

EUROPEAN TECH INSIGHTS 2022



INTRODUCTION

2022 has marked the return of war to the European continent and the comeback of geopolitics to the global stage. With the end of the era-defining Covid pandemic in sight, Europeans are now faced with yet another systemic crisis that permeates political, economic, and technological dimensions and threatens to dash our hopes of prosperity and better futures.

European Tech Insights, our annual survey, aims at shedding light on the perceptions, hopes and concerns of European citizens in the areas of political, economic, and social change, particularly with regards to technology. Consequently, the hybrid ramifications of the war, the threats that technology can pose to our common democratic values, and the trends of tech adoption take the center stage in this edition.

As we witness a conflict of intense attrition with heavy use of conventional weapons, multiple forms of hybrid and technological warfare concurrently unfold before our eyes – the consequences of which are still unpredictable.

Europeans are aware of this deteriorating international environment but most of all are noticeably concerned about cyberattacks, the spread of fake news and misinformation, and the harmful use of technology.

Nonetheless, our survey reveals that most European citizens still place trust in technology to strengthen our democracies, believe technology has improved their participation in the democratic process, and support its use by their governments. Technology therefore brings a combination of enthusiasm and opportunity among citizens but also challenges to the European way of life.

The future of work and the rights of citizens in the digital realm are two areas where these challenges become more obvious. As technology adoption – from augmented reality to digital currencies – accelerates, our study reveals how automation and emerging tech continue to heighten job security concerns and how citizens strongly support the right to disconnect. These trends are also deepening a growing generational divide.

Our study thus exposes deep contradictions among the European population: citizens are concerned about the use of technology in conflict yet have faith in technology when it comes to strengthening our democratic values. They worry about technological progress when it comes to jobs yet are happy to adopt emerging tech if it makes their lives easier.

We hope European Tech Insights 2022 will contribute to the understanding of these contradictions, of the challenges that technology brings to the citizenry, and ultimately inform a very much needed policy debate on the governance of emerging technologies.

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TABLE OF CONTENTS



**TECHNOLOGY AND
THE UKRAINE WAR**
p. 5



**DEMOCRACIES
AT RISK**
p. 10



DIGITAL RIGHTS
p. 15



**AUTOMATION
AND EMERGING
TECHNOLOGIES**
p. 20



**THE DIGITALISATION
OF MONEY**
p. 29

KEY HIGHLIGHTS



TECHNOLOGY AND DEMOCRACY

Almost two thirds of Europeans (**64,1%**) believe that technology is strengthening democracy, but a large majority of them (**67,3%**) are worried about the possibility of a cyberattack on critical infrastructure in their country.



ARTIFICIAL INTELLIGENCE

Trust in Artificial Intelligence among Europeans is growing: more than a third of them (**34,8%**), and a majority of those under 35 years old, believe an AI algorithm would be more productive at work than their boss.

FUTURE OF WORK

Europeans are split about the future of work: while a majority (**60,4%**) do not believe their job will be automated within the next 10 years, most of them favour strict regulations that would limit automation by law in order to save jobs.



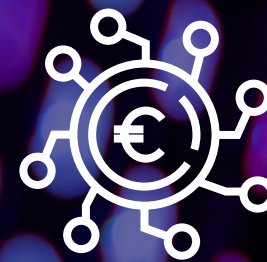
DIGITAL RIGHTS

Young Europeans are aware of digital gaps and a significant proportion of under 25 year olds (**42,5%**) are willing to pay more taxes to be able to provide internet for free to those who can't afford it. A large majority of Europeans (**57,4%**), especially the younger generations, also back the right to disconnect after office hours.



DISINFORMATION

A majority of European citizens (**51,5%**) would like to make disinformation illegal so that those who spread fake news on social media can be sanctioned. A vast majority of Europeans believe fake news is the main problem associated with social media.



DIGITALISATION OF MONEY

More than a third of Europeans and most citizens under 35 years old would prefer to use a digital currency rather than cash. Furthermore, a large proportion (**42,54%**) of Europeans under 25 years old support making Bitcoin legal tender.

1

TECHNOLOGY AND THE UKRAINE WAR



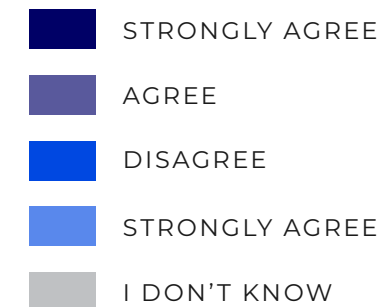
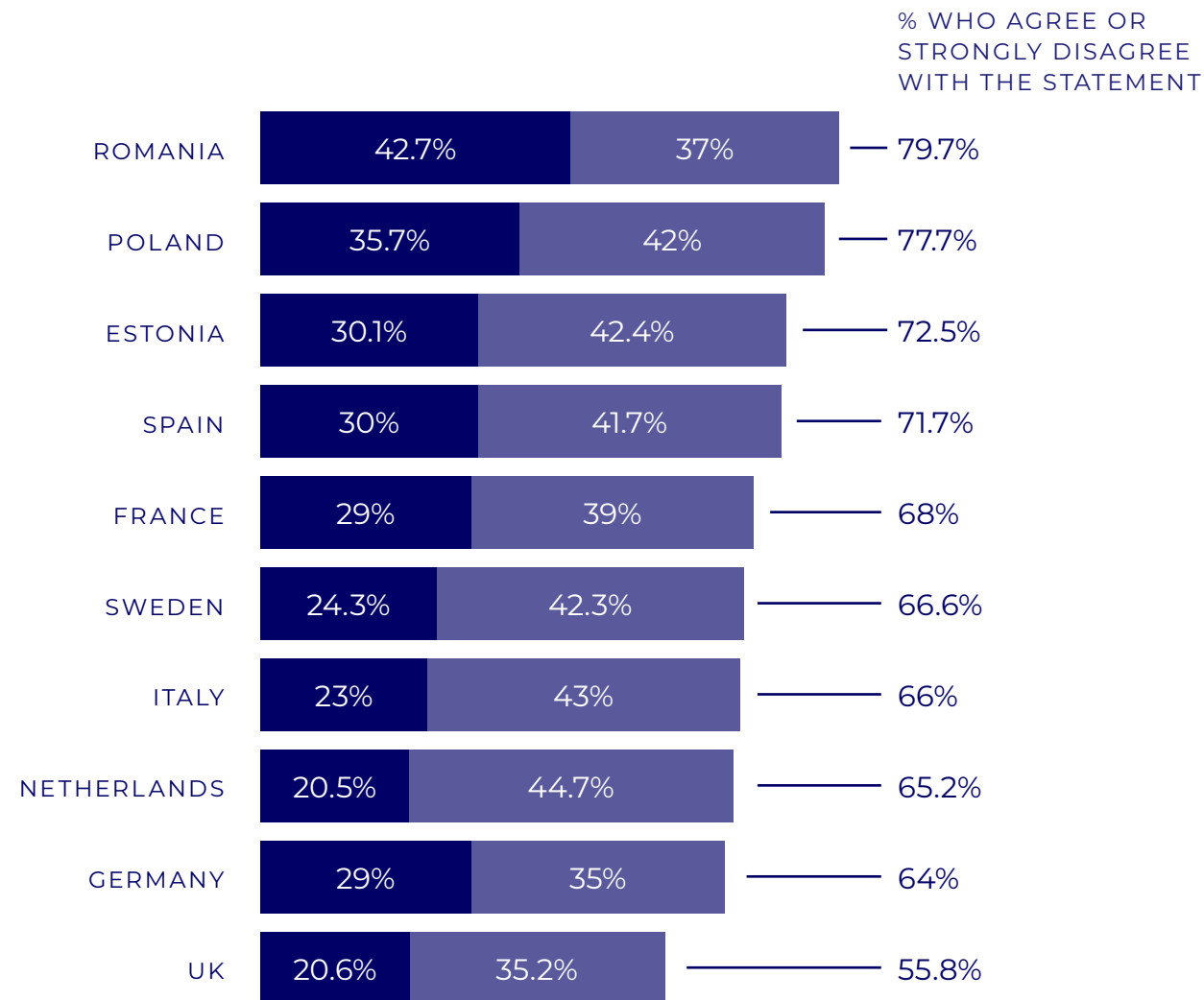
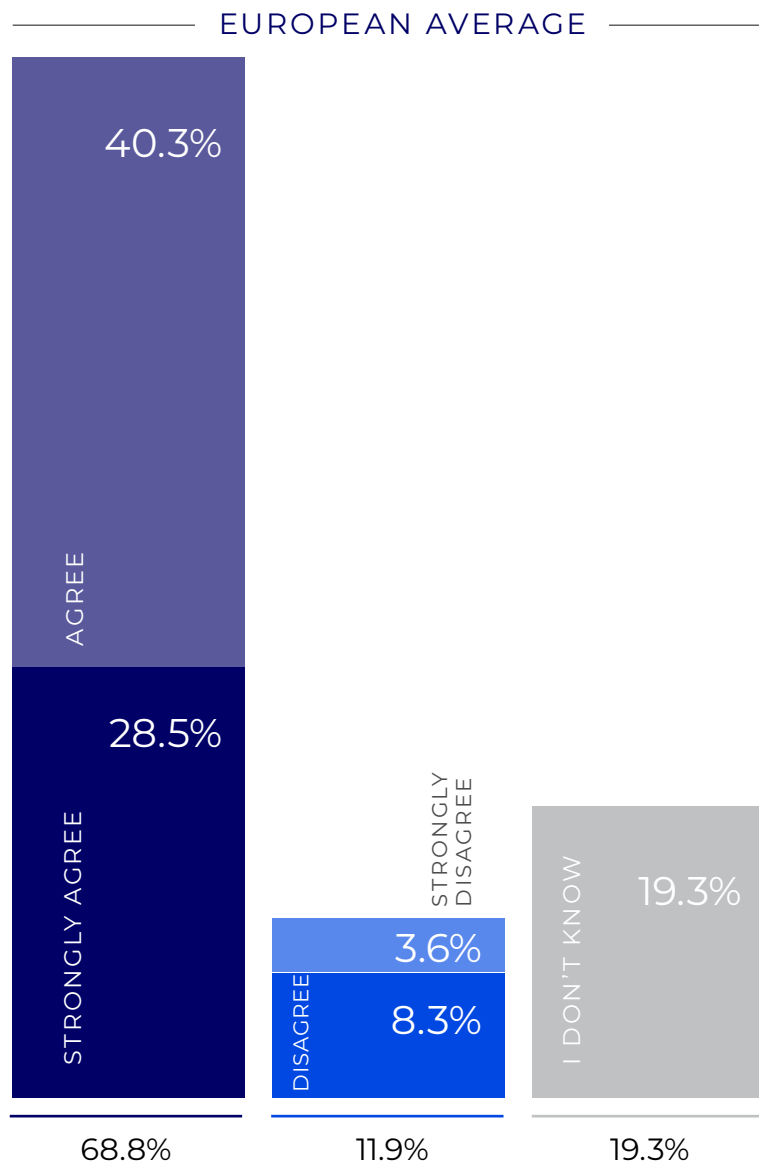


FINDING 1 — TECHNOLOGY AND THE UKRAINE WAR

Europeans believe Russia’s invasion of Ukraine has had deep consequences for the continent and the world. An overwhelming majority of Europeans (68.8%) believe the invasion of Ukraine means a paradigm shift to the current world order. Only 11.9% of the European population disagree or strongly disagree with the statement.

QUESTION:

To what extent do you agree with the following statement: “The Russian invasion of Ukraine means a paradigm shift to the current world order”?



