD12.2** Please tell me to what extent you agree or disagree with each of the following statements.  
**Robots and artificial intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home (% - EU)**



More than eight in ten respondents agree robots are necessary as they can do jobs that are too hard or too dangerous for people (84%), with 41% saying they “totally agree”<sup>17</sup>. Just 13% disagree.

**QD12.4** Please tell me to what extent you agree or disagree with each of the following statements.  
**Robots are necessary as they can do jobs that are too hard or too dangerous for people (% - EU)**

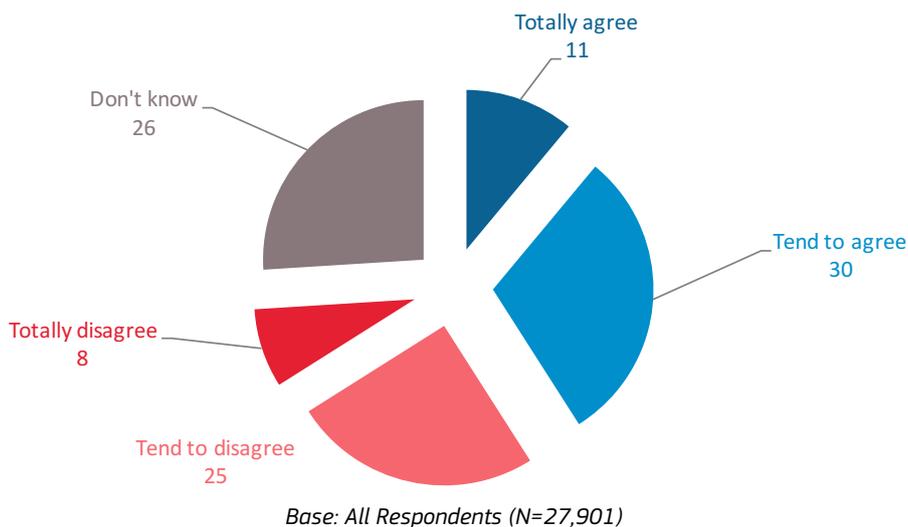


<sup>16</sup> QD12.2 Please tell me to what extent you agree or disagree with each of the following statements: Robots and artificial intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home

<sup>17</sup> QD12.4 Please tell me to what extent you agree or disagree with each of the following statements: Robots are necessary as they can do jobs that are too hard or too dangerous for people.

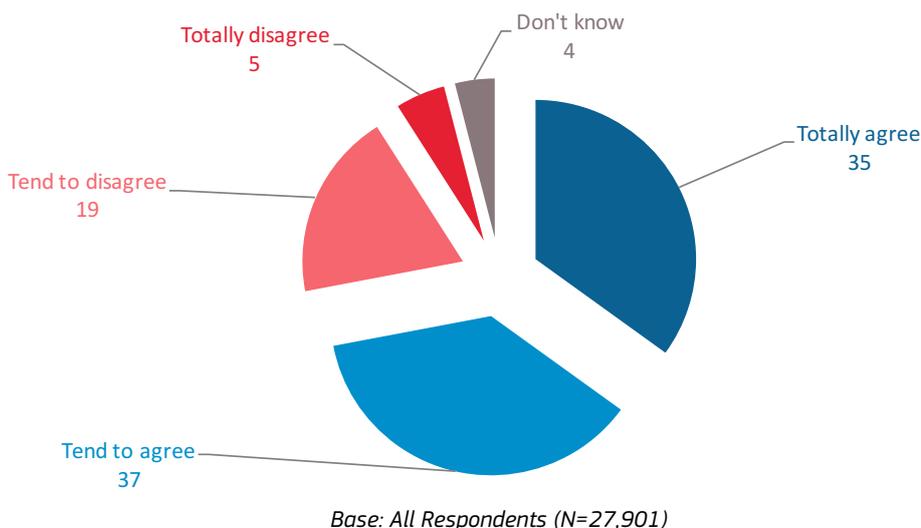
Opinions are mixed as to whether the EU is ahead of other world regions when it comes to the digital transformation of industry<sup>18</sup>. Just over four in ten agree (41%), with 11% saying they "totally agree". One third disagree (33%) - 8% "totally disagree". More than one quarter (26%) say they do not know.

