



SPECIAL EUROBAROMETER 554

Artificial Intelligence and the future of work

EUROBAROMETER REPORT
FIELDWORK: April – May 2024



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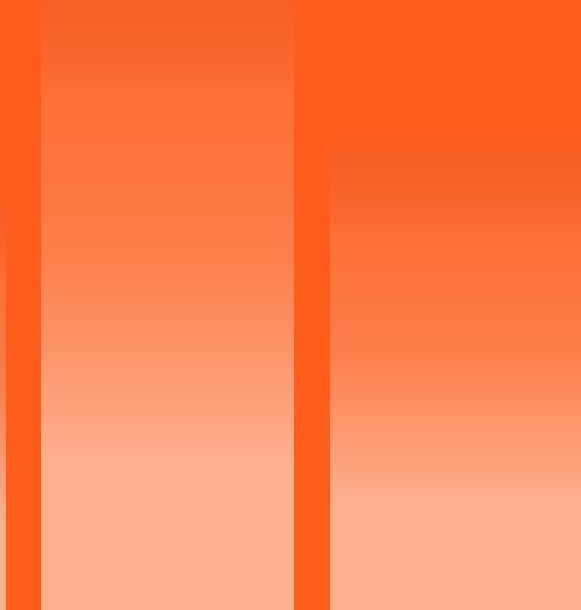
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Introduction



Artificial intelligence, or AI, refers to computer systems capable of performing tasks that typically require human intelligence.. As AI develops, it can offer benefits to citizens and businesses across Europe, and it can lead to increase in productivity and job creation. However, the rise of AI also gives rise to challenges. The stock of industrial robots in Europe has more than quadrupled in the past 25 years. Technological advancement generates increasing uncertainty. Technology may have a significant impact on the quantity of jobs available to humans, but it also transforms them, changing how jobs are performed, with implications for workers' quality of life and for productivity.

The European Commission recognised this potential early and is taking action to foster the take-up of artificial intelligence by the private and public sectors. In its Communication of April 2018 on Artificial Intelligence for Europe, the Commission outlines a number of measures and financing instruments through which it will promote this goal¹. Moreover, linking to the European Digital Strategy², in July 2020, the European Commission launched the European Skills Agenda for sustainable competitiveness, social fairness and resilience, which sets ambitious objectives for upskilling (improving existing skills) and reskilling (training in new skills) . Since then, much progress has been made in each of the 12 flagship actions identified³, including the publication in early 2022 of the updated Digital Competence Framework covering the digital competences needed for emerging technologies and AI⁴.

The accelerated digitalisation of workplaces also puts the spotlight on issues related to surveillance, the use of data, and the application of algorithmic management tools. Algorithms can be used in management functions, such as planning, organisation, command, coordination and control. The Joint Research Centre's AMPWork study finds that a relatively high proportions of workers in Spain and Germany use digital tools and are subject to digital monitoring and algorithmic management⁵. AI systems are also often applied to guide recruitment, monitor workloads, or define remuneration rates.

Addressing the challenges of algorithmic decision-making, notably the risks of biased decisions, discrimination and lack of transparency, can improve trust in AI-powered systems, promote their uptake and protect fundamental rights⁶. Proposed by the European Commission in December 2021 and provisionally agreed upon by the European Parliament

and the Council in February 2024, the Platform Work Directive will be the first EU instrument to tackle the challenges arising from the use of AI in the workplace. Once finally adopted, it will provide more transparency, fairness, human oversight, safety and accountability regarding algorithmic management on digital labour platforms by helping people better understand how tasks are allocated and prices are set. It will also enable them to contest decisions that affect working conditions if needed.

Against this backdrop, this Special Eurobarometer survey aims to gauge EU citizens' perceptions of and attitudes towards automation and AI in working life. More particularly, the study covers the following topics:

- General perceptions of the impact of digital technologies;
- Proficiency with digital technologies;
- Awareness of and experience with digital technologies, including AI, in the workplace;
- Attitudes towards these digital technologies and their use in the workplace.

The survey finds that, while positive perceptions of the impact of the most recent digital technologies have declined over the past seven years, Europeans still generally have a positive view of said impact. Specifically, while citizens generally see the positive potential of technologies and specifically artificial intelligence, this does not translate to unfettered support. Notably, more than six in ten Europeans say they think robots and artificial intelligence are good thing for society, with the caveat that a clear majority (84%) also say such technologies need careful management. The survey highlights that the potential of robots and artificial intelligence to lighten workload—by doing boring or repetitive jobs or being used to make accurate decisions—is appreciated, but respondents are wary of their impact on social areas like communication between colleagues.

Looking specifically at digital skills and awareness, most Europeans think of their current skills as sufficient for their daily life and work needs. However, this result should be seen in context: a significant number of Europeans who lack even basic digital skills (almost 45%)⁷ and the number of ICT specialists is growing but still relatively low (est. 9.8 million)⁸. Most employees are also aware of their employer's use of digital technologies to manage employee activities.

¹ 'Communication Artificial Intelligence for Europe', COM(2018) 237 final: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0237>.

² 'Shaping Europe's digital future': <https://digital-strategy.ec.europa.eu/en/policies>.

³ 'Factsheet – European Skills Agenda: progress on the 11 flagship actions (2023)'. Available at: <https://ec.europa.eu/social/main.jsp?catId=1223>.

⁴ 'Digital Competences Framework (DigComp 2.2) update published': <https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=10193&furtherNews=yes>.

⁵ 'Algorithmic management and digital monitoring of work': https://joint-research-centre.ec.europa.eu/scientific-activities-z/employment/algorithmic-management-and-digital-monitoring-work_en.

⁶ 'The European Pillar of Social Rights Action Plan': <https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en>.

⁷ 'Digital skills in 2023: impact of education and age': <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1>.

⁸ 'More people employed in ICT in the EU in 2023': <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240524-2>.

Patterns in the opinions of Europeans based on their socio-demographic characteristics are also highlighted throughout the report. Younger respondents, respondents with less financial difficulties, respondents who are currently in employment or those with a higher education level tend to have more positive attitudes towards technologies and artificial intelligence, for example.

Some of the questions in this Special Eurobarometer were asked in previous Eurobarometer surveys conducted in March 2017⁹ and in December 2019¹⁰. Where possible, the results of the current survey are compared with those of the two previous studies.

⁹ Special Eurobarometer 460, 'Attitudes towards the impact of digitisation and automation on daily life': <https://europa.eu/eurobarometer/surveys/detail/2160>.

¹⁰ Special Eurobarometer 503, 'Attitudes towards the impact of digitalisation on daily lives': <https://europa.eu/eurobarometer/surveys/detail/2228>.

Methodology

This survey was carried out by the Verian Group in the 27 EU Member States between the 25th of April and the 22nd of May. Some 26,415 respondents from different social and demographic groups were interviewed in their mother tongue. This survey was commissioned by the European Commission, Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL).

Note: In this report, Member States are referred to by their official abbreviation, as listed below:

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		
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, HR			euro area
BG, CZ, DK, HU, PL, RO, SE			Non-euro area

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.

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



Key findings

At least half of Europeans believe the most recent digital technologies, including Artificial Intelligence, have a positive impact on each of the areas tested

- Two thirds of respondents currently in employment think the most recent digital technologies, including Artificial Intelligence, currently have a positive impact on their job (66%).
- Of all the respondents, more than six in ten believe the most recent digital technologies currently have a positive impact on the economy, their quality of life and social security benefits (all 62%).
- More than half (56%) indicate that the most recent digital technologies have a positive impact on society.
- The proportions who think the most recent technologies have a positive impact on the economy (-13 percentage points), society (-8 pp) and their quality of life (-5 pp) have declined since March 2017.
- Younger respondents, those with a higher education level, those with the least financial difficulties, and those who are currently working are the most likely to think these technologies have a positive impact.

Large majorities think that rules addressing risks and maximising the benefits of digital technologies in the workplace would be important

- More than eight in ten (82%) say protecting workers' privacy would be important in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace.
- Similarly, more than seven in ten think it would be important to involve workers and their representatives in the design and adoption of new technologies (77%), to enforce more transparency in the use of digital technologies to handle HR decision-making (75%), to prohibit fully automated decision-making processes (74%) and to limit the automated monitoring of employees (72%).

Majorities consider themselves to be sufficiently skilled in the use of the most recent digital technologies

- Around seven in ten consider themselves to be sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to be able to benefit from digital and online learning opportunities (71%, +14 percentage point since March 2017) and in their daily life (70%). The respondents who answered 'Not applicable' are not included in the

analysis of this question in order to ensure the trend comparability.

- Among those currently in employment and who did not answer 'Not applicable' at the aforementioned question, three quarters feel they have a sufficient level of digital skills to do their job (75%, -7 pp).
- More than seven in ten respondents who are not retired and did not answer 'Not applicable' believe they possess an adequate digital proficiency to do a future job if they were to find a job or to change jobs within the next twelve months (72%, +9 pp).
- Respondents in Denmark, Finland, Luxembourg, Malta, the Netherlands and Sweden are among the most likely to feel confident about their digital skills, while the reverse is true for those in Greece, Hungary, Italy, Portugal and Romania.
- Younger respondents, those with a higher education level, those in a better financial situation and those who are currently working are the most inclined to say they have a sufficient level of digital skills.

Most Europeans have a positive opinion of robots and Artificial Intelligence in the workplace, but concerns about their negative impact on employment are still present

- More than six in ten (62%, +1 pp) positively perceive the use of robots and Artificial Intelligence in the workplace, while close to one third (32%, +2 pp) have a negative perception. These perceptions however vary notably by country, with 86% of respondents in Denmark saying they perceive this positively compared to less than half in Portugal or Greece (both 48%).
- Majorities agree that robots and Artificial Intelligence increase the pace at which workers complete tasks (73%), that Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive (66%) and that robots and Artificial Intelligence can be used to make accurate decisions in the workplace (53%).
- At the same time, 66% believe that due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created, and that robots and Artificial Intelligence steal peoples' jobs. However, both these proportions have declined since March 2017 (-8 pp and -6 pp, respectively).
- In addition, 61% agree that robots and Artificial Intelligence have a negative impact on communication between colleagues.

Large majorities think robots and Artificial Intelligence are a good thing for society, but also that they should be carefully managed

- More than six in ten (63%) think that robots and Artificial Intelligence help people do their jobs or carry out daily tasks at home. This proportion shows a decrease of five percentage points since March 2017.
- Nonetheless, more than eight in ten (84%, -4 pp) think that these technologies require careful management.
- Less than half (48%) indicate that robots and Artificial Intelligence should be used more widely outside the workplace, while 43% hold the opposite view.

The use of digital technologies, including Artificial Intelligence, for many activities in the workplace is seen in a negative light

- Overall, respondents are concerned about the use of digital technologies, including Artificial Intelligence, to automatically fire workers (78%), to monitor workers (63%), to assess workers' performance (57%), to select applicants for a job (57%), to gather additional information on applicants for a job (50%), and to collect, process, and store workers' personal data (49%).
- However, around two thirds (67%) positively perceive the use of such technologies to improve workers' safety and security, and a relative majority positively perceive their use to allocate tasks to workers or manage their working schedules and shifts (49% 'positively' vs 44% 'negatively').
- Positive perceptions of the use of these technologies in the workplace are more widespread among younger respondents, those with a higher education level and those who are currently working.

A majority is aware of the use their employer makes of digital technologies and sizeable proportions report that digital technologies have been used to perform activities in their workplace

- More than six in ten of those who are currently in employment (62%) say they are aware of the use their employer makes of digital technologies, including Artificial Intelligence, to manage their or their co-workers' activities.
- Among those who have a current or past occupation, 30% report that digital technologies, including Artificial Intelligence, have enforced safety measures in their current or previous workplaces, and 29% say

these technologies have managed worktime schedules.

- More than one in five indicate that monitoring workers' activities (24%), allocating tasks to workers (22%) or assessing workers' performance, including imposing sanctions or attributing rewards (21%) have been performed by these technologies in their workplaces. In addition, 18% indicate that these technologies have been used to hire workers.
- The reported use of these technologies tends to be higher in the logistics sector and in establishments employing at least ten people.

Less than half of those currently in employment say their employer informed them about the use of digital technologies, while more than half of employers and managers report having done so

- Among respondents who are currently in employment, close to half (49%) say their employer informed them about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace.
- This proportion includes 16% who say they have been made aware of this, but without further details, and 18% who report having received a detailed explanation, including information about the benefits, drawbacks, and their rights.
- Among employers and managers, 53% report that they have ensured that their employees or the people they manage have been informed about the use of these technologies in the workplace, including 16% who say they have made them aware, but without further details, and 22% who declare that they have given them a detailed explanation.
- Employees working in the logistics sector and in larger establishments are the most inclined to report that they have been informed. Employers and managers in logistics are the most likely to say that they have ensured that employees are informed, while there is no clear pattern in terms of establishment size.

A large majority of those currently in employment feels their employer equips them with the necessary tools to work with digital technologies

- More than two thirds of those currently in employment (68%) agree that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies, while 28% disagree with the statement.



I. General perceptions of digital technologies

The first chapter of this report deals with Europeans' perception of the impact of digital technologies. Respondents were first provided with a definition of digital technologies and Artificial Intelligence¹¹, and then they were asked whether they think these technologies currently have a positive or negative impact on several areas¹².

1. Impact of digital technologies

Majorities think digital technologies have a positive impact on most areas tested, even though there is a decline in positive views since 2017

Two thirds of respondents who are currently working think the most recent digital technologies, including Artificial Intelligence, currently have a positive impact on their job (66%), compared to one in five who say they have a negative impact.

More than six in ten of total respondents think the most recent digital technologies, including Artificial Intelligence, currently have a positive impact on the economy, their quality of life and social security benefits¹³ (all 62%), while more than two in ten (between 22% and 24%) say these technologies have a negative impact on these areas.

More than half (56%) consider that the most recent digital technologies have a positive impact on society, while 33% say these have a negative impact.

Compared to the last time this question was asked in March 2017, there have been declines in the shares of respondents who think the most recent technologies have a positive impact on the economy (-13 percentage points), society (-8 pp) and their quality of life (-5 pp)¹⁴.

QB1. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on (EU27) (%)



¹¹ 'The next questions are about digital technologies, including Artificial Intelligence. Digital technologies refer to technologies that use data and computing to help people do their work more efficiently. They include hardware such as smartphones, laptops or robots, and software, such as smartphone applications, video conferencing tools, collaboration platforms, or project management tools in the workplace. Artificial Intelligence refers to computer systems capable of performing tasks that typically require human intelligence. It is used, for instance, in driverless cars or drones, in healthcare to improve medical diagnoses, and in various other applications such as answering questions and offering support to users on websites or call centres. Artificial Intelligence can also be used in workplaces, for example to monitor and evaluate workers or automatically assign them certain tasks. Artificial Intelligence can also be used to create new content such as images, text, or music as well as to answer questions and assist with tasks such as composing emails or essays. ChatGPT is the best-known example'.

¹² QB1. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on... 1) The economy; 2) Society; 3) Your quality of life; 4) Your current job; 5) Social security benefits. A very positive impact; A fairly positive impact; A fairly negative impact; A very negative impact; Don't know enough about the most recent digital technologies (SPONTANEOUS); It depends (SPONTANEOUS); Don't know.

¹³ Respondents were provided with the following explanation of the use of the most recent digital technologies for 'social security benefits': 'For social security benefits we mean accessing information online on people's rights and obligations; claiming healthcare reimbursements, unemployment benefits, maternity benefits or pensions through a phone app or website; having benefits automatically granted, adjusted or removed based on one's life events'.

¹⁴ It is important to note that the introduction and the phrase 'including Artificial Intelligence' have been added to the wording of this question compared to the 2017 survey.

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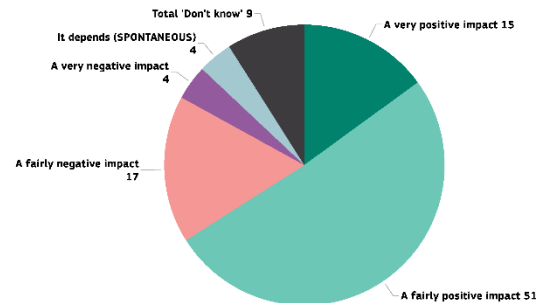
a) Current employment

Two thirds of respondents who are currently working say that the most recent technologies, including Artificial Intelligence, have a positive impact on their current job, including more than one in ten (15%) who consider this impact to be 'very positive'. Over one fifth think the impact of these technologies is negative (21%), while 5% say they don't know. Close to one in twenty spontaneously indicate that they don't know enough about these technologies (4%) and nearly one in twenty that 'it depends' (4%).

The proportions of respondents who think the impact of the most recent technologies on their current job is positive vary widely across EU Member States. This answer is given by a majority in all EU countries, particularly in Malta (85%), Sweden (78%) and Lithuania (76%). At the opposite end of the scale, 56% in Portugal, 57% in France and 61% in Romania have a positive opinion.

Respondents in Malta (29%), Spain (46%) and in Lithuania (24%) are the most likely to believe this impact to be 'very positive'. The view that the most recent technologies have a negative impact on their current job is held by 32% in Romania, 25% in Italy and 24% in Portugal.

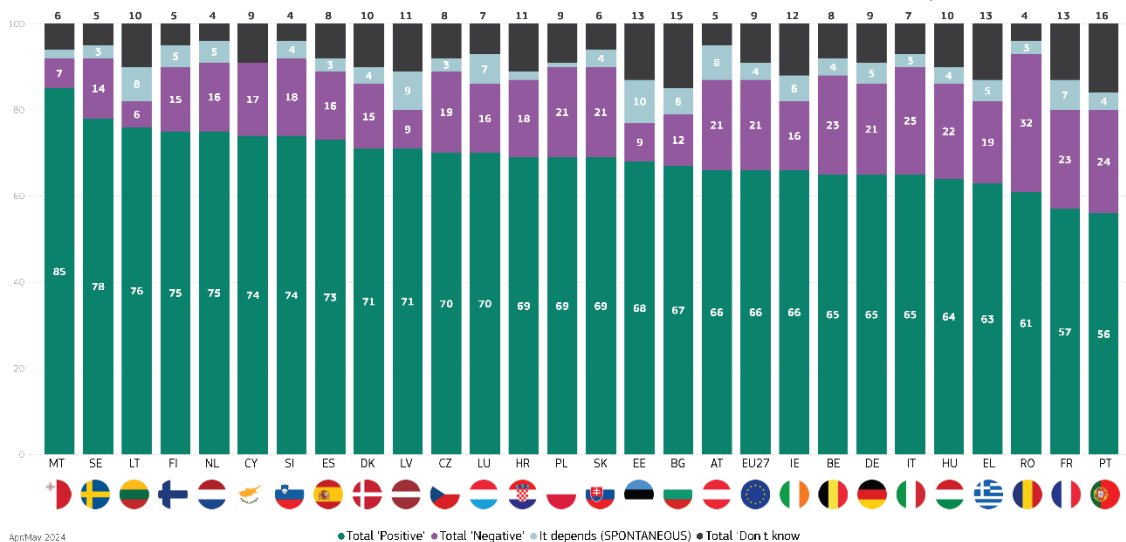
QB1.4W. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Your current job (EU27) (%)



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At least one in ten of the respondents in eleven countries spontaneously say they don't know enough about these technologies or that they don't know how to answer, and this is most notably the case in Portugal (16%), Bulgaria (15%), and Estonia, Greece and France (all 13%).

QB1.4W. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Your current job (%)



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● Total 'Positive' ● Total 'Negative' ● It depends (SPONTANEOUS) ● Total 'Don't know'

b) The economy

In the EU as a whole, 62% of the respondents say that the most recent digital technologies, including Artificial Intelligence, currently have a positive impact on the economy, including around one in ten (12%) who say they have a 'very positive' impact. The overall proportion of respondents who think these technologies have a positive impact has decreased by 13 percentage points since this question was last asked in March 2017.

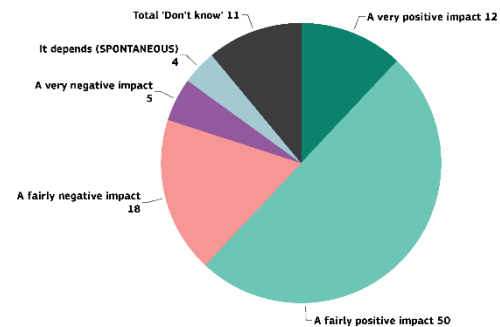
Conversely, 23% (+10 percentage points) indicate that these technologies have a negative impact. Less than one in ten spontaneously say that they don't know enough about the most recent digital technologies (6%, +4 pp), that 'it depends' (4%, +2 pp) or that they don't know (5%, -3 pp).

At country level, the majority in 26 out of the 27 EU Member States believes the most recent technologies, including Artificial Intelligence, currently have a positive impact on the economy, with this share being the highest in Slovenia (78%), Lithuania (77%) and Malta (75%). At the other end of the spectrum, this answer is given by a minority in France (48%) and by 51% in Romania and 54% in Portugal.

In addition, at least one in five in Lithuania (24%), Malta (22%) and Slovakia (20%) say these technologies have a 'very positive' impact on the economy.

Respondents in France (33%), Romania (31%) and Italy (28%) are the most likely to say that the most recent technologies have a negative impact on the economy, while more than two in ten in Portugal (27%) and Latvia (21%) spontaneously say that they don't know enough about these technologies or that they generally don't know.

QB1.1. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: The economy (EU27) (%)



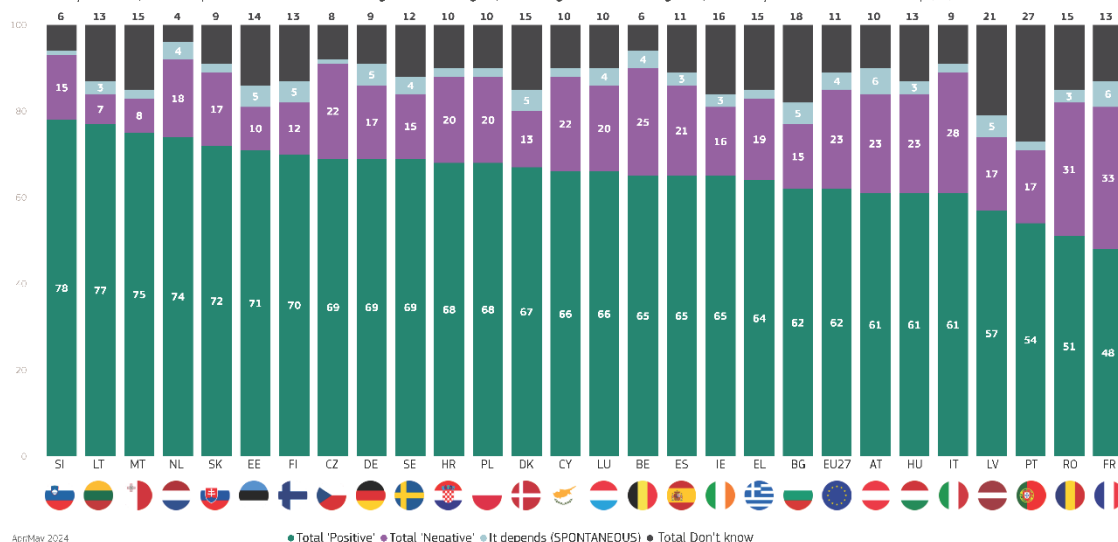
A very positive impact	▼11
A fairly positive impact	▼2
A fairly negative impact	▲8
A very negative impact	▲2
It depends (SPONTANEOUS)	▲2
Total 'Don't know'	▲1

▲▼ (Apr/May 2024 - Mar 2017)

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In all 27 EU Member States, the proportions of respondents who think that the most recent technologies, including Artificial Intelligence, currently have a positive impact on the economy have declined since March 2017. Decreases by at least ten percentage points can be observed in 15 countries, most notably in Poland (-20 pp) and Austria (-19 pp) and in Ireland, Latvia, and Portugal (all -17 pp). Conversely, the smallest declines are recorded in Slovenia (-3 pp) and Spain (-5 pp) and in Croatia and Finland (both -6 pp).

QB1.1. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: The economy (%)



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● Total 'Positive' ● Total 'Negative' ● It depends (SPONTANEOUS) ● Total 'Don't know'

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c) Society

More than half (56%) say that the most recent technologies, including Artificial Intelligence, currently have a positive impact on society, with one in ten saying their impact is 'very positive'. Positive views about the impact of these technologies on society have declined by eight percentage points since March 2017.

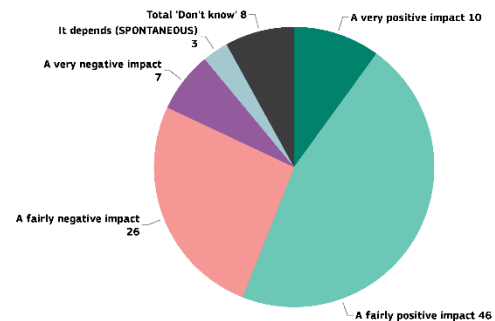
One third (33%, +8 percentage points) consider that the impact of these technologies is negative, while less than one in ten spontaneously say they don't know enough about these technologies (5%, +3 pp), that 'it depends' (3%, no change) or that they don't know (3%, -3 pp).

In 23 countries, more than half think that the most recent technologies have a positive impact on society, most notably in Lithuania (71%), Denmark (70%) and Finland (68%). This compares to half of the respondents or less who give this answer in France (43%), Slovenia (47%) and Germany and Romania (both 50%).

Those in Lithuania (20%) and Spain (18%) and in Cyprus, Malta, and Slovakia (all 17%) are the most likely to say the impact of these technologies on society is 'very positive'.

By contrast, more than four in ten in Slovenia (48%), France (46%) and the Netherlands (43%) consider these technologies as having a negative impact on society, while nearly one quarter in Portugal (23%) spontaneously say that they don't know enough about these technologies or that they generally don't know.

QB1.2. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Society (EU27) (%)



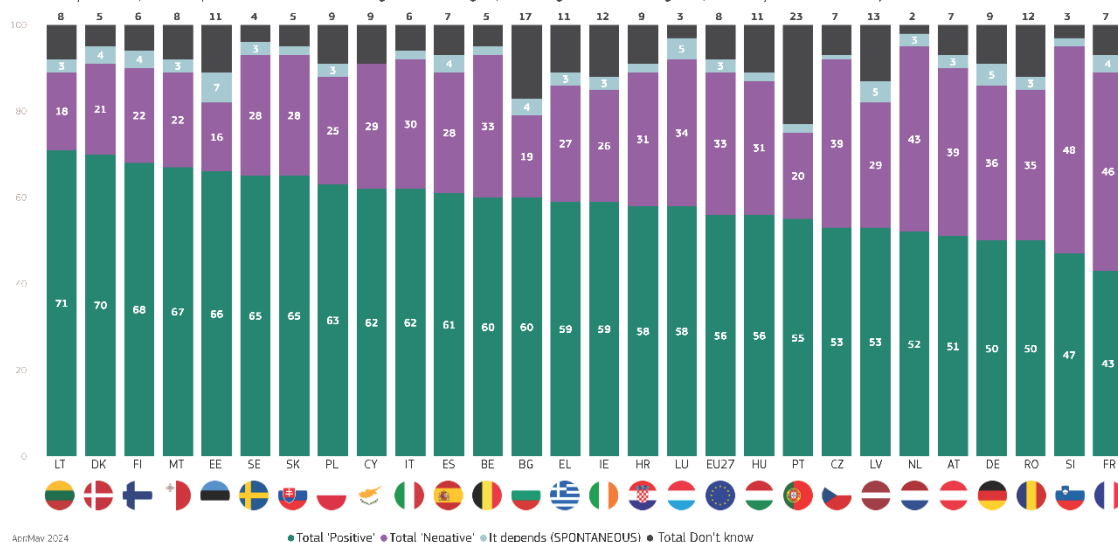
A very positive impact	▼5
A fairly positive impact	▲3
A fairly negative impact	▲6
A very negative impact	▲2
It depends (SPONTANEOUS)	=
Total 'Don't know'	-3

▲▼ (Apr/May 2024 - Mar 2017)

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In 26 out of the 27 EU Member States, respondents are less likely than they were in March 2017 to indicate that the most recent technologies, including Artificial Intelligence, currently have a positive impact on society. This is especially the case for those in Portugal (-20 percentage points) and in Ireland, the Netherlands and Poland (all -15 pp), with declines by at least ten percentage points recorded in a further six countries. This proportion has remained stable in Cyprus and has slightly decreased in Belgium (-1 pp) and Italy (-3 pp).

QB1.2. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Society (%)



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● Total 'Positive' ● Total 'Negative' ● It depends (SPONTANEOUS) ● Total 'Don't know'

d) Quality of life

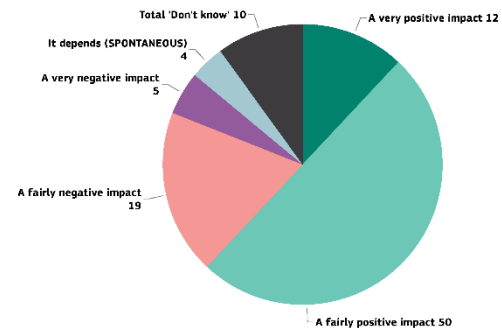
More than six in ten (62%) consider the most recent digital technologies, including Artificial Intelligence, as having a positive impact on their quality of life, including more than one in ten (12%) who deem this impact as 'very positive'. The share of respondents who think these technologies have a positive impact has decreased by five percentage points compared to March 2017.

Around one quarter (24%, +6 percentage points) think these technologies have a negative impact on this aspect, while around one in twenty spontaneously say that they don't know enough about these technologies (6%, +3 pp), that 'it depends' (4%, -1 pp) or that they don't know (4%, -3 pp).

The country-level analysis shows that a majority in all 27 EU Member States believes that the most recent digital technologies currently have a positive impact on their quality of life. This proportion ranges from more than seven in ten in Malta (77%), Lithuania (74%) and the Netherlands (71%) to 54% in France, Portugal and Romania.

Moreover, 25% in Malta, 24% in Lithuania and 19% in Austria and Spain think the impact of these technologies is 'very positive'. Conversely, respondents in Romania and France (both 31%) and in Czechia (30%) are the most likely to think these technologies have a negative impact on their quality of life, while one quarter of the respondents in Portugal spontaneously say that they don't know enough about these technologies or that they don't know how to answer.

QB1.3. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Your quality of life (EU27) (%)

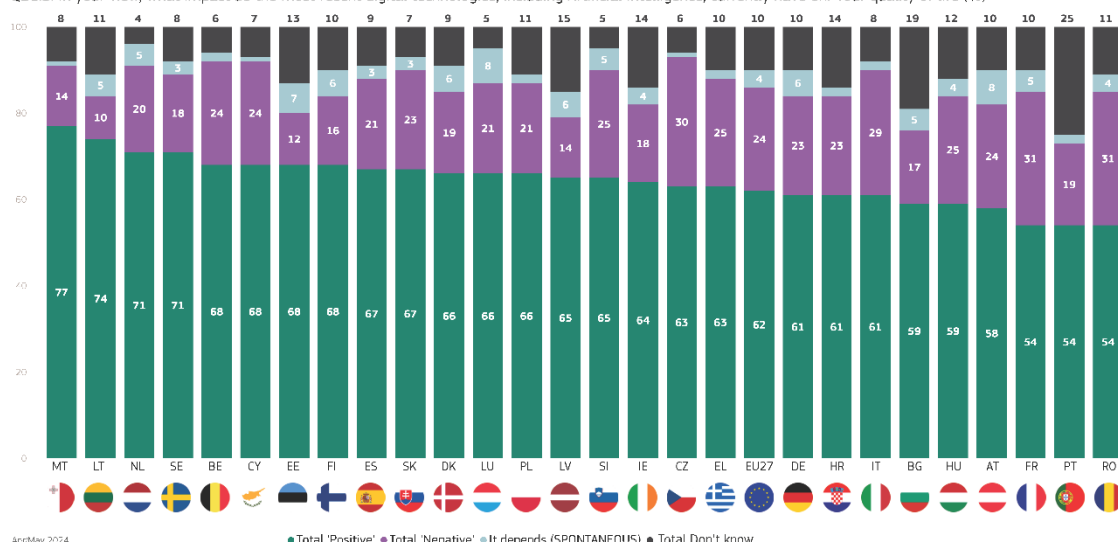


▲▼ (Apr/May 2024 - Mar 2017)

Apr/May 2024

In 23 countries, the share of respondents who see the most recent digital technologies, including Artificial Intelligence, as having a positive impact on their quality of life has declined compared to March 2017. Decreases of more than ten percentage points are recorded in Portugal (-18 pp), Poland (-13 pp) and Ireland (-12 pp). At the other end of the scale, this proportion has increased in Belgium and Cyprus (both +5 pp), Slovenia (+4 pp) and Croatia (+1 pp).