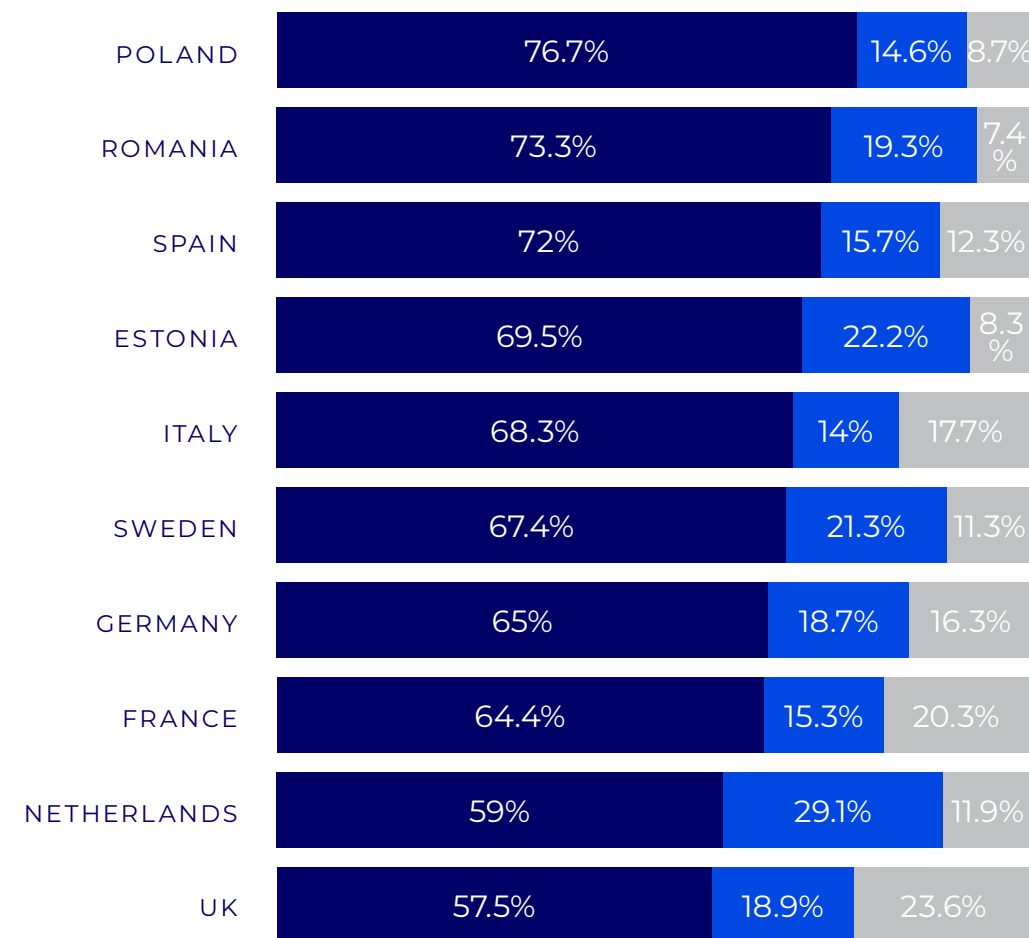
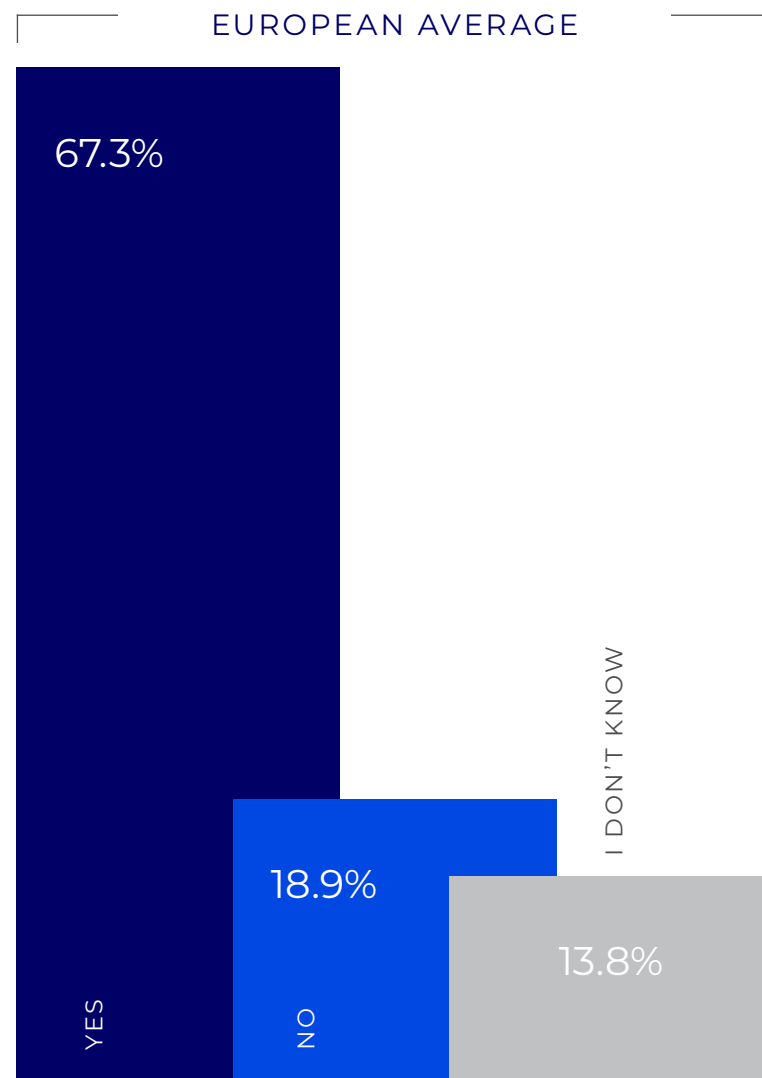


FINDING 2 — TECHNOLOGY AND THE UKRAINE WAR

A wide majority of Europeans (67.3%) are worried about a potential cyberattack on critical infrastructure in their country. Citizens of Eastern European countries are most worried: 76.7% of Poles and 73.3% of Romanians fear cyberattacks.

QUESTION:

The recent war of Ukraine has seen a rise in cyberattacks to data infrastructure. Are you concerned that your country might suffer a cyberattack on critical infrastructure?



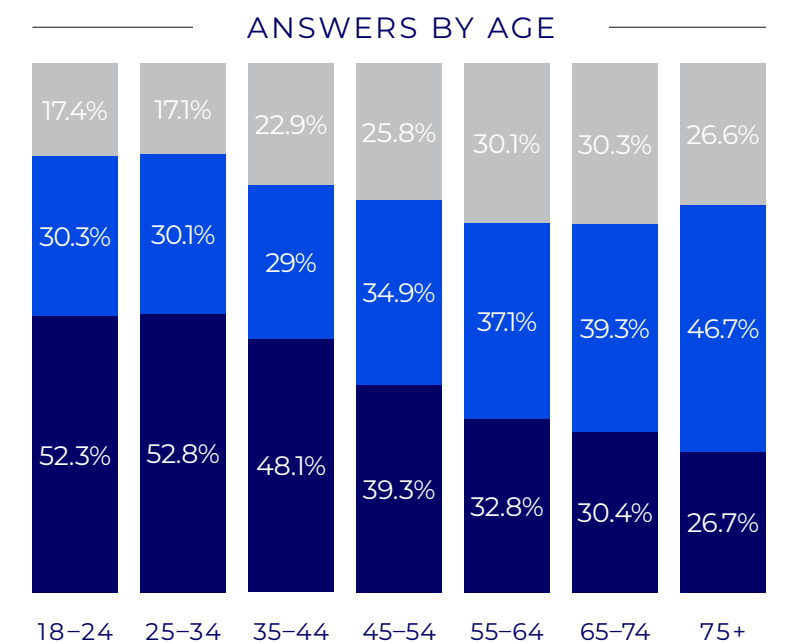
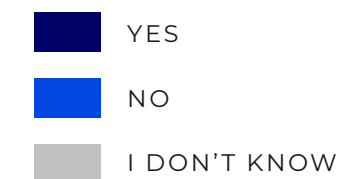
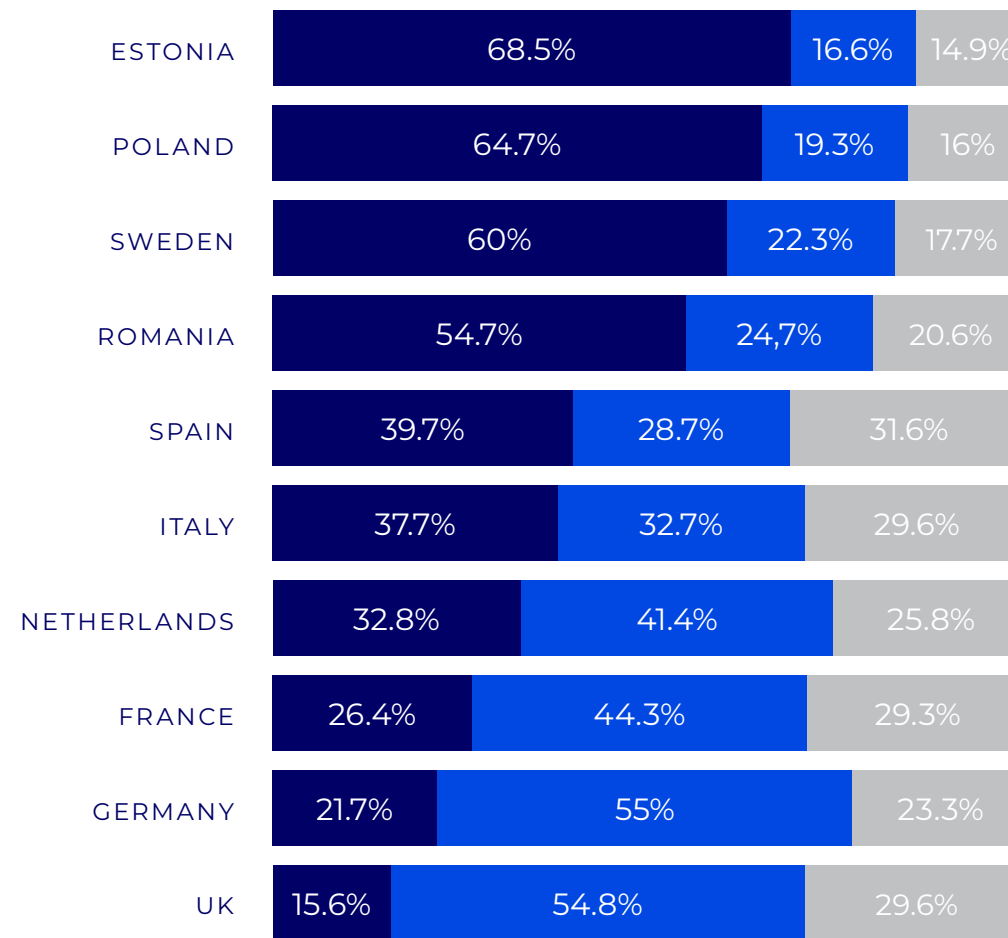
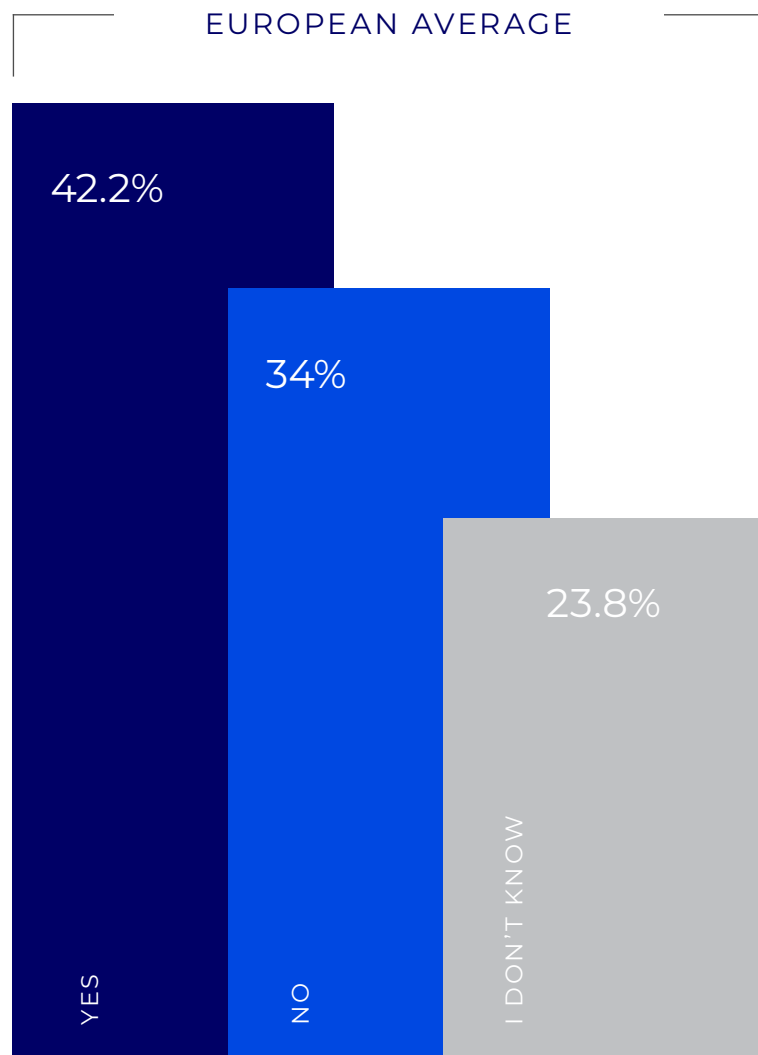


FINDING 3 — TECHNOLOGY AND THE UKRAINE WAR

Many Europeans (42.2%) believe they have been the victim of fake news related to the Ukrainian conflict. Younger generations feel more vulnerable: up to 52.3% of those under 35 think they have exposed to disinformation. There are important differences between European countries: while 68.5% of Estonians think they have been the victim of fake news, only 15.6% of British citizens believe so.

QUESTION:

The spread of fake news has also increased since the invasion of Ukraine. Do you think you might have been the victim of “fake news” related to the conflict?