**QD12.5** Please tell me to what extent you agree or disagree with each of the following statements.  
**The EU is ahead of other world regions when it comes to the digital transformation of industry (% - EU)**



Although more than six in ten respondents have a positive view of robots and artificial intelligence, an even higher proportion (72%) agree robots and artificial intelligence steal people's jobs. In fact, more than one third (35%) say they "totally agree" with this statement<sup>19</sup>. Almost one quarter disagrees (24%).

**QD12.6** Please tell me to what extent you agree or disagree with each of the following statements.  
**Robots and artificial intelligence steal peoples' jobs (% - EU)**

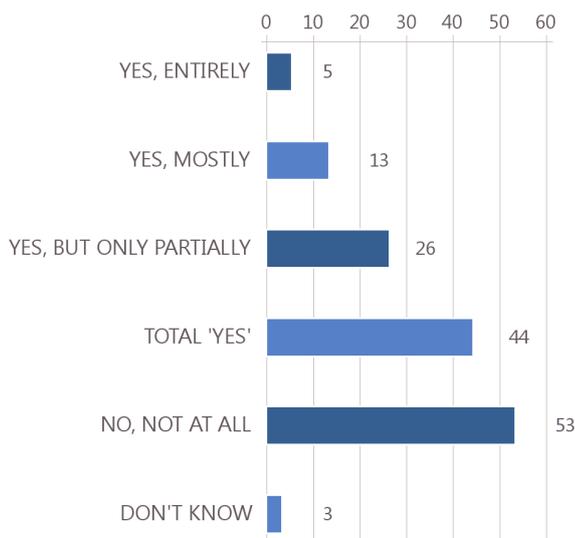


<sup>18</sup> QD12.5 Please tell me to what extent you agree or disagree with each of the following statements: The EU is ahead of other world regions when it comes to the digital transformation of industry.

<sup>19</sup> QD12.6 Please tell me to what extent you agree or disagree with each of the following statements. Robots and artificial intelligence steal peoples' jobs.

Respondents who are currently working were asked if they thought their current job could be done by a robot or artificial intelligence<sup>20</sup>. A majority (53%) say their job could not be done at all by a robot or artificial intelligence. More than four in ten think it could (44%). Just 5% think their job could be entirely done by robots or artificial intelligence, while 13% think it could mostly be done and 26% say it could be partially done.

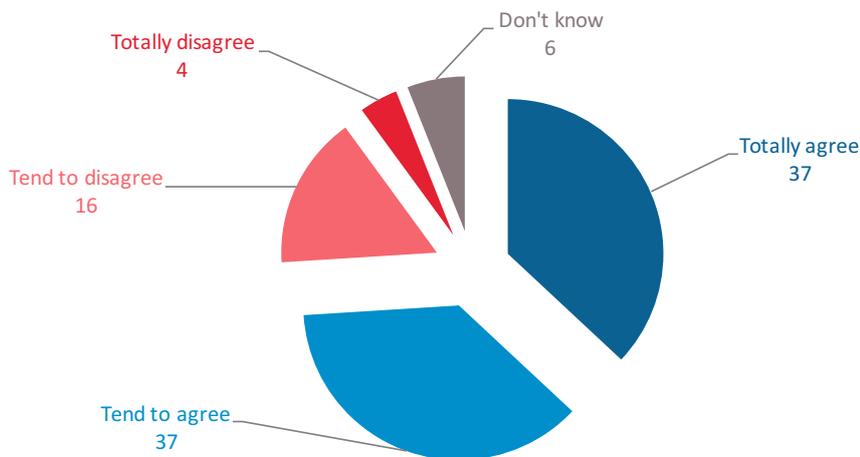
**QD11** Do you think your current job could be done by a robot or by artificial intelligence in the future? (% - EU)



Base: Working Respondents (N=13,583)

Almost three quarters of respondents (74%) agree that due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created, with 37% saying they “totally agree”<sup>21</sup>. One in five (20%) disagrees.