QB1.3. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Your quality of life (%)



Apr/May 2024

● Total 'Positive' ● Total 'Negative' ● It depends (SPONTANEOUS) ● Total 'Don't know'

e) Social security benefits

Across the EU as a whole, 62% consider that the impact of the most recent technologies, including Artificial Intelligence, on social security benefits is positive, including 14% who say that this impact is 'very positive'.

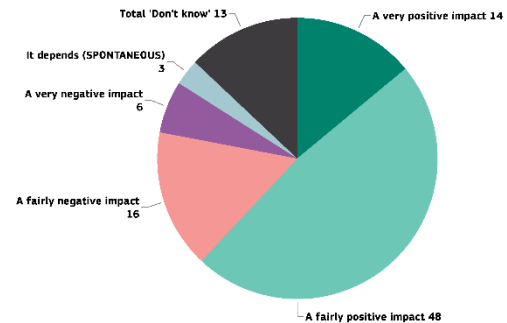
By contrast, more than one in five (22%) see this impact as being negative. Less than one in ten spontaneously say that they don't know enough about these technologies (7%), that 'it depends' (3%) or that they don't know (6%).

At country level, majorities in all 27 EU Member States believe the impact of the most recent technologies on social security benefits is currently positive, with more than three quarters giving this answer in Lithuania (78%), Sweden (77%) and Malta (76%). This compares to 52% in France, 55% in the Netherlands and 56% in Romania who give this answer.

Moreover, at least one quarter in Malta (29%), Lithuania (28%), Sweden (27%) and Ireland (25%) think these technologies have a 'very positive impact'.

The share of respondents who view these technologies as having a negative impact on social security benefits is the highest in France (32%), the Netherlands (31%) and Romania (25%).

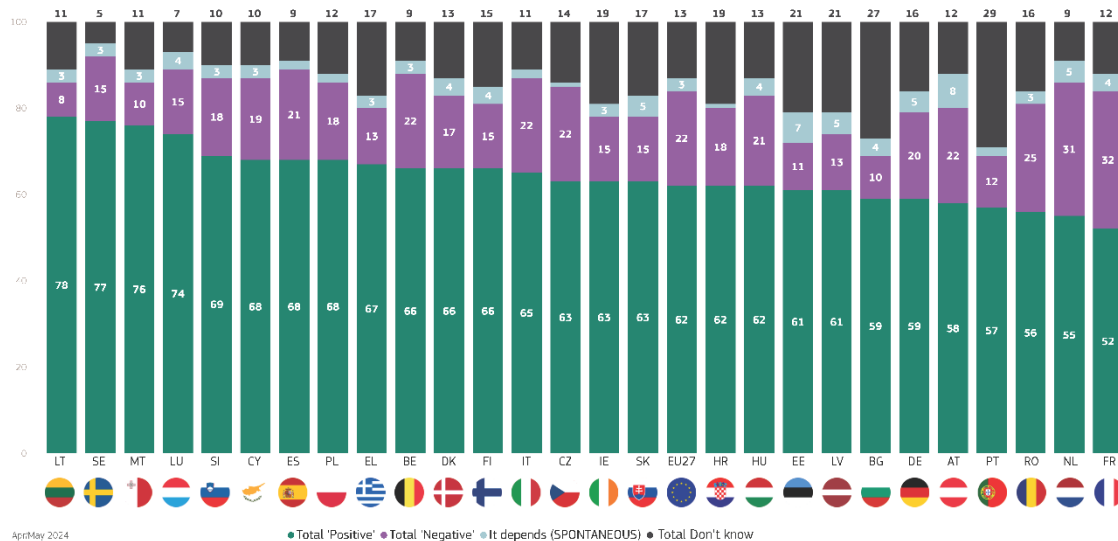
QB1.5. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Social security benefits (EU27) (%)



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More than one fifth in Portugal (29%) and Bulgaria (27%) and in Estonia and Latvia (both 21%) spontaneously say that they don't know enough about these technologies or that they don't know how to answer.

QB1.5. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on: Social security benefits (%)



April-May 2024

● Total 'Positive' ● Total 'Negative' ● It depends (SPONTANEOUS) ● Total 'Don't know'

The *socio-demographic analysis* shows that men are more likely than women to think that the impact of the most recent technologies, including Artificial Intelligence, is positive on all the areas covered by the survey. For instance, 67% of men give this answer in relation to their current job, compared to 65% of women. In addition, differences in attitudes can be observed in terms of age, level of education, and socio-economic and professional background of the respondents:

- The younger the respondents, the more likely they are to believe that the most recent technologies, including Artificial Intelligence, have a positive impact. This is most evident when it comes to perceptions of the impact of these technologies on quality of life, with close to eight in ten (79%) among those aged 15-24 who think this is positive, compared to less than half (49%) who give this answer among those aged 55+. A similar pattern can be observed when it comes to perceptions around the impact on their current job, with respondents aged 15-24 (71%) being the most inclined to think the impact of these technologies on this domain is positive (compared to 61% of those aged 55+).
- The longer respondents remained in full-time education, the more likely they are to indicate that the most recent technologies have a positive impact on each of the areas tested. For example, 73% of those who ended education aged 20 or older give this answer in relation to their current job, compared to 45% of those who left education aged 15 or younger.
- The view that these technologies have a positive impact is most widespread among managers and other white-collar workers. For instance, 75% of managers and 72% of other white collars say this with regard to the economy, compared to 50% of house persons.
- Respondents who have fewer financial difficulties are more inclined to consider that the impact of these technologies is positive on all the areas tested. Particularly large differences are observed in relation to the impact on social security benefits, with more than six in ten of those who have difficulties from time to time (61%) or less often (63%) giving this answer, compared to around half (51%) of those who have difficulties most of the time.
- Those living in large towns are more likely than those living in rural villages to have a positive view of the impact of the most recent technologies. For example, 60% of those who live in a large town believe this impact is positive on society, compared to 50% of those who live in rural villages.

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- Respondents who are currently working are more likely than those who are not currently working to say the impact of these technologies is positive. By way of example, 68% of those who are currently working think this for social security benefits, compared to 54% of those who are not currently working.
- Those working in agriculture, forestry and fishing are the least inclined to think these technologies have a positive impact on their current job (47%, compared to 66-69% of those working in other sectors).
- Finally, respondents who are aware of the use their employer makes of digital technologies are more likely than those who are not aware to believe that the impact these technologies have is positive, with this difference being most pronounced when it comes to perceptions around the impact on their current job (78% vs 48%).

QB1 In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on (% Total 'Positive' - EU)

	Your current job	The economy	Your quality of life	Social security benefits	Society
EU27	66	62	62	62	56
Gender					
Man	67	66	65	64	58
Woman	65	59	59	60	53
Age					
15-24	71	72	79	73	67
25-39	70	69	72	70	62
40-54	65	67	65	65	58
55 +	61	54	49	52	48
Education (End of)					
15-	45	43	38	43	39
16-19	62	61	59	60	55
20+	73	70	70	68	59
Still studying	80	76	82	73	66
Socio-professional category					
Self-employed	66	70	66	68	58
Managers	78	75	75	73	64
Other white collars	74	72	73	74	65
Manual workers	56	63	62	63	57
House persons	0	50	50	51	44
Unemployed	0	52	56	52	47
Difficulties paying bills					
Most of the time	60	52	53	51	49
From time to time	62	59	59	61	55
Almost never/ Never	69	65	64	63	56
Subjective urbanisation					
Rural village	63	60	57	59	50
Small/ mid size town	67	62	61	61	56
Large town	69	67	67	66	60
Current working status					
Currently not working	0	56	55	54	50
Currently working	66	69	68	68	60
Sector of employment					
Agriculture, forestry and fishing	47	54	51	56	46
Manufacturing	66	71	68	68	61
Logistics	69	70	72	68	67
Service, including retail trade, accommoda	66	70	69	69	61
Public sector	69	68	69	69	59
Awareness of the use that your employer makes of digital technologies, includin					
Aware	78	79	78	78	70
Unaware	48	54	54	56	47

II. Proficiency with digital technologies

The second chapter of the report investigates EU citizens' perceptions of their level of skills in the use of the most recent digital technologies, including Artificial Intelligence. More particularly, respondents were asked whether they agree or disagree with the statement 'You consider yourself to be sufficiently skilled in the use of digital technologies' in various situations¹⁵. The respondents who answered 'Not applicable' are not included in the analysis of this question in order to ensure the trend comparability¹⁶.

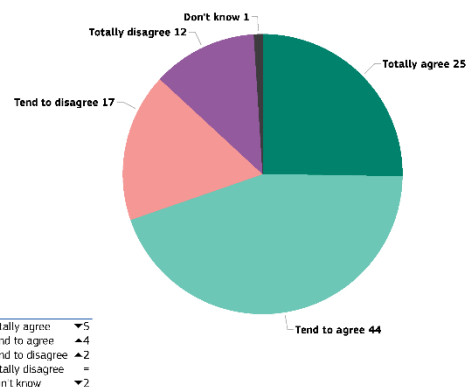
1. Digital skills overall

a) In daily life

Most Europeans consider themselves to be sufficiently skilled in the use of the most recent digital technologies in their daily life

Seven in ten respondents (70%) consider themselves to be sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, in their daily life, with 25% who 'totally agree' with the statement, showing a decrease of 5 percentage points since March 2017. Close to three in ten (29%, +2 pp) do not consider themselves to be sufficiently skilled, including 12% who are in total disagreement with the statement, while 1% say they don't know (-3 pp)¹⁷.

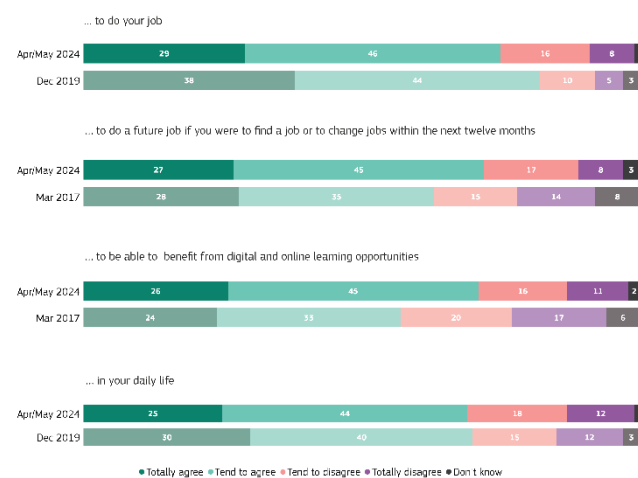
QB2.1. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...:-... in your daily life (EU27) (%)



▲▼ (Apr/May 2024 – Dec 2019)

Apr/May 2024

QB2. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies... (EU27) (%)



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¹⁵ QB2. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies... 1) ...in your daily life; 2) ...to do your job; 3) ... to do a future job if you were to find a job or to change jobs within the next twelve months; 4) ...to be able to benefit from

digital and online learning opportunities. Totally agree; Tend to agree; Tend to disagree; Totally disagree; Not applicable (SPONTANEOUS); Don't know.

¹⁶ The answer 'Not applicable' was introduced in the latest survey wave. In order to preserve trend comparability, this answer was removed from the analysis of QB2 and therefore the base size does not reflect the total sample.

¹⁷ The answer 'Not applicable' was introduced in the latest survey wave. In order to preserve trend comparability, this answer was removed from the analysis of QB2 and therefore the base size does not reflect the total sample.

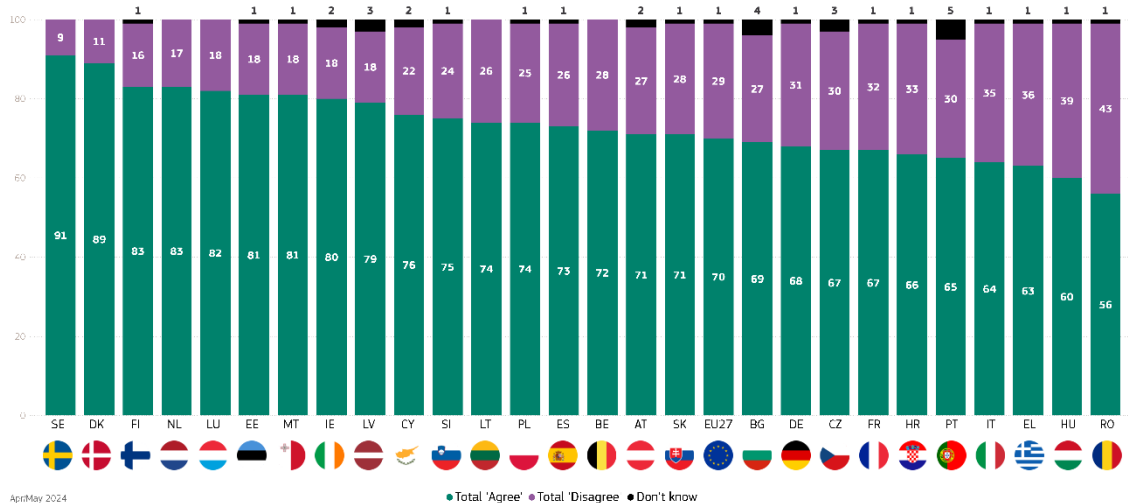
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In all 27 EU Member States, a majority of respondents consider themselves to be sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, in their daily life. Around nine in ten give this answer in Sweden (91%) and Denmark (89%), and more than eight in ten do so in Finland and the Netherlands (both 83%). This compares to more than half who think they are sufficiently skilled in Romania (56%) and at least six in ten in Hungary (60%) and Greece (63%).

A majority 'totally agree' with the statement in Sweden (56%), as do more than four in ten in Denmark (49%), Finland (46%) and the Netherlands (45%).

Conversely, more than four in ten do not consider themselves to be sufficiently skilled in the use of the most recent digital technologies in their daily life in Romania (43%), close to four in ten in Hungary (39%) and at least one in three in Greece (36%), Italy (35%) and Croatia (33%).

QB2.1. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies..... in your daily life (%)



b) Digital and learning opportunities

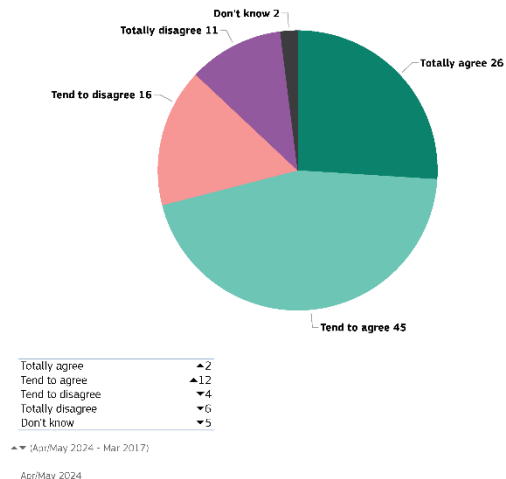
Around seven in ten think they possess sufficient digital skills to be able to benefit from digital and online learning opportunities

Slightly more than seven in ten respondents (71%, +14 pp) see themselves as sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to be able to benefit from digital and online learning opportunities. This proportion includes 26% who 'totally agree' this is the case (+2 pp). By contrast, 27% do not consider themselves sufficiently skilled (-10 pp), with more than one in ten (11%, -6 pp) who 'totally disagree' with the statement, while 1% say they don't know¹⁸.

In 18 out of 27 EU Member States at least seven in ten consider themselves to be sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to be able to benefit from digital and online learning opportunities. As was the case with digital skills in daily life, respondents in Sweden (90%), Denmark (87%), the Netherlands (83%), Finland (83%), Denmark (87%), are the most likely to be confident about the use of digital technologies to benefit from learning opportunities, followed by Malta (86%). At the opposite end of the scale, once again, more than half of those in Romania (56%) agree with the statement, followed by Slovakia (64%) and Hungary and Greece (both 63%).

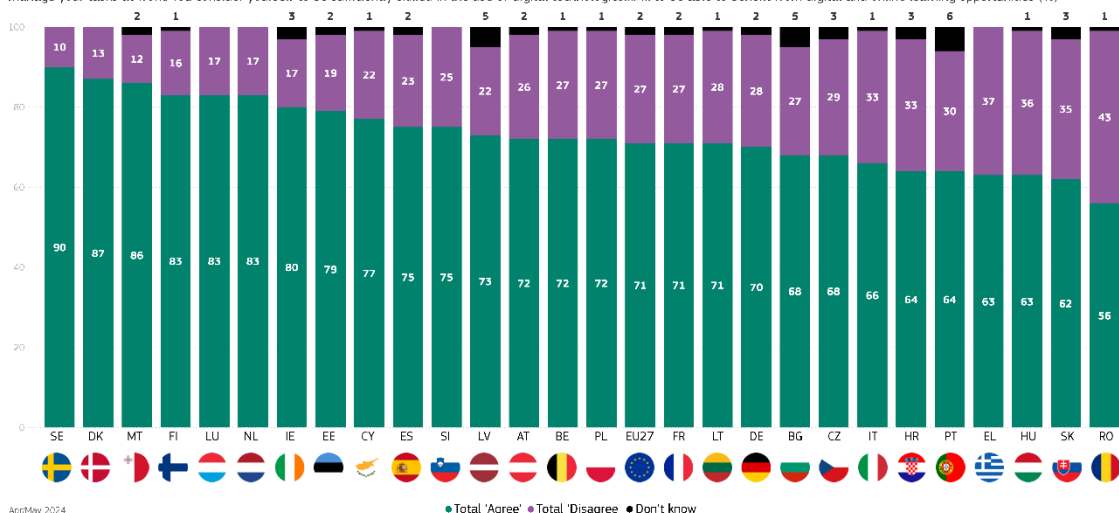
The majority of respondents in Sweden (55%) and more than four in ten in Denmark (48%), the Netherlands (45%), Finland (44%) and Malta (41%) are in total agreement with the statement concerning their level of digital skills in this situation.

QB2.4. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...to be able to benefit from digital and online learning opportunities (EU27) (%)



At least four in ten in Romania (43%), followed by Greece (37%) and Hungary (36%) do not consider themselves to be sufficiently skilled in the use of digital technologies to benefit from learning opportunities.

QB2.4. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...to be able to benefit from digital and online learning opportunities (%)



¹⁸ The answer 'Not applicable' was introduced in the latest survey wave. In order to preserve trend comparability, this answer was removed from the analysis of QB2 and therefore the base size does not reflect the total sample.

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The *socio-demographic analysis* illustrates the following differences:

- Men are more likely than women to consider themselves sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, in their daily life (73% vs 67%) and to be able to benefit from digital and online learning opportunities (73% vs 68%).
- The younger the respondents, the more likely they are to feel sufficiently skilled in the use of these technologies in their daily life (85% of those aged 15-24, compared to 55% of those aged 55+) and to be able to benefit from digital and online learning opportunities (81% vs 41%).
- The longer respondents remained in full-time education, the more likely they are to agree that they are sufficiently skilled in using these technologies both in their daily life (80% of those who finished education aged 20 or older, compared to 41% of those who finished aged 15 or younger) and to be able to benefit from learning opportunities (80% vs 40%).
- Perceived confidence in the use of these technologies in daily life and for learning opportunities is highest among managers (84% and 86%, respectively) and lowest among house persons (56% and 57%, respectively).
- Those who never or almost never have difficulties paying their bills are more likely than those who have difficulties more often to feel confident about the use of these technologies in daily life (73% vs 62-64%) and for learning opportunities (75% vs 60-65%).
- The more urbanised the area respondents live in, the more likely they are to consider themselves sufficiently skilled in the use of digital technologies in their daily life (74% of those living in large towns, compared to 65% of those living in rural villages) and for learning opportunities (76% vs 67%).
- Those who are currently working are more inclined than those who are not currently working to think they are sufficiently skilled in the use of these technologies in their daily life (76% vs 61%) and for learning opportunities (76% vs 64%).

- Respondents working in the public sector are the most likely to say they are sufficiently skilled in using these technologies in daily life (80%) and for learning opportunities (81%), particularly when compared to those working in agriculture, forestry and fishing (63% and 60%, respectively).
- Finally, the larger the establishment respondents work in, the more likely they are to think they are sufficiently skilled in the use of digital technologies in their daily life (84% of those working in establishments employing 250+ people, compared to 72% of those working in establishments employing 1-9 people) and for learning opportunities (85% vs 69-72%).

QB2 To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...
(% Total 'Agree' - EU)

	... to be able to benefit from digital and online learning opportunities	... in your daily life
EU27	71	70
Gender		
Man	73	73
Woman	68	67
Age		
15-24	85	85
25-39	80	80
40-54	75	74
55 +	57	55
Education (End of)		
15-	40	41
16-19	66	65
20+	80	80
Still studying	90	89
Socio-professional category		
Self-employed	75	75
Managers	86	84
Other white collars	79	78
Manual workers	69	70
House persons	57	56
Unemployed	66	69
Difficulties paying bills		
Most of the time	60	62
From time to time	65	64
Almost never/ Never	75	73
Subjective urbanisation		
Rural village	67	65
Small/ mid size town	71	70
Large town	76	74
Current working status		
Currently not working	64	61
Currently working	76	76
Sector of employment		
Agriculture, forestry and fishing	60	63
Manufacturing	74	74
Logistics	76	75
Service, including retail trade, accommodation, transportation, food services	77	76
Public sector	81	80
Size of the workforce at your worksite		
1	69	72
2-9	72	72
10-49	76	75
50-250	80	81
More than 250	85	84
Don't know but less than 10 people (SPONTANEOUS)	4	97
Don't know but 10 people or more (SPONTANEOUS)	39	40

2. Digital skills and labour market

a) Current employment

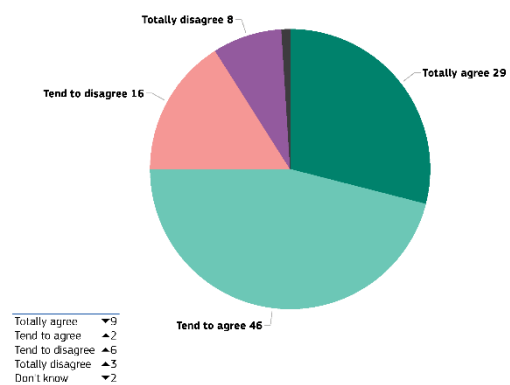
The majority of Europeans are confident about their level of digital skills to do their job

Three quarters of respondents who are currently working (75%, -7 pp) consider themselves to be sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to do their job, including 29% who 'totally agree' this is the case (-9 pp). Conversely, close to one quarter (24%, +9 pp) do not consider themselves to be sufficiently skilled, while 1% say they don't know (-2 pp). The answer 'Not applicable' is not included in the result in order to preserve the trend comparability¹⁹.

In all 27 EU Member States, at least six in ten respondents agree that they are sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to do their job. This proportion ranges from more than nine in ten in Sweden (94% -6 pp) and around nine in ten in the Netherlands (90%, -3 pp), and Malta (89%, +16) to more than six in ten in Romania (61%, -7 pp) and Hungary (62%, -11 pp) and over two thirds in Italy (67%, -4 pp).

More than two thirds of respondents in Sweden (68%, -4 pp) 'totally agree' with the statement, as do 57% in the Netherlands (-1 pp) and 48% in Denmark (-17 pp).

QB2.2W. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...to do your job (EU27) (%)

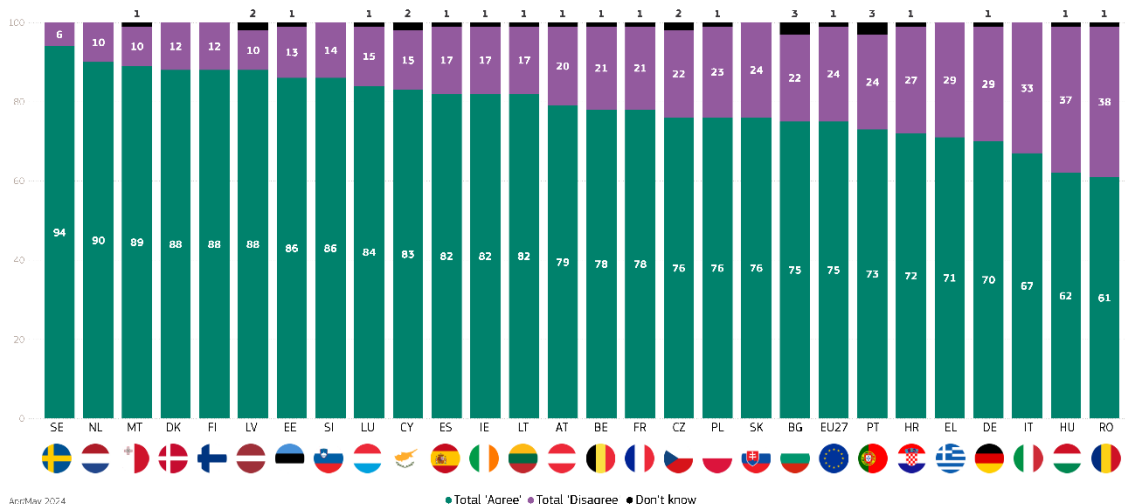


▲▼ (Apr/May 2024 - Dec 2019)

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At least one third or more in Romania (38%, +7 pp) and Hungary (37%, +12 pp) and in Italy (33%, +8 pp) do not see themselves as having sufficient digital skills to perform their job.

QB2.2W. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies...to do your job (%)



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● Total 'Agree' ● Total 'Disagree' ● Don't know

¹⁹ The answer 'Not applicable' was introduced in the latest survey wave. In order to preserve trend comparability, this answer was removed from the analysis of QB2 and therefore the base size does not reflect the total sample.

b) Future employment

Most European see their digital skills as sufficient to do a future job or to change jobs within the next twelve months

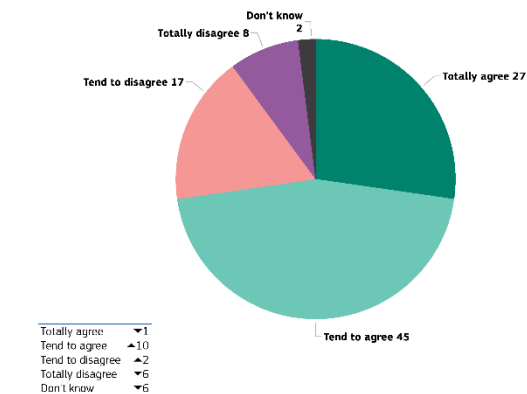
Among those who are not retired, more than seven in ten (72%, +9 pp) agree that they are sufficiently skilled in the use of the most recent digital technologies, including Artificial Intelligence, to do a future job if they were to find a job or to change jobs within the next twelve months. This share of respondents includes more than one quarter (27%, -1 pp) who are in total agreement with the statement. By contrast, one quarter (25%, -2 pp) do not see themselves as sufficiently skilled, while 3% say they don't know (-5 pp)²⁰.

In 19 countries, at least seven in ten respondents are confident about their level of digital skills to do a future job if they were to find a job or to change jobs within the next twelve months. This proportion is highest in Sweden (87, +20 pp), Finland (85%, +23) and Malta (85%, +21 pp), while it is lowest in Hungary (60%, +13 pp) and Greece (63%, +16 pp) and in Romania (63%, +7 pp).

Respondents are most likely to 'totally agree' with this statement in Sweden (52%, +11 pp), the Netherlands (46%, +5 pp) and Finland and Denmark (both 44%, +21 pp in Finland and +5 pp in Denmark).

More than one third do not feel confident about their level of digital skills in this situation in Hungary and Greece (both 37%, -8 pp in Hungary and -12 pp in Greece), and Romania (36%, +4 pp).

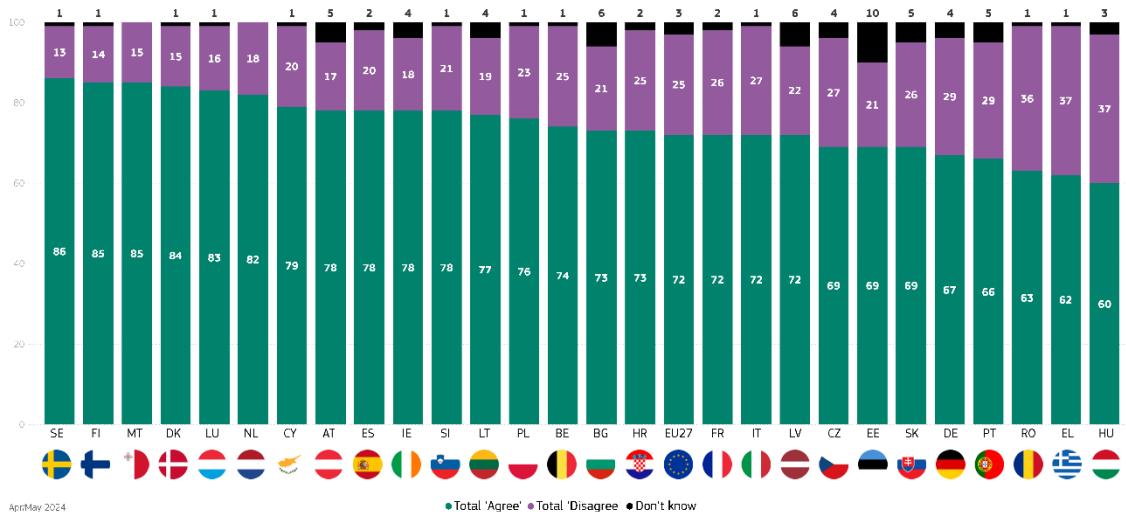
QB2.3W. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. 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 (EU27) (%)



▲ (Apr/May 2024 - Mar 2017)

Apr/May 2024

QB2.3W. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. 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 (%)



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● Total 'Agree' ● Total 'Disagree' ● Don't know

²⁰ The answer 'Not applicable' was introduced in the latest survey wave. In order to preserve trend comparability, this answer was removed from the analysis of QB2 and therefore the base size does not reflect the total sample.