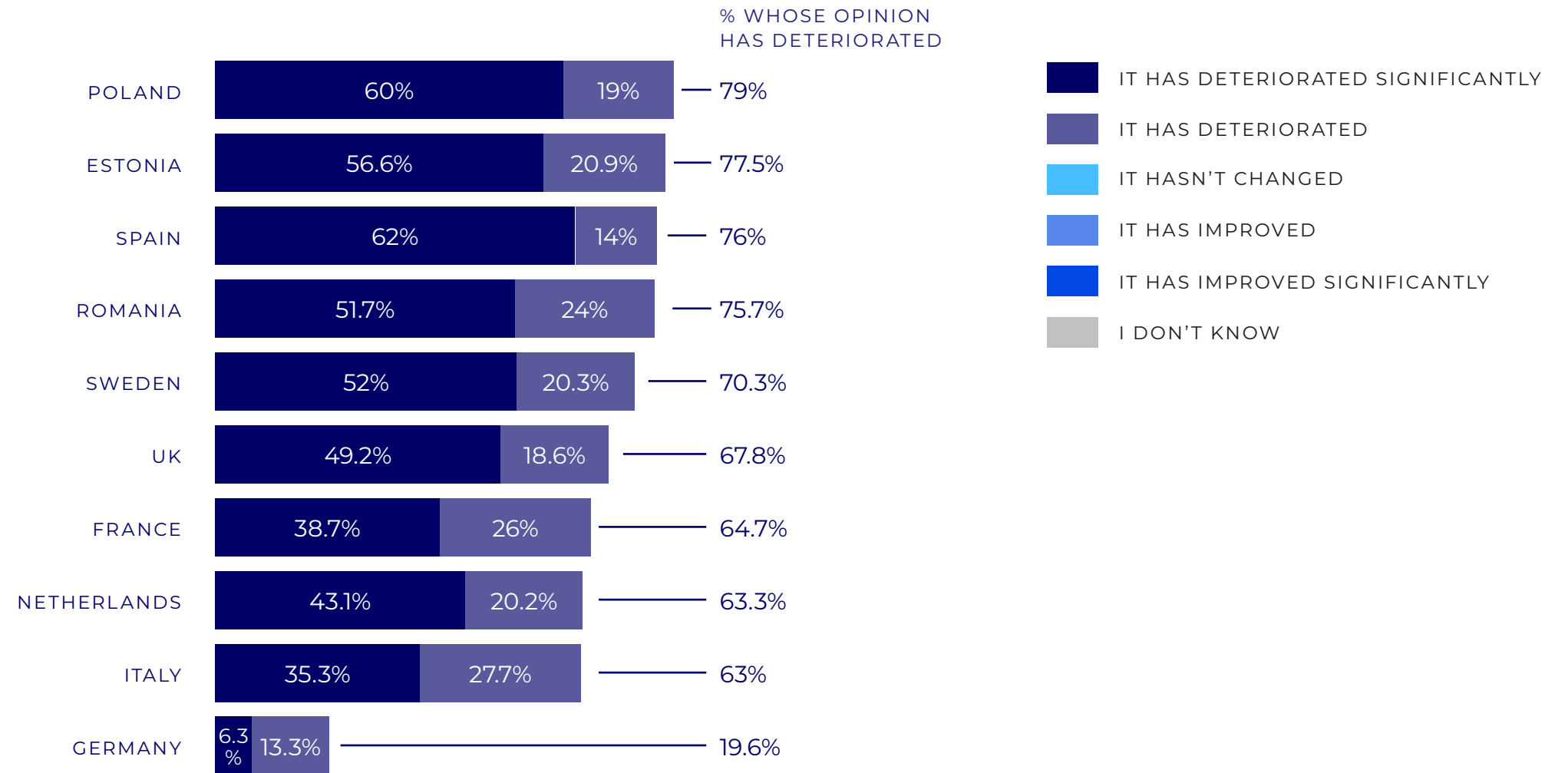
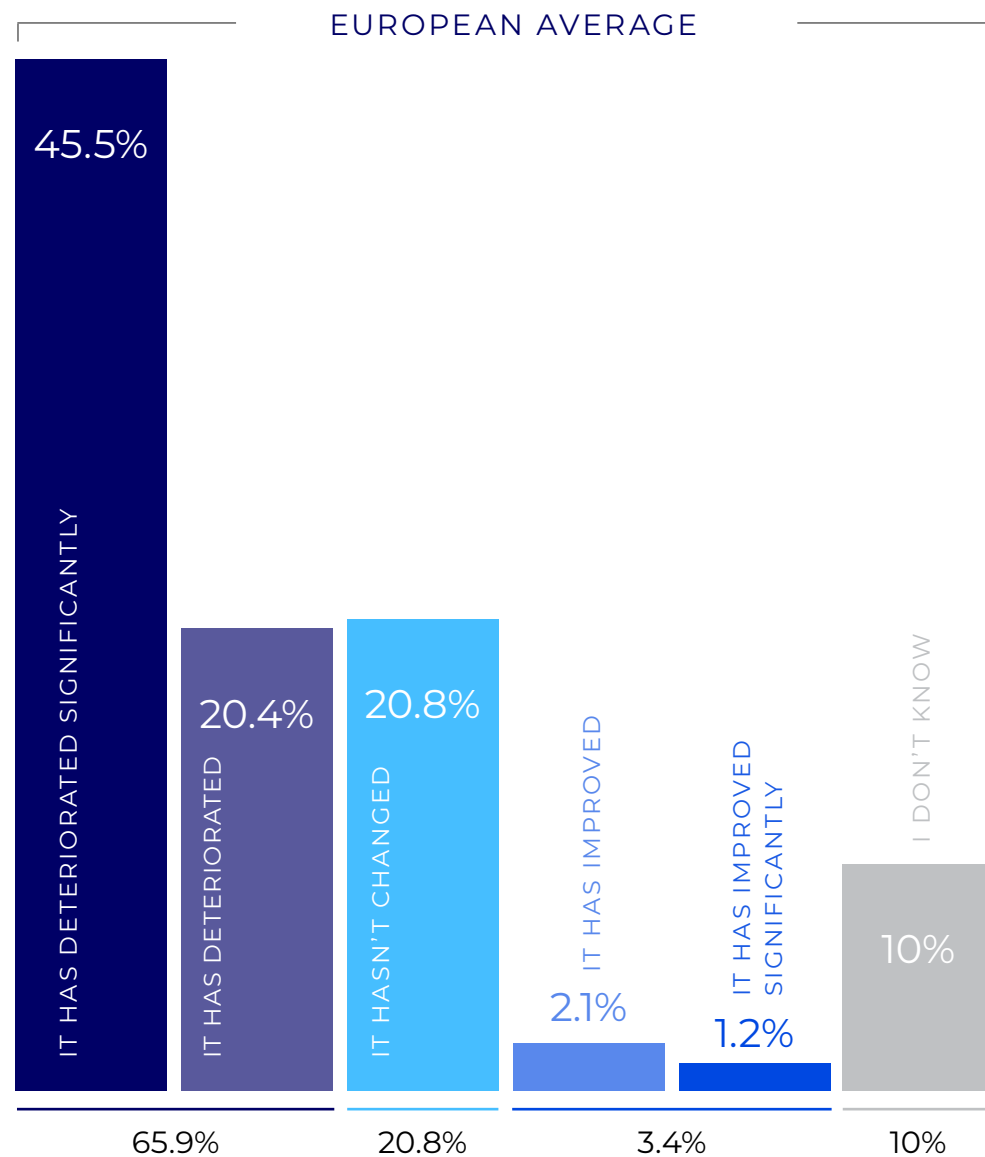


FINDING 4 — TECHNOLOGY AND THE UKRAINE WAR

An overwhelming majority of Europeans (65.9%) affirm that their opinion about the Russian government has deteriorated or deteriorated significantly. Only 3.4% of Europeans say it has improved. This majority holds in every European country polled: (from 79% of negative opinions in Poland to 63% in Italy). There is only one exception: Germany is the only country where this opinion barely reaches 20%.

QUESTION:

How has your opinion on the Russian government changed since the invasion of Ukraine in February this year?



2

DEMOCRACIES
AT RISK





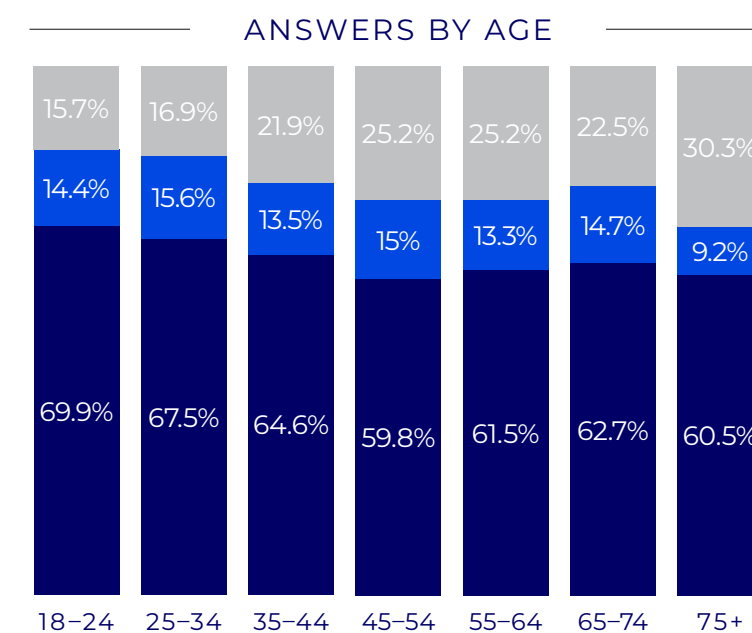
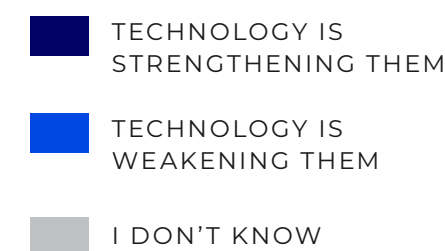
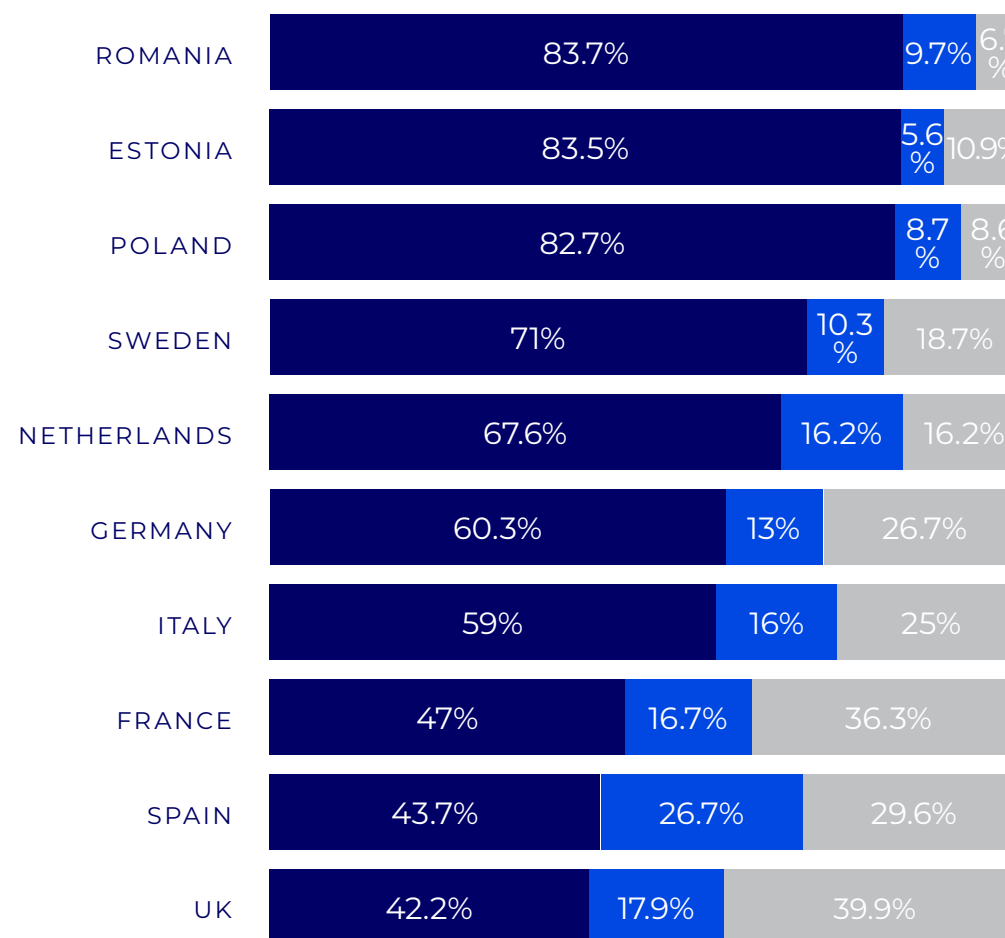
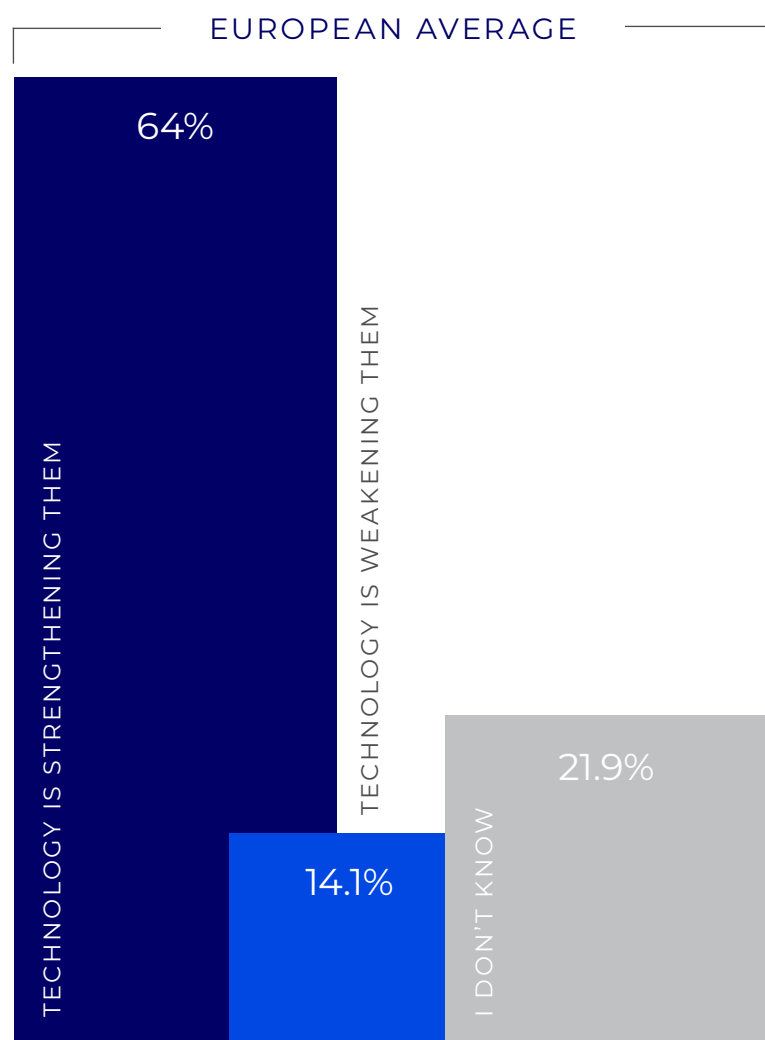
FINDING 5 — DEMOCRACIES AT RISK

Almost 2/3 of Europeans (64%) believe that technology is strengthening democracy.

UK (42.2%) and Spain (43.7%) have the smallest share of citizens who agree with this statement, while Romanian (83.7%), Estonian (83.5%) and Polish (82.7%) citizens are the most enthusiastic. Younger European generations are more prone to believe technology is impacting democracy positively (69.9% of 18 – 24 year-olds) than older generations (60.5% of 75+ year-olds).

QUESTION:

Technology is having a profound impact on society and politics. How do you think it is affecting your country's democratic institutions and processes?