**QD12.1** Please tell me to what extent you agree or disagree with each of the following statements. Due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created (% - EU)



Base: All Respondents (N=27,901)

<sup>20</sup> QD11 Do you think your current job could be done by a robot or by artificial intelligence in the future?

<sup>21</sup> QD12.1 Please tell me to what extent you agree or disagree with each of the following statements: Due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created.

Respondents were asked how they would feel about a number of things being done by or with robots<sup>22</sup>.

More than one third of respondents say they would be comfortable **having a robot assist them at work** (35%) – a decline of 12 points since 2014. Just over one in five (22%) would be moderately comfortable with this (+3 pp), while 37% would be uncomfortable (+9 pp).

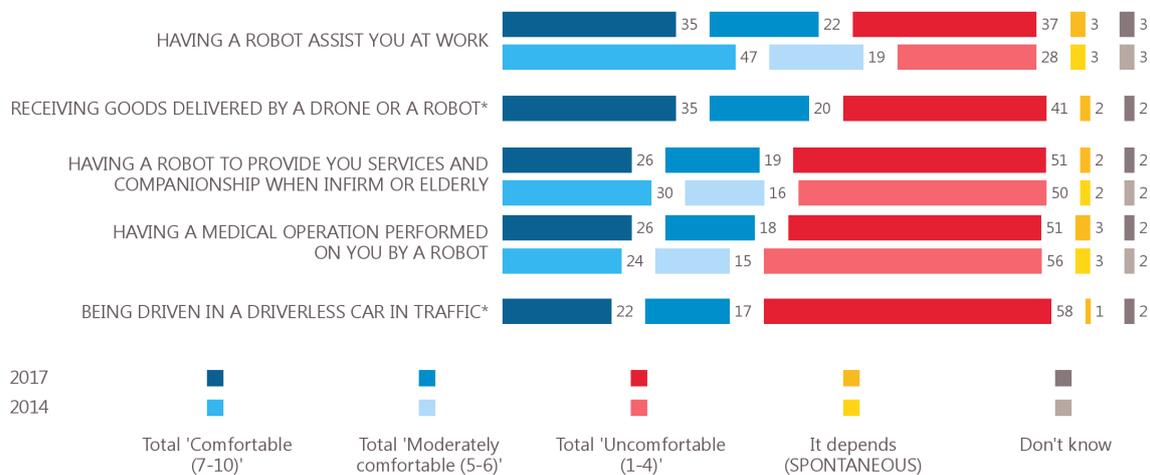
More than one third are also comfortable with **receiving goods delivered by a drone or a robot** (35%), with a further 20% moderately comfortable with this idea. However, respondents are most likely to feel uncomfortable about this (41%).

Just over one quarter of respondents are comfortable with **having a robot to provide them services and companionship when infirm or elderly** (26%), a decline of four points since 2014. Almost one in five (19%) are moderately comfortable with this idea (+3 pp since 2014), while the majority – 51% – are uncomfortable (+1 pp).

Just over one quarter of respondents say they are comfortable with **having a medical operation performed on them by a robot** (26%, +2 pp). A further 18% are moderately comfortable with this idea (+3 pp). However, respondents are most likely to be uncomfortable with this idea (51%) – although this is a decrease of five points since 2014.

Respondents are least likely to be comfortable **being driven in a driverless car in traffic** (22%), with a further 17% saying they are moderately comfortable about this. The majority, however, are uncomfortable (58%).