The analysis of the *socio-demographic data* reveals patterns similar to those observed in terms of perceived skills levels in daily life and for learning opportunities:

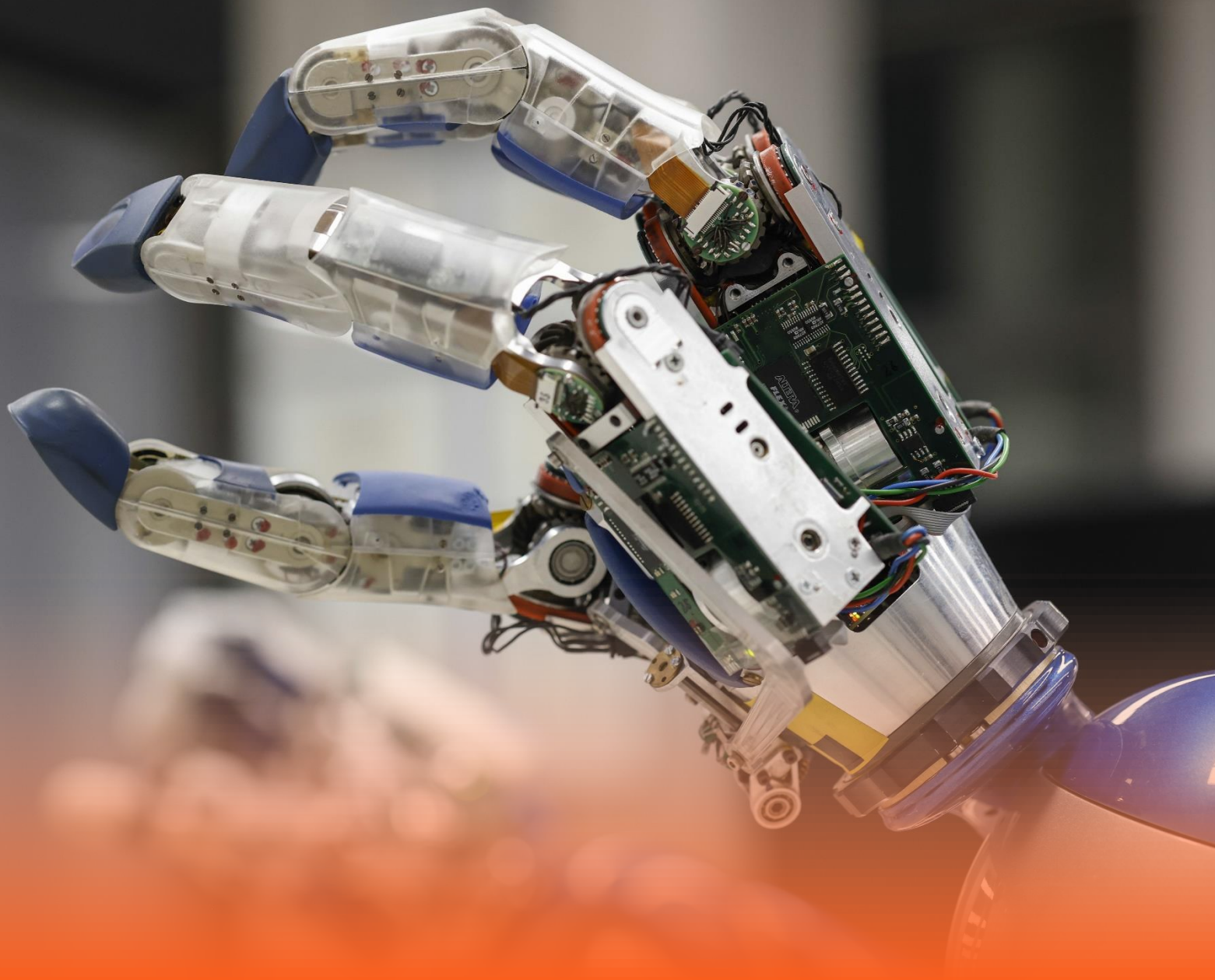
- Men are more inclined than women to be confident about their skills in the use of the most recent digital technologies, including Artificial Intelligence, to do their job (76% vs 74%) and to do a future job if they were to find a job or to change jobs within the next twelve months (75% vs 70%);
- Respondents aged 15-54 are more likely than those aged 55+ to consider themselves sufficiently skilled in the use of these technologies to do their job (76-80% vs 67%) and to do a future job or to change jobs within the next twelve months (70-82% vs 59%);
- The longer respondents remained in full-time education, the more likely they are to say they are sufficiently skilled in the use of digital technologies to do their job (83% of those who stayed in education until the age of 20 or later, compared to 55% of those who left at the age of 15 or earlier) and to do a future job or to change jobs within the next twelve months (79% vs 47%);
- Managers are the most inclined to agree that they are sufficiently skilled both to do their job (86%) and to do a future job or change jobs (83%), especially when compared to house persons (28% and 36%, respectively);
- Respondents who have fewer financial difficulties are more likely to feel confident about their digital skills to do their job (55% of those who never or almost never have difficulties paying their bills, compared to 43% of those who have difficulties most of the time) and to do a future job or change jobs (53% vs 45%);
- The more urbanised the area respondents live in, the more likely they are to consider themselves sufficiently skilled in the use of digital technologies to do their job (58% of those living in large towns, compared to 49% of those living in rural villages) and to do a future job or change jobs (58% vs 48%);

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- Those who are currently working are more inclined than those who are not currently working to think they are sufficiently skilled to do a future job or change jobs (73% vs 72%); Respondents belonging to the former category believe to be sufficiently skilled to do their job (75%). While those who are not currently working were not included in the analysis.
- Respondents working in the public sector are the most likely to see themselves as having a sufficient level of digital skills to do their job (81%, compared to 57% of those working in agriculture, forestry and fishing). Those working in agriculture, forestry and fishing). Those working in logistics and public sector workers (both 76%) are the most likely to think this when it comes to doing a future job or changing jobs within the next twelve months (compared to 56% of those working in agriculture, forestry and fishing);
- Lastly, respondents working in larger establishments are more likely than those working in smaller ones to believe they are sufficiently skilled in the use of digital technologies to do their job (84% of those working in establishments employing 250+ people, compared to 66-72% of those working in establishments employing 1-9 people) and to do a future job or change jobs (80% vs 61-69%).

QB2 To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies ...
(% Total 'Agree' - EU)

	... to do your job	... to do a future job if you were to find a job or to change jobs within the next twelve months
EU27	75	72
Gender		
Man	76	75
Woman	74	70
Age		
15-24	80	82
25-39	78	77
40-54	76	70
55 +	67	59
Education (End of)		
15-	55	47
16-19	70	65
20+	83	79
Still studying	89	86
Socio-professional category		
Self-employed	73	68
Managers	86	83
Other white collars	80	76
Manual workers	66	65
Difficulties paying bills		
Most of the time	69	61
From time to time	67	68
Almost never/ Never	79	75
Subjective urbanisation		
Rural village	72	69
Small/ mid size town	74	72
Large town	79	77
Current working status		
Currently not working	0	73
Currently working	75	72
Sector of employment		
Agriculture, forestry and fishing	57	56
Manufacturing	70	70
Logistics	75	76
Service, including retail trade, accommodation, transportation, food services	76	72
Public sector	81	76
Size of the workforce at your work site		
1	66	61
2-9	72	69
10-49	74	72
50-250	80	77
More than 250	84	80
Don't know but less than 10 people (SPONTANEOUS)	5	4
Don't know but 10 people or more (SPONTANEOUS)	49	38



III. Attitudes towards digital technologies and Artificial Intelligence in the workplace

The third chapter of this report analyses EU citizens' perceptions of robots and Artificial Intelligence, focusing in particular on the use of robots and Artificial Intelligence in the workplace and in employment relations, and on their impact on daily life and on the labour market.

1. Perception of robots and Artificial Intelligence

a) In the workplace

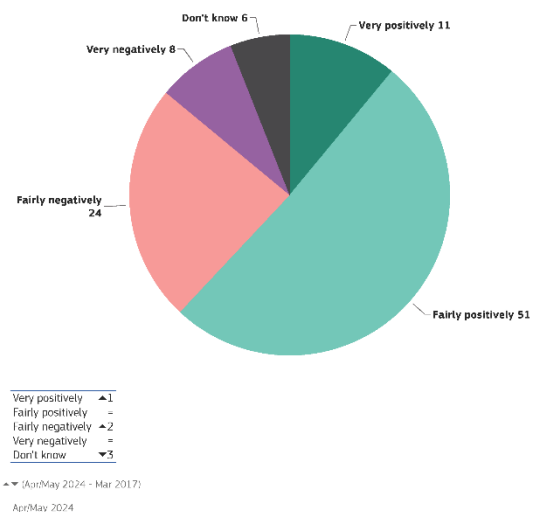
The majority of Europeans have a positive view of the use of robots and AI in the workplace

More than six in ten (62%, +1 percentage point since March 2017) positively perceive the use of robots and Artificial Intelligence in the workplace, including around one in ten (11%, +1 pp) who perceive this 'very positively'²¹. By contrast close to one third (32%, +2 pp) have a negative perception and around one in twenty (6%, -3 pp) say they don't know.

Perceptions of the use of robots and Artificial Intelligence in the workplace have remained broadly stable since March 2017²².

In 25 out of the 27 EU Member States, a majority of respondents positively perceives the use of robots and Artificial Intelligence in the workplace, most notably in Denmark (86%, +4 pp), Finland (80%, +9 pp) and Sweden (79%, -1 pp). Conversely, a minority of respondents holds a positive view in Greece and Portugal (both 48%, -1 pp; and -7 pp) and 53% is of this opinion in France (-2 pp).

QB5. How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace? (EU27) (%)



²¹ QB5. How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace? By robots we mean machines designed to perform tasks which are normally performed by humans. They can perform them by themselves or, often, working together with a human. For example, robots that can perform surgery together with a surgeon or automatic tills in supermarkets.

Very positively; Fairly positively; Fairly negatively; Very negatively; Don't know.

²² It should be noted that, compared to the 2017 survey, the definition of 'robots' was changed.

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In addition, at least one quarter in Denmark (38%), Sweden (27%) and Finland (25%) perceive the use of robots and Artificial Intelligence in the workplace ‘very positively’.

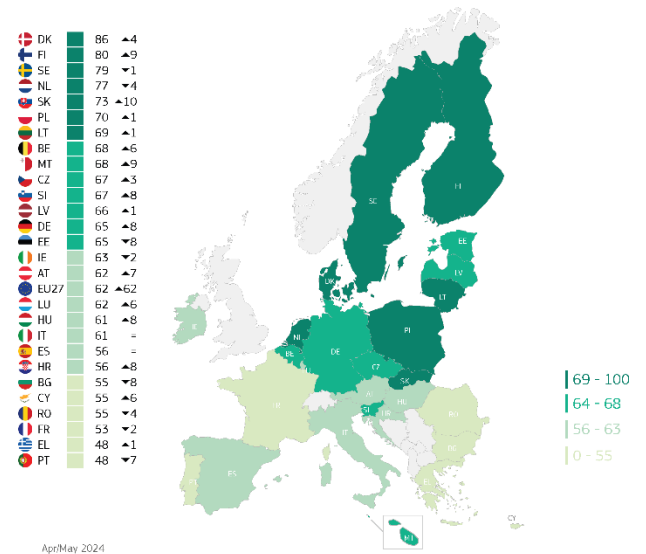
Respondents in Greece (46%) and in Cyprus and Portugal (both 41%) are the most likely to negatively perceive the use of these technologies in the workplace.

In 17 countries, respondents are more likely than they were in March 2017 to positively perceive the use of robots and Artificial Intelligence in the workplace. This is most notably the case of respondents in Slovakia (+10 percentage points) and in Finland and Malta (both +9 pp).

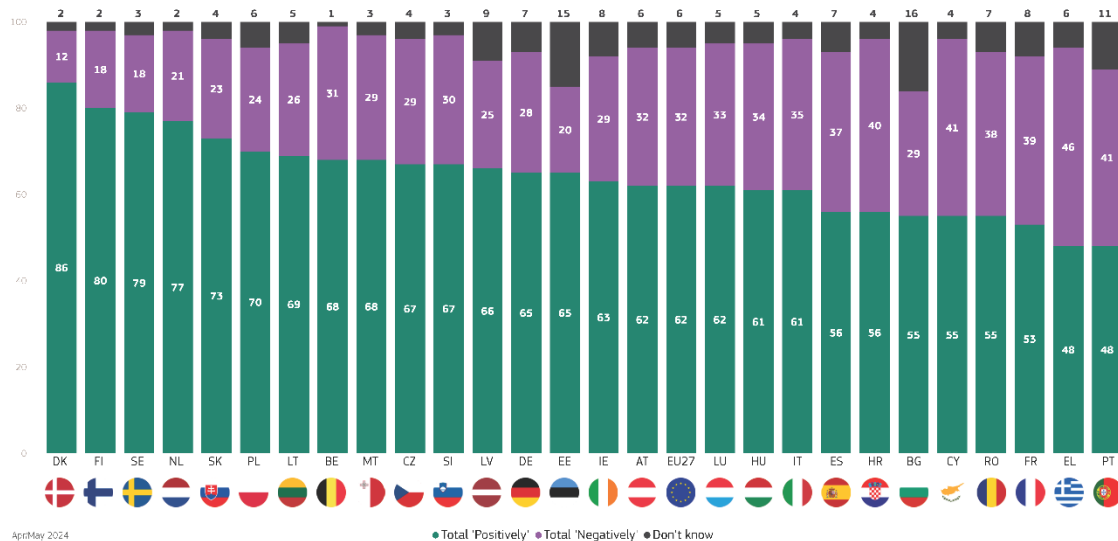
Conversely, this share of respondents has decreased in eight countries, particularly in Bulgaria and Estonia (both -8 percentage points) and in Portugal (-7 pp).

This figure has remained unchanged in Italy and Spain.

QB5. How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace? - Total 'Positively' (%)



QB5. How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace? (%)



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Analysing the *socio-demographic data*, it can be observed that men are more likely than women to positively perceive the use of robots and Artificial Intelligence in the workplace (66% vs 59%). Moreover, positive perceptions are most widespread among the youngest respondents, those with a higher education level and those with a higher socio-economic status. In particular:

- The younger the respondents, the more inclined they are to positively perceive the use of robots and Artificial Intelligence in the workplace (74% of those aged 15-24, compared to 54% of those aged 55+).
- The longer respondents remained in full-time education, the more likely they are to have a positive perception (71% of those who finished education aged 20 or older, compared to 42% of those who finished aged 15 or younger).
- Managers (80%) are the most likely to hold a positive opinion, particularly when compared to house persons (48%).
- The less respondents have difficulties paying their bills, the more likely they are to have a positive perception (66% of those who never or almost never have difficulties, compared to 48% of those who have difficulties most of the time).
- In addition, those who are currently working are more inclined than those who are not currently working to positively perceive the use of robots and Artificial Intelligence in the workplace (66% vs 57%). Similarly, those who are aware of the use that their employer makes of digital technologies are much more likely than those who are not aware to hold this opinion (79% vs 46%).
- Lastly, positive perceptions are most widespread among those working in larger establishments (75% of those working in establishments employing 250+ people, compared to 57-63% of those working in establishments employing 1-9 people) and least widespread among those working in agriculture, forestry and fishing (50%, compared to 66-71% of those working in other sectors of the economy).

QB5 How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace?
(% - EU)

	Total 'Positively'
EU27	62
Gender	
Man	66
Woman	59
Age	
15-24	74
25-39	68
40-54	65
55 +	54
Education (End of)	
15-	42
16-19	58
20+	71
Still studying	78
Socio-professional category	
Self- employed	65
Managers	80
Other white collars	70
Manual workers	58
House persons	48
Unemployed	52
Difficulties paying bills	
Most of the time	48
From time to time	58
Almost never/ Never	66
Current working status	
Currently not working	57
Currently working	66
Sector of employment	
Agriculture, forestry and fishing	50
Manufacturing	69
Logistics	71
Service, including retail trade, accommodation, transportation, food services	66
Public sector	69

b) In the labour market

Majorities agree with statements on the benefits of robots and Artificial Intelligence, but also think these will **lead to job destruction and workers' replacement**

Respondents were asked whether they agree or disagree with a series of statements regarding the impact of robots and Artificial Intelligence on the labour market and on working life²³.

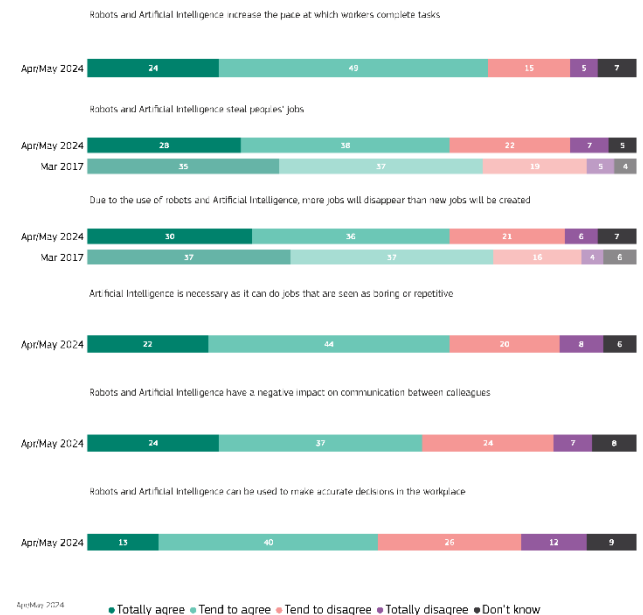
Close to three quarters of the respondents (73%) agree that robots and Artificial Intelligence increase the pace at which workers complete tasks, including around one quarter (24%) who 'totally agree'. Conversely, one in five disagree with this statement.

Moreover, two thirds (66%) agree that Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive, including 22% who 'totally agree', while close to three in ten (28%) disagree with this statement.

The same level of agreement can be found for the statement 'due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created', with three in ten who find themselves in total agreement (66%). The total agreement level has decreased by eight percentage points since March 2017. This affects the share of respondents who 'totally agree', which has also decreased (-7 pp). By contrast, more than one quarter (27%, +7 pp) disagree that more jobs will disappear than new jobs will be created.

Similarly, 66% agree that robots and Artificial Intelligence steal peoples' jobs, with nearly three in ten (28%) who are in total agreement. The overall agreement level has declined since March 2017 (-6 percentage points) due to a decrease in the share of those who 'totally agree' (-7 pp). Conversely, just below three in ten (29%, +5 pp) are in disagreement with this statement.

QB6. Please tell me to what extent you agree or disagree with each of the following statements. (EU27) (%)



Around six in ten (61%) agree that robots and Artificial Intelligence have a negative impact on communication between colleagues, with close to one quarter (24%) who are in total agreement. This compares to around three in ten (31%) who disagree that this is the case.

Finally, more than half (53%) indicate that robots and Artificial Intelligence can be used to make accurate decisions in the workplace, including 13% who 'totally agree'. Nearly four in ten (38%) disagree with this statement, with 12% being in total disagreement.

For each of these statements, less than one in ten respondents say they don't know (between 5% and 9%)

²³ QB6. Please tell me to what extent you agree or disagree with each of the following statements. 1) Due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created; 4) Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive; 5) Robots and Artificial Intelligence steal peoples' jobs; 6) Robots and Artificial Intelligence increase the pace at which workers

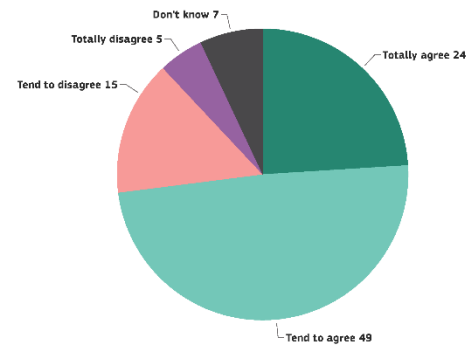
complete tasks; 7) Robots and Artificial Intelligence have a negative impact on communication between colleagues; 8) Robots and Artificial Intelligence can be used to make accurate decisions in the workplace. Totally agree; Tend to agree; Tend to disagree; Totally disagree; Don't know.

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In 17 EU Member States, at least three quarters agree that robots and Artificial Intelligence increase the pace at which workers complete tasks, most notably in Slovenia (89%) and Finland (87%) and in Luxembourg and Malta (both 84%). At the other side of the spectrum, 57% in Hungary, 59% in Romania and 62% in Portugal are in agreement.

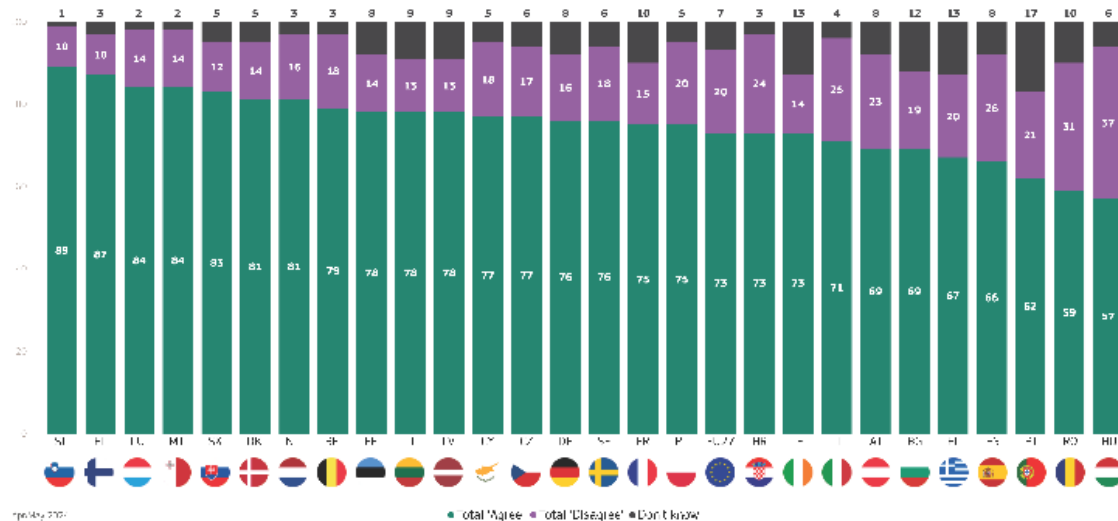
In addition, more than four in ten in Slovenia (44%) and more than one third in Denmark and Malta (both 34%) are in total agreement with this statement. The share of respondents who disagree that robots and Artificial Intelligence increase the pace at which workers complete tasks is the highest in Hungary (37%), Romania (31%) and Spain (26%).

Q86.6. Please tell me to what extent you agree or disagree with each of the following statements.: Robots and Artificial Intelligence increase the pace at which workers complete tasks (EU27) (%)



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Q86.6. Please tell me to what extent you agree or disagree with each of the following statements.: Robots and Artificial Intelligence increase the pace at which workers complete tasks (%)



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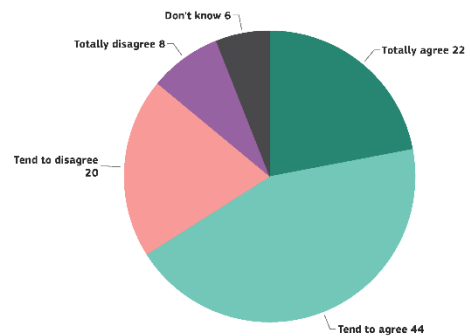
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In 14 countries, more than two thirds agree that Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive. This proportion ranges from at least eight in ten in Malta (84%) and Estonia (82%) and in Finland, Latvia and Slovakia (all 80%) to less than six in ten in Romania (56%), Greece (57%) and Spain (58%).

More than one third in Denmark (39%), Finland (36%) and Slovenia (34%) 'totally agree' with this statement.

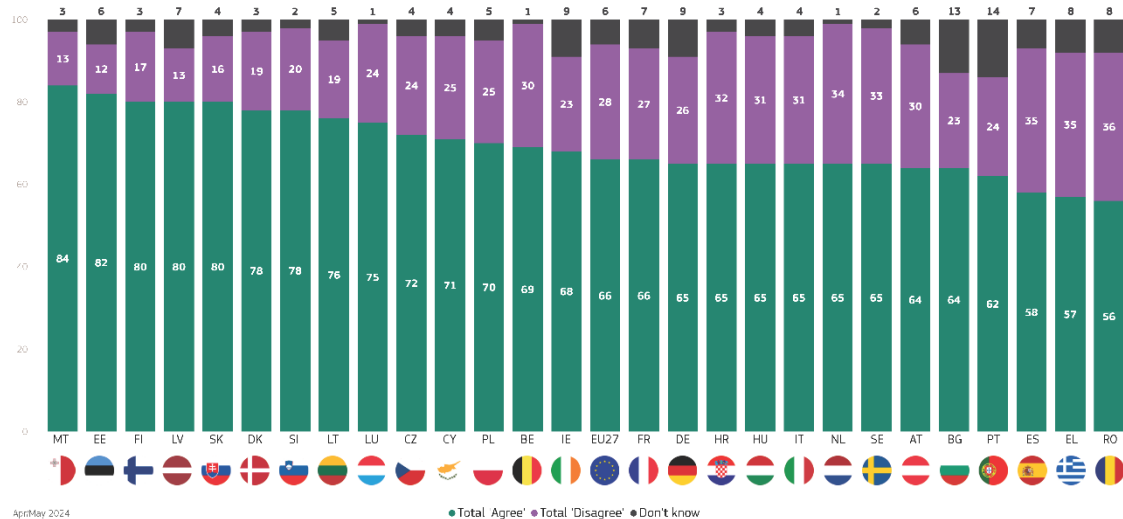
By contrast, the level of disagreement is highest in Romania (36%) and in Spain and Greece (both 35%).

QB6.4. Please tell me to what extent you agree or disagree with each of the following statements.: Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive (EU27) (%)



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QB6.4. Please tell me to what extent you agree or disagree with each of the following statements.: Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive (%)



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● Total 'Agree' ● Total 'Disagree' ● Don't know

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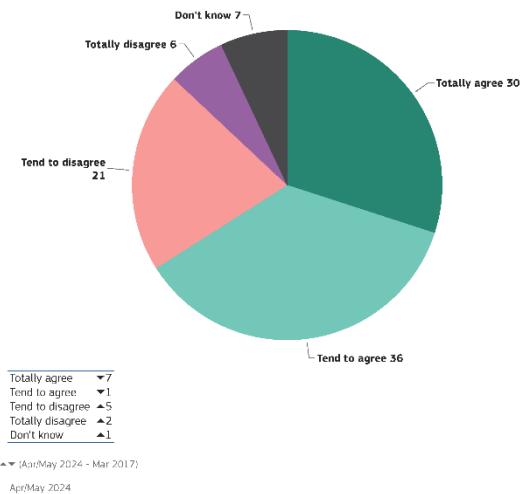
In 15 countries, at least seven in ten agree that, due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created. Agreement levels are highest in Greece (80%), Slovakia (79%) and Cyprus (77%), while they are lowest in Denmark (45%), the Netherlands (48%) and Germany (53%).

More than four in ten in Cyprus (48%), Greece (45%), Spain (43%) and France (42%) find themselves in total agreement with this statement.

Conversely, respondents in Denmark (48%) and the Netherlands (47%) as well as those in Finland and Germany (both 37%) are the most likely to disagree that more jobs will disappear than new jobs will be created.

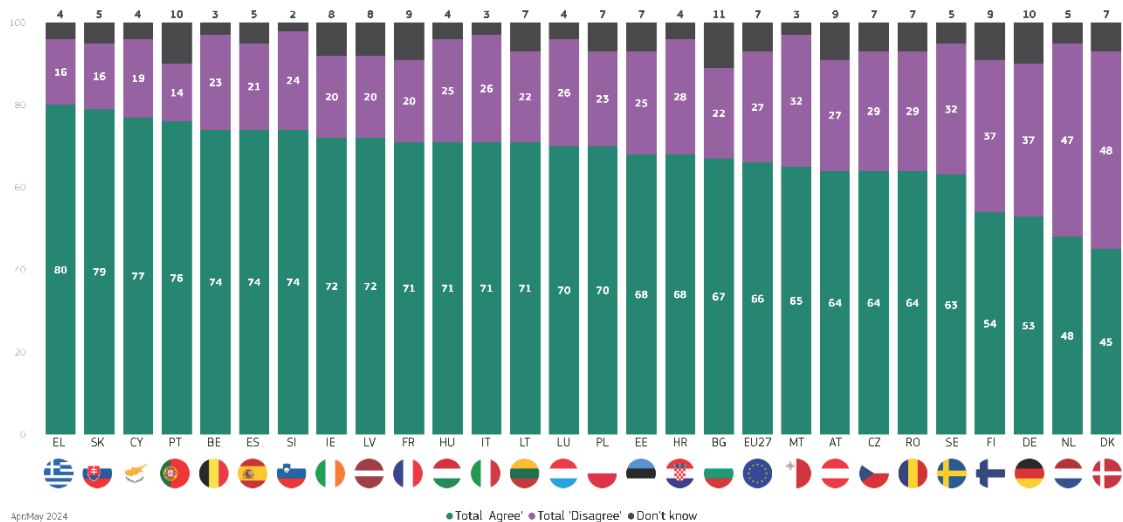
Compared to March 2017, the share of respondents who agree that, due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created has decreased in 25 out of the 27 EU Member States. Declines of at least ten percentage points are recorded in ten countries, especially in Germany (-19 pp) and Malta (-16 pp) and in the Netherlands and Spain (both -15 pp).

QB6.1. 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 (EU27) (%)



The level of agreement with this statement has increased in the remaining two countries: Belgium (+5 percentage points) and Slovakia (+2 pp).

QB6.1. 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 (%)



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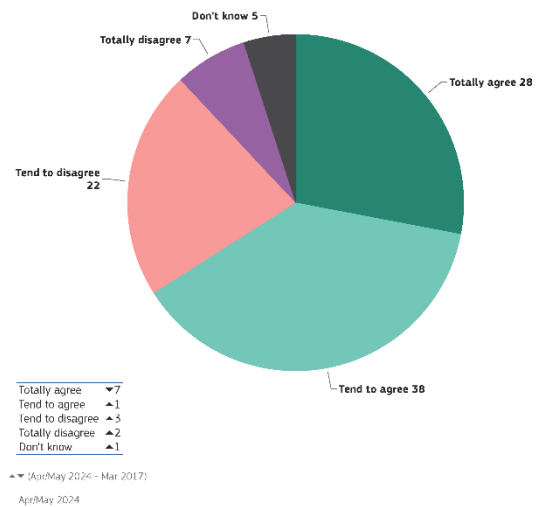
More than two thirds of the respondents in 17 countries agree that robots and Artificial Intelligence steal **peoples' jobs**, with more than three quarters who give this answer in Greece (79%), Portugal (78%) and Cyprus (77%). At the opposite end of the scale, a minority of respondents agree in the Netherlands (41%), Denmark (45%) and Finland (47%).

Those in Cyprus (47%), Greece (43%) and Spain (40%) are the most inclined to say they 'totally agree' with the statement.

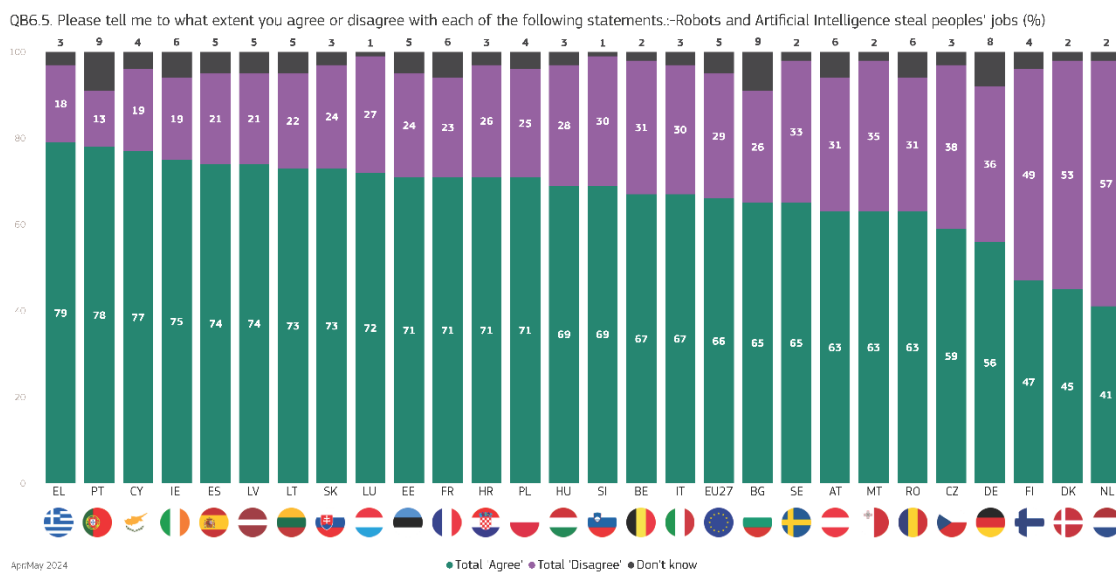
Majorities in the Netherlands (57%) and Denmark (53%) disagree that robots and Artificial Intelligence steal peoples' jobs, as do 49% in Finland

In 24 countries, respondents are less likely than they were in March 2017 to agree that robots and Artificial Intelligence steal peoples' jobs. This proportion has declined by more than ten percentage points in nine countries, most notably in Germany (-18 pp), Malta (-17 pp) and Spain (-16 pp).

QB6.5. Please tell me to what extent you agree or disagree with each of the following statements:--Robots and Artificial Intelligence steal peoples' jobs (EU27) (%)



By contrast, the share of respondents who agree with this statement has increased in the remaining three EU Member States: Sweden (+5 percentage points), Belgium (+2 pp) and Slovakia (+1 pp).



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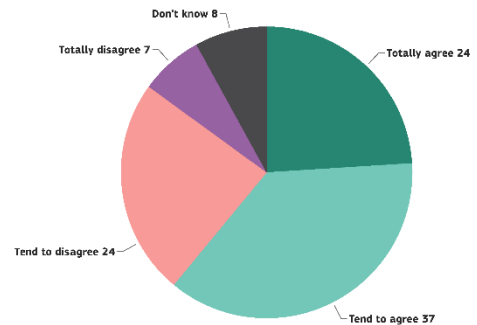
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In 16 EU Member States, at least six in ten agree that robots and Artificial Intelligence have a negative impact on communication between colleagues, with agreement levels being the highest in Slovakia (73%), Slovenia (71%) and Cyprus (70%). Minorities agree with this statement in Finland (41%) and Denmark (42%), as do 53% in Estonia.

Respondents in Cyprus (41%) and in France and Slovenia (both 35%) are the most likely to be in total agreement.