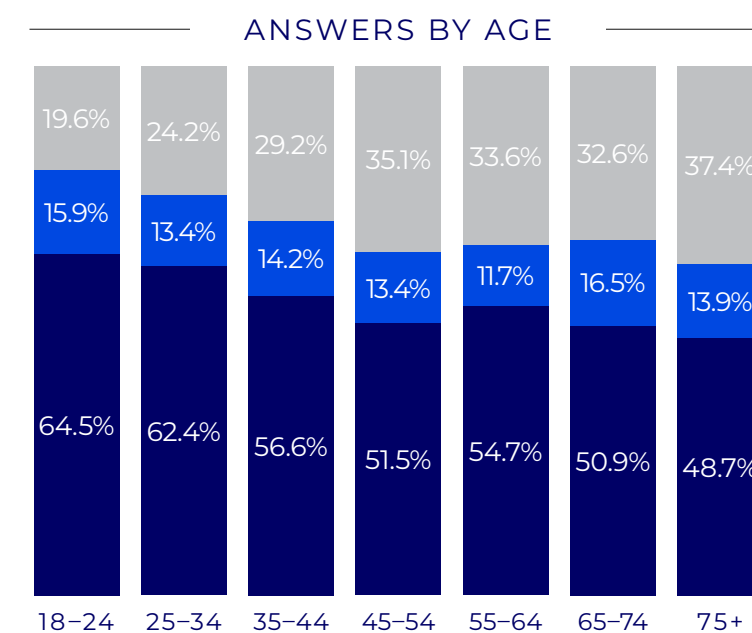
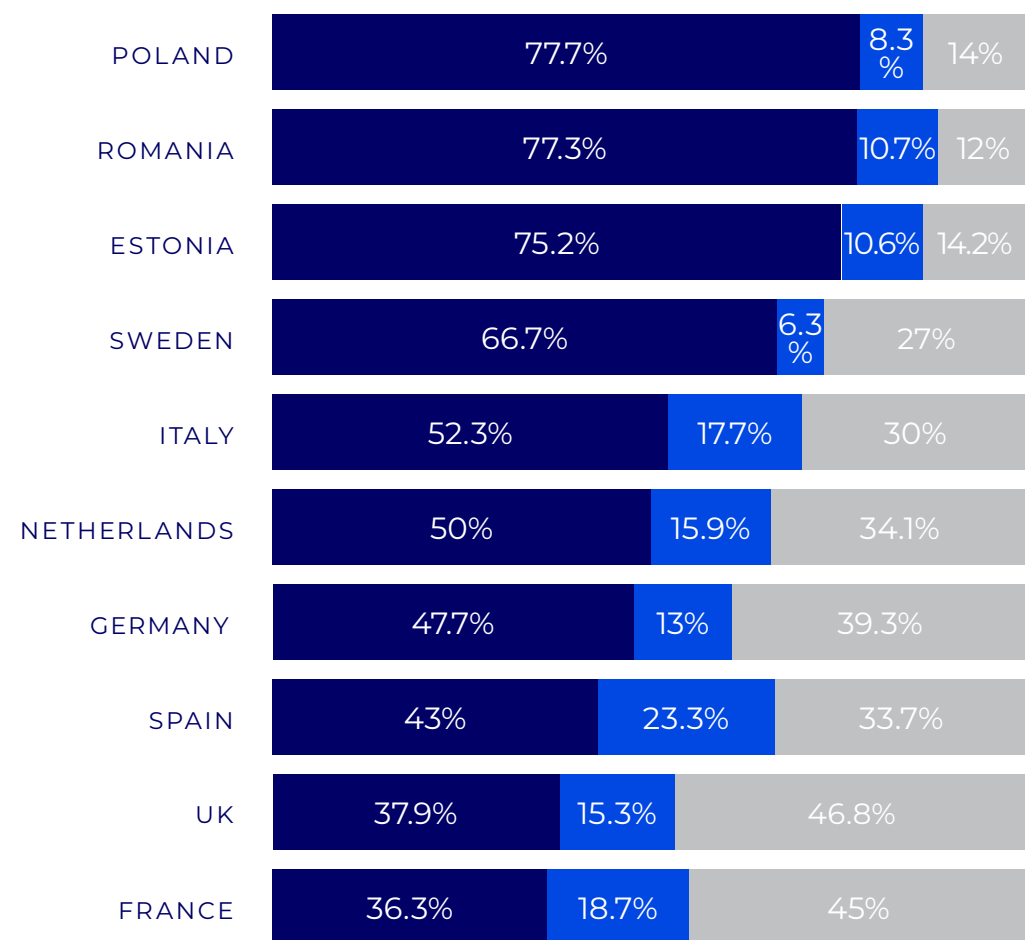
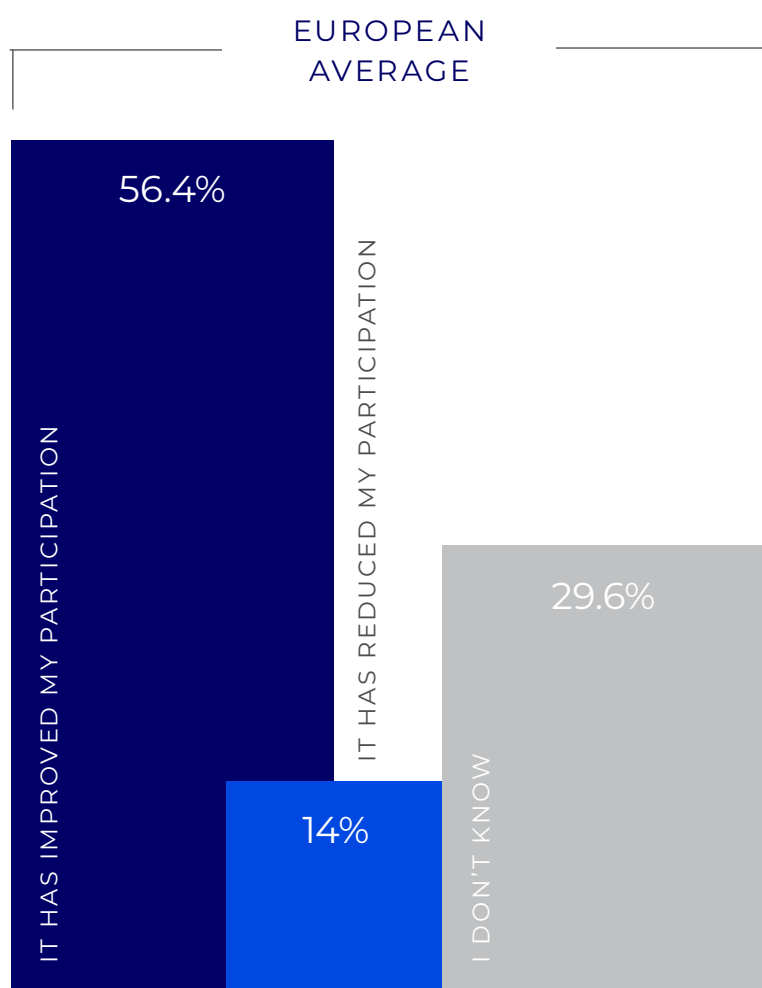


FINDING 6 — DEMOCRACIES AT RISK

A majority of Europeans (56.4%) believe technology has improved their participation in the democratic process. There are sharp differences between countries: while only 36.3% of French and 37.9% of British citizens think technology has had a positive impact in democratic participation, more than 75% of Romanians, Estonians and Poles believe so. Younger generations are more optimistic about the impact of technology on democratic participation (64.5% for 18-24-year-olds) than older ones (48.7% for 75+ year-olds).

QUESTION:

How do you think technology has changed your participation in the democratic debate and elections?





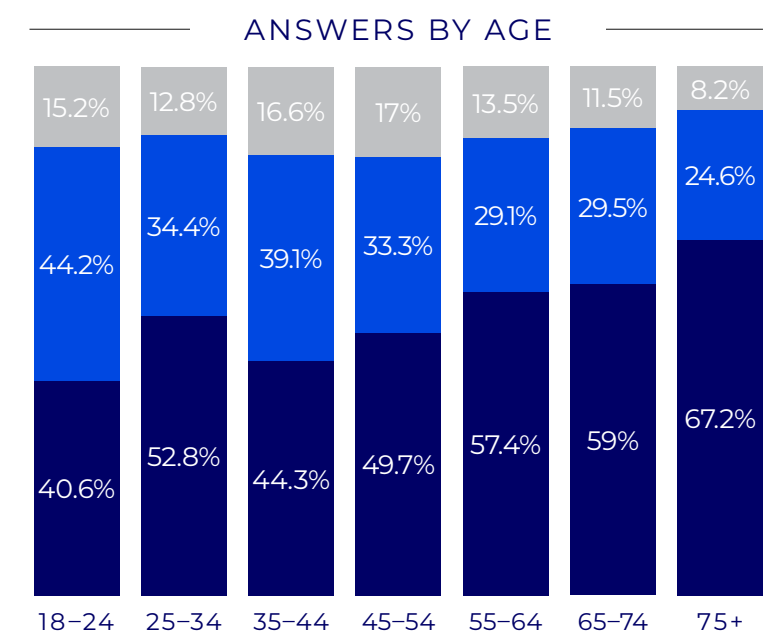
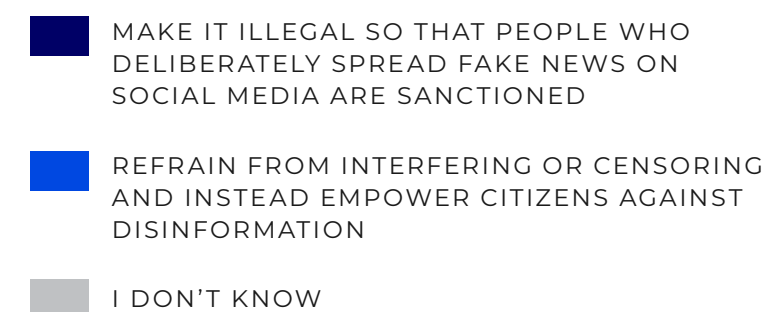
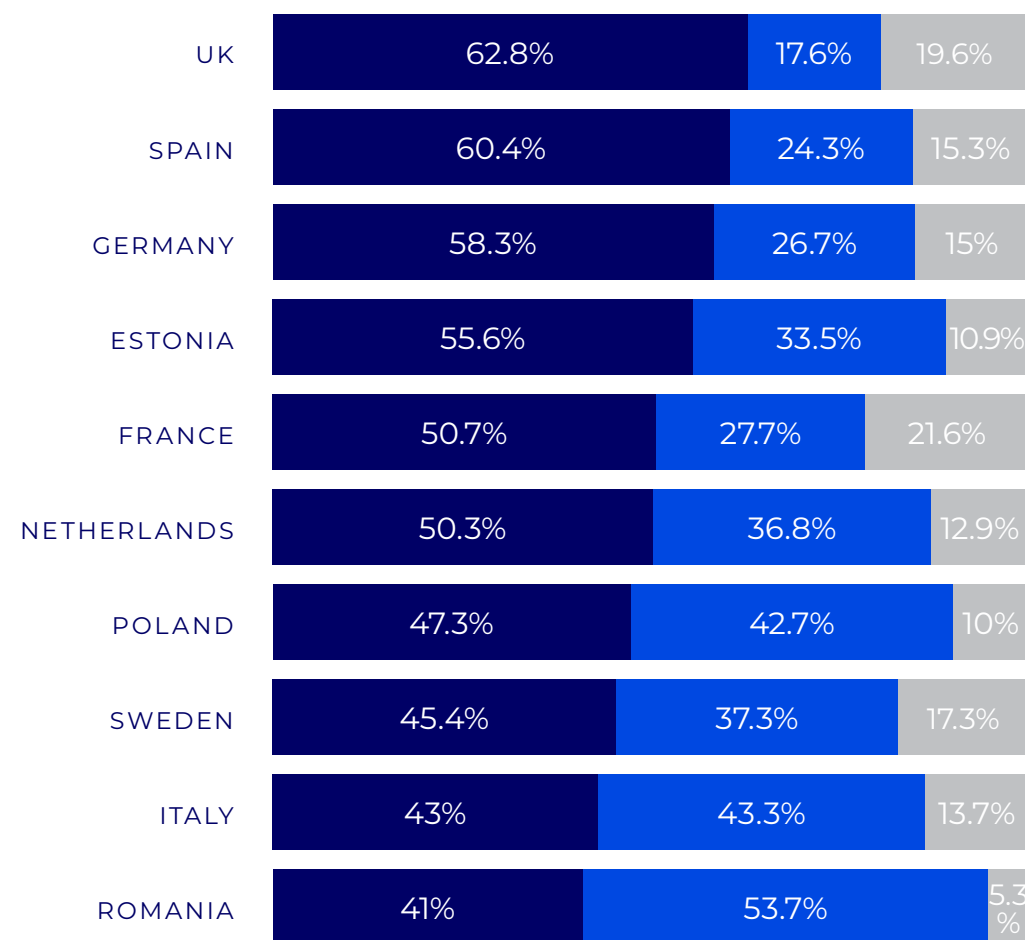
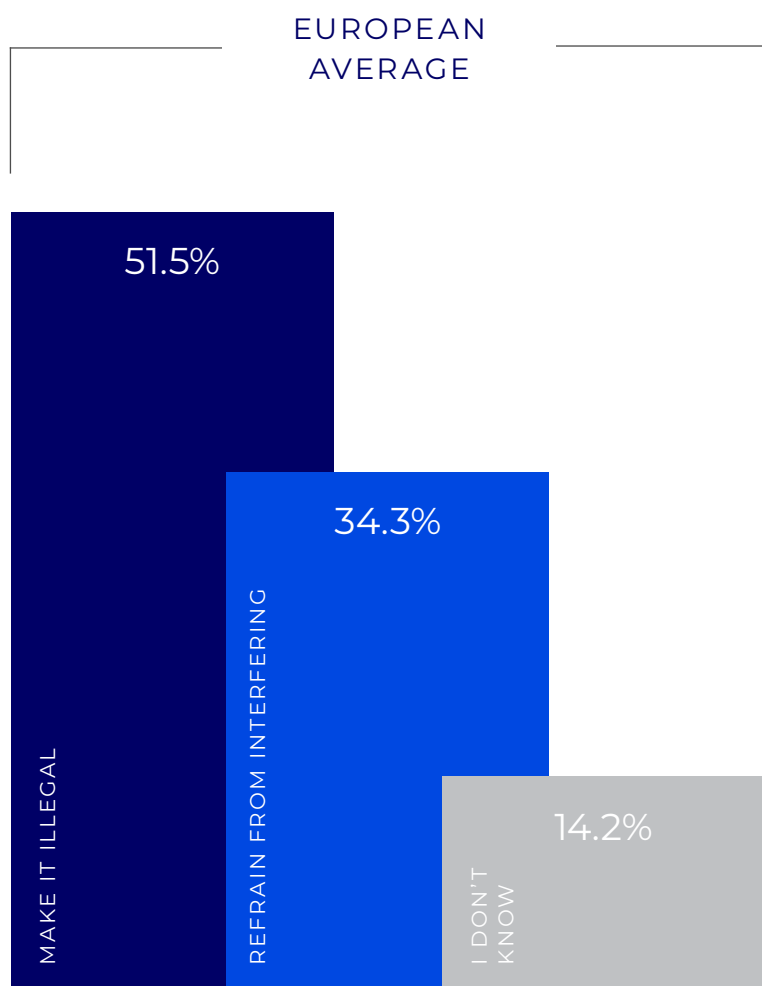
FINDING 7 — DEMOCRACIES AT RISK

More than half of Europeans (51.5%) want disinformation to be illegal and believe their country should sanction those who spread fake news on social media. All European countries polled except Romania and Italy agree. UK (62.8%), Spain (60.4%) and Germany (58.3%) are the countries that favour the most this measure. This opinion is stronger among older Europeans (67.2%) than younger ones, who would prefer governments refrain from interfering.