**QD13** Here is a list of things that could be done by or with robots. For each of them, please tell me, using a scale from 1 to 10, how you would personally feel about it. On this scale, '1' means that you would feel "totally uncomfortable" and '10' means that you would feel "totally comfortable" with this situation.  
(% - EU)

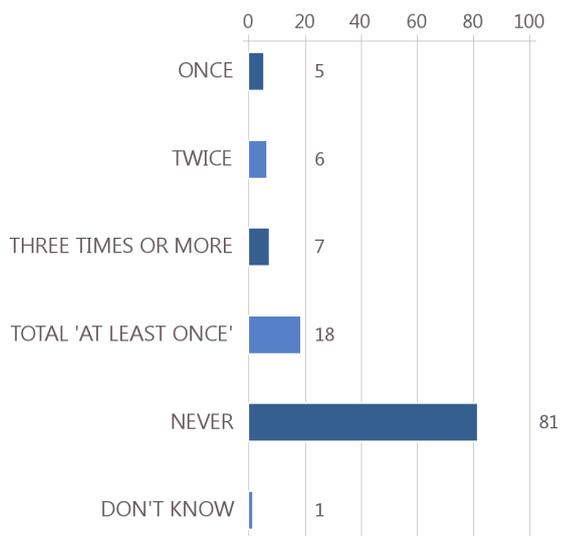


<sup>22</sup> QD13 Here is a list of things that could be done by or with robots. For each of them, please tell me, using a scale from 1 to 10, how you would personally feel about it. On this scale, '1' means that you would feel "totally uncomfortable" and '10' means that you would feel "totally comfortable" with this situation. 13.1 Having a medical operation performed on you by a robot; 13.2 Having a robot assist you at work; 13.3 Having a robot to provide you services and companionship when infirm or elderly; 13.4 Receiving goods delivered by a drone or a robot; 13.5 Being driven in a driverless car in traffic.

## V. DIGITAL HEALTH AND CARE

In the last 12 months, less than one in five respondents have used health and care services provided online (18%)<sup>23</sup>. 5% have used these "once", 6% "twice" and 7% "three times or more". The majority (81%) have "never" used these services.

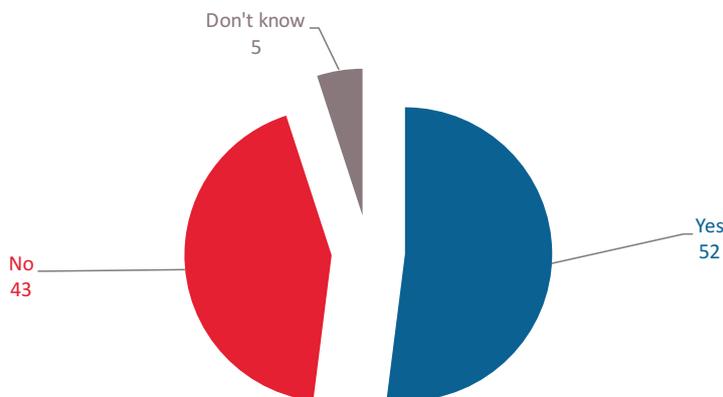
**QD16** In the last 12 months, how often have you used, if ever, health and care services provided online without having to go to the hospital or doctor's surgery (for example, by getting a prescription or a consultation online)?  
(% - EU)



Base: All Respondents (N=27,901)

Over half of all respondents would like online access to their medical and health records (52%), while 43% would not<sup>24</sup>.

**QD14** Would you like to have online access to your medical or health records (health data, prescriptions and medical records about you) allowing you to consult them at any time wherever you are?  
(% - EU)



Base: All Respondents (N=27,901)

<sup>23</sup> QD16 In the last 12 months, how often have you used, if ever, health and care services provided online without having to go to the hospital or doctor's surgery (for example, by getting a prescription or a consultation online)?

<sup>24</sup> QD14 Would you like to have online access to your medical or health records (health data, prescriptions and medical records about you) allowing you to consult them at any time wherever you are?