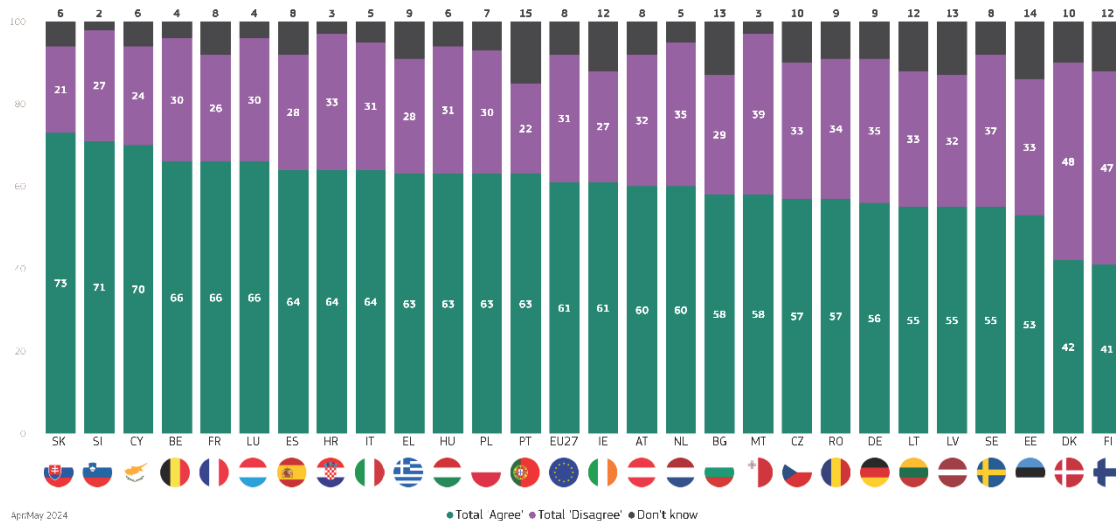
By contrast, nearly half in Denmark (48%) and Finland (47%) disagree that these technologies have a negative impact on communication between colleagues.

QB6.7. Please tell me to what extent you agree or disagree with each of the following statements:–Robots and Artificial Intelligence have a negative impact on communication between colleagues (EU27) (%)



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QB6.7. Please tell me to what extent you agree or disagree with each of the following statements:–Robots and Artificial Intelligence have a negative impact on communication between colleagues (%)



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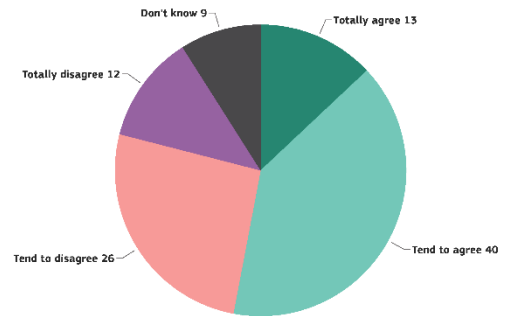
In 21 EU Member States, the majority agrees that robots and Artificial Intelligence can be used to make accurate decisions in the workplace. Respondents in Slovakia (73%), Poland (70%) and Lithuania (65%) are the most likely to hold this view, while those in Finland (32%) as well as those in France (41%) and Romania (43%) are the least likely to do so.

At least one in five 'totally agree' with this statement in Lithuania (23%) and Slovakia (21%) and in Austria and Slovenia (both 20%).

Respondents in Finland (64%) are by far the most likely to disagree that these technologies can be used to make accurate decisions in the workplace, followed by those in Luxembourg (51%) and France (48%).

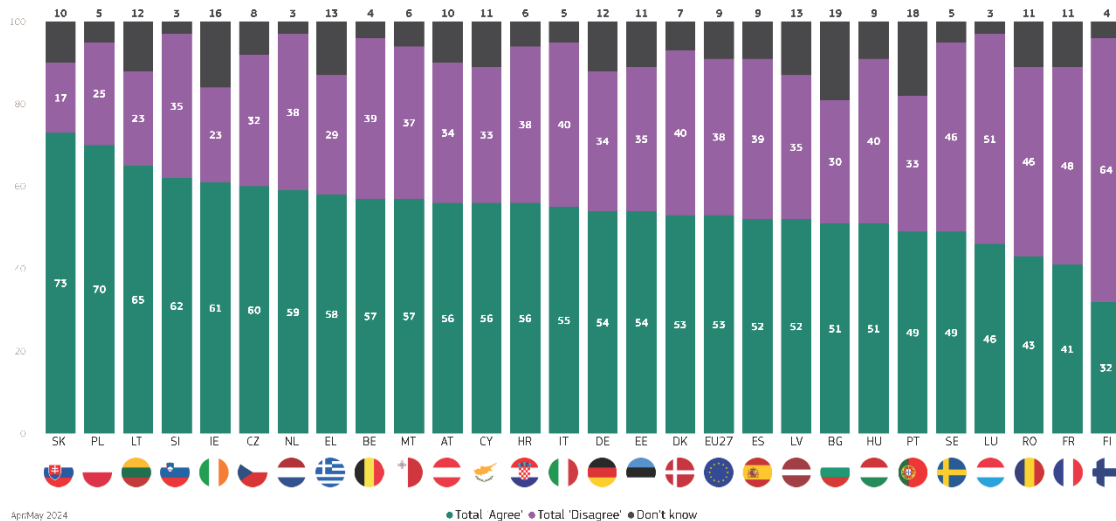
Close to two in ten say they don't know in Bulgaria (19%) and Portugal (18%).

QB6.8. Please tell me to what extent you agree or disagree with each of the following statements:—Robots and Artificial Intelligence can be used to make accurate decisions in the workplace (EU27) (%)



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QB6.8. Please tell me to what extent you agree or disagree with each of the following statements:—Robots and Artificial Intelligence can be used to make accurate decisions in the workplace (%)



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The *socio-demographic analysis* shows the following patterns:

- Men are more likely than women to agree with positive statements regarding the impact of robots and Artificial Intelligence on the labour market or on working life. For instance, 57% of men agree that robots and Artificial Intelligence can be used to make accurate decisions in the workplace, compared to 49% of women. By contrast, women are more inclined than men to agree with negative statements, and this is most evident with regard to statements about the impact on employment: 'due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created' and 'robots and Artificial Intelligence steal peoples' jobs' (68% of women vs 64% of men in both cases).
- The younger the respondents, the more likely they are to agree with positive statements on robots and Artificial Intelligence. This pattern is most clear-cut for the statement 'robots and Artificial Intelligence increase the pace at which workers complete tasks' (83% of those aged 15-24, compared to 67% of those aged 55+). In addition, those aged 15-39 are less inclined than older respondents to agree that robots and Artificial Intelligence have a negative impact on communication between colleagues (56-58% vs 62-64%).
- The longer the respondents remained in full-time education, the more likely they are to agree with positive statements. For example, more than seven in ten (72%) of those who finished education aged 20 or older believe that Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive, compared to around half (51%) of those who left education aged 15 or younger. Conversely, those who finished education aged 20 or older are least likely to agree with negative statements. For instance, 60% of these respondents indicate that robots and Artificial Intelligence steal peoples' jobs, compared to 69-71% of those who ended education aged 19 or younger.
- Managers and other white-collar workers are the most likely to agree with positive statements, particularly when compared to house persons. This pattern is most evident for the statement 'Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive' (73-74% of managers and other white collars, compared to 53% of house persons). By contrast, the unemployed are the most likely to agree with negative statements, especially when compared to managers. By way of example, 72% of the unemployed think robots and Artificial Intelligence steal peoples' jobs, compared to 57% of managers.
- The less respondents have difficulties paying their bills, the more inclined they are to agree with positive statements regarding robots and Artificial Intelligence, with this finding being most evident when observing agreement levels for the statement 'Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive' (68% of those who never or almost never have difficulties, compared to 54% of those who have difficulties most of the time). Those who have never or almost never difficulties are also the least likely to agree with negative statements. For instance, 64% of these respondents think that due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created, compared to 67-70% of those who have difficulties at least from time to time.
- The level of agreement with positive statements regarding the impact of robots and Artificial Intelligence on the labour market or on working life is higher among those who are currently working than it is among those who are not currently working. This is especially the case when it comes to the statement 'robots and Artificial Intelligence can be used to make accurate decisions in the workplace' (58% vs 49%). Those who are not currently working are more inclined to think that robots and Artificial Intelligence steal **peoples'** jobs (68%, compared to 64% of those currently working).

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- Those working in agriculture, forestry and fishing are the least likely to agree with positive statements. For example, 49% of these respondents believe that robots and Artificial Intelligence can be used to make accurate decisions in the workplace, compared to 57-63% of those working in other sectors.

Finally, agreement with all these statements is more widespread among those who are aware of the use that their employer makes of digital technologies than among those who are not aware, but this pattern is more pronounced with regard to positive statements. For instance, 66% of those who are aware think that robots and Artificial Intelligence can be used to make accurate decisions in the workplace, compared to 44% of those who are not aware.

QB6 Please tell me to what extent you agree or disagree with each of the following statements.
(Total 'Agree' % - EU)

	Robots and Artificial Intelligence increase the pace at which workers complete tasks	Robots and Artificial Intelligence steal peoples' jobs	Due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created	Robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home	Robots and Artificial Intelligence have a negative impact on communication between colleagues	Robots and Artificial Intelligence should be used more widely outside the workplace
EU27	73	66	66	63	61	48
Gender						
Man	75	64	64	66	60	51
Woman	71	68	68	60	62	45
Age						
15-24	83	66	65	75	56	56
25-39	77	63	64	71	58	56
40-54	75	64	68	65	62	50
55 +	67	67	66	54	64	40
Education (End of)						
15-	57	71	69	45	63	36
16-19	71	69	70	60	65	47
20+	77	60	61	70	59	50
Still studying	86	65	64	77	52	59
Socio-professional category						
Self-employed	76	62	68	66	61	51
Managers	81	57	58	76	57	56
Other white collars	78	66	69	70	61	57
Manual workers	70	66	68	61	62	47
House persons	62	68	70	51	63	41
Unemployed	70	72	72	57	66	43
Difficulties paying bills						
Most of the time	67	67	67	52	62	42
From time to time	69	68	70	59	63	48
Almost never/ Never	75	64	64	66	60	48
Subjective urbanisation						
Rural village	69	66	67	58	63	43
Small/ mid size town	74	64	64	63	61	48
Large town	75	67	68	68	60	53
Current working status						
Currently not working	71	68	66	59	62	43
Currently working	75	64	65	67	60	52
Sector of employment						
Agriculture, forestry and fishing	66	68	68	55	59	49
Manufacturing	76	59	62	66	58	55
Logistics	77	62	66	69	62	58
Service, including retail trade, accommodation, transportation, food services	76	67	68	67	62	51
Public sector	77	62	64	72	61	51
Size of the workforce at your work site						
1	68	69	68	57	62	42
2-9	74	66	68	64	63	53
10-49	74	64	67	67	60	52
50-250	78	63	64	71	61	52
More than 250	81	56	58	73	56	54
Don't know but less than 10 people (SPONTANEOUS)	35	34	35	21	17	20
Don't know but 10 people or more (SPONTANEOUS)	53	72	72	39	72	42
Awareness of the use that your employer makes of digital technologies, including Artificial Intelligence						
Aware	82	65	67	77	62	61
Unaware	64	63	63	52	57	40

2. Perceived impact of robots and Artificial Intelligence

a) Overall

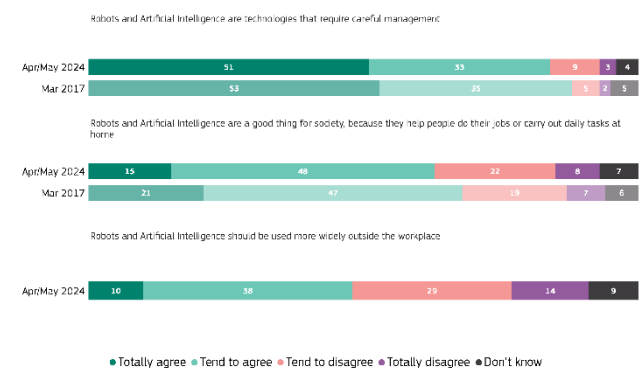
Most respondents agree robots and Artificial Intelligence are a good thing for society, but a majority think they should be carefully managed and a minority agree they should be used more widely

Respondents were asked whether they agree or disagree with a series of statements regarding robots and Artificial intelligence²⁴.

More than eight in ten (84%) agree that robots and Artificial Intelligence are technologies that require careful management, with a majority of respondents (51%) in total agreement. The level of agreement with this statement has decreased by four percentage points compared to March 2017. By contrast, just above one in ten (12%, +5 pp) disagree that these technologies require careful management.

In spite of this, more than six in ten (63%) still think that robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home, including 15% who are in total agreement with this statement. The overall agreement level has declined since March 2017 (-5 percentage points) due to a decrease in the share of respondents who are in total agreement (-6 pp).

QB6. Please tell me to what extent you agree or disagree with each of the following statements. (EU27) (%)



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However, less than half (48%) believe that robots and Artificial Intelligence should be used more widely outside the workplace, including one in ten who 'totally agree' with this statement. Conversely, more than four in ten (43%) hold the opposite view, with 14% who are in total disagreement.

For each of these statements, less than one in ten respondents say they don't know (between 4% and 9%).

²⁴ QB6. Please tell me to what extent you agree or disagree with each of the following statements. 2) Robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home; 3) Robots and Artificial

Intelligence are technologies that require careful management; 9) Robots and Artificial Intelligence should be used more widely outside the workplace. Totally agree; Tend to agree; Tend to disagree; Totally disagree; Don't know.

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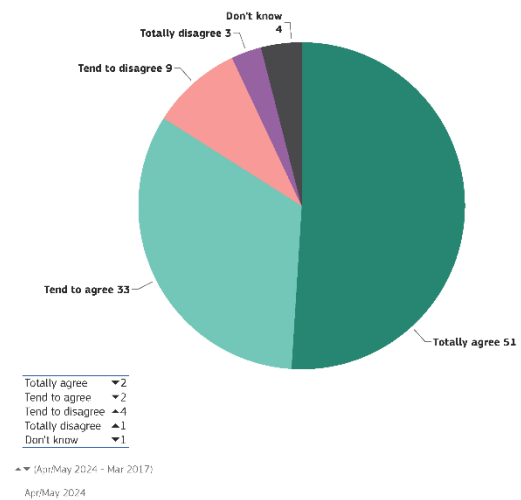
In 22 EU Member States, at least eight in ten agree that robots and Artificial Intelligence are technologies that require careful management. Agreement levels are highest in Finland (97%) and Sweden (95%) as well as in Denmark, Luxembourg and the Netherlands (all 94%). At the opposite end of the scale, around two thirds agree in Romania (67%), as do 76% in Croatia and 77% in Portugal.

At least three quarters are in total agreement with the statement in Sweden (83%), Finland (79%) and the Netherlands (75%).

Respondents in Romania (26%), Croatia (22%) and Italy (19%) are the most likely to disagree that these technologies require careful management.

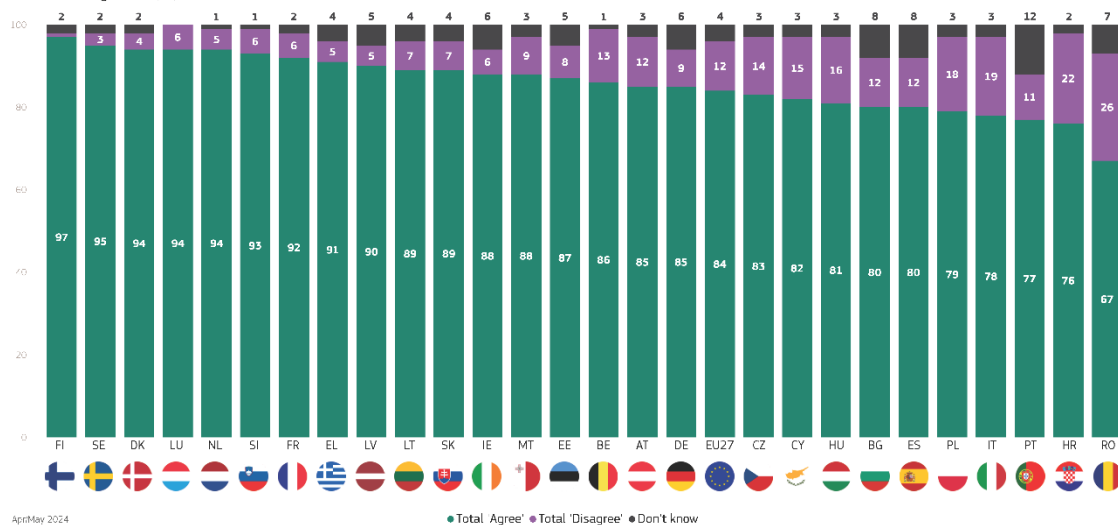
Since March 2017, the share of respondents who agree that robots and Artificial Intelligence are technologies that require careful management has declined in 20 EU Member States, with the largest decreases observed in Cyprus (-11 percentage points) and Bulgaria (-9 pp) and in Croatia, Portugal and Romania (all -8 pp).

QB6.3. 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 (EU27) (%)



Agreement levels have increased in seven countries, particularly in Finland (+5 percentage points) and in Malta and Slovenia (both +4 pp).

QB6.3. 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 (%)



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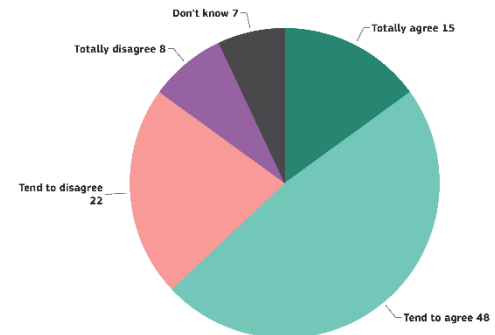
In 21 countries, at least six in ten believe that robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home. This share of respondents is highest in Denmark (84%), Slovakia (80%) and Latvia (79%). At the other end of the spectrum, 53% in France and Romania and 55% in Greece give this answer.

At least one quarter in Denmark (31%), Latvia (27%) and Lithuania (25%) are in total agreement with this statement.

Disagreement is most widespread among respondents in France (40%) and Romania (39%) and in Cyprus and Greece (both 38%).

In 21 countries, agreement with the statement 'robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home' has declined since March 2017. Decreases of more than ten percentage points are found in Bulgaria (-14 pp), Romania (-13 pp) and Czechia (-12 pp).

QB6.2. 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 (EU27) (%)



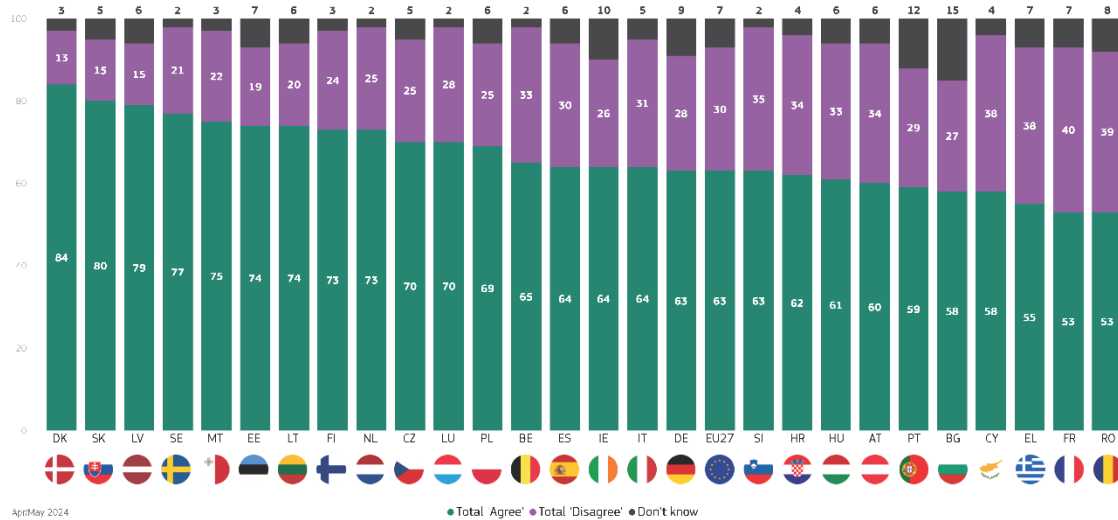
Totally agree ▼6
 Tend to agree ▲1
 Tend to disagree ▲3
 Totally disagree ▲1
 Don't know ▲1

▲▼ (Apr/May 2024 - Mar 2017)
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Conversely, this share of respondents has increased in four countries: Malta (+7 percentage points) and Luxembourg (+5 pp) as well as Cyprus and Greece (both +2 pp).

This proportion has remained stable in Finland and Slovenia.

QB6.2. 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 (%)



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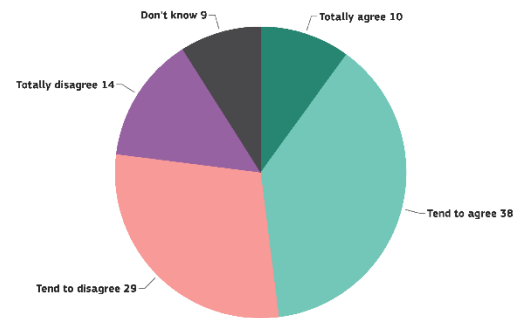
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A majority of respondents in 13 EU Member States agree that robots and Artificial Intelligence should be used more widely outside the workplace. This is especially the case in Poland (63%) and Malta (62%) and in Italy and Latvia (both 57%). At the opposite end of the scale, one third hold this view in France (33%), as do 42% in Germany and 43% in Luxembourg and Slovenia.

The share of respondents in total agreement with the statement reaches 18% in Cyprus, Latvia and Malta.

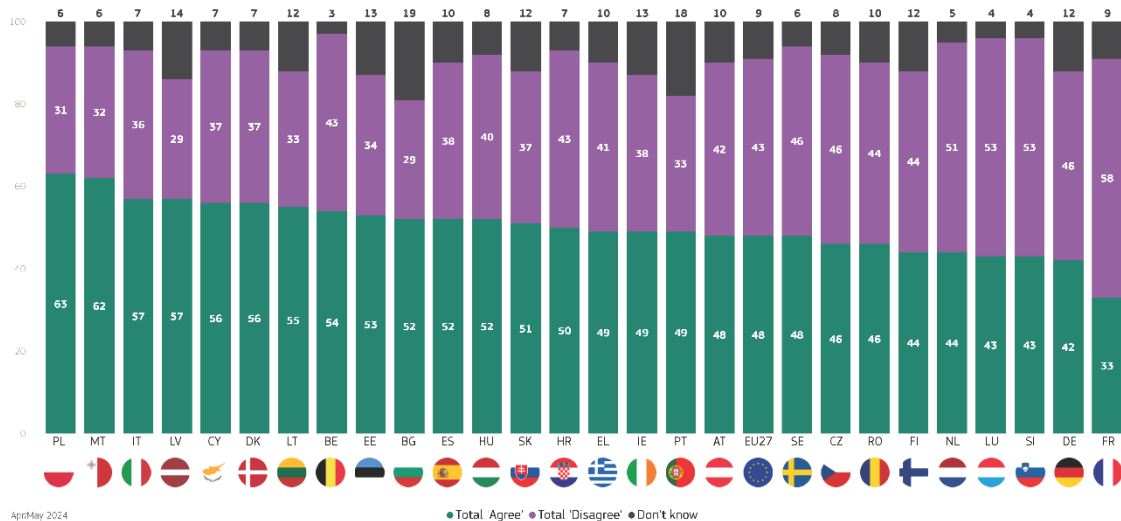
Majorities in France (58%), Luxembourg and Slovenia (both 53%) and the Netherlands (51%) disagree that these technologies should be used more widely. Close to one in five say they don't know in Bulgaria (19%) and Portugal (18%).

QB6.9. Please tell me to what extent you agree or disagree with each of the following statements: Robots and Artificial Intelligence should be used more widely outside the workplace (EU27) (%)



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QB6.9. Please tell me to what extent you agree or disagree with each of the following statements: Robots and Artificial Intelligence should be used more widely outside the workplace (%)



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The *socio-demographic analysis* shows the following differences in agreement levels across the three statements:

- Men are more likely than women to agree that robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home (66% vs 60%) and that they should be used more widely outside the workplace (51% vs 45%).
- Younger respondents are more inclined to agree that robots and Artificial Intelligence are a good thing for society (75% of those aged 15-24, compared to 54% of those aged 55+) and that they should be used more widely outside the workplace (56% of those aged 15-39, compared to 40% of those aged 55+). Similarly, the youngest respondents (aged 15-24) are more likely than the oldest ones (aged 55+) to agree that robots and Artificial Intelligence are technologies that require careful management (87% vs 83%).
- The longer respondents remained in full-time education, the more likely they are to agree with each statement. For instance, seven in ten of those who finished education aged 20 or older agree that robots and Artificial Intelligence are a good thing for society, compared to less than half (45%) of those who finished aged 15 or younger.
- Managers and other white-collar workers are the most likely to agree with each of these statements about robots and Artificial Intelligence. This is most evident with regard to the statement 'robots and Artificial Intelligence should be used more widely outside the workplace' (56-57% of managers and other white collars, compared to 41% of house persons).
- Those who have difficulties paying bills from time to time or less often are more likely than those who have difficulties most of the time to think that robots and Artificial Intelligence are a good thing for society (59-66% vs 52%) and that these technologies should be used more widely outside the workplace (48% vs 42%).
- Agreement with these three statements is more widespread among those who live in small, mid-sized or large towns than it is among those living in rural villages. By way of example, 53% of those living in large towns and 48% of those living in small or mid-sized towns indicate that robots and Artificial Intelligence should be used more widely outside the workplace, compared to 43% of those living in rural villages.
- Those who are currently working are more likely than those who are not currently working to think that robots and Artificial Intelligence are a good thing for society (67% vs 59%) and that they should be used more widely outside the workplace (52% vs 43%).
- Respondents working in the public sector are the most likely to agree that robots and Artificial Intelligence are a good thing for society (72%, compared to 55% of those working in agriculture, forestry and fishing), but also that these technologies require careful management (88%, compared to 78%). Those working in logistics are the most likely to say that these technologies should be used more widely outside the workplace (58%, compared to 49% of those working in agriculture, forestry and fishing).
- The view that robots and Artificial Intelligence are a good thing for society is more common among those working in larger establishments (73% of those working in establishments employing 250+ people, compared to 57-67% of those working in establishments employing less than 50 people). However, those working in establishments employing 50+ people are also more inclined to agree that these technologies require careful management (87-94%, compared to 83-84% of those working in smaller establishments).

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QB6 Please tell me to what extent you agree or disagree with each of the following statements.
(Total 'Agree' % - EU)

	Robots and Artificial Intelligence are technologies that require careful management	Robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home	Robots and Artificial Intelligence should be used more widely outside the workplace
EU27	84	63	48
 Gender			
Man	85	66	51
Woman	83	60	45
 Age			
15-24	87	75	56
25-39	84	71	56
40-54	85	65	50
55 +	83	54	40
 Education (End of)			
15-	74	45	36
16-19	82	60	47
20+	90	70	50
Still studying	90	77	59
Socio-professional category			
Self-employed	84	66	51
Managers	91	76	56
Other white collars	88	70	57
Manual workers	80	61	47
House persons	76	51	41
Unemployed	83	57	43
Difficulties paying bills			
Most of the time	80	52	42
From time to time	80	59	48
Almost never/ Never	86	66	48
Subjective urbanisation			
Rural village	82	58	43
Small/ mid size town	85	63	48
Large town	86	68	53
Current working status			
Currently not working	83	59	43
Currently working	85	67	52
Sector of employment			
Agriculture, forestry and fishing	78	55	49
Manufacturing	83	66	55
Logistics	80	69	58
Service, including retail trade, accommodation, transportation, food services	86	67	51
Public sector	88	72	51
Size of the workforce at your work site			
1	84	57	42
2-9	83	64	53
10-49	83	67	52
50-250	87	71	52
More than 250	94	73	54
Don't know but less than 10 people (SPONTANEOUS)	100	21	20
Don't know but 10 people or more (SPONTANEOUS)	68	39	42
Awareness of the use that your employer makes of digital technologies, including Artificial Intelligence			
Aware	90	77	61
Unaware	76	52	40

b) On specific activities

Perceptions of the use of digital technologies, including Artificial Intelligence, for activities in the workplace are mixed: slightly more negative than **positive, with the exception of improving workers' safety and security**, allocating tasks and managing working schedules and shifts.

Around two thirds of the respondents (67%) positively perceive the use of digital technologies, including Artificial Intelligence, to **improve workers' safety and security**, including two in ten who see this 'very positively'. This compares to 25% who have a negative perception²⁵.

Less than half (49%) – yet a relative majority – positively perceive the use of such technologies to allocate tasks to workers or manage their working schedules and shifts, while 44% negatively perceive this, including 17% who regard this as 'very' negative.

Minorities of the respondents positively perceive the use of such technologies for the other activities tested in the survey. Positive perceptions of the use of digital technologies to **collect, process, and store workers' personal data** are shared by 44% of the respondents, compared to 49% who hold a negative view (including 21% who have a 'very' negative view).

Similarly, 43% positively perceive the use of these technologies to gather additional information on applicants for a job, while half of the respondents see this in a negative light (with 22% who perceive this 'very negatively').

The use of digital technologies to select applicants for a job is positively regarded by 36% of the respondents, compared to 57% who negatively perceive their use for this activity, including one quarter who have a 'very' negative perception.

The same figures can be observed with regard to perceptions of the use of these technologies to assess **workers' performance**: 36% have positive perceptions and 57% have negative perceptions (with 23% who hold a 'very' negative opinion).

QB8. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities (EU27) (%)



Around three in ten (31%) hold positive perceptions towards the use of such technologies to monitor workers. Conversely, more than six in ten (63%) perceive this in a negative manner, including close to three in ten (28%) who have a 'very' negative view.

Lastly, less than one in five (16%) positively perceive the use of digital technologies to automatically fire workers, compared to 78% who regard this in a negative manner (including 54% who perceive this 'very negatively').

Between 6% and 8% of the respondents say they don't know with regard to each statement.

²⁵ QB8. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities: 1) Gathering additional information on applicants for a job; 2) Selecting applicants for a job; 3) Allocating tasks to workers or managing their working

schedules and shifts; 4) Collecting, processing, and storing workers' personal data; 5) Improving workers' safety and security; 6) Monitoring workers; 7) Assessing workers' performance; 8) Automatically firing workers. Very positively; Somewhat positively; Somewhat negatively; Very negative; Don't know.

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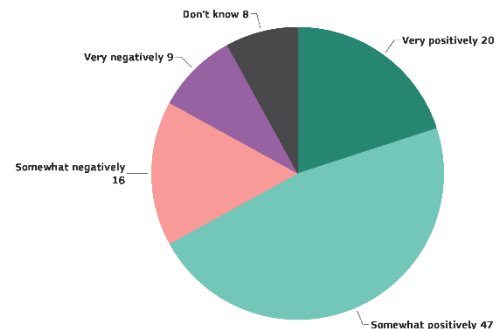
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In all EU Member States, at least half of the respondents positively perceive the use of digital technologies to **improve workers' safety and security**. This view is most widely held in Finland (85%), Sweden (82%) and Denmark (78%). At the other end of the spectrum, half of the respondents positively regard this in Romania and close to six in ten do so in Croatia (58%) and Portugal (59%).