QUESTION:

The EU acknowledges that disinformation can be harmful for citizens and society at large but does not consider it illegal. Do you think your country should:

- a) Make it illegal,
- b) Refrain from interfering,
- c) I don't know.



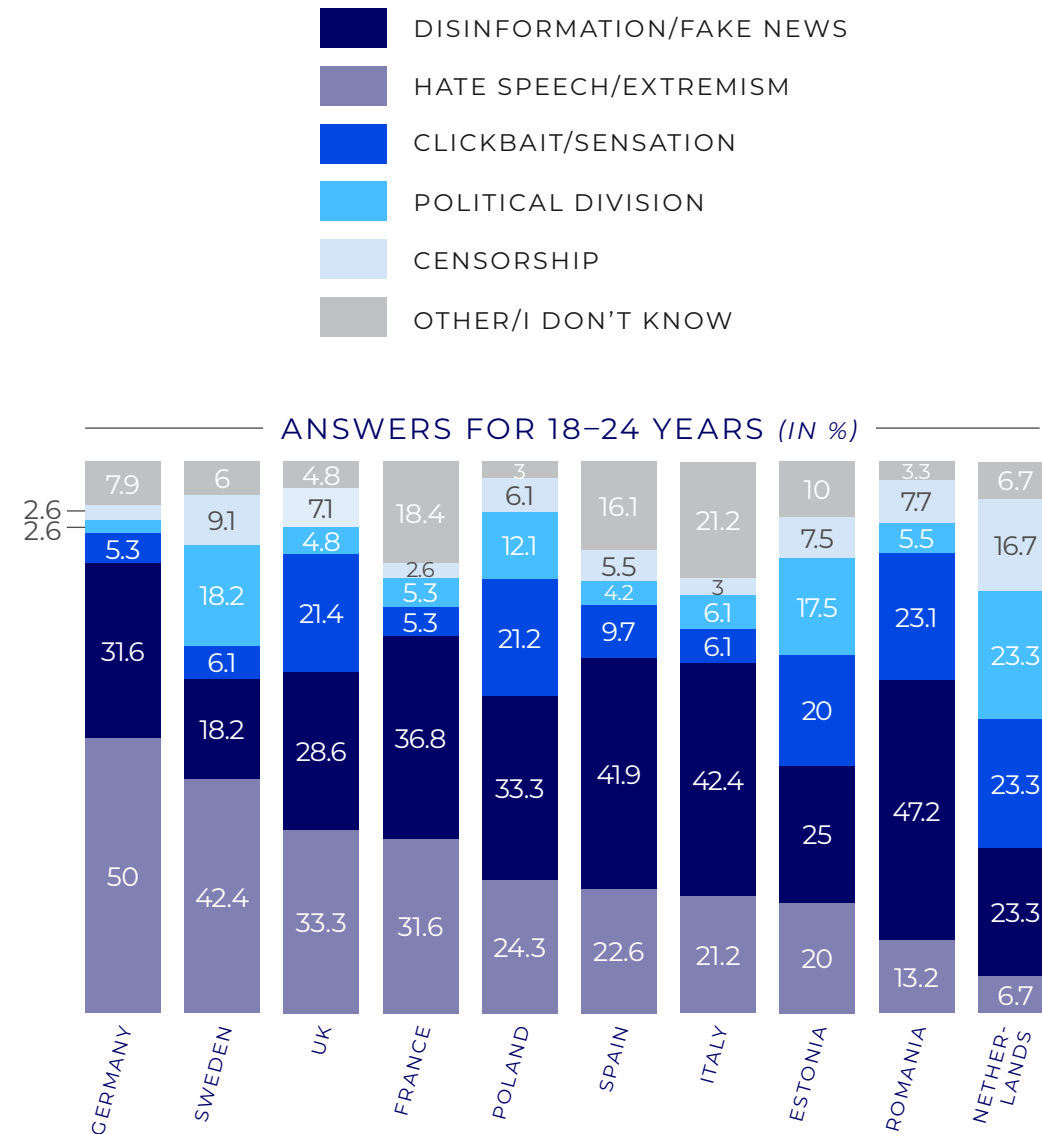
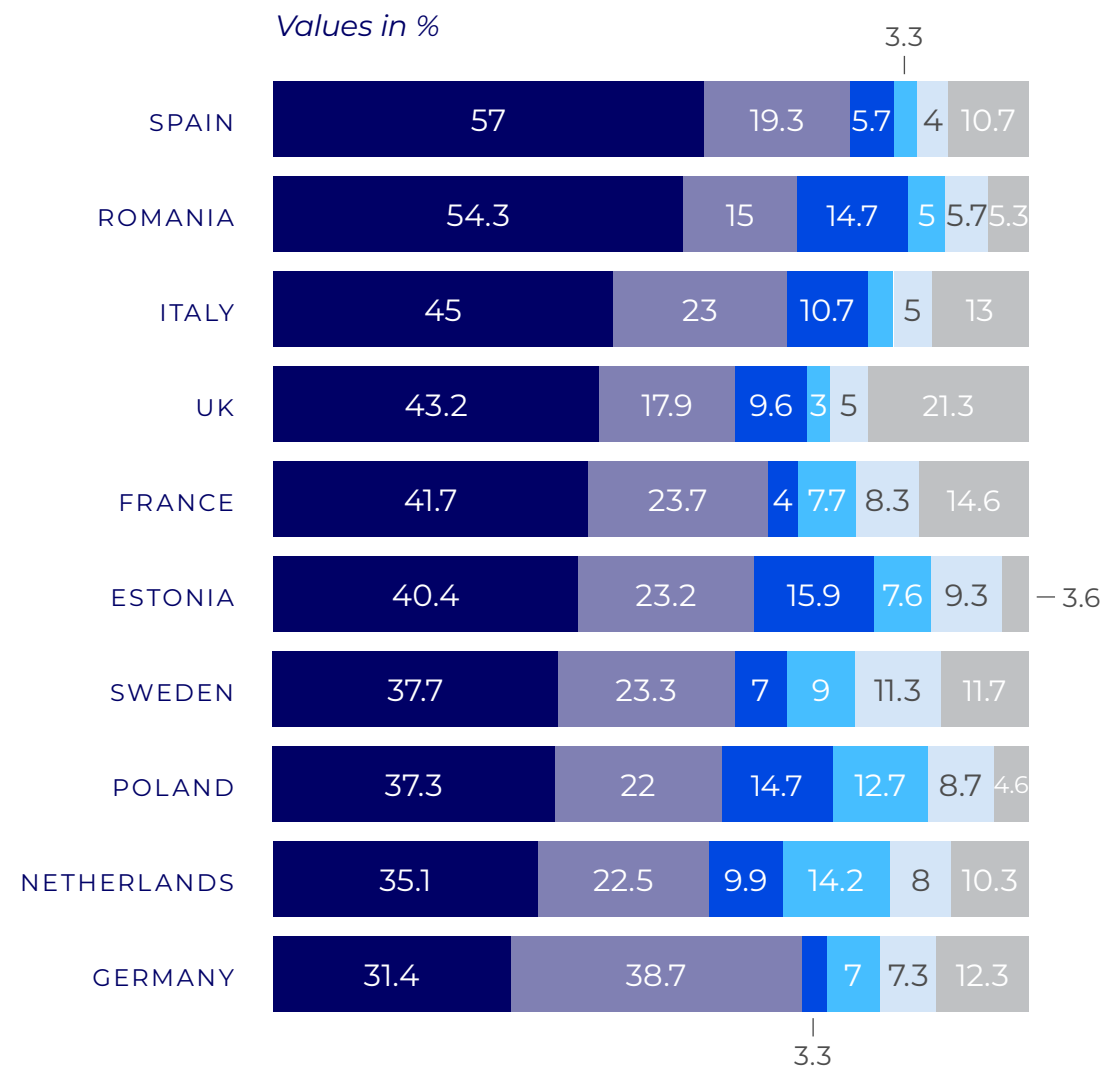
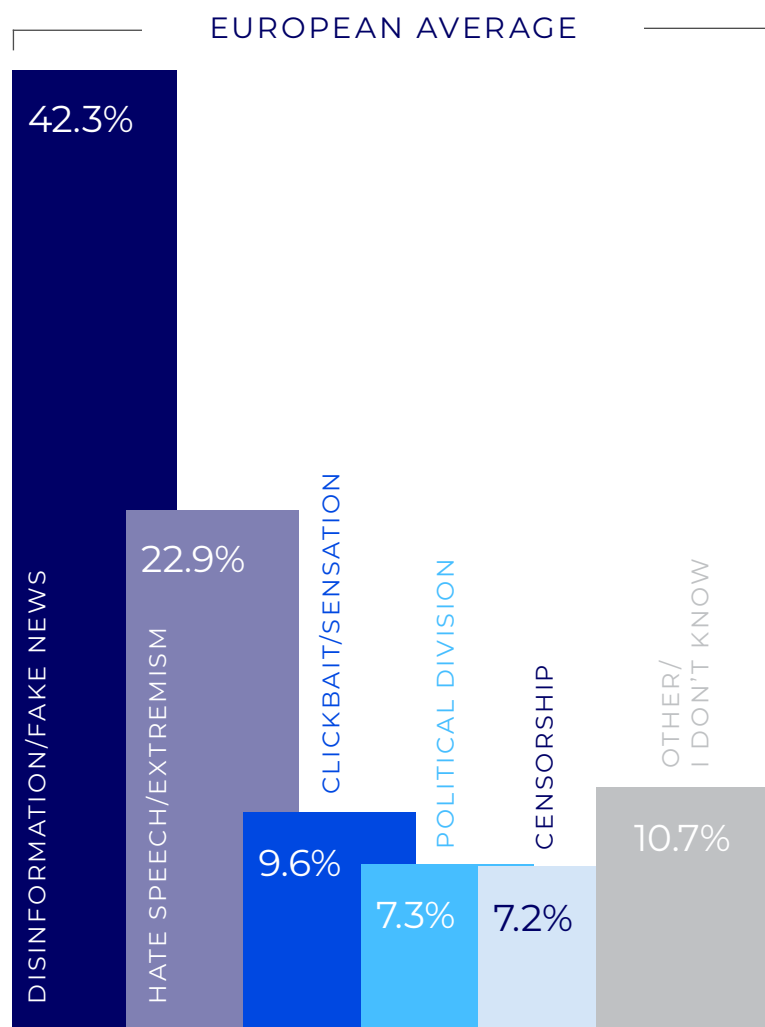


FINDING 8 — DEMOCRACIES AT RISK

Most Europeans (42.3%) believe disinformation and fake news are the main problem associated with social media. Younger Europeans aged 18 to 24, however, are more worried about hate speech and extremism (38.7%) than disinformation (31.3%). It is especially the case in Germany (50%), Sweden (42.4%) and UK (33.3%).

QUESTION:

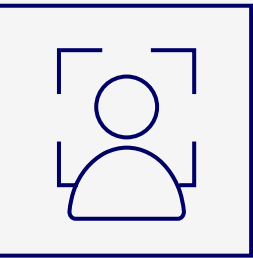
Many experts believe that social media increases political polarisation and undermines our democracies. In your opinion, which of the following is the main problem associated with social media?