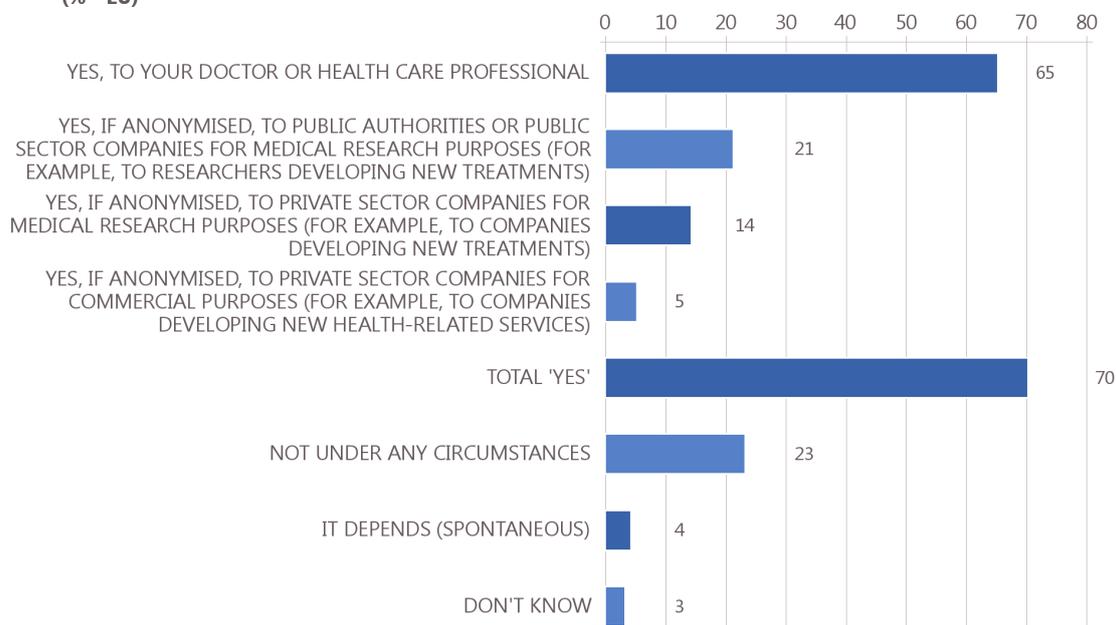
Respondents were asked about giving others access to their personal health and wellbeing data<sup>25</sup>.

Overall, seven in ten respondents (70%) would be willing to give their health and personal wellbeing data to others. They are the most likely to be willing to do this for their doctor or health care professional (65%).

More than one in five respondents would be willing to give anonymised data to public authorities or public sector companies for medical research purposes (21%), or to private sector companies for medical research purposes (14%). One in twenty (5%) would be willing to give their anonymised data to private sector companies for commercial purposes.

Almost one quarter (23%) would not be willing to give access to their personal health and wellbeing data under any circumstances.

**QD15** Would you be ready to give access to your personal health and wellbeing data (medical and care data, lifestyle, physical activity, nutrition, etc.)? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



Base: All Respondents (N=27,901)

<sup>25</sup> QD15 Would you be ready to give access to your personal health and wellbeing data (medical and care data, lifestyle, physical activity, nutrition, etc.)? (MULTIPLE ANSWERS POSSIBLE)