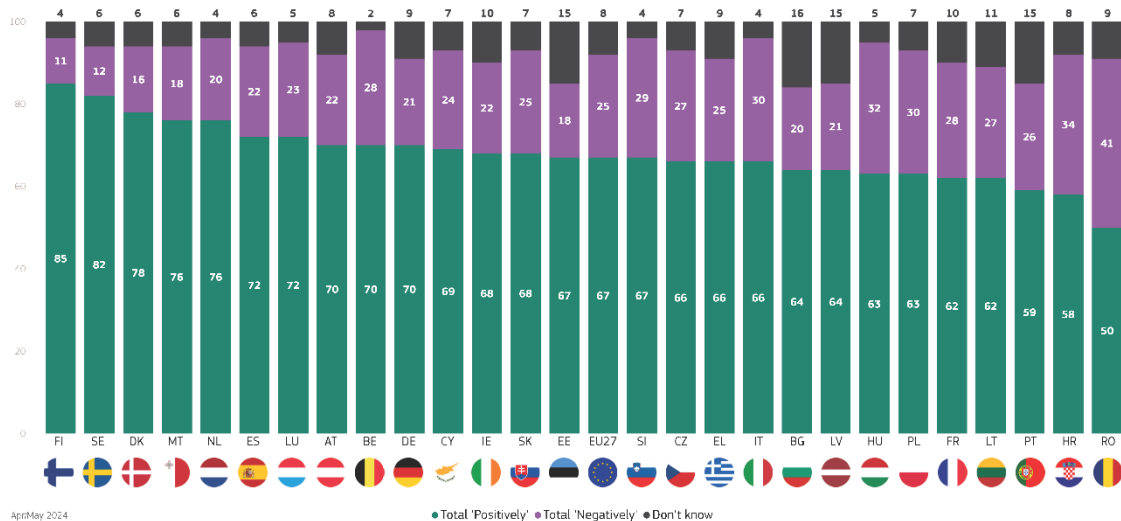
More than three in ten in Romania (41%), Croatia (34%) and Hungary (32%) negatively perceive the use of digital technologies to improve workers' safety and security.

Q88.5. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Improving workers' safety and security (EU27) (%)



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Q88.5. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Improving workers' safety and security (%)



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● Total 'Positively' ● Total 'Negatively' ● Don't know

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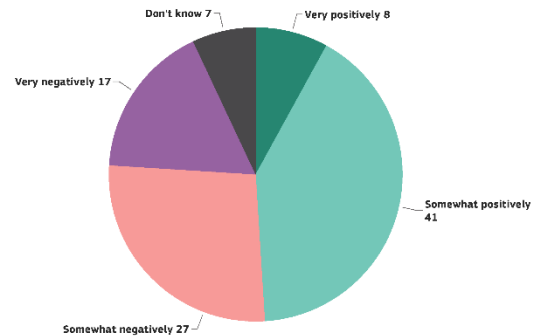
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Positive perceptions of the use of digital technologies to allocate tasks to workers or manage their working schedules and shifts are shared by at least half of the respondents in 21 countries. This proportion ranges from at least six in ten in Malta (73%) and Finland (64%) and in Denmark and the Netherlands (both 60%) to 35% in France and 41% in Croatia and Portugal.

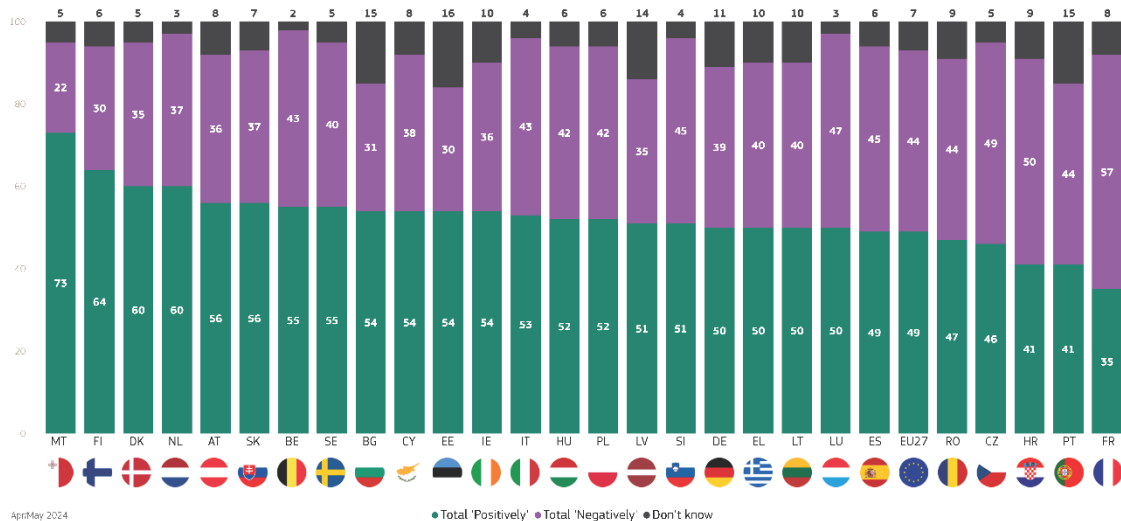
By contrast, close to half or more hold negative views of the use of such technologies for these activities in France (57%), Croatia (50%) and Czechia (49%).

QB8.3. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities: Allocating tasks to workers or managing their working schedules and shifts (EU27) (%)



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QB8.3. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities: Allocating tasks to workers or managing their working schedules and shifts (%)



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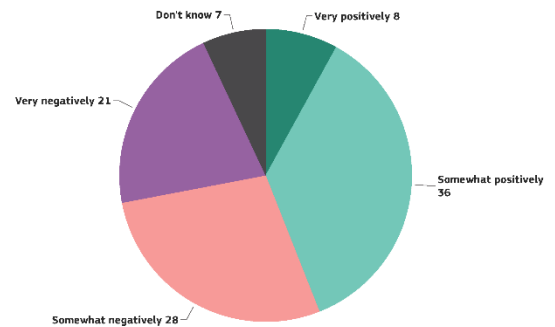
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In 12 EU Member States, at least half see the use of digital technologies to collect, process, and store workers' personal data in a positive light. This view is most widespread in Malta (67%), the Netherlands (58%) and Poland (57%). At the opposite end of the scale, respondents in France (24%), Greece (28%) and Germany (37%) are the least likely to hold this opinion.

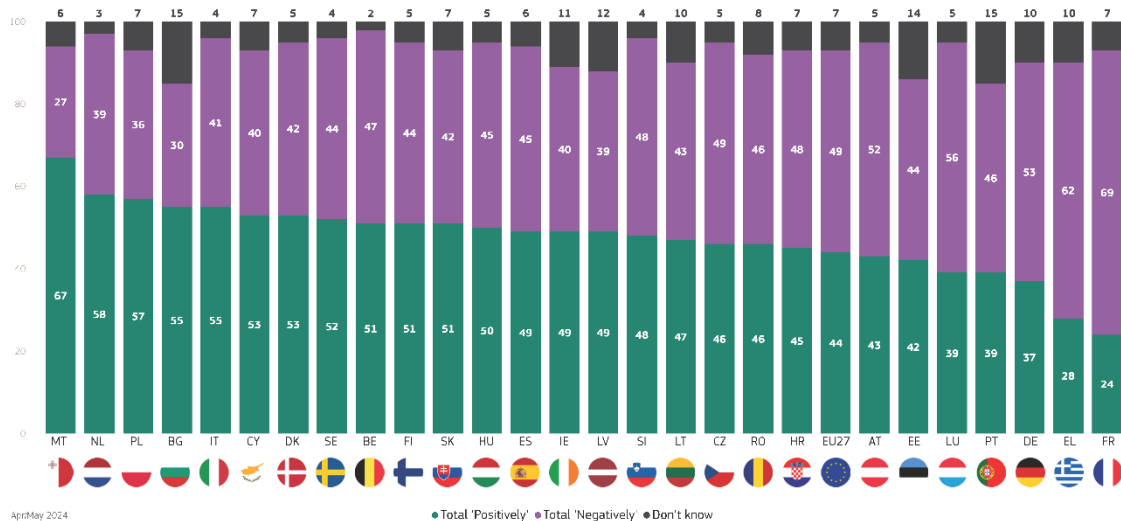
Majorities in five countries negatively perceive the use of such technologies to collect, process, and store workers' personal data. This is most notably the case in France (69%), Greece (62%) and Luxembourg (56%).

Q88.4. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Collecting, processing, and storing workers' personal data (EU27) (%)



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Q88.4. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Collecting, processing, and storing workers' personal data (%)



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● Total 'Positively' ● Total 'Negatively' ● Don't know

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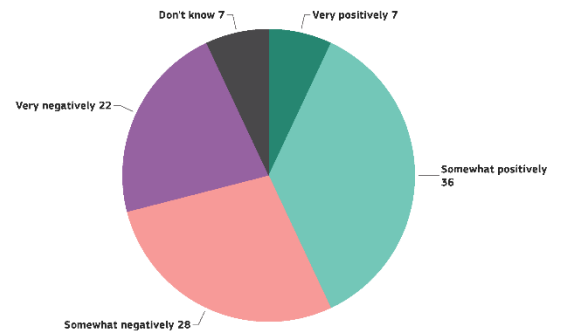
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At least four in ten in 21 countries positively view the use of digital technologies to gather additional information on applicants for a job. A majority of respondents give this answer in Sweden (68%) and Malta (65%) and in Cyprus and Poland (both 54%). This compares to 27% in France and 37% in Lithuania and Slovenia who hold a positive view.

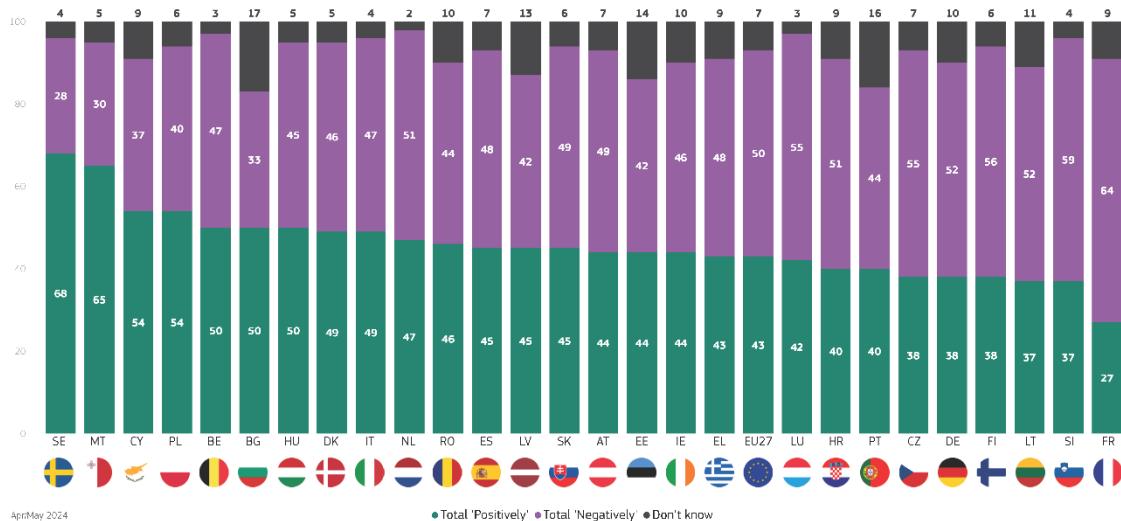
In nine countries, the majority sees the use of these technologies to gather additional information on applicants for a job in a negative light, most notably in France (64%), Slovenia (59%) and Finland (56%).

Q88.1. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Gathering additional information on applicants for a job (EU27) (%)



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Q88.1. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Gathering additional information on applicants for a job (%)



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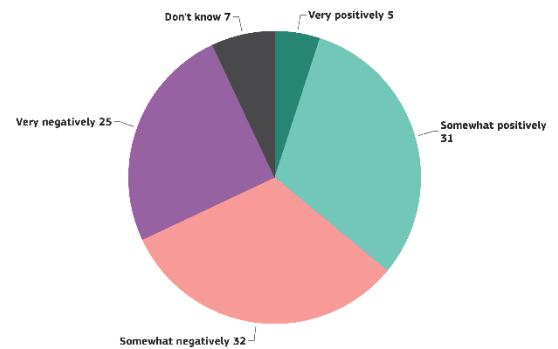
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In 11 EU Member States, the use of digital technologies to select applicants for a job is positively perceived by at least four in ten. This is most notably the case for a majority in Malta (52%) and for 45% in Cyprus and Sweden, while the lowest proportions holding this view can be observed in France (25%) and Finland (29%) and in Lithuania and Slovenia (both 31%).

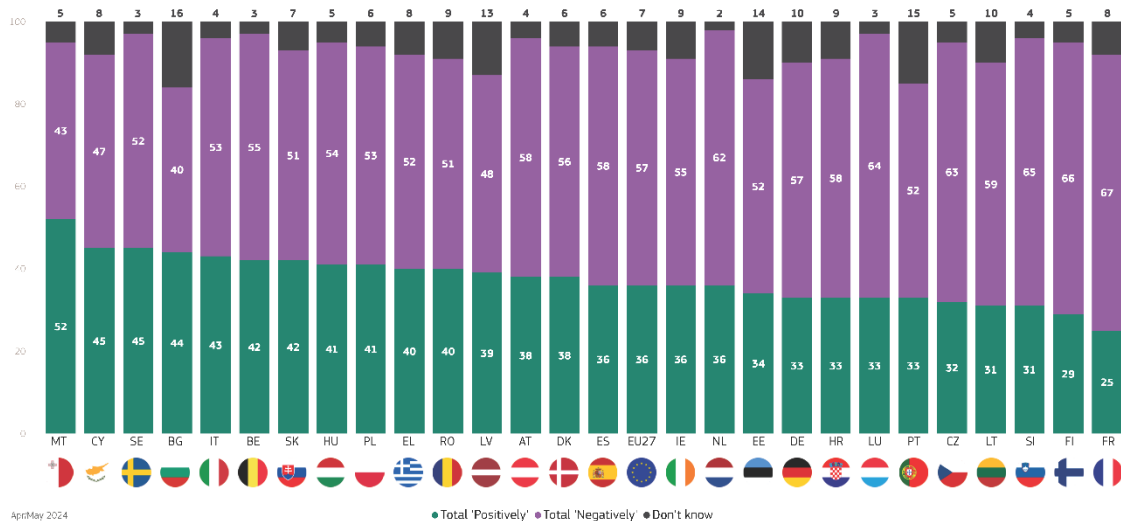
Conversely, a majority of respondents in 23 countries negatively perceive such use of digital technologies, with the highest shares having this opinion recorded in France (67%), Finland (66%) and Slovenia (65%).

Q88.2. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Selecting applicants for a job (EU27) (%)



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Q88.2. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Selecting applicants for a job (%)



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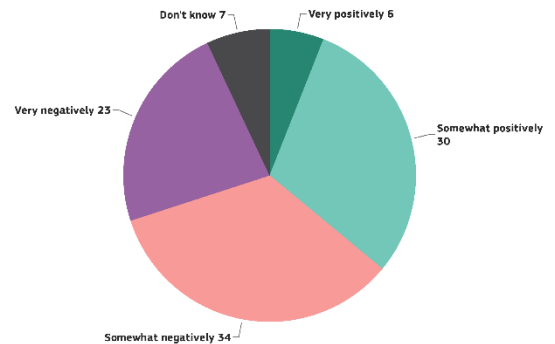
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In 17 countries, more than four in ten positively perceive the use of digital technologies to **assess workers' performance**. This is the majority view in Malta (64%) and Cyprus (53%), while close to half say this in Hungary and Poland (both 48%). At the other end of the scale, 23% in Germany, 25% in the Netherlands and 26% in France give this answer.

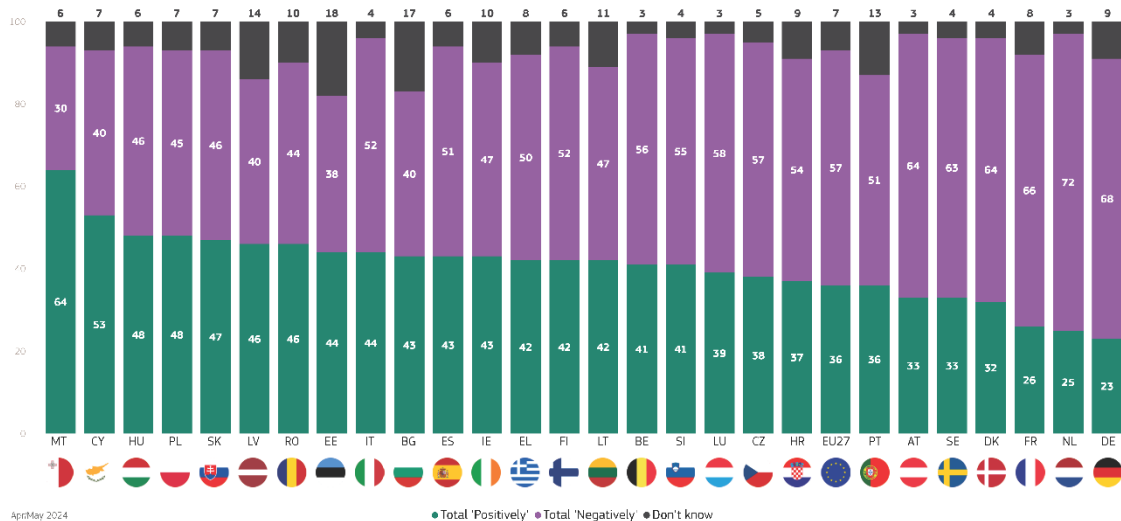
In 15 EU Member States, majorities hold a negative opinion of the assessment of workers' performance via digital technologies, with this view being most widespread in the Netherlands (72%), Germany (68%) and France (66%).

Q88.7. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Assessing workers' performance (EU27) (%)



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Q88.7. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Assessing workers' performance (%)



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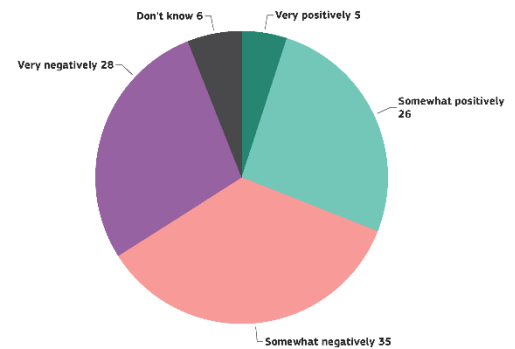
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At least four in ten in 12 countries regard the use of digital technologies to monitor workers in a positive light. This proportion ranges from 63% in Malta, 50% in Poland and 47% in Latvia and Romania to less than one fifth in Germany (14%) and Sweden (17%) and in Denmark and France (both 19%).

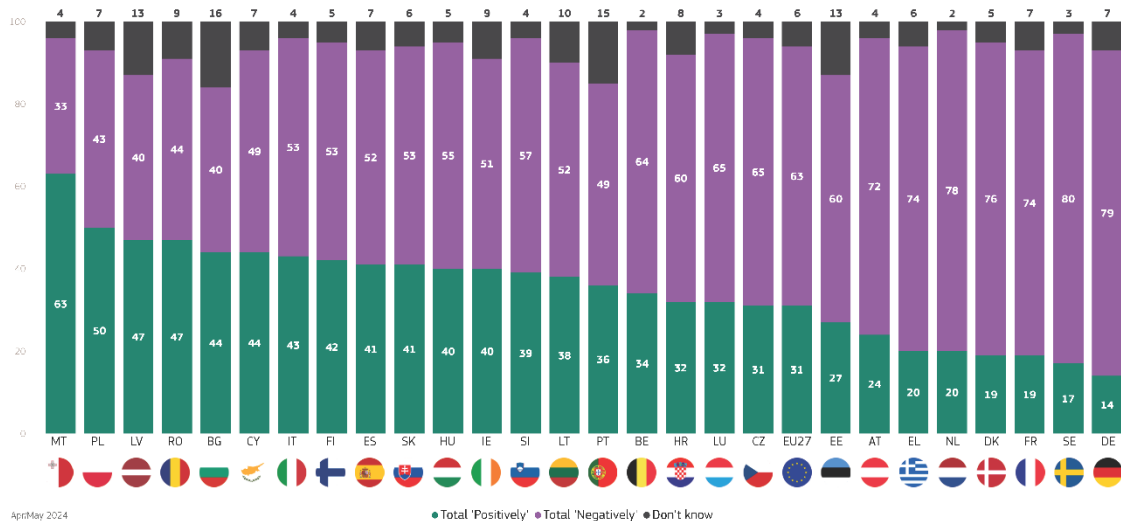
In 20 countries, the majority of respondents hold a negative view of such use of these technologies, with more than three quarters giving this answer in Sweden (80%), Germany (79%), the Netherlands (78%) and Denmark (76%).

Q88.6. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Monitoring workers (EU27) (%)



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Q88.6. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Monitoring workers (%)



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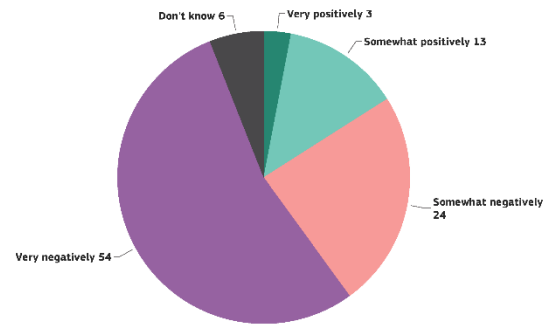
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Interestingly, more than two in ten in six EU Member States positively regard the use of digital technologies to automatically fire workers, including at least one quarter in Poland (33%), Romania (28%) and Cyprus (25%). This compares to less than one in twenty who hold this view in Denmark (2%), Sweden (3%) and Finland (4%).

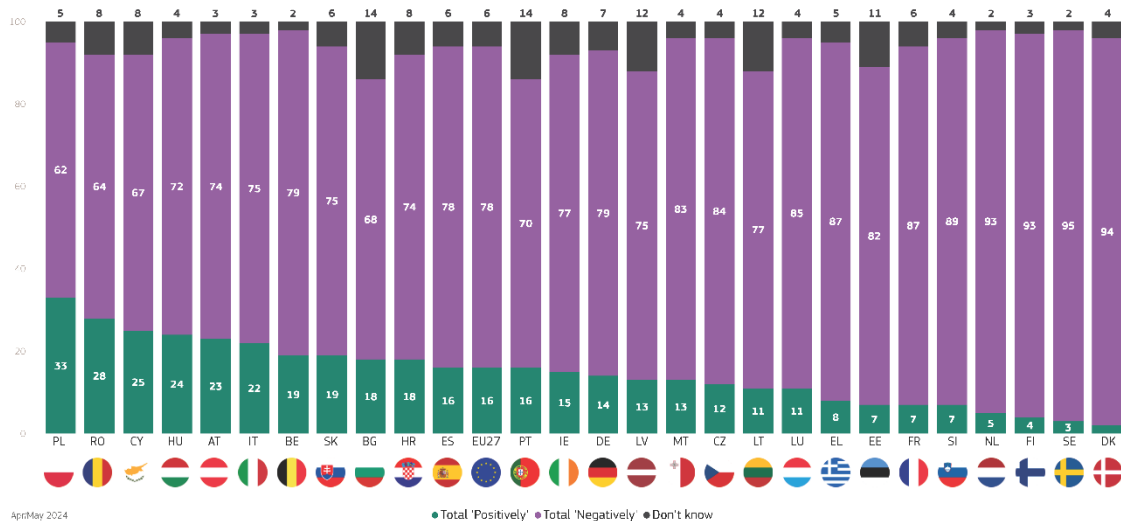
In all 27 EU Member States, the use of digital technologies to automatically fire workers is negatively perceived by more than six in ten, with the highest shares of respondents giving this answer recorded in Sweden (95%) and Denmark (94%) and in Finland and the Netherlands (both 93%).

Q88.8. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Automatically firing workers (EU27) (%)



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Q88.8. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:-Automatically firing workers (%)



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The *socio-demographic analysis* reveals that men are more likely than women to positively perceive the use of digital technologies, including Artificial Intelligence, in the workplace for most of the activities tested in the survey, with the notable exception of ‘automatically firing workers’ (16% in both groups). This pattern is most visible in relation to ‘gathering additional information on applicants for a job’ (46% of men, compared to 40% of women). The analysis also illustrates the following differences:

- Positive perceptions of the use of digital technologies, including Artificial Intelligence, in the workplace are most widespread among younger respondents for each of the activities tested. For instance, more than six in ten (62%) among those aged 15-24 positively perceive the use of these technologies to allocate tasks to workers or managing their working schedules and shifts, compared to four in ten among those aged 55+.
- Those who are aware of the use their employer makes of digital technologies are more inclined than those who are not aware to positively perceive the use of these technologies in the workplace for each of the activities tested. This pattern appears most evidently in the case of ‘allocating tasks to workers or managing their working schedules and shifts’ (63% vs 36%).
- Those who remained in full-time education until the age of 16 or older are more likely than those who left education earlier to hold a positive view of the use of such technologies in the workplace for each of the activities tested, except ‘automatically firing workers’. For example, more than four in ten (43-47%) among those who finished education aged 16 or older positively perceive the use of these technologies to collect, process, and store workers' personal data, compared to around one third (32%) among those who left education earlier.
- For most of the activities tested, the shares of respondents who have a positive perception of the use of digital technologies are highest among the self-employed, managers and other white-collar workers. This is especially the case in relation to ‘collecting, processing, and storing workers' personal data’ (49-53%, compared to 35% of the unemployed).
- For all the activities tested (except for ‘**automatically firing workers**’), positive opinions about the use of these technologies are least common among those who have difficulties paying their bills most of the time. This is once again most evident in the case of ‘collecting, processing, and storing workers' personal data’ (34%, compared to 42-47% of those who have difficulties from time to time or less often).
- Respondents who are currently working are more likely than those who are not currently working to have a positive view of the use of digital technologies in the workplace for each of the activities tested. By way of example, 47% of those currently working positively see the use of these technologies to gather additional information on applicants for a job, compared to 38% of those who are not currently working.
- Those working in agriculture, forestry and fishing are the least likely to positively perceive the use of digital technologies for most of the activities tested. For instance, 40% of these respondents positively perceive the use of these technologies to allocate tasks to workers or manage their working schedules and shifts, compared to 53-59% of those working in other sectors of the economy.

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QB8 In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities Gathering additional information on applicants for a job (% Total 'Positively' - EU)

	Improving workers' safety and security	Allocating tasks to workers or managing their working schedules and shifts	Collecting, processing, and storing workers' personal data	Gathering additional information on applicants for a job	Selecting applicants for a job	Assessing workers' performance	Monitoring workers	Automatically firing workers
EU27	67	49	44	43	36	36	31	16
 Gender								
Man	70	51	45	46	38	39	32	16
Woman	65	47	43	40	34	34	30	16
 Age								
15-24	77	62	57	53	46	49	44	23
25-39	69	55	50	47	40	41	35	18
40-54	69	52	45	45	37	39	32	17
55 +	62	40	37	35	30	28	24	12
 Education (End of)								
15-	53	34	32	31	27	27	24	13
16-19	62	45	43	41	35	36	31	18
20+	74	55	47	46	38	38	30	13
Still studying	81	65	58	52	47	47	39	20
Socio-professional category								
Self-employed	70	54	49	47	42	41	36	17
Managers	76	60	51	51	41	40	32	15
Other white collars	73	54	53	51	43	43	38	19
Manual workers	64	47	41	41	34	36	32	19
House persons	53	44	40	36	29	35	28	16
Unemployed	66	44	35	37	27	29	28	12
Difficulties paying bills								
Most of the time	59	41	34	39	33	31	26	15
From time to time	62	46	42	41	35	37	32	21
Almost never/ Never	70	51	47	43	36	35	31	14
Subjective urbanisation								
Rural village	62	42	39	39	31	33	28	15
Small/ mid size town	68	51	45	43	36	36	32	16
Large town	71	53	49	46	40	39	33	17
Current working status								
Currently not working	64	45	40	38	32	32	28	14
Currently working	70	53	48	47	39	39	34	17
Sector of employment								
Agriculture, forestry and fishing	63	40	38	38	28	32	33	16
Manufacturing	69	54	46	46	41	40	36	20
Logistics	69	59	51	52	43	46	42	23
Service, including retail trade, accommodation, transportation, food services	70	53	48	47	39	40	33	17
Public sector	71	54	48	47	38	36	31	16
Size of the workforce at your work site								
1	63	45	43	42	36	37	30	16
2-9	67	51	48	45	39	40	35	19
10-49	70	53	49	48	39	42	36	20
50-250	73	58	49	50	39	37	34	17
More than 250	75	55	43	47	40	34	28	12
Don't know but less than 10 people (SPONTANEOUS)	35	18	18	1		1		
Don't know but 10 people or more (SPONTANEOUS)	57	34	34	33	9	21	23	6
Awareness of the use that your employer makes of digital technologies, including Artificial Intelligence								
Aware	78	63	56	56	46	48	41	23
Unaware	56	36	32	31	27	25	22	11

3. Perceptions of rules on digital technologies in the workplace

Large majorities attach importance to rules addressing risks and maximising the benefits of digital technologies in the workplace

Respondents were asked how important a series of rules would be in addressing risks and maximising the benefits of digital technologies, including Artificial Intelligence, in the workplace²⁶.

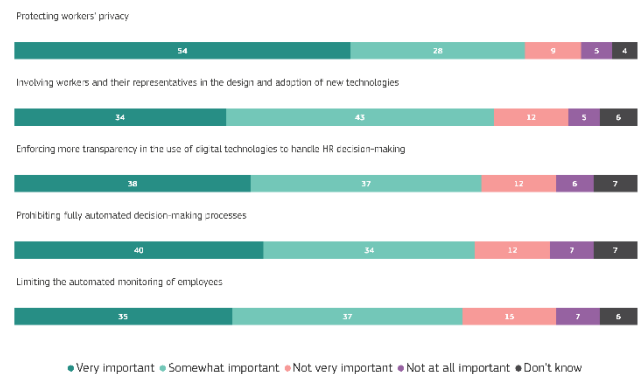
More than eight in ten (82%) say protecting workers' privacy would be important, with more than half (54%) who think this would be 'very important'. Conversely, 14% believe this rule would not be important.

Involving workers and their representatives in the design and adoption of new technologies is considered by more than three quarters (77%) as an important measure, with 34% who think this would be 'very important'. Less than one in five (17%) do not attach importance to this measure.

Three quarters of the respondents think that enforcing more transparency in the use of digital technologies to handle HR decision-making would be important, including 38% who consider this as 'very important', while close to one in five (18%) say this would not be important.

Prohibiting fully automated decision-making processes is considered important to address risks and maximising the benefits of digital technologies in the workplace by close to three quarters (74%), including 40% who regard this as 'very important'. By contrast, nearly one in five (19%) say this would not be important.

QB11. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace? (EU27) (%)



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More than seven in ten (72%) think it would be important to limit the automated monitoring of employees, including 35% who see this as 'very important', while around one in five (22%) do not attach importance to this measure.

For all these measures, between 4% and 7% of the respondents say they don't know whether they would be important.

²⁶ QB11. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace? 1) Protecting workers' privacy; 2) Prohibiting fully automated decision-making processes; 3) Limiting the automated monitoring of

employees; 4) Enforcing more transparency in the use of digital technologies to handle HR decision-making; 5) Involving workers and their representatives in the design and adoption of new technologies. Very important; Somewhat important; Not very important; Not at all important; Don't know.

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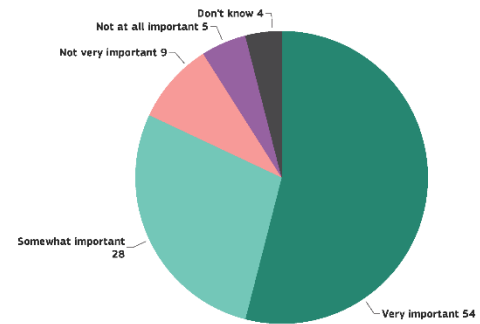
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In 19 EU Member States, at least eight in ten think protecting workers' privacy would be important in addressing risks and maximising the benefits of digital technologies in the workplace. More than nine in ten think this in Finland (95%) and the Netherlands (93%) and in Austria and Sweden (both 92%). At the other end of the spectrum, less than three quarters hold this view in Romania (70%) and Cyprus (72%) and in Poland and Portugal (both 74%).

More than seven in ten think this rule would be 'very important' in Finland (81%), the Netherlands (76%) and Sweden (73%).