3

**DIGITAL
RIGHTS**



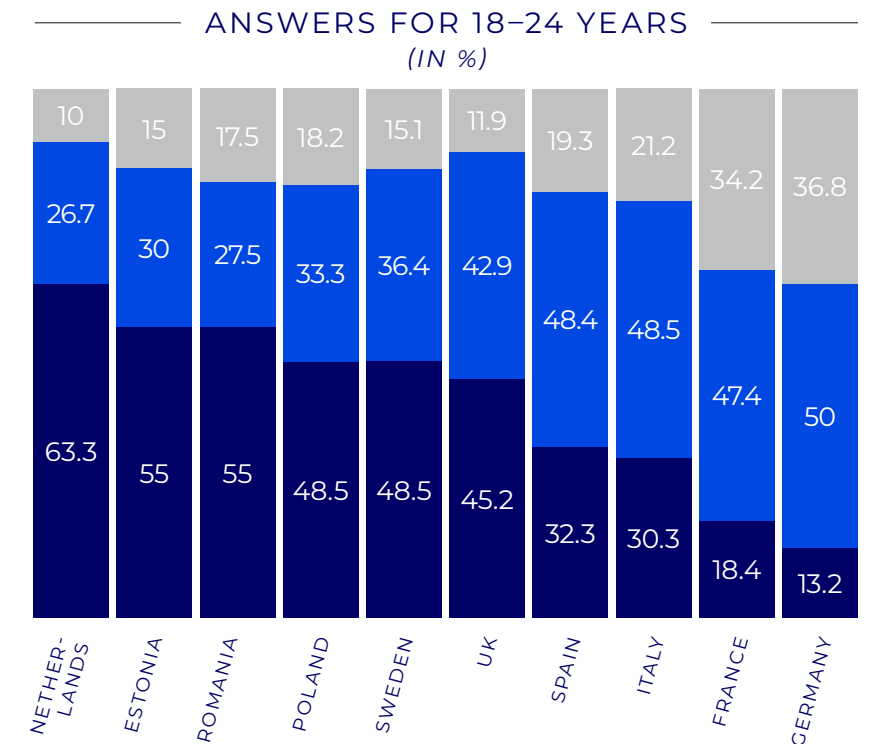
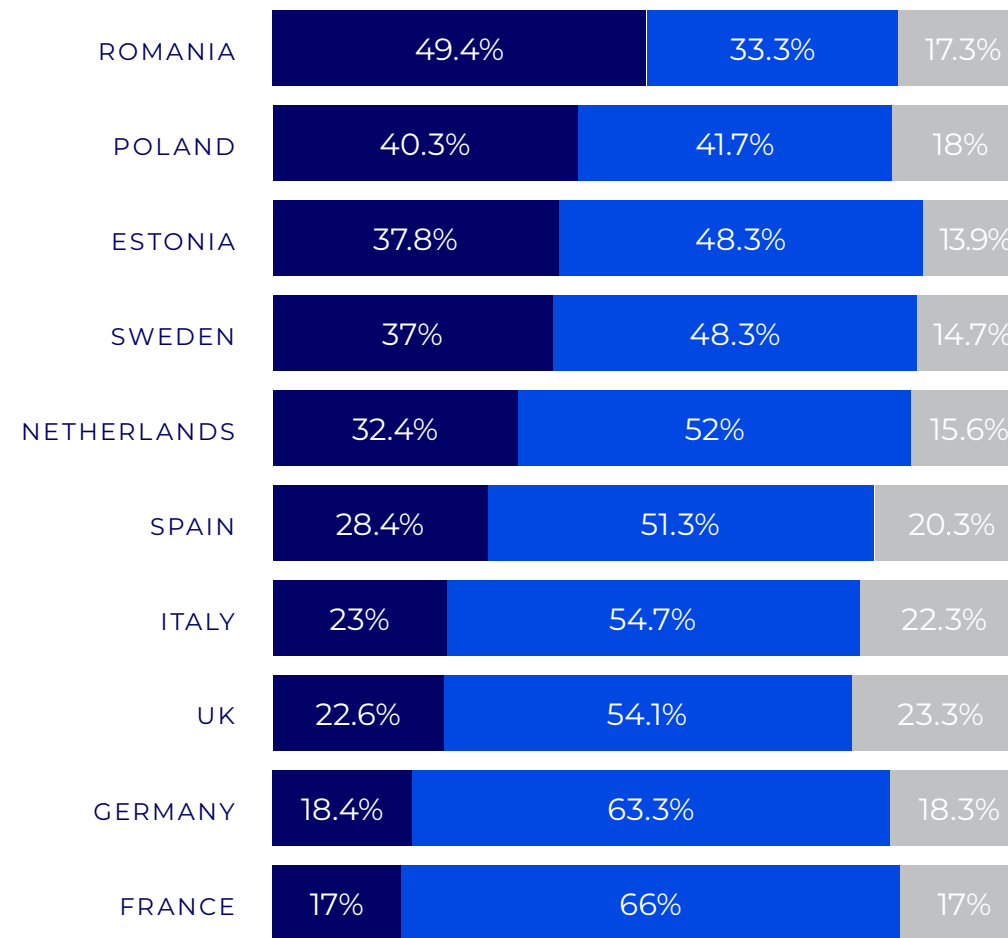
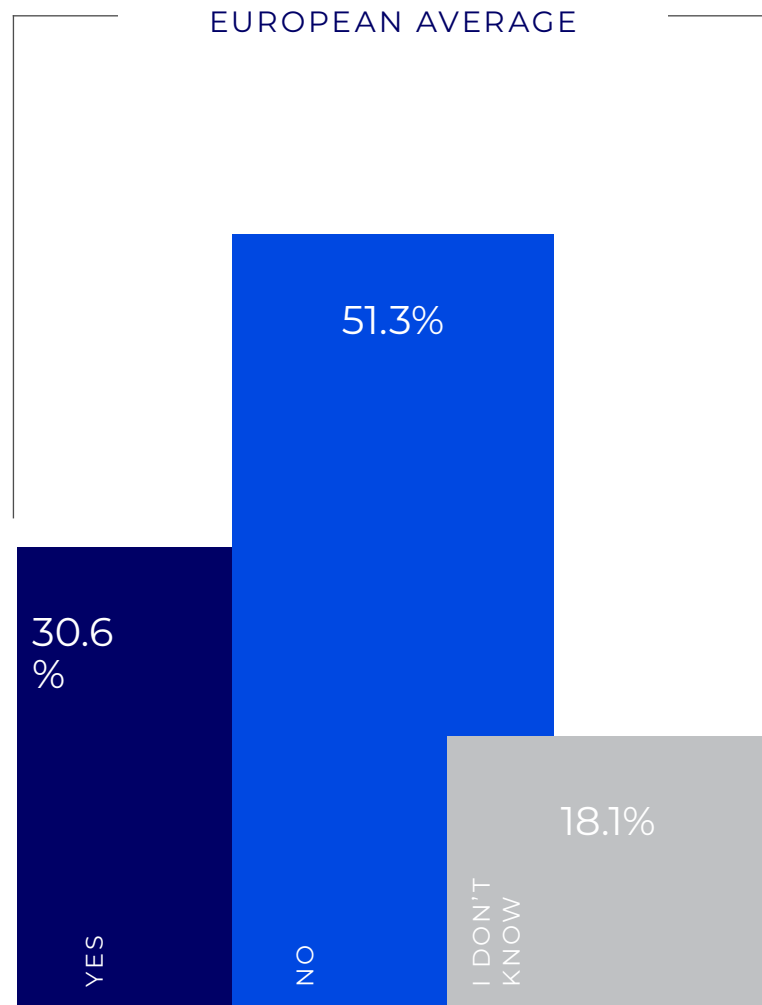


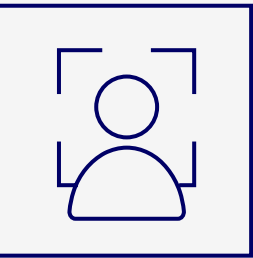
FINDING 9 — DIGITAL RIGHTS

A significant number (42.5%) of young Europeans (18 – 24 years old) are willing to pay more taxes to be able to provide internet for free to those who can't afford it. It is especially the case in the Netherlands (63.3%), Estonia (55%) and Romania (55%), where large majorities of those aged 18 to 24 are willing to do so.

QUESTION:

Some people believe that access to the internet should be considered a fundamental right. Would you be willing to pay more taxes to be able to provide it for free to those who can't afford it in your country?



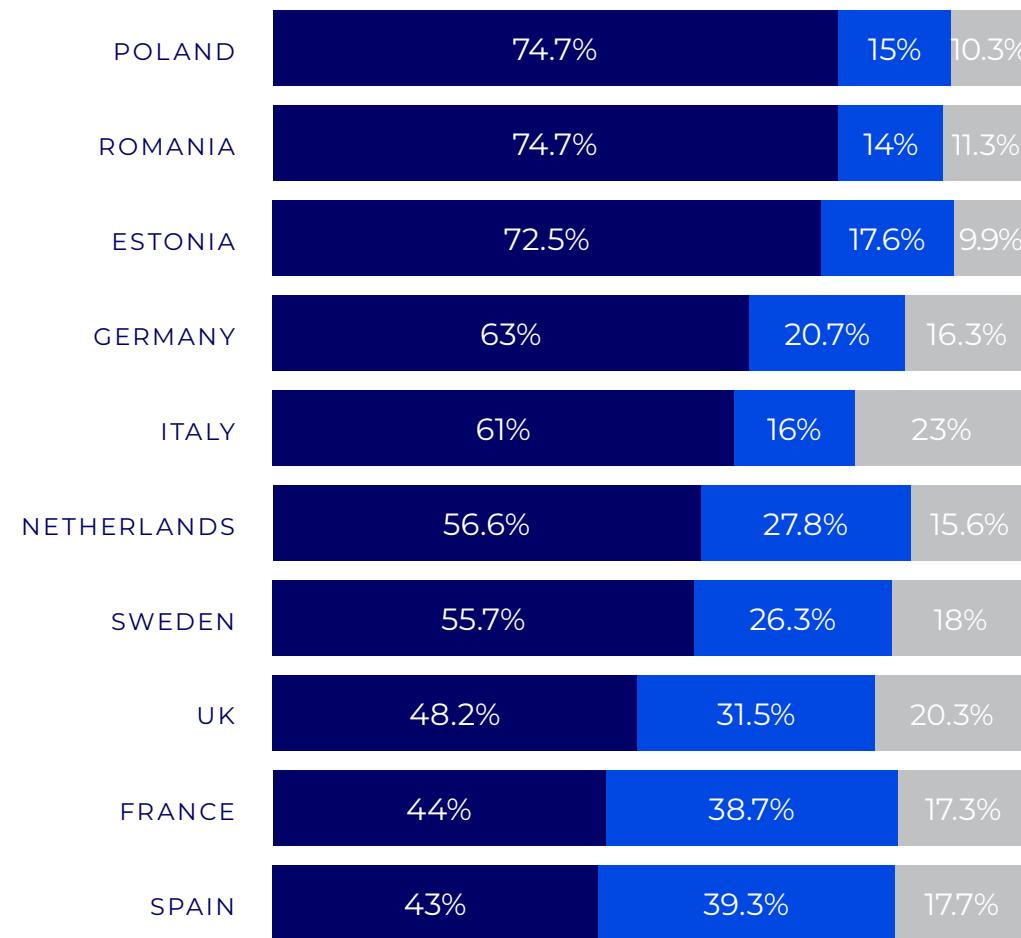
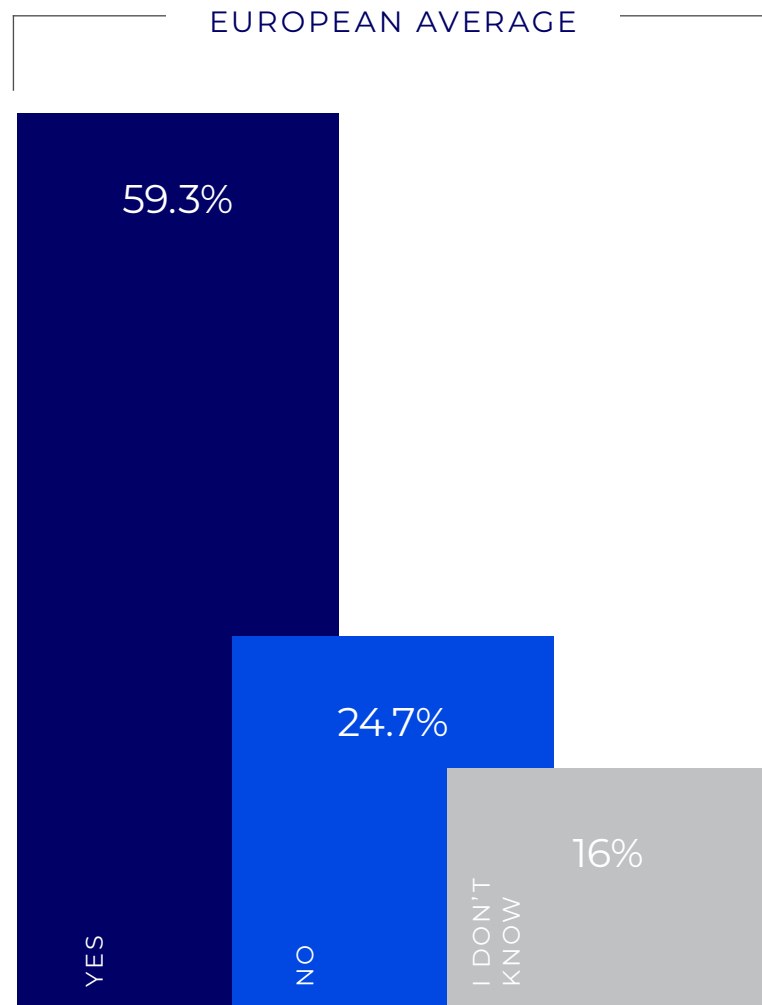


FINDING 10 — DIGITAL RIGHTS

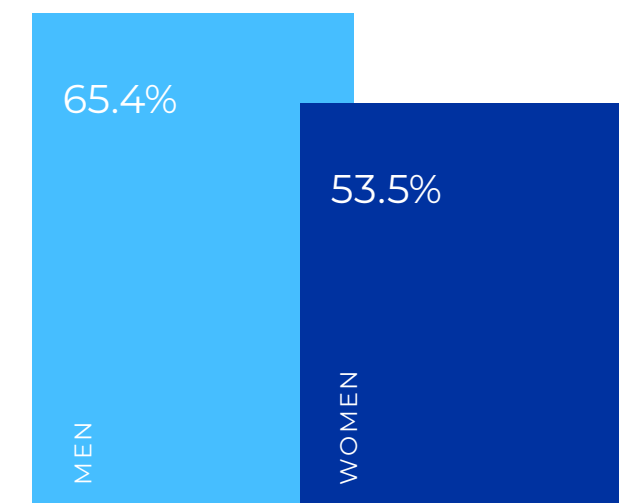
Almost 60% of European citizens would like to be able to switch to public services online, even if this meant closing some physical offices. Even large majorities of those aged 65 – 74 and 75+ agree with the proposal. Although most European women agree with the measure (53.5%), men are much more in favour (65.4%). The only country that sees some opposition to the measure is France: more than half of French citizens over 65 are not willing to switch to online public services.

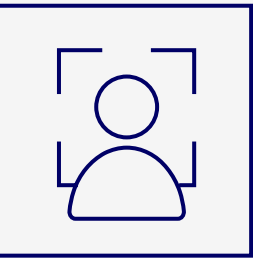
QUESTION:

Estonia has implemented a highly successful e-Government programme. 99% of their public services are available online 24/7 (for instance, renovating your driving license or having access to your medical records). Would you support your country's government doing the same, even if it meant closing most some physical offices?