## VI. CYBER-SECURITY

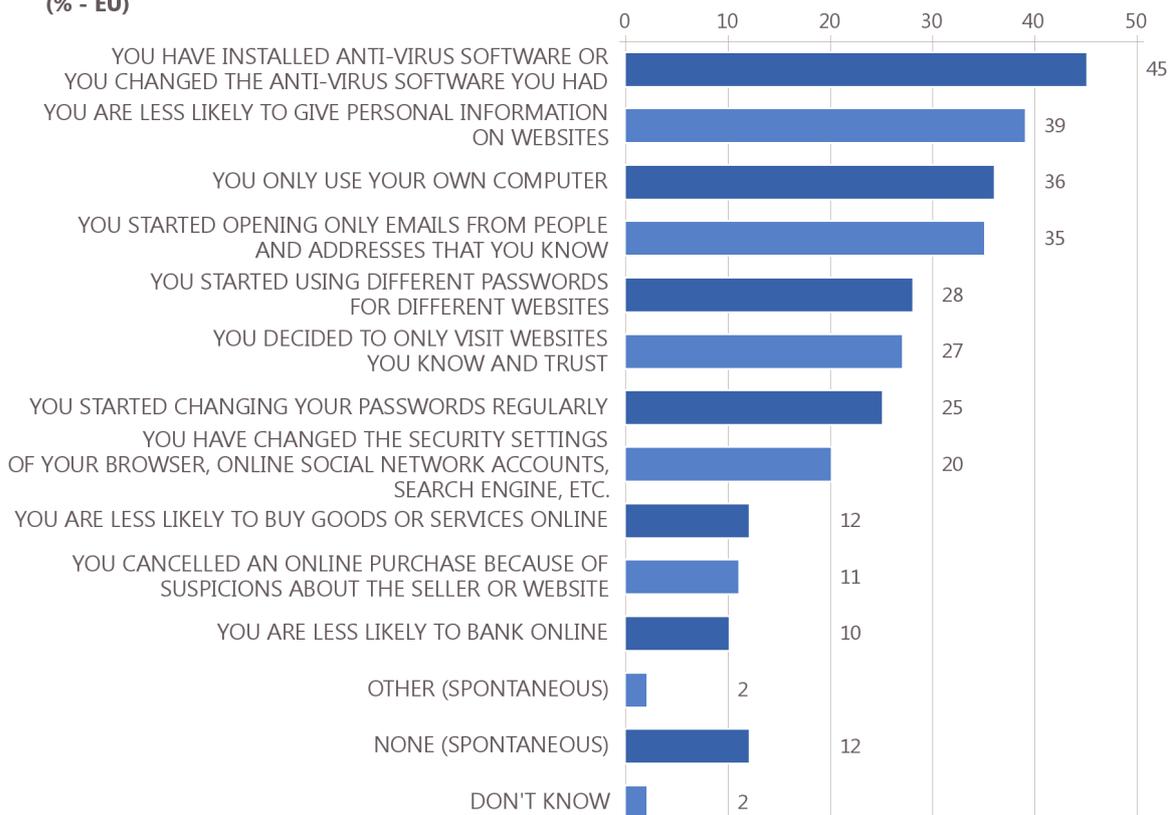
Respondents who use the Internet were asked whether they had taken a range of measures in the last three years due to privacy and security concerns when using the Internet<sup>26</sup>.

More than four in ten respondents who use the Internet have installed or changed their antivirus software in the last three years due to privacy and security issues when using the Internet (45%), while 39% say they are less likely to give personal information on websites

More than one third also say they only use their own computer (36%), while 35% have started only opening emails from people and addresses they know. At least one quarter started using different passwords for different websites (28%), decided only to visit websites they know and trust (27%), or started changing their passwords regularly (25%).

One in five has changed security settings on their browser, social network account and so on (20%). Just over one in ten are less likely to buy goods and services online (12%), or have cancelled an online purchase due to suspicions about the seller or website (11%), or say they are less likely to bank online (10%). Just over one in ten also say they have not done any of these things in the last three years (12%).

**QD17** Among the following possible actions you might have undertaken in the last three years because of security and privacy issues when using the Internet please select those that apply to you? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



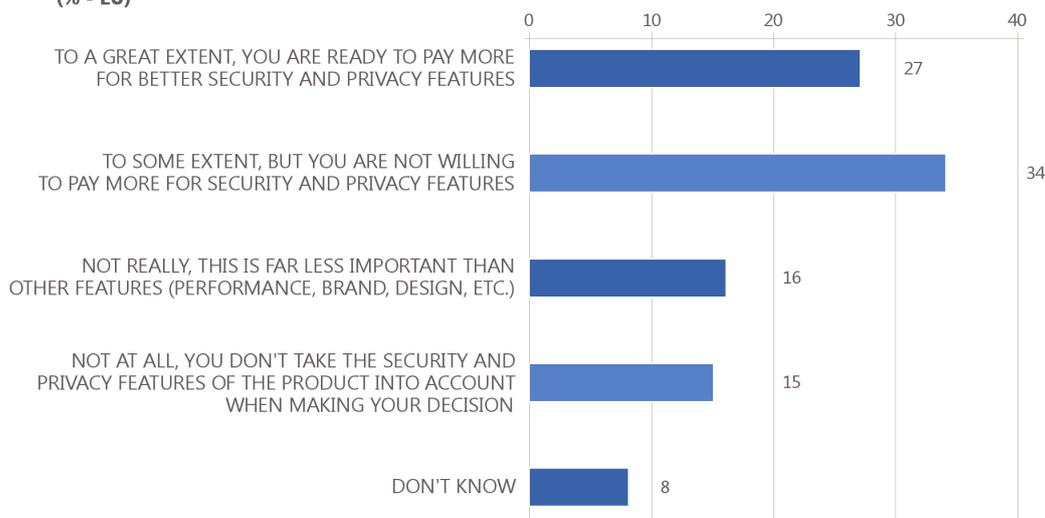
Base: Respondents who use Internet (N=22,472)