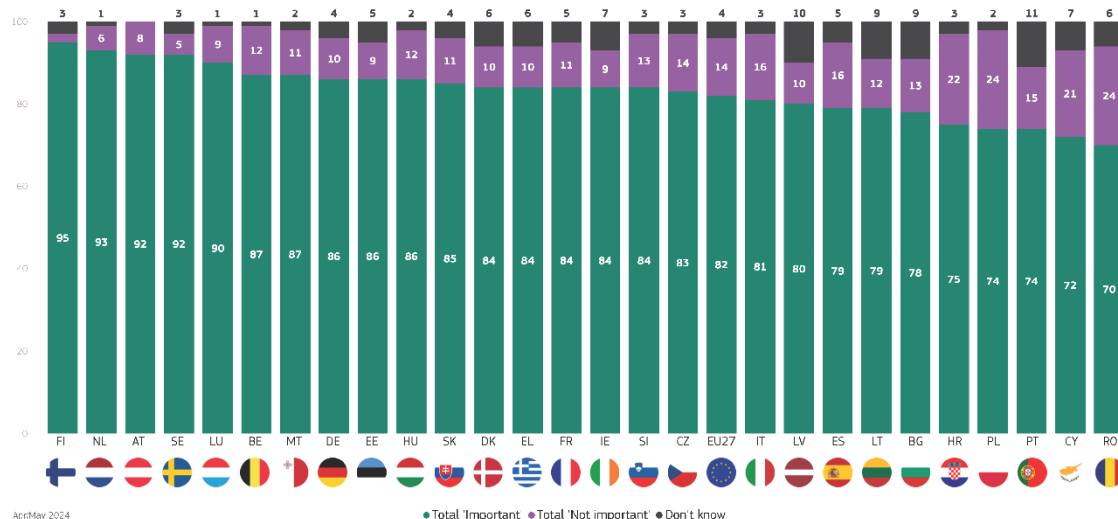
Finally, more than one in five in Poland and Romania (both 24%) and in Croatia (22%) and Cyprus (21%) believe protecting workers' privacy would not be important.

QB11.1. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?--Protecting workers' privacy (EU27) (%)



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QB11.1. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?--Protecting workers' privacy (%)



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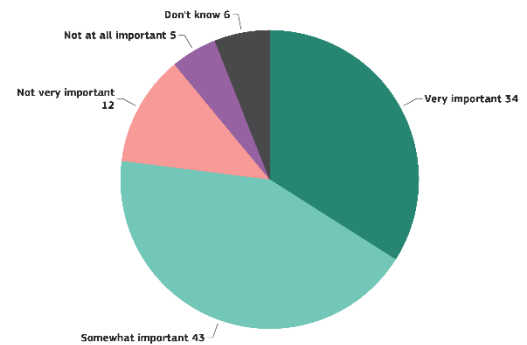
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At least three quarters in 17 countries indicate that involving workers and their representatives in the design and adoption of new technologies would be important in addressing risks and maximizing the benefits of digital technologies in the workplace. This proportion ranges from 90% in Finland and the Netherlands and 88% in Sweden to 65% in Portugal and 67% in Croatia and Romania.

Moreover, a majority of respondents in Finland (58%) and in Austria and the Netherlands (both 54%) consider this measure as 'very important'.

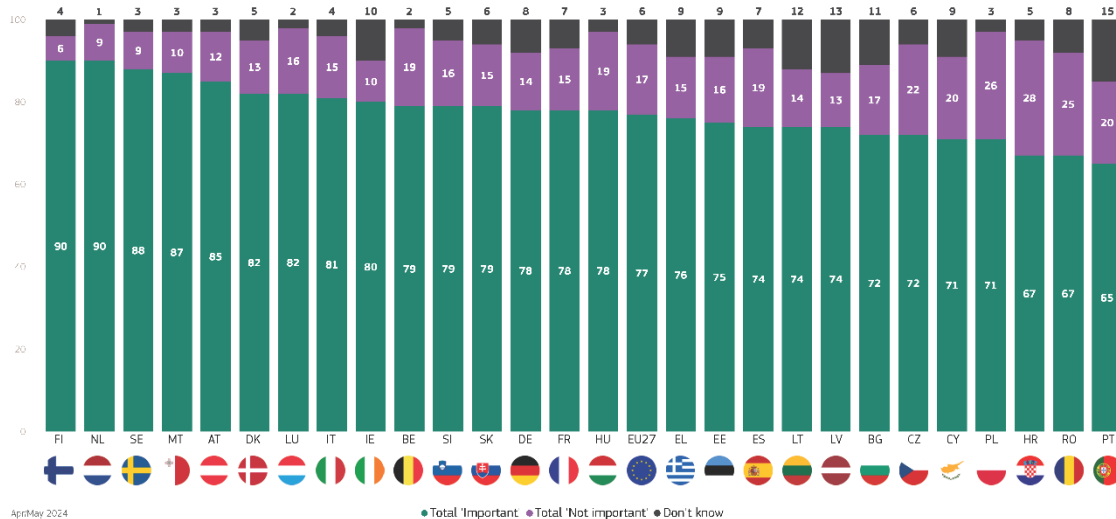
Respondents in Croatia (28%), Poland (26%) and Romania (25%) are the most likely to be of the opposite view and say that involving workers and their representatives would not be important

QB11.5. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Involving workers and their representatives in the design and adoption of new technologies (EU27) (%)



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QB11.5. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Involving workers and their representatives in the design and adoption of new technologies (%)



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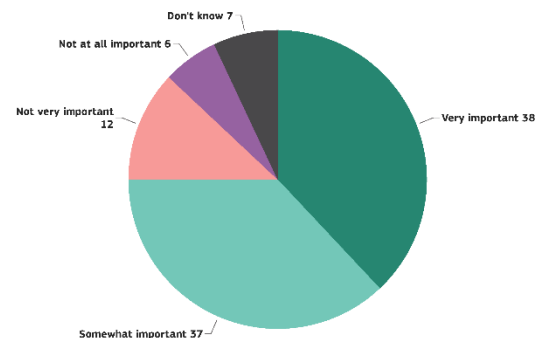
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In 14 EU Member States, at least three quarters attach importance to enforcing more transparency in the use of digital technologies to handle HR decision-making in addressing risks and maximizing the benefits of digital technologies in the workplace. The largest shares of respondents who give this answer are found in the Netherlands (87%), Finland (86%) and Luxembourg (85%), while the lowest can be observed in Portugal (62%) and in Croatia and Latvia (both 65%).

A majority of respondents in Austria (57%), the Netherlands (56%), Finland (53%) and Malta and Luxembourg (both 51%) consider this rule to be 'very important'.

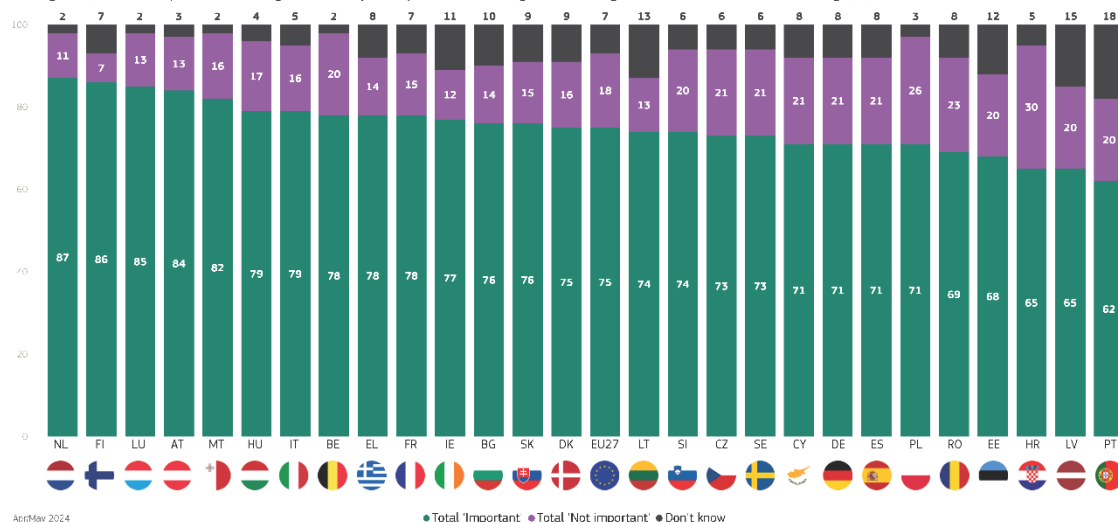
By contrast, respondents in Croatia (30%), Poland (26%) and Romania (23%) are the most likely to say that enforcing more transparency in the use of digital technologies to handle HR decision-making would not be important.

QB11.4. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Enforcing more transparency in the use of digital technologies to handle HR decision-making (EU27) (%)



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QB11.4. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Enforcing more transparency in the use of digital technologies to handle HR decision-making (%)



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● Total 'Important' ● Total 'Not important' ● Don't know

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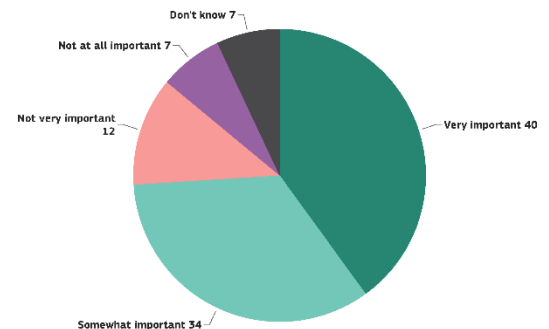
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In 20 countries, at least seven in ten consider that prohibiting fully automated decision-making processes would be important in addressing risks and maximising the benefits of digital technologies in the workplace. This view is most widely held in Austria and Luxembourg (both 85%) and in Belgium (81%), while respondents in Portugal (61%), Bulgaria (64%) and Cyprus (65%) are the least likely to share this opinion.

In Austria (57%), the Netherlands (55%), Luxembourg (52%) and Finland and France (both 51%), more than half regard this measure as ‘very important’.

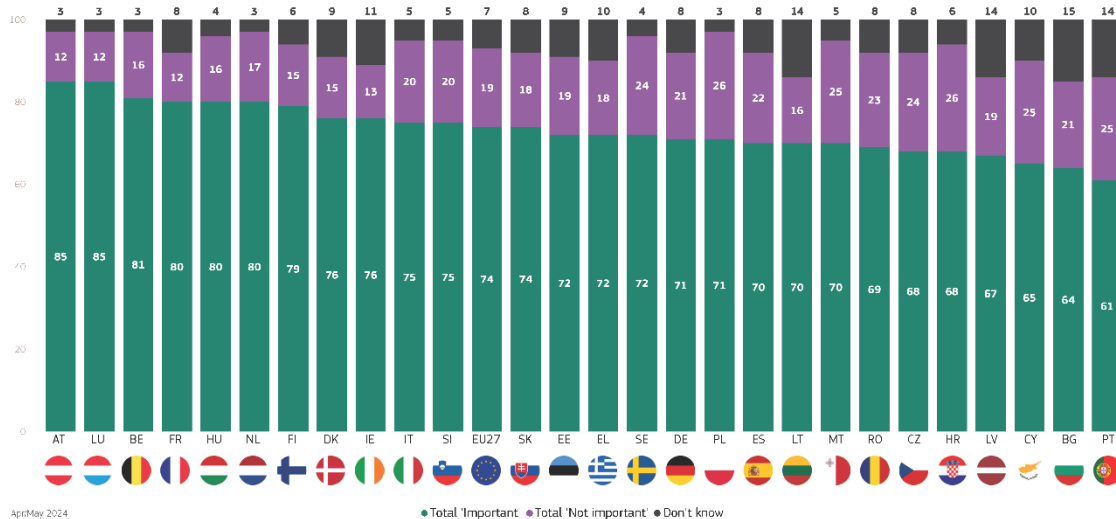
Conversely, prohibiting fully automated decision-making processes is considered as not important by at least one quarter in Croatia and Poland (both 26%) and in Cyprus, Malta and Portugal (all 25%).

QB11.2. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Prohibiting fully automated decision-making processes (EU27) (%)



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QB11.2. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Prohibiting fully automated decision-making processes (%)



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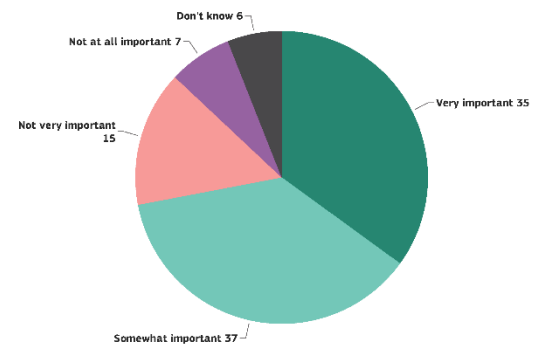
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At least seven in ten in 18 countries believe limiting the automated monitoring of employees would be important to address risks and maximising the benefits of digital technologies in the workplace. More than eight in ten give this answer in Sweden (86%), Luxembourg (84%) and Austria (81%), while 59% do so in Portugal and 61% in Croatia and Romania.

A majority of respondents in Austria (57%), the Netherlands (53%) and Sweden (52%) consider this as 'very important'.

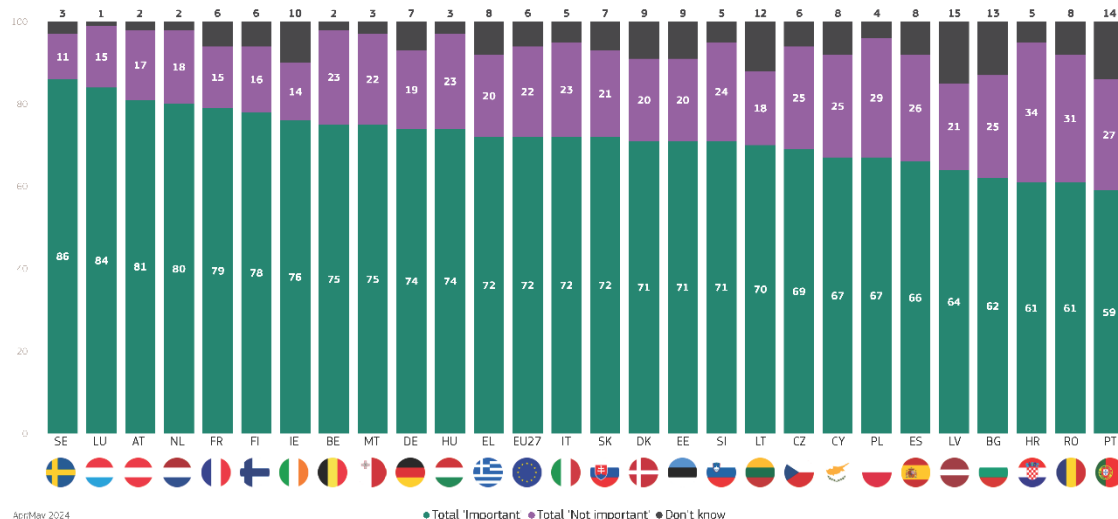
Those in Croatia (34%), Romania (31%) and Poland (29%) are the most likely to say this measure would not be important.

QB11.3. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Limiting the automated monitoring of employees (EU27) (%)



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QB11.3. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?—Limiting the automated monitoring of employees (%)



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● Total 'Important' ● Total 'Not important' ● Don't know

The *socio-demographic analysis* shows that men are more likely than women to indicate that involving workers and their representatives in the design and adoption of new technologies (79% vs 75%), enforcing more transparency in the use of digital technologies to handle HR decision-making (77% vs 73%) and limiting the automated monitoring of employees (74% vs 71%) would be important to address risks and maximising the benefits of digital technologies including Artificial Intelligence, in the workplace. The analysis also finds differences in terms of age, education, and socio-economic and professional background of the respondents:

- Managers are the most likely to attach importance to each of the measures tested. This is most notably the case for 'involving workers and their representatives in the design and adoption of new technologies' (87%, compared to 66% among house persons).
- Those who are aware of the use their employer makes of digital technologies are more inclined to believe each of these measures would be important to address risks and maximising the benefits of these technologies in the workplace. This is especially the case for the involvement of workers and their representatives in the design and adoption of new technologies (86% vs 70%).
- Those aged 15-54 are more inclined than those aged 55+ to consider each of the rules tested as important. This is particularly the case for 'involving workers and their representatives in the design and adoption of new technologies' (78-82% vs 74%).
- The longer respondents remained in full-time education, the more likely they are to think that each of the rules tested in the survey is important to address risks and maximising the benefits of digital technologies in the workplace. For instance, 82% of those who finished education aged 20 or older say that enforcing more transparency in the use of digital technologies to handle HR decision-making would be important, compared to 60% of those who ended education aged 15 or younger.
- Those who never or almost never have difficulties paying their bills are the most inclined to consider important each of the rules tested in the survey. For example, 85% of these respondents think protecting workers' privacy would

be important, compared to 78-80% of those who have difficulties at least from time to time.

- Respondents who are currently working are more likely than those who are not currently working to think each of the activities tested would be important to address risks and maximising the benefits of digital technologies including Artificial Intelligence, in the workplace. By way of example, 79% of those currently working give this answer for 'enforcing more transparency in the use of digital technologies to handle HR decision-making', compared to 70% of those who are not currently working.
- In all of these cases, those working in agriculture, forestry and fishing are the least likely or among the least likely to think these rules would be important. Conversely, those working in the public sector or in the service sector are the most likely to attach importance to each of these rules. These patterns are particularly evident in relation to the involvement of workers and their representatives in the design and adoption of new technologies (66% of those working in agriculture, forestry and fishing, compared to 81-83% of those working in the public or service sectors).
- Finally, respondents working in the largest establishments are more inclined than those working in smaller ones to indicate that each of the measures tested would be important. For example, 83% of those working in an establishment employing more than 250 people consider limiting the automated monitoring of employees as important, compared to 71-72% of those working in an establishment employing 1 to 9 people.

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QB11 How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace? Involving workers and their representatives in the design and adoption of new technologies
(% Total 'important' - EU)

	Protecting workers' privacy	Involving workers and their representatives in the design and adoption of new technologies	Enforcing more transparency in the use of digital technologies to handle HR decision-making	Prohibiting fully automated decision-making processes	Limiting the automated monitoring of employees
EU27	82	77	75	74	72
 Gender					
Man	83	79	77	74	74
Woman	82	75	73	73	71
 Age					
15-24	86	82	77	77	76
25-39	84	80	78	75	75
40-54	84	78	77	77	74
55 +	80	74	71	70	69
 Education (End of)					
15-	73	64	60	63	61
16-19	81	74	73	72	70
20+	88	84	82	80	78
Still studying	90	85	82	78	81
Socio-professional category					
Self-employed	84	81	79	76	73
Managers	90	87	86	84	83
Other white collars	88	83	82	79	77
Manual workers	80	74	73	73	71
House persons	74	66	65	67	63
Unemployed	81	73	69	67	69
Difficulties paying bills					
Most of the time	80	74	73	71	70
From time to time	78	74	72	72	69
Almost never/ Never	85	79	76	75	74
Subjective urbanisation					
Rural village	79	72	70	72	67
Small/ mid size town	83	78	75	73	73
Large town	84	80	80	78	76
Current working status					
Currently not working	80	74	70	69	69
Currently working	85	80	79	77	75
Sector of employment					
Agriculture, forestry and fishing	78	66	70	66	63
Manufacturing	83	79	77	75	74
Logistics	78	76	73	74	71
Service, including retail trade, accommodation, transportation, food services	86	81	81	78	77
Public sector	86	83	80	79	76
Including yourself, how many people in total work at your workplace, that is at the local site where you v					
1	85	78	77	75	71
2-9	82	76	76	74	72
10-49	83	79	78	78	75
50-250	87	84	82	78	79
More than 250	91	87	84	81	83
Don't know but less than 10 people (SPONTANEOUS)	34	21	100	100	35
Don't know but 10 people or more (SPONTANEOUS)	88	65	60	89	65
Awareness of the use that your employer makes of digital technologies, including Artificial Intelligence					
Aware	89	86	84	81	80
Unaware	77	70	70	71	68



IV. Experience with digital technologies in the workplace

The final chapter of the report first examines the extent to which people in employment are aware of the use of digital technologies in their workplace, and then focuses on the level of information about the use of these technologies in the workplace shared by employers and received by employees. Finally, the report looks at the provision to employees of the necessary tools or training to work effectively with the most recent digital technologies.

1. Awareness of the use of digital technologies

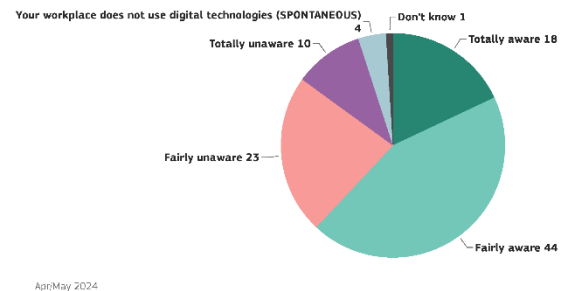
a) Overall

More than six in ten employees are aware of the use that their employer makes of digital technologies, to manage their activities

Respondents who are currently in employment were asked whether they are aware of the use that their employer makes of digital technologies, including Artificial Intelligence, to manage their or their co-workers' activities, with examples including setting working schedules, monitoring their activities, or evaluating performance²⁷.

More than six in ten (62%) say they are aware of the use of these technologies, with 18% who are 'totally aware'. Conversely, more than three in ten (33%) indicate that they are unaware, including one in ten who are 'totally unaware'. Less than one in twenty (4%) spontaneously say that their workplace does not use digital technologies and 1% say they don't know.

QB4. Overall, how aware are you of the use that your employer makes of digital technologies, including artificial intelligence, to manage your or your co-workers' activities? Examples include setting working schedules, monitoring your activities, or evaluating performance. (EU27) (%)



²⁷ QB4. Overall, how aware are you of the use that your employer makes of digital technologies, including artificial intelligence, to manage your or your co-workers' activities? Examples include setting working schedules, monitoring your activities, or

evaluating performance. Totally aware; Fairly aware; Fairly unaware; Totally unaware; Your workplace does not use digital technologies (SPONTANEOUS); Don't know.

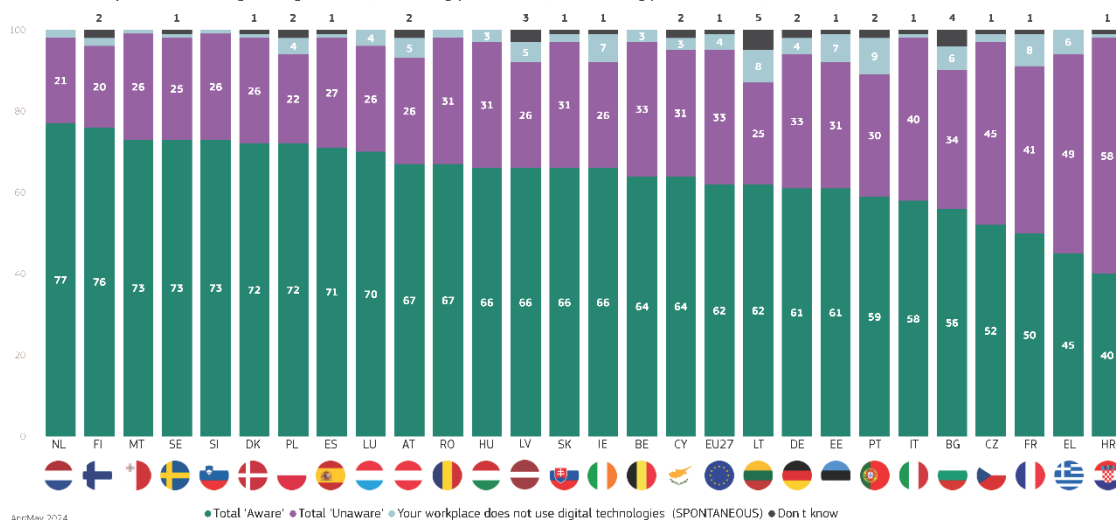
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In 24 out of the 27 EU Member States, a majority of respondents currently in employment say they are aware of the use that their employer makes of digital technologies, including Artificial Intelligence, to manage their or their co-workers' activities. This proportion is the highest in the Netherlands (77%) and Finland (76%) and in Malta, Slovenia and Sweden (all 73%). At the opposite end of the scale, half of these respondents or less are aware in Croatia (40%), Greece (45%) and Czechia (45%).

Around four in ten in the Netherlands (41%), Sweden (39%) and Denmark (38%) say they are 'totally aware'.

By contrast, a majority of employees in Croatia (58%) say they are unaware of the use of these technologies in their workplace, as do 49% in Greece and 45% in Czechia.

QB4. Overall, how aware are you of the use that your employer makes of digital technologies, including artificial intelligence, to manage your or your co-workers' activities? Examples include setting working schedules, monitoring your activities, or evaluating performance. (%)



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The *socio-demographic analysis* shows that there are differences in awareness of the use made by employers of digital technologies in terms of gender, age, level of education, and professional and socio-economic background of the employees:

- Men are more likely than women to say they are aware of the use that their employer makes of digital technologies, including Artificial Intelligence, to manage their or their co-workers' activities (65% vs 60%).
- Those aged 15-54 are more likely than older ones to say they are aware (63-65% vs 57%).
- The longer employees remained in full-time education, the more likely they are to say they are aware (68% of those who finished education aged 20 or older, compared to 44% of those who finished aged 15 or younger).
- Managers (74%) and other white-collar workers (66%) are more likely than manual workers (53%) to be aware of the use of digital technologies made by their employer.
- The less employees have difficulties paying their bills, the more likely they are to be aware (66% of those who never or almost never have difficulties, compared to 50% of those who have difficulties most of the time).
- Those working in agriculture, forestry and fishery are less inclined than those working in other sectors of the economy to be aware of the use of these technologies made by their employer (51% vs 62-66%).
- The level of awareness is higher among those working in larger establishments than among those working in smaller ones (72% of those working in establishments employing 250+ people, compared to 51-55% of those working in establishments employing 1-9 people).

QB4 Overall, how aware are you of the use that your employer makes of digital technologies, including artificial intelligence, to manage your or your co-workers' activities? Examples include setting working schedules, monitoring your activities, or evaluating performance.
(% - EU)

	Totally aware	Fairly aware	Fairly unaware	Totally unaware	Your workplace does not use digital technologies (SPONTANEOUS)	Don't know	Total 'Aware'	Total 'Unaware'
EU27	18	44	23	10	4	1	62	33
Gender								
Man	20	45	22	9	3	1	65	31
Woman	17	43	24	10	5	1	60	34
Age								
15-24	17	46	25	9	2	1	63	34
25-39	20	45	22	9	3	1	65	31
40-54	18	45	22	10	4	1	63	32
55 +	17	40	25	11	5	2	57	36
Education (End of)								
15-	11	33	28	17	9	2	44	45
16-19	12	46	25	11	4	2	58	36
20+	25	43	20	8	3	1	68	28
Still studying	24	44	16	13	3	0	68	29
Socio-professional category								
Managers	27	47	17	6	2	1	74	23
Other white collars	18	48	23	8	2	1	66	31
Manual workers	13	40	26	13	6	2	53	39
Sector of employment								
Agriculture, forestry and fishing	15	36	27	10	8	4	51	37
Manufacturing	16	49	21	10	3	1	65	31
Logistics	19	47	24	7	3	0	66	31
Service, including retail trade, accommodation, transportation, food services	19	43	23	10	4	1	62	33
Public sector	20	42	24	10	2	2	62	34
Size of the workforce at your work site								
1	20	31	20	13	16	0	51	33
2-9	13	42	26	12	6	1	55	38
10-49	16	46	23	10	3	2	62	33
50-250	19	47	22	9	2	1	66	31
More than 250	31	41	17	7	2	2	72	24
Don't know but less than 10 people (SPONTANEOUS)	0	16	65	0	19	0	16	65
Don't know but 10 people or more (SPONTANEOUS)	1	13	42	41	3	0	14	83

b) Activities performed by digital technologies

More than one in five respondents with a current or past occupation say that most of the activities tested in the survey have been performed by digital technologies in their workplace

Respondents who have a current occupation or who have had one in the past were asked whether a series of activities have ever been performed by digital technologies, including Artificial Intelligence, in their current or previous workplaces²⁸.

Three in ten of these respondents indicate that enforcing safety measures has been performed by digital technologies in their workplaces, with 9% saying this has been done 'all the time' and 21% 'often'. Conversely, more than six in ten (63%) say that this activity has not been performed by digital technologies, with 46% stating that this has 'never' occurred and 17% that this has 'rarely' occurred.

A similar proportion (29%) reports that managing worktime schedules has been performed by these technologies in their workplaces. Within this proportion, 8% saying this has happened 'all the time' and 21% 'often'. Again, 63% indicate that this activity has not been performed by digital technologies, with 48% who say this has 'never' been done and 15% who say this has 'rarely' been done.

Monitoring workers' activities is said to have been performed by digital technologies by around one quarter (24%), with 6% saying this has occurred 'all the time' and 18% 'often'. By contrast, close to seven in ten (68%) report that this activity has not been performed by such technologies (51% 'never' and 17% 'rarely').

More than two in ten (22%) say that digital technologies have allocated tasks to workers in their workplaces, including one in twenty who indicate this has happened 'all the time' and 17% who say this has happened 'often'. Seven in ten indicate that this activity has not been performed by these technologies (53% 'never' and 17% 'rarely').

QB7. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience. (EU27) (%)



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Around one in five (21%) state assessing workers' performance, including imposing sanctions or attributing rewards, has been performed by digital technologies. Within this proportion, 5% say this has been done 'all the time' and 16% 'often'. Around seven in ten (71%) report that digital technologies have not performed this task (54% 'never' and 17% 'rarely').

Finally, 18% indicate that digital technologies have been used to hire workers, with 4% reporting this has occurred 'all the time' and 14% 'often'. However, close to three quarters (73%) say this activity has not been performed by digital technologies in their workplaces (56% 'never' and 17% 'rarely').

For all these activities, between 3% and 4% say they don't know whether they have been performed by digital technologies.

²⁸ QB7. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience. 1) Hiring workers; 2) Allocating tasks to workers; 3) Managing worktime schedules; 4) Monitoring workers'

activities; 5) Assessing workers' performance, including imposing sanctions or attributing rewards; 6) Enforcing safety measures. Yes, all the time; Yes, often; No, rarely; No, never; Not applicable (SPONTANEOUS); Don't know.

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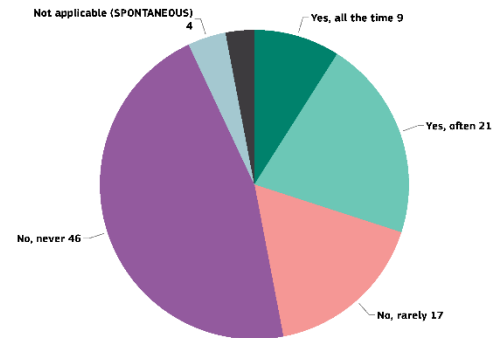
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In 13 EU Member States, at least three in ten respondents who have a current or past occupation say that that enforcing safety measures has been performed by digital technologies, including Artificial Intelligence, in their current or previous workplaces. This proportion ranges from more than four in ten in Cyprus (43%), Finland (42%) and Malta (41%) to 20% in Greece and 21% in Croatia and Czechia.

Those in Malta (19%), Finland (17%) and Cyprus (15%) are also most likely to report that this has happened 'all the time'.

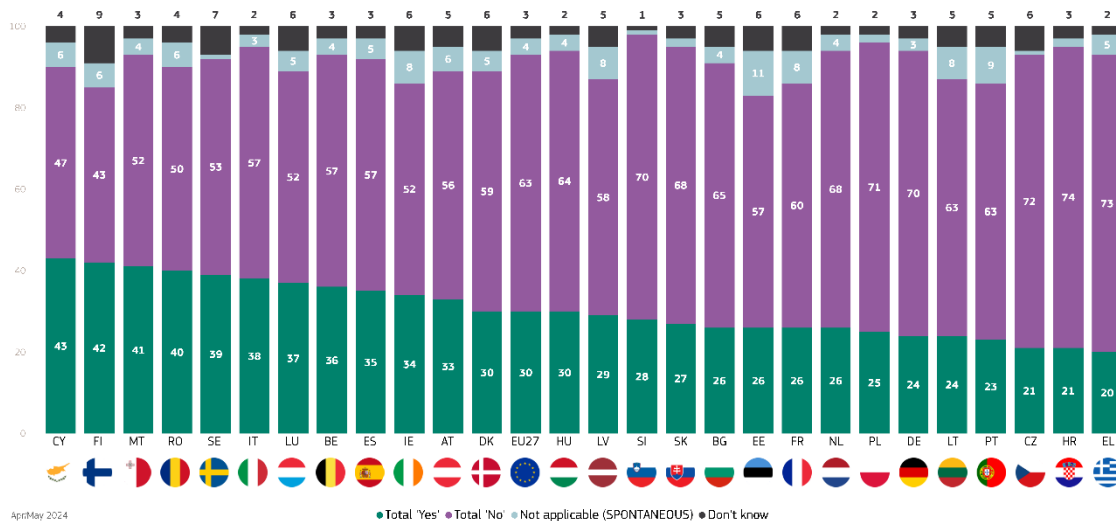
By contrast, a majority in 24 countries say that this activity has not been performed by digital technologies, most notably in Croatia (74%), Greece (73%) and Czechia (72%).