— ANSWERS "YES" BY GENDER —



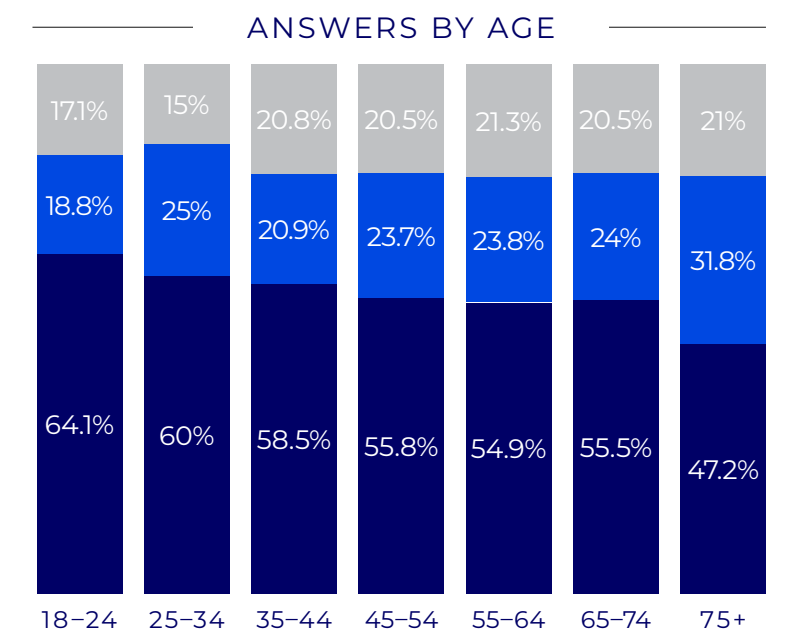
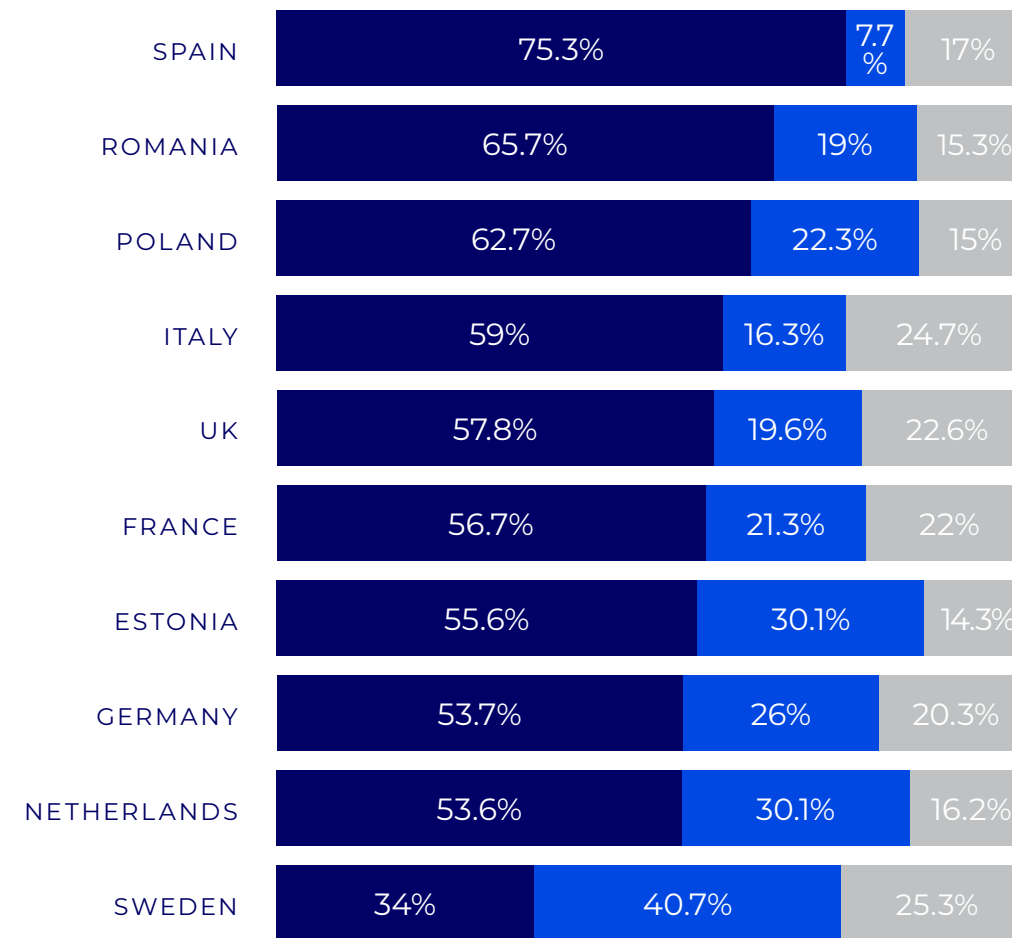
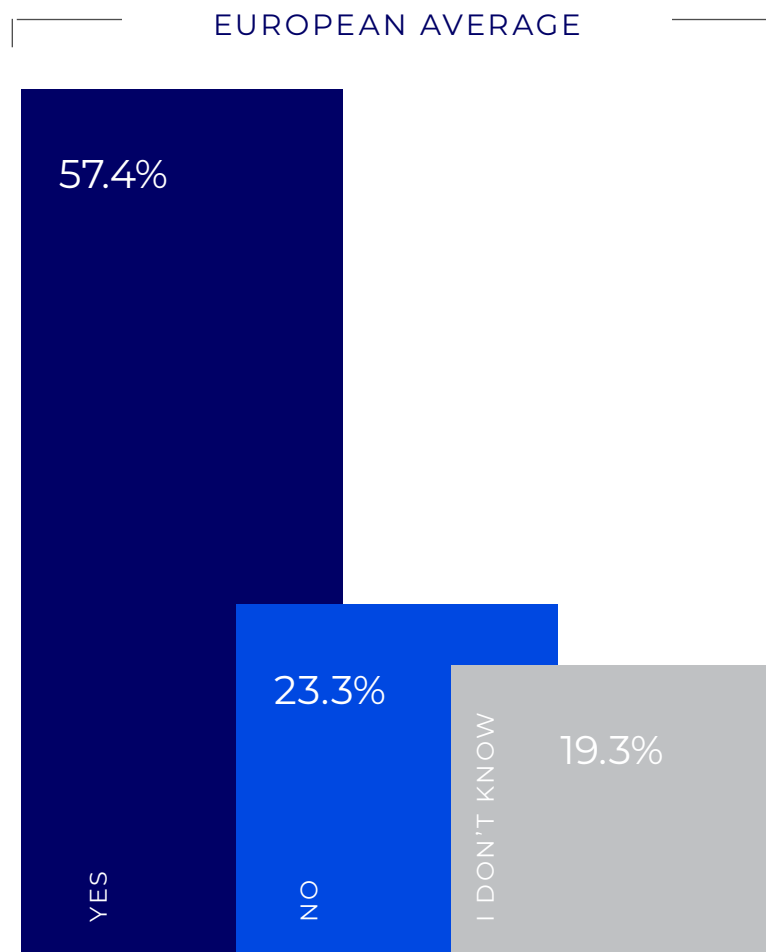


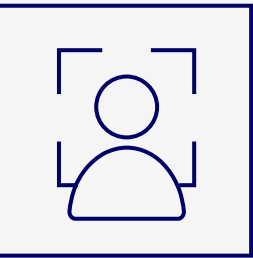
FINDING 11 — DIGITAL RIGHTS

A large majority of European citizens (57.4%) support the right to disconnect. Stronger support is seen among Millennials and Generation Z citizens: 64.1% of those aged 18 – 24 and 60% of those aged 25 – 34 support the measure. Spaniards are the most supportive of the measure: three fourths of Spanish citizens agree with the right of disengaging from digital communications after work.

QUESTION:

Some European countries have included the right to disconnect in their legislation. It means that a worker has the right to disengage from using electronic communications (phone, email, etc.) outside working hours. Do you think companies should be required to implement such measure?



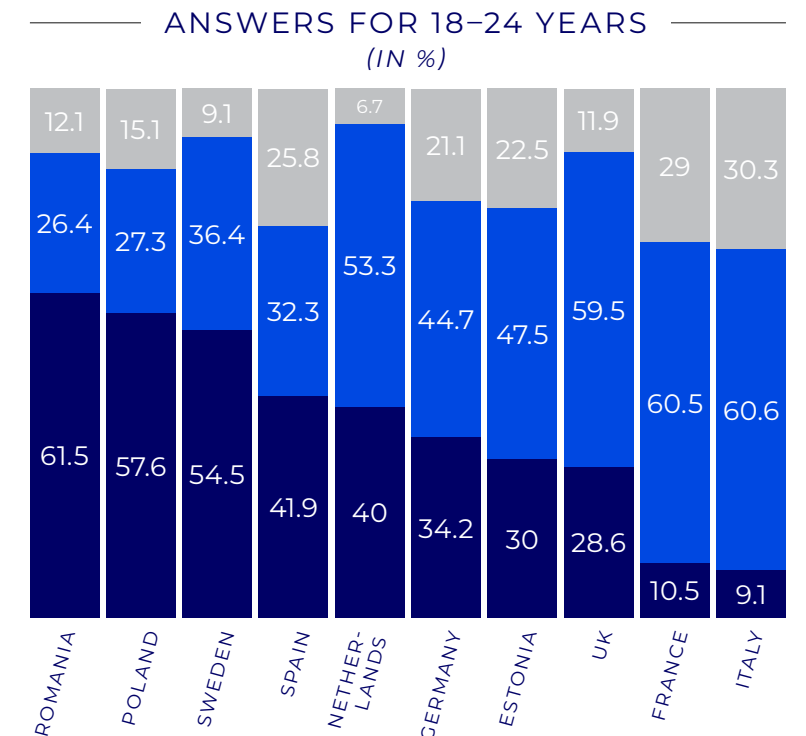
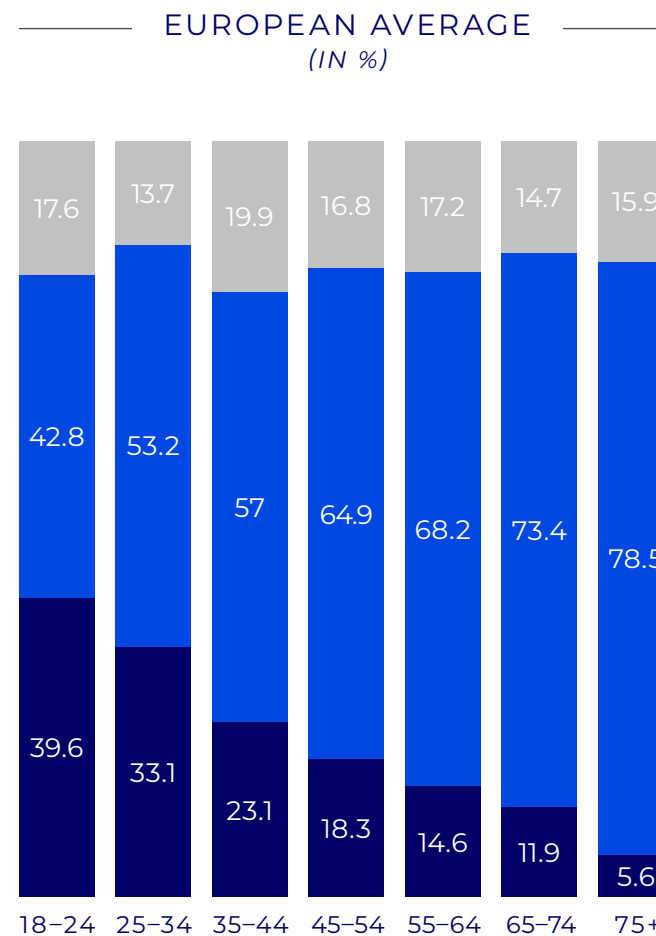
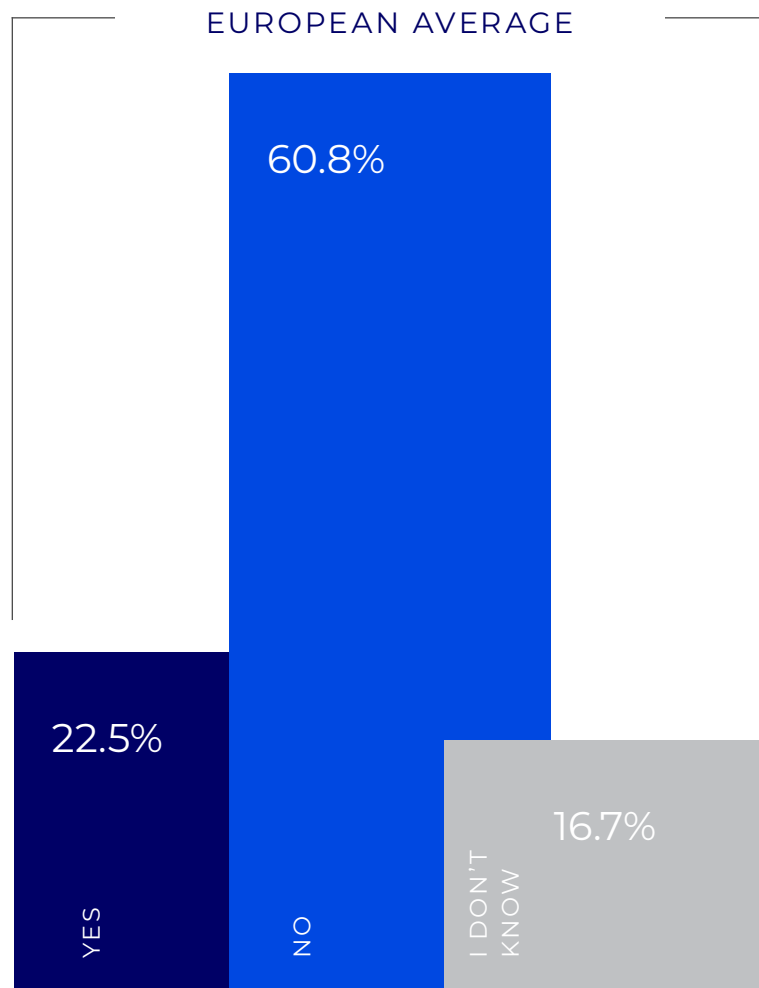


FINDING 12 — DIGITAL RIGHTS

A considerable number of young Europeans affirm they have been discriminated online based on their personal data: almost 40% of Europeans aged 18 – 24 and a third of those aged 25 – 34 believe so. A majority of Romanians (61.5%), Poles (57.6%), Swedes (54.5%) and a large number of Spaniards (41.9%) aged 18 – 24 believe they have been discriminated online. Likewise, most Romanians (58.5%), Dutch (58.2%), Poles (49.3%) and a large number of Swedes (45.90%) aged 25 – 34 believe so too.

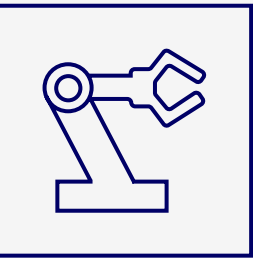
QUESTION:

Do you believe you have ever been discriminated online (treated unfairly, unethically, or just differently) based on your personal data?