<sup>26</sup> QD17 Among the following possible actions you might have undertaken in the last three years because of security and privacy issues when using the Internet please select those that apply to you? (MULTIPLE ANSWERS POSSIBLE)

More than six in ten respondents (61%) say the security and privacy features of an IT product play some role in their choice. More than one quarter (27%) say these aspects play a great role in their choice, and they are ready to pay more for better security and privacy features. However, more than a third - 34% - say they are not willing to pay more, although these aspects have some role in their choice.

16% say these aspects do not really play a role in their choice as other aspects are more important. Finally, 15% say privacy and security features are not taken into account at all when making their decision.

**QD18** When you buy an IT product such as a computer or a smart phone, to what extent do the security and privacy features of the product play a role in your choice?  
(% - EU)



Base: Respondents who use Internet (N=22,472)

## CONCLUSION

The results of this survey show respondents are generally positive about the impact of the newest digital technologies on society, the economy and on their quality of life. The majority also feel confident they have the necessary level of skills to make use of the opportunities these technologies provide for learning, as well as to use them in current and future jobs or to navigate online public services.

Although more than eight in ten respondents have not used a robot at home or at work, over six in ten have a positive view of robots and artificial intelligence. Furthermore, respondents who have heard, read or seen something about artificial intelligence in the last 12 months are more likely to have a positive view. Robots are seen as necessary to do jobs that are too hard or dangerous for people, as well as a good thing for society as they help people do their jobs or tasks at home. However, almost nine in ten believe these technologies require careful management.

Respondents are, however, pessimistic about the impact robots and artificial intelligence have on jobs. Although a minority think their job could be done at least in part by a robot or artificial intelligence, more than seven in ten think they steal jobs, and cause more jobs to be lost than created. Respondents are also much less likely to say they would be comfortable having a robot assist them at work than they were in 2014.

There is also a limited level of comfort with robots performing a range of tasks. In particular, around one quarter would be comfortable with a robot providing services and companionship when infirm or elderly, performing a medical procedure or driving them in a driverless car in traffic. So although the general view of robots is positive, there is far less comfort with their application in specific situations.

In the cyber-realm, the majority of Internet users have taken actions in response to concerns about online privacy and security, in particular installing or changing anti-virus software, being more cautious about the personal information they give on websites and the emails they open, and by only using their own computers. Although the security and privacy features play a role in the majority of respondent's choice of IT products, not everybody is willing to pay extra for better privacy and security features.

When it comes to trust in stories on online social networks, almost one third of users say they generally do not trust these stories. For those that do trust stories on these sites, trust is most likely to be related to the source of the story, although more than one third of users of these sites have used fact checking websites at least one to assess the trustworthiness of a story.

In the realm of digital health, a small proportion have actually used online health or wellbeing services in the last 12 months, although the majority are interested in being able to access their own medical records online. Almost two thirds are willing to share their health and wellbeing data with their healthcare professional, and smaller proportions would be willing to give anonymised data to private or public organisations for research purposes. One quarter would not want to share personal health information under any circumstances

Finally, the socio-demographic analyses show consistent patterns throughout the results. Men, younger respondents, those with higher education levels, those who use the Internet daily and those with less financial stressors are generally the most likely to be positive about their digital skills and the use of robots at work and in other aspects of life. They are also more likely to have taken actions related to their online privacy and security.

When it comes to robots and artificial intelligence, use of these at home or at work is associated with more positive attitudes towards robots and artificial intelligence, and a higher degree of comfort with robots performing a range of tasks, including medical procedures.