QB7.6. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Enforcing safety measures (EU27) (%)



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QB7.6. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Enforcing safety measures (%)



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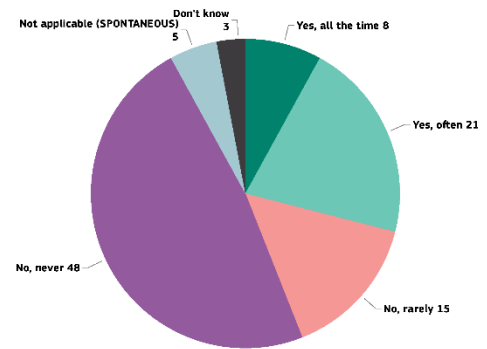
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At least three in ten in 14 countries report that digital technologies, including Artificial Intelligence, have performed the management of worktime schedules in their workplaces, with four in ten saying this in Austria, Cyprus, Malta and Finland. At the opposite end of the scale, less than one in five give this answer in Bulgaria and Czechia (both 17%) and in Croatia and Lithuania (both 19%).

Those in Malta and Finland (both 17%) and in Sweden (16%) are the most likely to report that this has occurred 'all the time'.

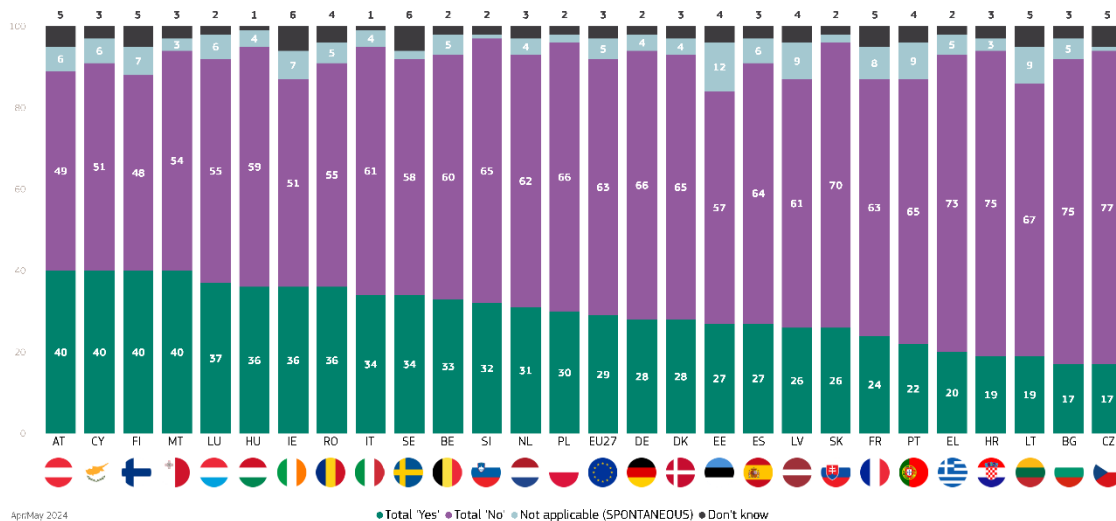
Conversely, majorities in 25 out of the 27 EU Member States say that this task has not been performed by digital technologies. This is especially the case in Czechia (77%) and in Bulgaria and Croatia (both 75%)

QB7.3. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Managing worktime schedules (EU27) (%)



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QB7.3. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Managing worktime schedules (%)



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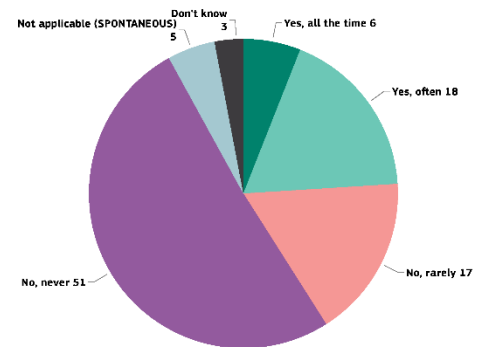
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Monitoring **workers' activities** is said to have been performed by digital technologies, including Artificial Intelligence, by more than one quarter in 16 countries. The largest shares giving this answer are found in Romania and Finland (both 39%) as well as in Cyprus (35%). This compares to less than two in ten who say this in Greece (14%) and Germany (17%) and in Croatia and Portugal (both 19%).

The highest proportions who report that this has happened 'all the time' are recorded in Finland (16%), Cyprus (15%) and Malta (14%).

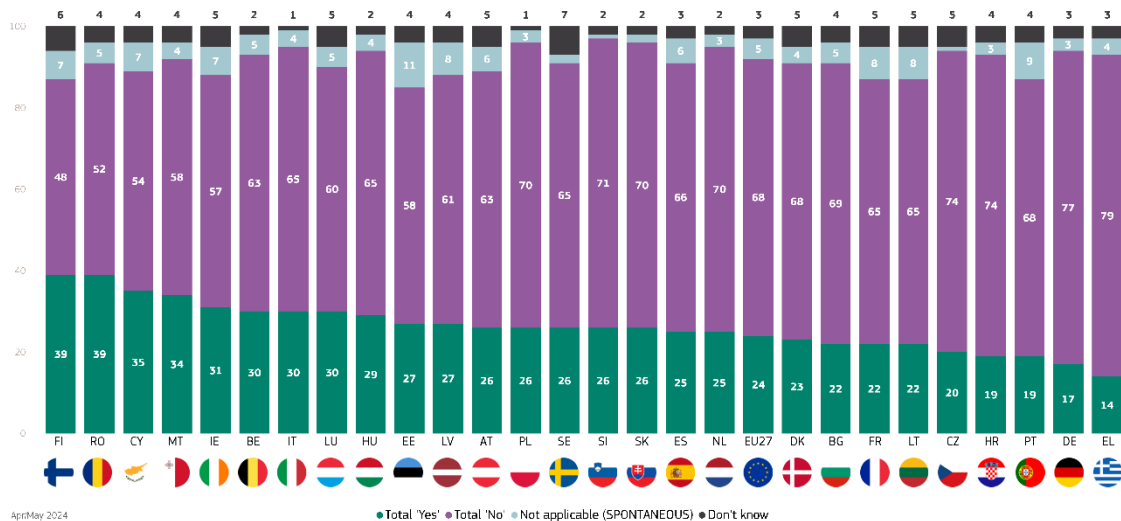
In 26 EU Member States, the majority indicate that these technologies have not performed the monitoring of workers' activities, with 79% in Greece, 77% in Germany and 74% in Croatia and Czechia giving this answer.

QB7.4. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Monitoring workers' activities (EU27) (%)



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QB7.4. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Monitoring workers' activities (%)



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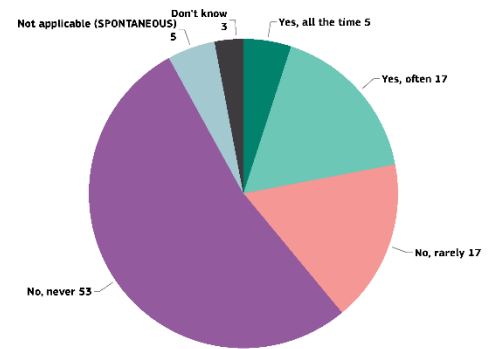
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In nine EU Member States, more than one quarter of respondents currently or previously employed say that digital technologies, including Artificial Intelligence, have allocated tasks to workers in their current or previous workplaces. More than three in ten give this answer in Malta (35%), Romania (34%) and Cyprus (33%). At the other end of the spectrum, 14% in Czechia and Lithuania and 17% in Bulgaria and France report this.

At least one in ten in Malta (13%), Cyprus (12%) and Romania (10%) say that allocating tasks to workers has been performed by digital technologies.

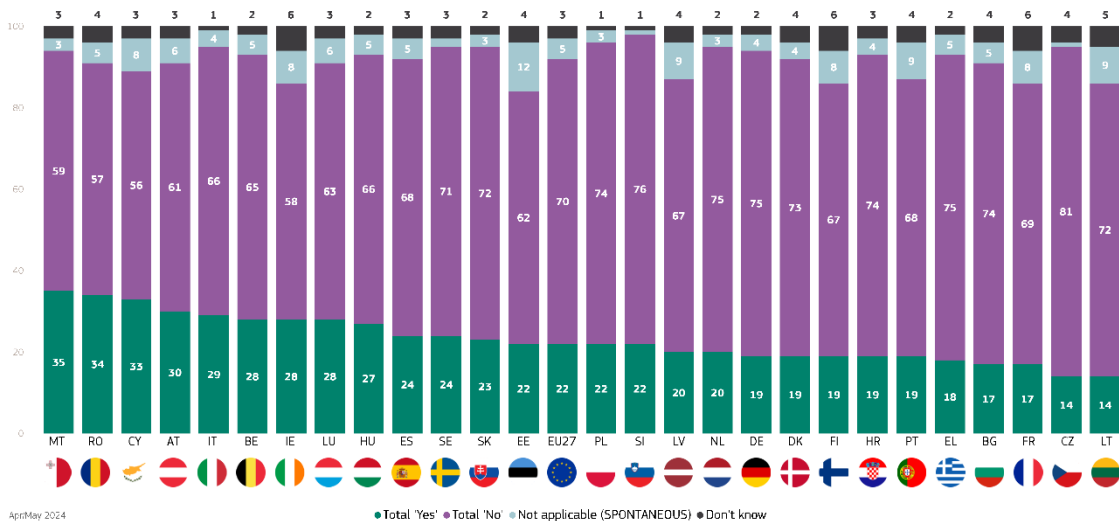
In 19 countries, at least two thirds say that this activity has not been performed by digital technologies in their workplaces, with the highest proportions saying this observed in Czechia (81%) and Slovenia (76%) and in Germany, Greece and the Netherlands (all 75%).

QB7.2. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Allocating tasks to workers (EU27) (%)



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QB7.2. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Allocating tasks to workers (%)



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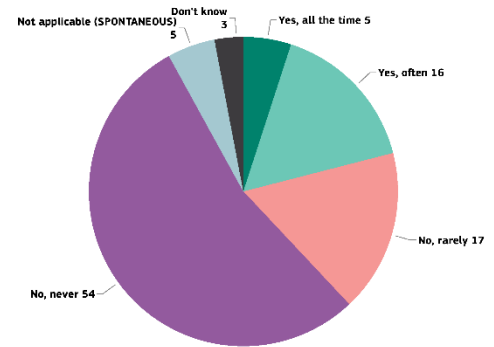
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At least one quarter in ten EU Member States indicate that digital technologies, including Artificial Intelligence, have assessed workers' performance, including imposing sanctions or attributing rewards, in their workplaces. Those in Romania (36%), Cyprus (31%) and Malta (28%) are the most likely to report this, while those in Germany, the Netherlands and Lithuania (all 13%) are the least likely to do so.

Those in Cyprus (13%), Romania (11%) and Malta (10%) are also the most likely to report that this has occurred 'all the time'.

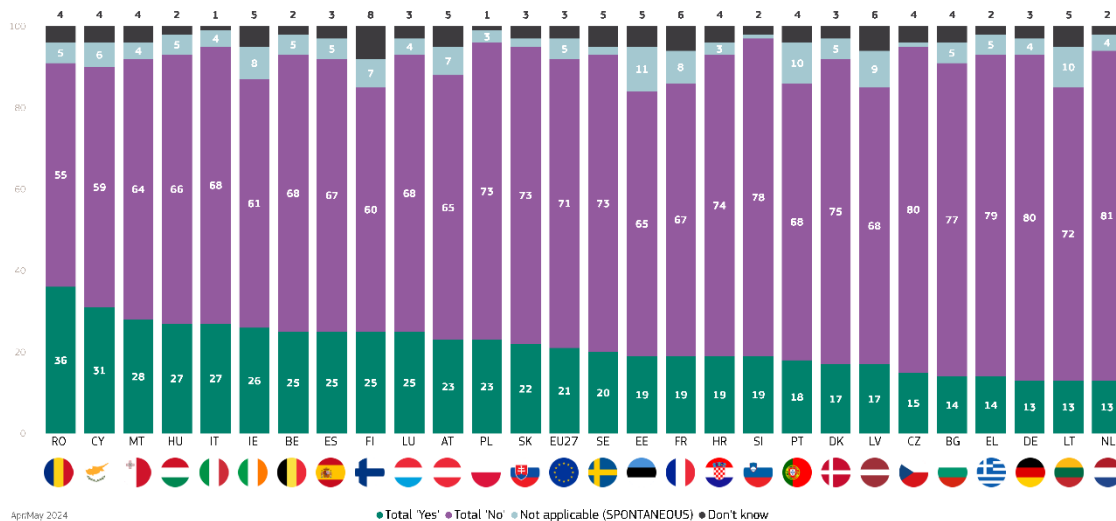
More than two thirds in 19 countries say that assessment of workers' performance has not been performed by digital technologies, with eight in ten or more giving this answer in the Netherlands (81%) and in Czechia and Germany (both 80%).

QB7.5. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Assessing workers' performance, including imposing sanctions or attributing rewards (EU27) (%)



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QB7.5. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Assessing workers' performance, including imposing sanctions or attributing rewards (%)



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● Total 'Yes' ● Total 'No' ● Not applicable (SPONTANEOUS) ● Don't know

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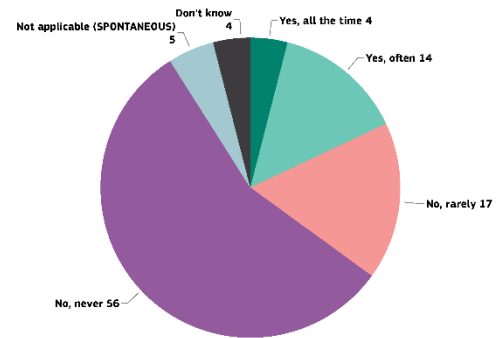
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In ten countries, at least one fifth say that hiring workers has been performed by digital technologies, including Artificial Intelligence, in their workplaces, most notably in Romania (31%) and in Cyprus and Malta (both 27%). Conversely, 9% in Lithuania indicate this, as do 11% in Czechia and Greece.

In Cyprus and Romania, one in ten say that this has happened ‘all the time’.

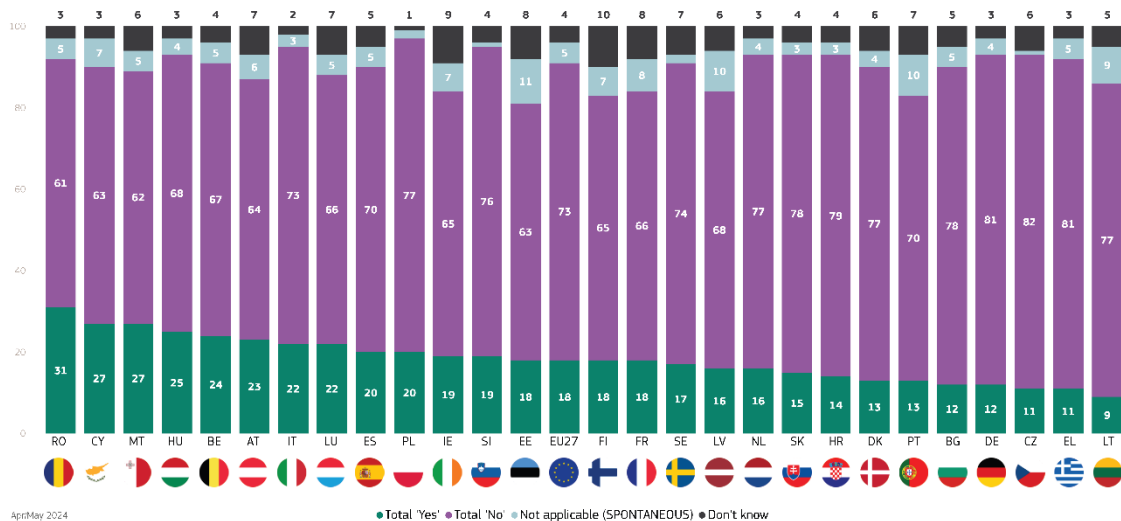
At least seven in ten in 15 countries report that digital technologies have not hired workers, with more than eight in ten giving this answer in Czechia (82%) and in Germany and Greece (both 81%).

QB7.1. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Hiring workers (EU27) (%)



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QB7.1. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.: Hiring workers (%)



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The *socio-demographic analysis* highlights the following patterns among respondents who have an occupation or have had one in the past:

- Men are more likely than women to say that enforcing safety measures (32% vs 27%), allocating tasks to workers (24% vs 21%) and assessing **workers'** performance, including imposing sanctions or attributing rewards (22% vs 19%) have been performed by digital technologies, including Artificial Intelligence, in their current or previous workplaces.
- Those who work in logistics are the most likely to report that each of these activities was carried out by digital technologies. By way of example, 44% of these respondents say this for 'monitoring workers' activities', compared to 21% of those who work in agriculture, forestry or fishing
- Those aged 55+ are the least likely to indicate that each of the activities tested in the survey has been performed by digital technologies in their workplaces. For instance, 18% of these respondents say this for 'monitoring workers' activities', compared to 29-33% of younger respondents.
- Those who stayed in full-time education until the age of 16 or later are more inclined than those who left education aged 15 or younger to report that each of the activities tested has been performed by digital technologies in their workplaces. This gap is widest with regard to 'managing worktime schedules' (28-34% of those who finished aged 16 or older, compared to 16% of those who finished aged 15 or younger).
- Managers and other white-collar workers are the most likely to indicate that digital technologies have been employed to perform each of the activities tested. For example, managing worktime schedules is said to have been performed by these technologies by 40% of managers and 36% of other white collars, compared to 20% of house persons.
- Respondents who are currently working are more inclined than those who are not currently working but have done so in the past to indicate that each of the activities tested has been performed by digital technologies in their workplaces. The gap between these two groups is largest when it comes to 'managing worktime schedules' (35% vs 21%).

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- Those who work in logistics are the most likely to report that each of these activities was carried out by digital technologies. By way of example, 44% of these respondents say this for 'monitoring workers' activities', compared to 21% of those who work in agriculture, forestry or fishing
- Finally, respondents who work in establishments employing at least ten people are more likely than those who work in smaller establishments to indicate that digital technologies have carried out each of these activities. This is especially evident for 'managing worktime schedules' (36-39% of those in establishments employing 10+ people, compared to 22-30% of those in smaller establishments), while this pattern is less clear-cut for 'hiring workers' (21-24% vs 15-20%).

QB7 Les the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience. Enforcing safety measures
(% Total 'Yes' - EU)

	Enforcing safety measures	Managing worktime schedules	Monitoring workers' activities	Allocating tasks to workers	Assessing workers' performance, including imposing sanctions or attributing rewards	Hiring workers
EU27	30	29	24	22	21	18
Gender						
Man	32	29	25	24	22	19
Woman	27	28	23	21	19	17
Age						
15-24	36	36	33	29	29	25
25-39	34	34	29	28	25	21
40-54	34	34	29	26	25	22
55 +	24	22	18	16	15	13
Education (End of)						
15-	20	16	15	14	13	12
16-19	28	28	24	22	21	18
20+	33	34	27	25	23	20
Still studying	32	30	28	24	25	20
Socio-professional category						
Self-employed	30	28	23	23	21	19
Managers	40	40	32	30	26	25
Other white collars	37	36	33	29	27	22
Manual workers	33	32	28	25	23	20
House persons	23	20	19	20	19	14
Unemployed	24	22	20	19	17	17
Difficulties paying bills						
Most of the time	31	31	27	25	21	20
From time to time	30	30	27	24	25	21
Almost never/ Never	29	28	23	21	19	17
Subjective urbanisation						
Rural village	26	26	22	20	19	16
Small/ mid size town	30	30	25	22	21	18
Large town	32	30	26	24	23	20
Current working status						
Currently not working	22	21	17	16	15	13
Currently working	34	35	30	26	25	22
Sector of employment						
Agriculture, forestry and fishing	27	26	21	20	19	20
Manufacturing	39	37	31	30	25	25
Logistics	45	44	44	40	38	28
Service, including retail trade, accommodation, transportation, food services	33	32	28	26	24	21
Public sector	32	36	29	23	22	20
Size of the workforce at your work site						
1	21	22	20	15	17	15
2-9	31	30	25	24	22	20
10-49	36	36	31	29	26	21
50-250	39	39	34	30	27	23
More than 250	42	38	34	29	27	24
Don't know but less than 10 people (SPONTANEOUS)	65				15	
Don't know but 10 people or more (SPONTANEOUS)	27	26	16	20	3	1
Awareness of the use that your employer makes of digital technologies, including Artificial Intelligence						
Aware	45	45	40	36	33	28
Unaware	20	21	18	15	15	13

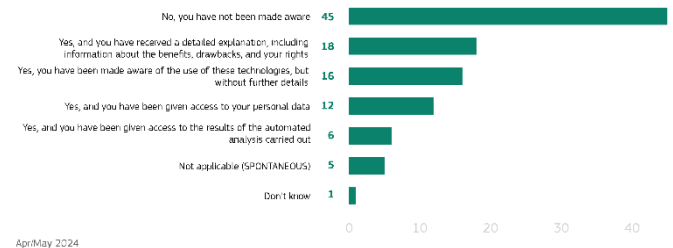
c) Communication around the use of digital technologies

Close to half of those currently in employment say their employer informed them about the use of digital technologies

Respondents who are currently in employment were asked if their employer informed them about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace²⁹.

Among these respondents, 16% say they have been made aware of the use of these technologies, but without further details. Moreover, 18% report having received a detailed explanation, including information about the benefits, drawbacks, and their rights, and 12% indicate they have been given access to their personal data. In addition, 6% have been given access to the results of the automated analysis carried out. Overall, close to half (49%) say their employer informed them about the use of digital technologies to manage activities in their workplace.

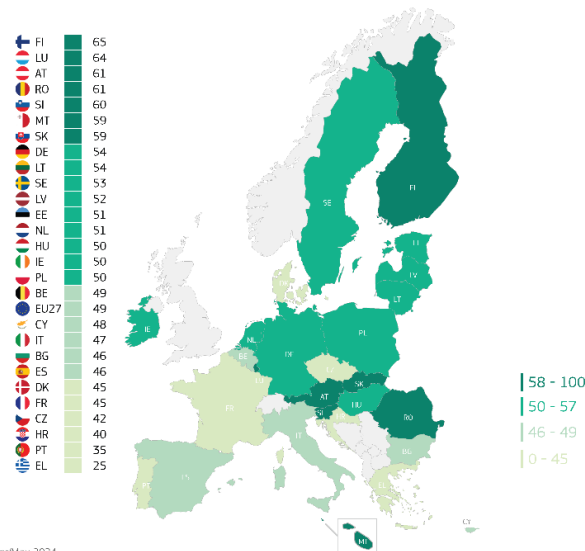
QB9. Did your employer inform you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? (EU27) (%)



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By contrast, 45% say they have not been made aware, while one in twenty spontaneously say the question is not applicable and 1% say they don't know.

QB9. Did your employer inform you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? - Total 'Yes' (%)



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²⁹ QB9. Did your employer inform you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? Yes, you have been made aware of the use of these technologies, but without further details; Yes, and you have received a detailed explanation, including information about the benefits,

drawbacks, and your rights; Yes, and you have been given access to your personal data; Yes, and you have been given access to the results of the automated analysis carried out; No, you have not been made aware; Not applicable (SPONTANEOUS); Don't know.

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The country-level analysis shows that at least half of the employees in 16 EU Member States report having been informed by their employer about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace. This share ranges from more than six in ten in Finland (65%) and Luxembourg (64%) and in Austria and Romania (both 61%) to four in ten or less in Greece (25%), Portugal (35%) and Croatia (40%).

In four countries, the majority says they have not been made aware by their employer: Greece (70%), Croatia (57%), Czechia (54%) and Spain (52%).

QB9. Did your employer inform you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? (%)

	EU27	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
																												
No, you have not been made aware	45	31	46	43	47	54	39	49	35	70	52	28	49	57	45	44	48	33	33	38	39	42	42	48	36	42	36	35
Yes, and you have received a detailed explanation, including information about the benefits, drawbacks, and your rights	18	32	24	22	19	12	21	16	17	8	16	17	14	14	26	20	20	18	18	15	12	13	20	16	15	22	27	24
Yes, you have been made aware of the use of these technologies, but without further details	16	11	15	13	18	16	16	21	21	13	19	34	21	10	8	23	10	23	38	31	36	18	13	11	13	23	25	20
Yes, and you have been given access to your personal data	12	19	11	10	10	10	14	4	10	3	9	13	9	14	13	5	14	11	10	6	10	16	14	6	24	8	7	11
Yes, and you have been given access to the results of the automated analysis carried out	6	8	3	4	5	5	9	6	4	1	3	3	3	5	6	2	8	7	3	2	2	6	7	4	11	4	3	5
Not applicable (SPONTANEOUS)	5	7	5	9	4	2	6	4	13	6	1	3	5	3	5	6	4	11	3	8	1	5	8	15	2	2	3	4
Don't know	1	1	0	2	1	2	1	1	0	0	4	0	0	0	0	1	1	2	0	2	2	1	1	2	1	2	0	2

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Analysing the *socio-demographic data*, it can be observed that, among those who are currently in employment, 52% of men say their employer informed them about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace, compared to 47% of women. In addition, the following differences can also be noted:

- Employees aged 15-54 are more inclined than those aged 55+ to indicate that their employer informed them about the use of these technologies (49-53% vs 43%);
- Those who stayed longer in full-time education are more likely to report having being informed by their employer (55% of those who remained in education until the age of 20 or older, compared to 31% of those who left aged 15 or younger);

Managers (61%) are the most likely to say that their employer informed them, compared to other white-collar workers (50%) and manual workers (42%);

- Those currently employed in logistics (56%) are the most likely to indicate they were informed by their employers, especially when compared to those working in agriculture, forestry or fishery (40%);
- Employees working in larger establishments are more likely to say their employer informed them about the use of such technologies (56% of those in establishments employing 250+ people, compared to 43% of those in establishments employing 2-9 people).

QB9 Did your employer inform you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace?
(% - EU)

	Yes, you have been made aware of the use of these technologies, but without further details	Yes, and you have received a detailed explanation, including information about the benefits, drawbacks, and your rights	Yes, and you have been given access to your personal data	Yes, and you have been given access to the results of the automated analysis carried out	No, you have not been made aware	Not applicable (SPONTANEOUS)	Don't know	Total 'Yes'
EU27	16	18	12	6	45	5	1	49
 Gender								
Man	17	19	13	6	43	4	1	52
Woman	15	18	12	6	47	6	1	47
 Age								
15-24	21	14	17	6	41	6	1	53
25-39	17	20	13	6	42	4	1	53
40-54	16	18	12	6	45	5	1	49
55 +	15	16	10	5	49	8	1	43
 Education (End of)								
15-	10	13	7	3	57	10	1	31
16-19	14	16	12	7	47	6	1	46
20+	19	21	13	6	41	4	1	55
Still studying	22	18	8	1	45	7	1	46
Socio-professional category								
Managers	20	24	14	7	35	3	1	61
Other white collars	18	19	12	6	45	4	1	50
Manual workers	13	15	12	5	50	7	1	42
Sector of employment								
Agriculture, forestry and fishing	12	12	16	3	55	3	2	40
Manufacturing	17	20	13	7	43	5	0	51
Logistics	14	22	14	8	39	5	1	56
Service, including retail trade, accommodation, transportation, food services	15	18	12	6	46	5	1	48
Public sector	19	16	11	5	45	4	1	49
Size of the workforce at your work site								
1	11	18	9	2	50	14	0	36
2-9	12	15	13	7	49	7	1	43
10-49	16	19	12	6	44	5	1	50
50-250	15	21	14	6	43	3	0	53
More than 250	25	19	10	5	40	3	1	56
Don't know but less than 10 people (SPONTANEOUS)	0	0	0	0	82	18	0	0
Don't know but 10 people or more (SPONTANEOUS)	6	5	3	0	83	3	0	14

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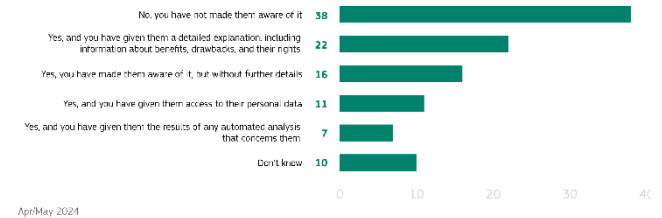
A majority of employers and managers say they have ensured that their employees or the people they manage have been informed about the use of digital technologies

Mirroring the question asked to respondents currently in employment, those who are employers or managers were asked if they have ensured that their employees or the people they manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace³⁰.

Among these respondents, 16% say they have made them aware of it, but without further details. More than two in ten (22%) indicate that they have given them a detailed explanation, including information about benefits, drawbacks, and their rights, while around one in ten (11%) report having given them access to their personal data. Finally, 7% state that they have given them the results of any automated analysis that concerns them. In total, 53% of employers and managers say they have ensured that their employees or the people they manage have been informed.

By contrast, less than four in ten (38%) report not having made them aware of the use of digital technologies to manage activities in their workplace, while 10% say they don't know.

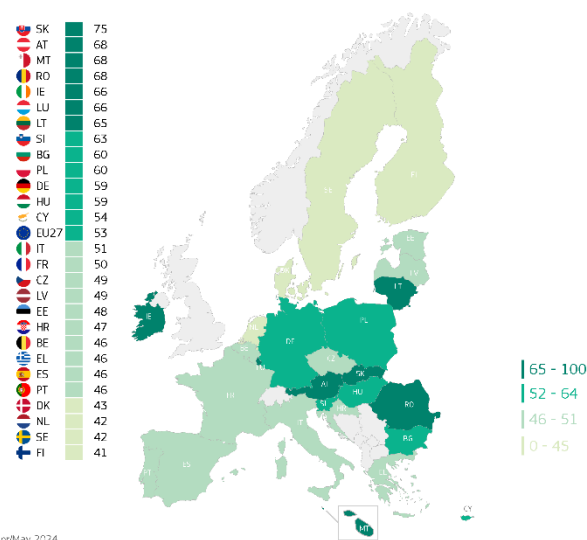
QB10. Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? (EU27) (%)



Comparing the results of this question with the answers given by the employees, it can be observed that the proportion of employers and managers who self-report that information about the use of digital technologies was shared is slightly higher than the proportion of employees who report having been informed about this (53% vs 49%).

In particular, there is a four-percentage point gap between the share of employers and managers who say they have provided employees and people they manage with a detailed explanation, including information about the benefits, drawbacks, and their rights (22%), and the share of employees who report having received such explanation (18%). In addition, employers and managers are more likely than employees to say they don't know how to answer this question (10% vs 1%).

QB10. Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? - Total 'Yes' (%)



³⁰ QB10. Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? Yes, you have made them aware of it, but without further details; Yes, and you have given them a detailed explanation, including

information about benefits, drawbacks, and their rights; Yes, and you have given them access to their personal data; Yes, and you have given them the results of any automated analysis that concerns them; No, you have not made them aware of it; Don't know.

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At country level, at least half of employers and managers in 15 EU Member States report having ensured that their employees or the people they manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace³¹. The highest proportions giving this answer are recorded in Slovakia (75%) and in Austria, Malta and Romania (all 68%), while the lowest are found in Finland (41%) and in the Netherlands and Sweden (both 42%).

Employers and managers in Greece (49%) and Croatia (48%) and in Denmark and Spain (both 47%) are the most likely to report that they have not made aware their employees or the people they manage of this information.

Close to one quarter or more in Finland (35%), Latvia (25%) and Sweden (24%) say they don't know.

QB10. Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace? (%)

	EU27	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
No, you have not made them aware of it	38	23	43	28	41	45	35	47	32	49	47	23	37	48	40	29	46	23	24	26	24	40	32	43	19	34	27	19
Yes, and you have given them a detailed explanation, including information about benefits, drawbacks, and their rights	22	42	18	19	23	18	28	15	18	13	17	11	14	19	33	26	24	34	17	14	36	16	23	26	13	17	33	29
Yes, you have made them aware of it, but without further details	16	10	10	22	24	16	14	16	15	24	20	23	20	15	12	26	11	20	35	27	29	14	20	9	16	17	17	24
Yes, and you have given them access to their personal data	11	16	17	14	6	12	12	6	7	3	5	8	11	9	15	12	16	9	9	7	6	9	10	8	15	2	12	19
Yes, and you have given them the results of any automated analysis that concerns them	7	10	4	7	2	4	10	11	11	6	4	1	4	4	8	1	7	4	5	5	1	6	7	7	24	5	3	3
Don't know	10	9	11	12	4	5	6	10	19	5	7	35	13	5	1	6	3	12	10	25	8	18	8	10	13	24	10	6

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³¹ These results should be interpreted with caution, due to low sample sizes in some countries. In particular, sample sizes are less than 100 in Belgium, Cyprus, Greece, Luxembourg, Malta, Poland, Romania and Spain, while they are between 101 and 150

in Bulgaria, Croatia, Czechia, France, Hungary, Ireland, Italy, Latvia, Portugal, Slovakia and Slovenia.

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The findings of the *socio-demographic analysis* among employers or managers are broadly similar to those observed with regard to the employees:

- Men are more likely than women to say that they have ensured that their employees or the people they manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in their workplace (56% vs 48%).
- Those aged 15-54 are more inclined than those aged 55+ to indicate that they have ensured that their employees or the people they manage have been informed (52-55% vs 49%).
- Employers or managers who stayed in full-time education until the age of 16 or later are more likely than those who finished education aged 15 or younger to positively answer this question (53-54% vs 40%).
- Managers (55%) and the self-employed (49%) are more likely than manual workers (41%) to say they have made aware their employees or the people they manage of the use of digital technologies.
- Lastly, those working in logistics (64%) or manufacturing (62%) are the most likely to positively answer this question, particularly when compared to those working in agriculture, forestry or fishing (41%).

QB10 Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace?
(% - EU)

	Yes, you have made them aware of it, but without further details	Yes, and you have given them a detailed explanation, including information about benefits drawbacks, and their rights	Yes, and you have given them access to their personal data	Yes, and you have given them the results of any automated analysis that concerns them	No, you have not made them aware of it	Don't know	Total 'Yes'
EU27	16	22	11	7	38	10	53
 Gender							
Man	17	24	12	7	36	8	56
Woman	14	18	10	8	40	12	48
 Age							
15-24	10	22	15	7	38	8	54
25-39	18	22	10	7	38	10	52
40-54	15	24	13	7	37	8	55
55 +	16	18	10	8	39	11	49
 Education (End of)							
15-	10	11	9	11	52	9	40
16-19	16	20	14	6	39	7	54
20+	16	22	10	7	37	11	53
Still studying	1	26	7	1	33	34	34
Socio-professional category							
Self-employed	18	20	8	7	38	13	49
Managers	16	23	12	7	36	9	55
Manual workers	11	14	11	10	49	10	41
Sector of employment							
Agriculture, forestry and fishing	15	24	1	1	44	14	41
Manufacturing	17	28	14	7	28	10	62
Logistics	22	25	18	5	30	6	64
Service, including retail trade, accommodation, transportation, food services	17	22	10	8	39	7	54
Public sector	13	18	10	7	43	12	45

2. Provision of tools and training to work effectively with digital technologies

A large majority of those currently in employment say their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies

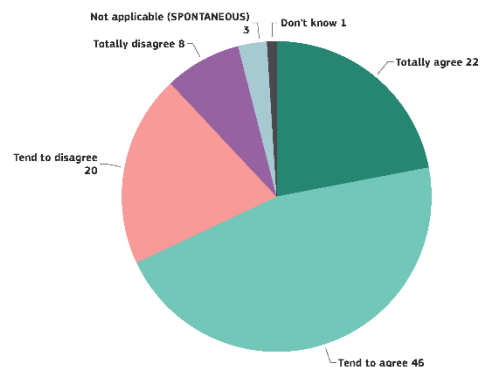
More than two thirds of the respondents currently in employment (68%) agree that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence, with more than one in five (22%) who 'totally agree' with this statement³².

Conversely, close to three in ten (28%) disagree that they are provided with the necessary tools or training, while 3% spontaneously say this question is 'not applicable' and 1% say they don't know.

A majority of employees in all 27 EU Member States report that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence. The highest shares indicating this can be observed in Malta (80%) and the Netherlands (79%) and in Slovakia, Slovenia and Spain (all 78%). This compares to less than six in ten who agree in Greece (51%) and in Bulgaria and Romania (both 58%).

Those in Malta (55%) and the Netherlands (43%) and in Finland and Sweden (both 35%) are the most likely to 'totally agree' with this statement.

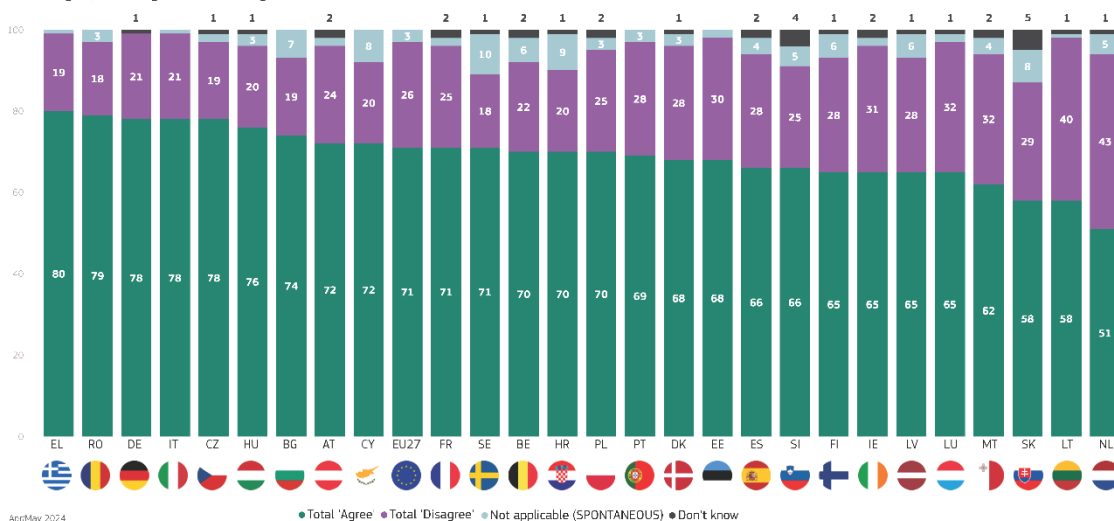
QB3. To what extent do you agree or disagree that your employer provides you with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence? (EU27) (%)



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By contrast, the level of disagreement is highest in Greece (43%) and Romania (40%) as well as in Italy and Germany (both 32%).

QB3. To what extent do you agree or disagree that your employer provides you with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence? (%)



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³² QB3. To what extent do you agree or disagree that your employer provides you with the necessary tools or training to work effectively with the most recent digital

technologies, including Artificial Intelligence? Totally agree; Tend to agree; Tend to disagree; Totally disagree; Not applicable (SPONTANEOUS); Don't know.

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The *socio-demographic analysis* shows that, among those who are currently in employment, men are slightly more likely than women to agree that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence (69% vs 66%). The analysis also illustrates differences in agreement levels in terms of age, education level, and socio-economic and occupational status of the employees:

- Those aged 15-39 (71-72%) are more likely than those aged 40-54 (67%) or 55+ (62%) to agree their employer provides them with the necessary tools or training.
- The longer these respondents remained in full-time education, the more likely they are to indicate that their employer provides them with the necessary tools or training (73% of those finishing education aged 20 or older, compared to 54% of those who finished aged 15 or younger).

Managers (79%) and other white-collar workers (74%) are more likely than manual workers (57%) to agree that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies.

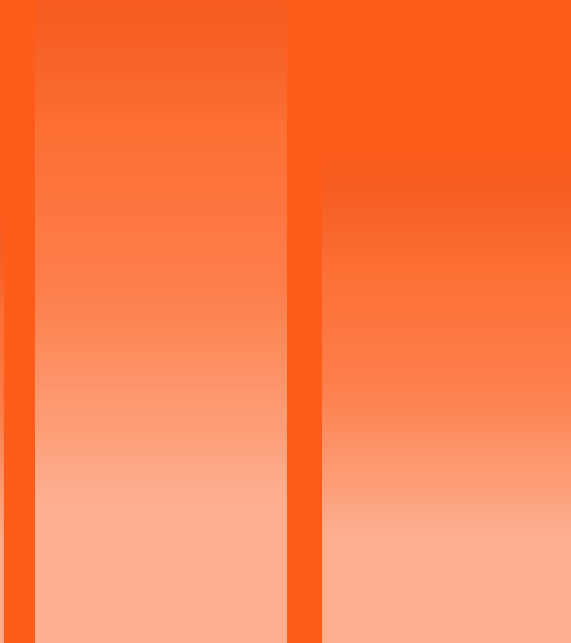
- Those working in agriculture, forestry and fishing are the least likely to agree with this statement (49%, compared to 67-70% of those who work in other sectors).
- The larger the establishment, the more likely their employees are to report that their employer provides them with the necessary tools or training (77% of those working in establishments employing 250+ people, compared to 61% of those working in establishments employing 2-9 people).

QB3 To what extent do you agree or disagree that your employer provides you with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence?
(% - EU)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	Not applicable (SPONTANEOUS)	Don't know	Total 'Agree'	Total 'Disagree'
EU27	22	46	20	8	3	1	68	28
Gender								
Man	23	46	19	8	3	1	69	27
Woman	20	46	20	9	4	1	66	29
Age								
15-24	26	46	16	8	3	1	72	24
25-39	23	48	18	7	2	2	71	25
40-54	21	46	20	9	3	1	67	29
55 +	19	43	21	10	5	2	62	31
Education (End of)								
15-	14	40	24	9	9	4	54	33
16-19	16	47	21	11	4	1	63	32
20+	28	45	18	6	2	1	73	24
Still studying	44	38	10	3	4	1	82	13
Socio-professional category								
Managers	32	47	15	5	1	0	79	20
Other white collars	22	52	17	7	1	1	74	24
Manual workers	15	42	24	11	6	2	57	35
Sector of employment								
Agriculture, forestry and fishing	15	34	27	17	5	2	49	44
Manufacturing	20	47	20	9	3	1	67	29
Logistics	21	49	18	7	4	1	70	25
Service, including retail trade, accommodation, transportation, food services	22	46	19	8	4	1	68	27
Public sector	24	45	20	8	2	1	69	28
Size of the workforce at your work site								
1	15	39	21	12	11	2	54	33
2-9	14	47	22	11	5	1	61	33
10-49	18	49	21	7	3	2	67	28
50-250	25	48	17	7	2	1	73	24
More than 250	41	36	13	8	1	1	77	21
Don't know but less than 10 people (SPONTANEOUS)	0	16	66	14	3	1	16	80
Don't know but 10 people or more (SPONTANEOUS)	4	17	17	46	0	16	21	63



Conclusion



The results of this Special Eurobarometer illustrate that, overall, Europeans hold a positive view of the impact of the most recent digital technologies, including Artificial Intelligence, even though some positive perceptions have declined over the past seven years. Almost Two thirds of the respondents in employment have a positive opinion of these technologies for their job. Furthermore, of all respondents, six in ten believe they have a positive impact on the economy, on quality of life and on social security benefits, and at least half say this of their impact on society. Nonetheless, the shares of those who have a positive opinion have declined since March 2017, especially about the impact of these technologies on the economy.

In line with these findings, while more than six in ten think that robots and Artificial Intelligence are a good thing for society, this proportion has decreased by five percentage points since March 2017. In addition, a very large majority think that these technologies require careful management and less than half would like to see them used more widely outside the workplace. Finally, two thirds are concerned that, due to the use of robots and Artificial Intelligence, more jobs will disappear than new jobs will be created, and state that Artificial Intelligence steal people's jobs – even though both these proportions have declined since 2017.

EU citizens also tend to consider their level of digital skills as sufficient in their daily life, to be able to benefit from digital and online learning opportunities, and perform their current or a future job. This result should be interpreted considering the significant number of Europeans who lack even basic digital skills (almost 45%)³³ and the growing but still relatively low number of ICT specialists (est. 9.8 million)³⁴. There are country-level variations in perceived digital literacy, with respondents in Denmark, Finland, Luxembourg, the Netherlands and Sweden tending to be more confident about their level of digital skills than those in Greece, Hungary, Portugal and Romania. On the bright side, among those currently employed, more than two thirds indicate that their employer provides them with the necessary tools or training to work effectively with the most recent digital technologies.

Results are mixed when it comes to perceptions of digital technologies and Artificial Intelligence in the workplace. Large majorities positively perceive the use of these technologies in the workplace, and agree that they can do boring or repetitive jobs. There is also agreement that they can increase the pace at which workers complete tasks, a positive effect that should however be seen in light of possible work intensification, which creates both individual

and societal risks. The majority believes that these technologies can be used to make accurate decisions in the workplace. Furthermore, the use of digital technologies to improve workers' safety and security is generally perceived as positive. A relative majority holds a positive view of their use to allocate tasks to workers or manage their working schedules and shifts.

However, around six in ten agree that robots and Artificial Intelligence have a negative impact on communication between colleagues. Less than half of respondents have a favourable opinion of the use of these technologies to perform other activities in the workplace: only a minority positively sees their use to collect, process, and store workers' personal data, to gather additional information on applicants for a job, to select applicants for a job, to assess workers' performance, to monitor workers, or to automatically fire workers.

It is therefore unsurprising that large majorities of EU citizens consider that a series of measures to address risks and maximising the benefits of digital technologies would be important: protecting workers' privacy; involving workers and their representatives in the design and adoption of new technologies; enforcing more transparency in the use of digital technologies to handle HR decision-making; prohibiting fully automated decision-making processes; and limiting the automated monitoring of employees.

In terms of awareness and level of information about the use of these technologies in the workplace, most employees are aware of the use their employer makes of digital technologies, including Artificial Intelligence, to manage their and their co-workers' activities. Sizeable proportions of those who have a current or past occupation also indicate that digital technologies have performed activities in their workplace, and this is especially the case for enforcing safety measures and monitoring workers' activities. Moreover, around half of those currently in employment say their employer informed them about the use of digital technologies to manage activities in their workplace, while slightly more than half among employers and managers report having done so.

Finally, there are noticeable patterns in the results of this survey according to the socio-demographic characteristics of the respondents. In particular, younger respondents, those with a higher education level, those with the least financial difficulties, and those who are currently working are the most likely to hold positive attitudes towards digital technologies and Artificial Intelligence (including with regard

³³ 'Digital skills in 2023: impact of education and age': <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1>

³⁴ 'More people employed in ICT in the EU in 2023': <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240524-2>

to their impact on employment and the labour market) and towards their use in the workplace. In addition, there are differences between sectors and size of the establishments when it comes to reported uptake of digital technologies and information about their use in the workplace, with these figures being highest in the logistics sector as well as in larger establishments.

Overall, these findings underscore the nuanced views that Europeans hold towards digital technologies and Artificial Intelligence, reflecting a balance of optimism about their benefits and concerns about their potential risks and implications for the future of work.

Technical Specifications

Between 25 April and 22 May 2024, Verian (former Kantar Public) on behalf of Verian Belgium carried out the wave 101.4 of the Eurobarometer survey, on request of the European Commission, Directorate-General for Communication, "Media monitoring and Eurobarometer" Unit.

Wave 101.4 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.

The basic sample design applied in all countries is a stratified multi-stage, random (probability) one. In each country, the sample frame is first stratified by NUTS regions and within each region by a measure of urbanity (DEGURBA). The number of sample points selected in each strata reflects the stratum population 15+. At the second stage sampling points were drawn with probability proportional to their 0+ population size from within each stratum. The samples 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 areas³⁵.

In each of the selected sampling points, a starting coordinate was drawn at random and a reverse geo-coding tool used to identify the closest address to the coordinate. This address was the starting address for the random walk. 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. The approach to the random selection was conditional on the household size. By way of example for households with two 15+ members the script was used to select either the informant (person responding to the screener questionnaire) or the other eligible member in the household. For households with three 15+ members the script was used to select either the informant (1/3 of the time) or the two other eligible members in the household (2/3 of the time). Where the two other members were selected, the interviewer was then told to either ask for the youngest or oldest. The script would randomly assign the selection to youngest or oldest with equal probability. This process continues for four 15+ household members – randomly asking for the youngest, 2nd youngest and oldest.

For households with five 15+ members we revert to the last birthday rule.

If no contact was made with anyone in the household, or if the respondent selected was not available (busy), the interviewer revisited the same household up to three additional times (four contact attempts in total). Interviewers never indicate that the survey is conducted on behalf of the European Commission beforehand; they may give this information once the survey is completed, upon request. The recruitment phase was slightly different in the Netherlands, Finland, and Sweden. In the two latter countries, a sample of addresses within each sampling point were selected from the address or population register (in Finland, selection is not done in all sample points, but in some where response rates are expected to improve). The selection of addresses was done in a random manner. Households were then contacted by telephone and recruited to take part in the survey. In the Netherlands, a dual frame RDD sample (mobile and landline numbers) are used as there is no comprehensive population register with telephone numbers available. The selection of numbers on both frames is done in a random manner with each number getting an equal probability of selection. Unlike Sweden and Finland, the sample is un-clustered.

³⁵ Urban Rural classification based on DEGURBA
(<https://ec.europa.eu/eurostat/web/degree-of-urbanisation/background>)

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COUNTRIES		INSTITUTES	N° INTERVIEWS	FIELDWORK DATES		POPULATION 15+	PROPORTION EU27
BE	Belgium	MCM Belgium	1,019	26-04-2024	15-05-2024	9,801,547	2.6%
BG	Bulgaria	Kantar TNS BBSS	1,018	25-04-2024	19-05-2024	5,533,938	1.4%
CZ	Czechia	STEM/MARK	1,019	29-04-2024	12-05-2024	9,075,934	2.4%
DK	Denmark	Mantle Denmark (Verian)	1,003	27-04-2024	22-05-2024	4,984,048	1.3%
DE	Germany	Mantle Germany (Verian)	1,603	29-04-2024	21-05-2024	72,405,020	19.0%
EE	Estonia	Norstat Eesti	1,002	26-04-2024	16-05-2024	1,141,759	0.3%
IE	Ireland	B and A Research	1,006	26-04-2024	16-05-2024	4,250,998	1.1%
EL	Greece	Kantar Greece	1,007	25-04-2024	18-05-2024	9,019,518	2.4%
ES	Spain	Mantle Spain (Verian)	1,000	30-04-2024	20-05-2024	41,533,486	10.9%
FR	France	MCM France	1,002	26-04-2024	16-05-2024	56,365,353	14.8%
HR	Croatia	Hendal	1,005	26-04-2024	14-05-2024	3,301,831	0.9%
IT	Italy	Testpoint Italia	1,037	29-04-2024	10-05-2024	51,632,657	13.5%
CY	Rep. Of Cyprus	CYMAR Market Research	504	25-04-2024	16-05-2024	772,320	0.2%
LV	Latvia	Kantar TNS Latvia	1,010	26-04-2024	17-05-2024	1,582,326	0.4%
LT	Lithuania	Norstat LT	1,014	26-04-2024	14-05-2024	2,429,823	0.6%
LU	Luxembourg	ILRES	507	26-04-2024	16-05-2024	555,900	0.1%
HU	Hungary	Kantar Hoffmann	1,012	29-04-2024	17-05-2024	8,205,783	2.1%
MT	Malta	MISCO International	500	29-04-2024	21-05-2024	473,015	0.1%
NL	Netherlands	MCM Netherlands	1,011	30-04-2024	15-05-2024	15,081,342	4.0%
AT	Austria	Das Österreichische Gallup Ins.	1,007	29-04-2024	14-05-2024	7,788,036	2.0%
PL	Poland	Research Collective	1,007	26-04-2024	15-05-2024	31,079,533	8.1%
PT	Portugal	Intercampus SA	1,029	01-05-2024	17-05-2024	9,113,419	2.4%
RO	Romania	CSOP SRL	1,042	26-04-2024	15-05-2024	15,981,575	4.2%
SI	Slovenia	Mediana DOO	1,003	25-04-2024	15-05-2024	1,799,078	0.5%
SK	Slovakia	MNFORCE	1,023	27-04-2024	14-05-2024	4,554,569	1.2%
FI	Finland	Taloustutkimus Oy	1,006	25-04-2024	16-05-2024	4,722,540	1.2%
SE	Sweden	Mantle Sweden (Verian)	1,019	29-04-2024	16-05-2024	8,541,497	2.2%
TOTAL EU27			26,415	25-04-2024	22-05-2024	381,726,845	100%

* It should be noted that the total percentage shown in this table may exceed 100% due to rounding.

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Interviewing mode per country

Interviews were conducted through face-to-face interviews, either physically in people's homes or through remote video interaction in the appropriate national language. Interviews with remote video interaction ("online face-to-face" or CAVI, Computer Assisted Video Interviewing, were conducted only in Czechia, Denmark, Germany, Finland and Malta).

	COUNTRIES	N° OF CAPI INTERVIEWS	N° OF CAVI INTERVIEWS	TOTAL N° INTERVIEWS
BE	Belgium	1,019		1,019
BG	Bulgaria	1,018		1,018
CZ	Czechia	820	199	1,019
DK	Denmark	700	303	1,003
DE	Germany	1,475	128	1,603
EE	Estonia	1,002		1,002
IE	Ireland	1,006		1,006
EL	Greece	1,007		1,007
ES	Spain	1,000		1,000
FR	France	1,002		1,002
HR	Croatia	1,005		1,005
IT	Italy	1,037		1,037
CY	Rep. Of Cyprus	504		504
LV	Latvia	1,010		1,010
LT	Lithuania	1,014		1,014
LU	Luxembourg	507		507
HU	Hungary	1,012		1,012
MT	Malta	349	151	500
NL	Netherlands	1,011		1,011
AT	Austria	1,007		1,007
PL	Poland	1,007		1,007
PT	Portugal	1,029		1,029
RO	Romania	1,042		1,042
SI	Slovenia	1,003		1,003
SK	Slovakia	1,023		1,023
FI	Finland	708	298	1,006
SE	Sweden	1,019		1,019
	TOTAL EU27	25,336	1,079	26,415

CAPI : Computer-Assisted Personal interviewing

CAVI : Computer-Assisted Video interviewing

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Response rates

For each country a comparison between the responding sample and the universe (i.e. the overall population in the country) is carried out. Weights are 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 is made to the individual country weights, weighting them up or down to reflect their 15+ population as a proportion of the EU 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. For wave 101.4 of the EUROBAROMETER survey, the response rates for the EU27 countries, calculated by Verian (former Kantar Public), are:

	COUNTRIES	RESPONSE RATES
BE	Belgium	61.3%
BG	Bulgaria	48.3%
CZ	Czechia	51.4%
DK	Denmark	30.9%
DE	Germany	31.9%
EE	Estonia	78.9%
IE	Ireland	36.5%
EL	Greece	30.7%
ES	Spain	31.3%
FR	France	41.1%
HR	Croatia	45.9%
IT	Italy	28.5%
CY	Rep. Of Cyprus	63.5%
LV	Latvia	37.8%
LT	Lithuania	47.9%
LU	Luxembourg	29.1%
HU	Hungary	58.2%
MT	Malta	60.2%
NL	Netherlands	81.6%
AT	Austria	41.9%
PL	Poland	46.1%
PT	Portugal	49.4%
RO	Romania	59.8%
SI	Slovenia	41.0%
SK	Slovakia	53.6%
FI	Finland	35.9%
SE	Sweden	80.6%

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Margins of error

Readers are reminded that survey results are estimations, the accuracy of which, everything being equal, rests upon the sample size and upon 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
N=1000	1,4	1,9	2,2	2,5	2,7	2,8	3,0	3,0	3,1	3,1	N=1000
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%	

Questionnaire

Introduction: Digital technologies refer to technologies that use data and computing to help people do their work more efficiently. They include hardware such as smartphones, laptops or robots, and software, such as smartphone applications, video conferencing tools, collaboration platforms, or project management tools in the workplace.

Artificial Intelligence refers to computer systems capable of performing tasks that typically require human intelligence. It is used, for instance, in driverless cars or drones, in healthcare to improve medical diagnoses, and in various other applications such as answering questions and offering support to users on websites or call centres. Artificial Intelligence can also be used in workplaces, for example to monitor and evaluate workers or automatically assign them certain tasks. Artificial Intelligence can also be used to create new content such as images, text, or music as well as to answer questions and assist with tasks such as composing emails or essays. ChatGPT is the best-known example.

QB1. In your view, what impact do the most recent digital technologies, including Artificial Intelligence, currently have on:

(ALL RESPONDENTS except item 4: RESPONDENTS WHO HAVE A CURRENT OCCUPATION - READ OUT - ROTATE - ONE ANSWER ONLY)

	A very positive impact	A fairly positive impact	A fairly negative impact	A very negative impact	It depends [SPONTEA NOUS]	Do not know enough about the most recent digital technologies [SPONTEA NOUS]	Do not know [SPONTEA NOUS]
The economy	1	2	3	4	5	6	7
Society	1	2	3	4	5	6	7
Your quality of life	1	2	3	4	5	6	7
Your current job (N)	1	2	3	4	5	6	7
Social security benefits (N)	1	2	3	4	5	6	7

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Artificial Intelligence and the future of work
Questionnaire

- QB2. To what extent do you agree or disagree with the following statements regarding your skills in the use of the most recent digital technologies, including Artificial Intelligence? Think about, for example, using smart appliances at home that you can control remotely for heating, cooking, or cleaning; using apps on your smartphone to handle your daily schedule; or using websites to manage your tasks at work. You consider yourself to be sufficiently skilled in the use of digital technologies... (M)

(ALL RESPONDENTS - READ OUT ROTATE - ONE ANSWER ONLY)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	Not applicable (N)	Do not know [SPONTEANOUS]
... in your daily life	1	2	3	4	5	6
... to do your job	1	2	3	4	5	6
... to do a future job if you were to find a job or to change jobs within the next twelve months	1	2	3	4	5	6
... to be able to benefit from digital and online learning opportunities (M)	1	2	3	4	5	6

Modified trend QD4 EB87.1 of EBS 460-2017 – 2 QU

- QB3. To what extent do you agree or disagree that your employer provides you with the necessary tools or training to work effectively with the most recent digital technologies, including Artificial Intelligence?

(RESPONDENTS WHO HAVE A CURRENT OCCUPATION - READ OUT, ONE ANSWER ONLY)

1. Totally agree
2. Tend to agree
3. Tend to disagree
4. Totally disagree
5. Not applicable [SPONTEANOUS]
6. Do not know [SPONTEANOUS]

New – 1 QU

- QB4. Overall, how aware are you of the use that your employer makes of digital technologies, including Artificial Intelligence, to manage your or your co-**workers' activities?** **Examples include setting working schedules, monitoring your activities, or evaluating performance.**

(RESPONDENTS WHO WORK FOR AN EMPLOYER OR MANAGER - READ OUT, ONE ANSWER ONLY)

1. Totally aware
2. Fairly aware
3. Fairly unaware
4. Totally unaware
5. Your workplace does not use digital technologies [SPONTANEOUS]
6. Do not know [SPONTEANOUS]

New – 1 QU

Special Eurobarometer 554
Artificial Intelligence and the future of work
Questionnaire

QB5. How positively or negatively do you perceive the use of robots and Artificial Intelligence in the workplace?

By robots we mean machines designed to perform tasks which are normally performed by humans. They can perform them by themselves or, often, working together with a human. For example, robots that can perform surgery together with a surgeon or automatic tills in supermarkets.

(ALL RESPONDENTS - READ OUT ROTATE - ONE ANSWER ONLY)

1. Very positively
2. Fairly positively
3. Fairly negatively
4. Very negatively
5. Do not know [SPONTEANOUS]

Modified trend on QD10 EB87.1 of EBS 460-2017 – 1 QU

QB6. To what extent do you agree or disagree with each of the following statements?

(ALL RESPONDENTS - READ OUT ROTATE - ONE ANSWER ONLY)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	Do not know [SPONTEANOUS]
Due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created	1	2	3	4	5
Robots and Artificial Intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home	1	2	3	4	5
Robots and Artificial Intelligence are technologies that require careful management	1	2	3	4	5
Artificial Intelligence is necessary as it can do jobs that are seen as boring or repetitive (N)	1	2	3	4	5
Robots and Artificial Intelligence steal people's jobs	1	2	3	4	5
Robots and Artificial Intelligence increase the pace at which workers complete tasks (N)	1	2	3	4	5
Robots and Artificial Intelligence have a negative impact on communication between colleagues (N)	1	2	3	4	5
Robots and Artificial Intelligence can be used to make accurate decisions in the workplace (N)	1	2	3	4	5
Robots and Artificial Intelligence should be used more widely outside the workplace (N)	1	2	3	4	5

Modified trend QD12 EB87.1 of EBS 460-2017, except items 4, 6, 7, 8, 9 – 4.5 QU

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Questionnaire

QB7. Have the following activities ever been performed by digital technologies, including Artificial Intelligence, in your current or previous workplaces? For each activity, please refer to your most recent workplace experience.

(RESPONDENTS WHO HAVE A CURRENT OR PAST OCCUPATION - READ OUT – ROTATE - ONE ANSWER ONLY)

	Yes, all the time	Yes, often	No, rarely	No, never	Not applicable [SPONTANEOUS]	Do not know [SPONTEANOUS]
Hiring workers	1	2	3	4	5	6
Allocating tasks to workers	1	2	3	4	5	6
Managing worktime schedules	1	2	3	4	5	6
Monitoring workers' activities	1	2	3	4	5	6
Assessing workers' performance, including imposing sanctions or attributing rewards	1	2	3	4	5	6
Enforcing safety measures	1	2	3	4	5	6

New – 3 QU

Special Eurobarometer 554
Artificial Intelligence and the future of work
Questionnaire

QB8. In general, how positively or negatively do you perceive the use of digital technologies, including Artificial Intelligence, in the workplace for each of the following activities:

(ALL RESPONDENTS - READ OUT ROTATE - ONE ANSWER ONLY)

	Very positively	Somewhat positively	Somewhat negatively	Very negatively	Do not know [SPONTEANOUS]
Gathering additional information on applicants for a job	1	2	3	4	5
Selecting applicants for a job	1	2	3	4	5
Allocating tasks to workers or managing their working schedules and shifts	1	2	3	4	5
Collecting, processing, and storing workers' personal data	1	2	3	4	5
Improving workers' safety and security	1	2	3	4	5
Monitoring workers	1	2	3	4	5
Assessing workers' performance	1	2	3	4	5
Automatically firing workers	1	2	3	4	5

New – 4 QU

QB9. Has your employer informed you about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace?

(RESPONDENTS WHO WORK FOR AN EMPLOYER OR MANAGER - READ OUT, ONE ANSWER ONLY except for items 2,3 and 4)

1. Yes, you have been made aware of the use of these technologies, but without further details
2. Yes, and you have received a detailed explanation, including information about the benefits, drawbacks, and your rights
3. Yes, and you have been given access to your personal data
4. Yes, and you have been given access to the results of the automated analysis carried out
5. No, you have not been made aware
6. Not applicable [SPONTEANOUS]
7. Don't know [SPONTEANOUS]

New – 1 QU

Special Eurobarometer 554
Artificial Intelligence and the future of work
Questionnaire

QB10. Have you ensured that your employees or the people you manage have been informed about the use of digital technologies, including Artificial Intelligence, to manage activities in your workplace?

(RESPONDENTS WHO ARE EMPLOYERS OR MANAGERS - READ OUT, ONE ANSWER ONLY except for items 2, 3 and 4)

1. Yes, you have made them aware of it, but without further details
2. Yes, and you have given them a detailed explanation, including information about benefits, drawbacks, and their rights
3. Yes, and you have given them access to their personal data
4. Yes, and you have given them the results of any automated analysis that concerns them
5. No, you have not made them aware of it
6. Don't know [SPONTEANOUS]

New – 1 QU

QB11. How important, if at all, do you think the following rules would be in addressing risks and maximizing the benefits of digital technologies, including Artificial Intelligence, in the workplace?

(ALL RESPONDENTS - READ OUT - ROTATE – ONE ANSWER ONLY) –

	Very important	Somewhat important	Not very important	Not at all important	Do not know [SPONTEANOUS]
Protecting workers' privacy	1	2	3	4	5
Prohibiting fully automated decision-making processes	1	2	3	4	5
Limiting the automated monitoring of employees	1	2	3	4	5
Enforcing more transparency in the use of digital technologies to handle HR decision-making	1	2	3	4	5
Involving workers and their representatives in the design and adoption of new technologies	1	2	3	4	5

New – 2.5 QU