4

AUTOMATION AND EMERGING TECHNOLOGIES

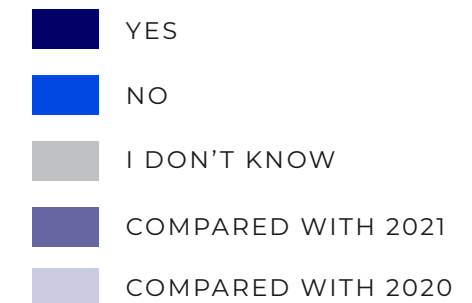
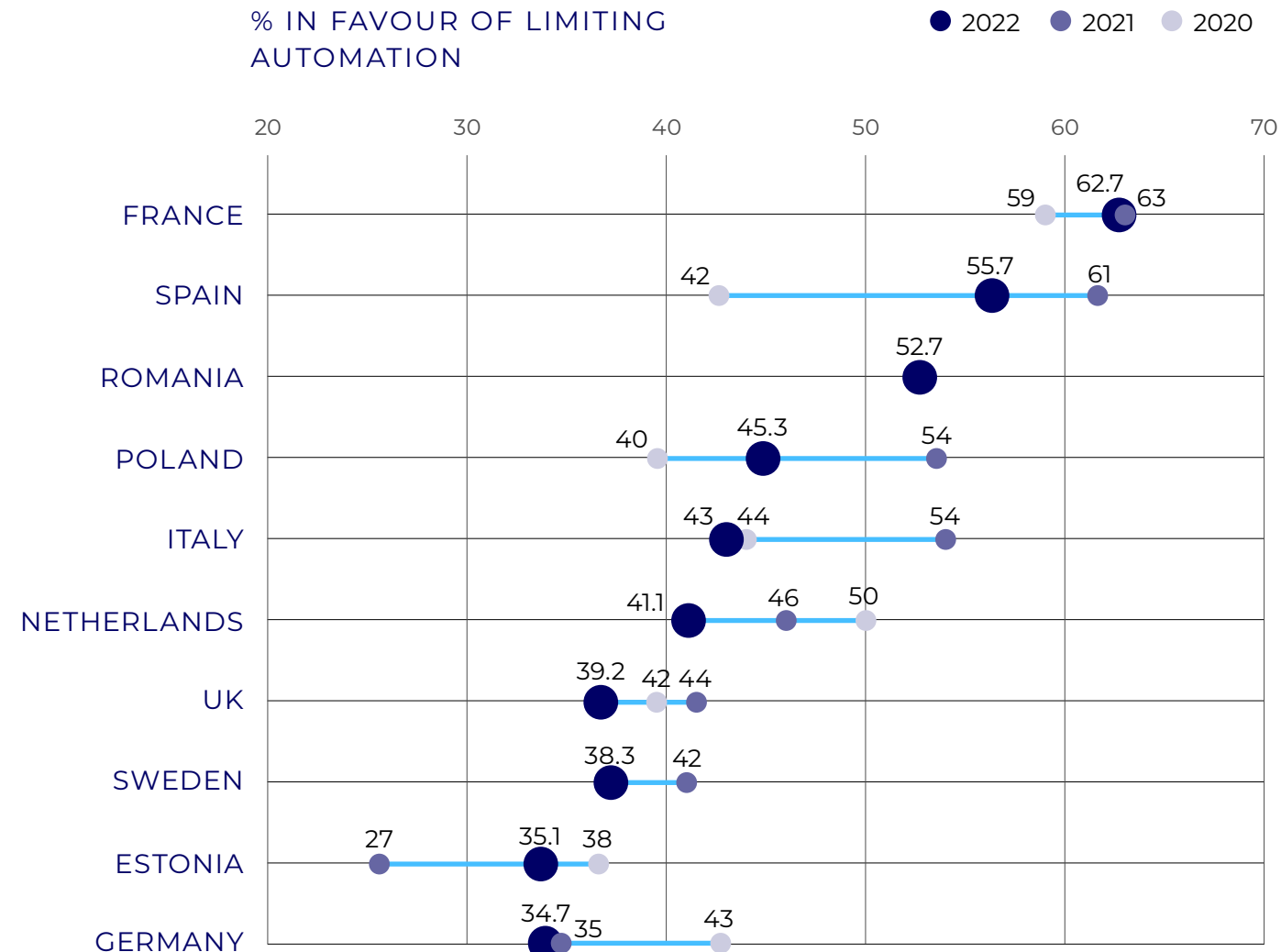
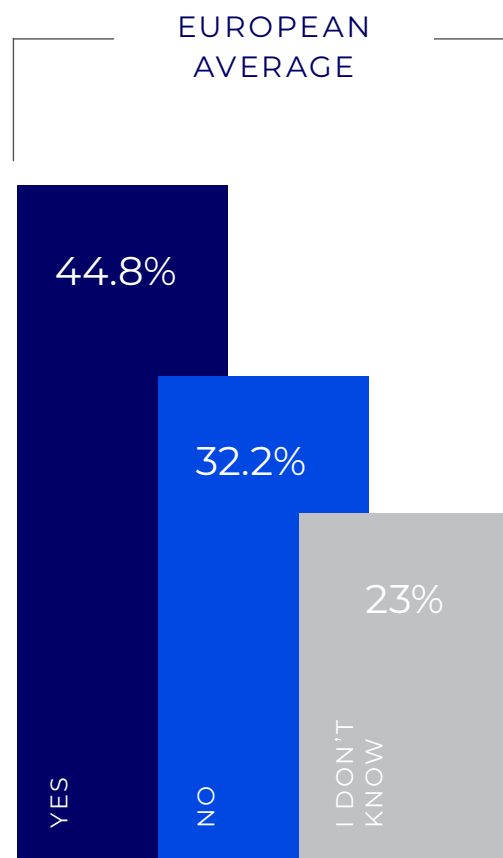


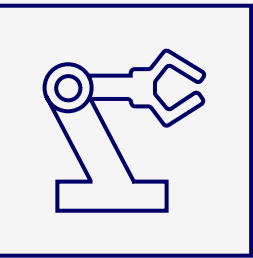
FINDING 13 — AUTOMATION AND EMERGING TECHNOLOGIES

For three years in a row, a large proportion of Europeans favour limiting automation by law in order to save jobs. Support for this measure peaked during the pandemic (47% in 2021) but has now gone back to pre-pandemic levels (44.8%). Support for the measure remains high in France (62.7%) and Spain (55.7%). Compared to last year, support for the measure has decreased in Italy (from 54% to 43%), the Netherlands (from 46% to 41.1%), the UK (from 44% to 39.2%) and Sweden (from 42% to 38%) but remains the preferred option in these countries.

QUESTION:

Should European governments limit automation by law in order to save jobs and prevent technological unemployment?



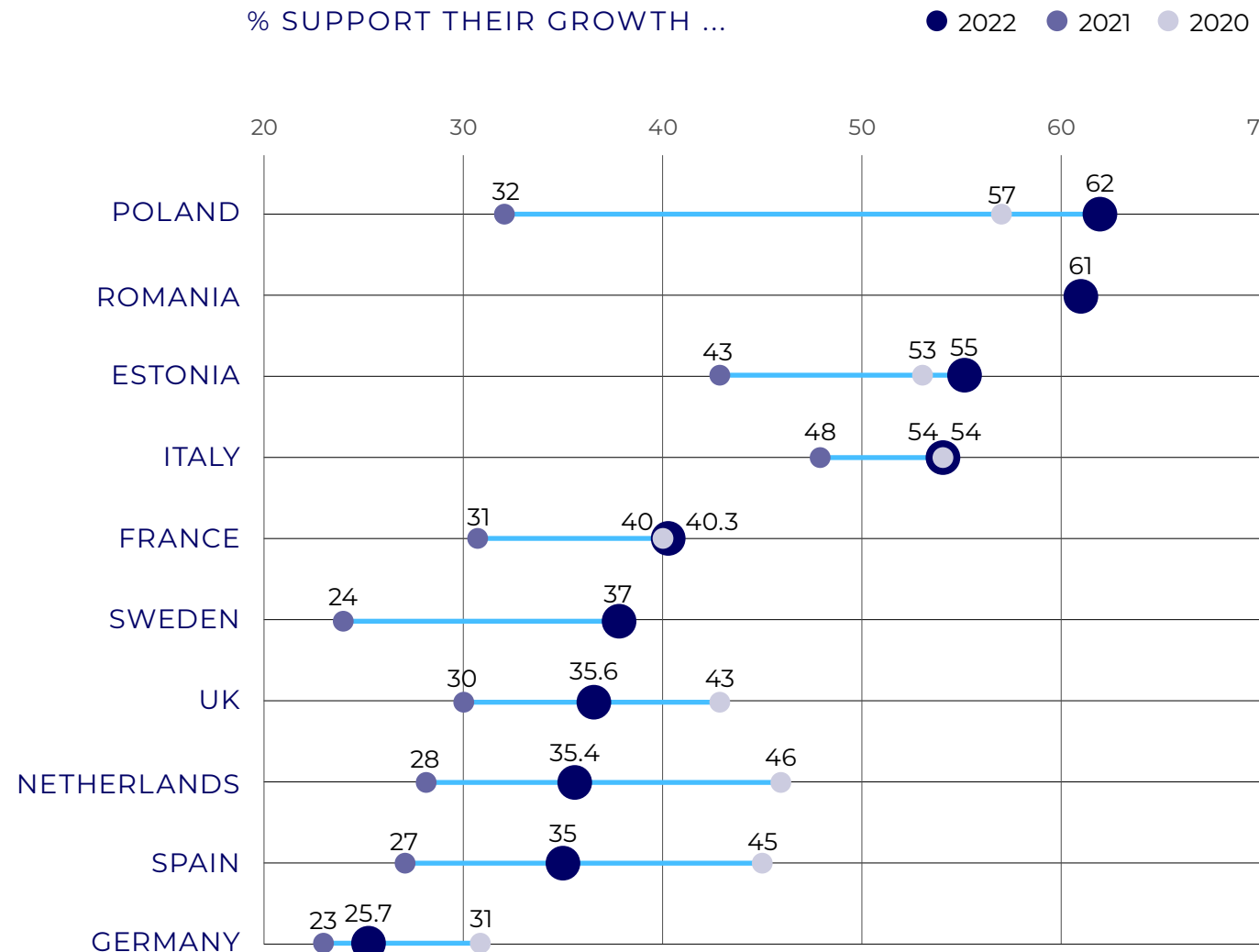
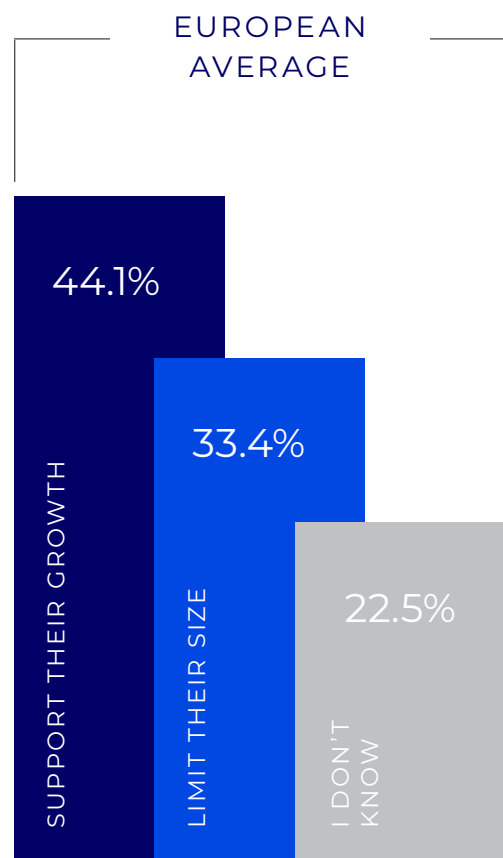


FINDING 14 — AUTOMATION AND EMERGING TECHNOLOGIES

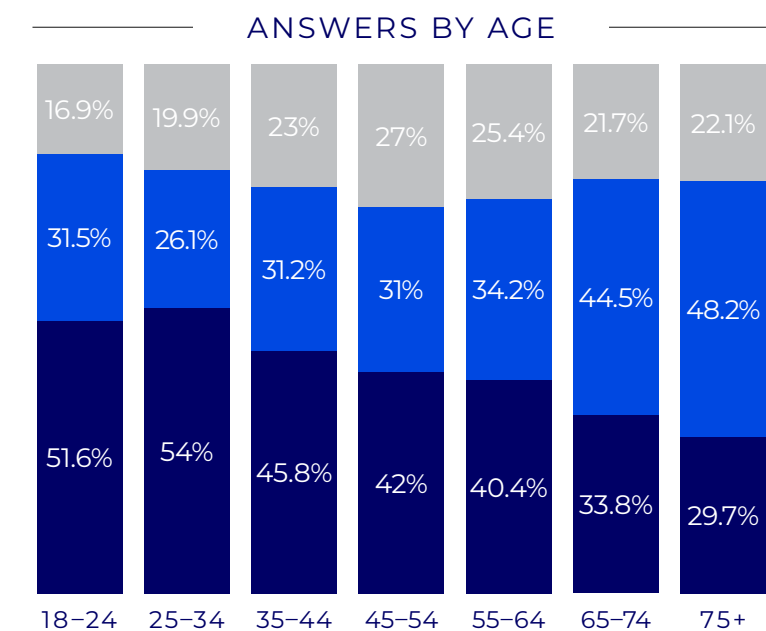
The opinion of Europeans towards Big Tech companies has seen a positive shift since last year, when many of them (42%) wanted to limit their size. Conversely, this year more European citizens (44.1%) are in favour of supporting their growth. The differences by age are very pronounced: while a majority (51.6%) of those aged 18 – 24 favour supporting them, most of those aged 75+ would like to limit them (48.2%). Nonetheless, a significant proportion of Germans (48%), Dutch (42.7%) and Spaniards (40.3%) still think that governments should limit the size of the GAFA or even de-escalate them.

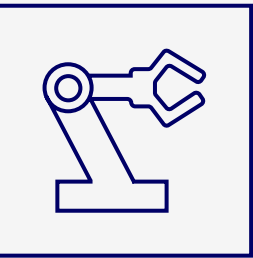
QUESTION:

In your view, what should European governments do with the so-called GAFA companies (Google, Apple, Facebook, and Amazon)?



- SUPPORT THEIR GROWTH BECAUSE THEY CREATE JOBS AND VALUABLE ...
- LIMIT THEIR SIZE AND EVEN DEESCALATE THEM SINCE ...
- I DON'T KNOW
- COMPARED WITH 2021
- COMPARED WITH 2020



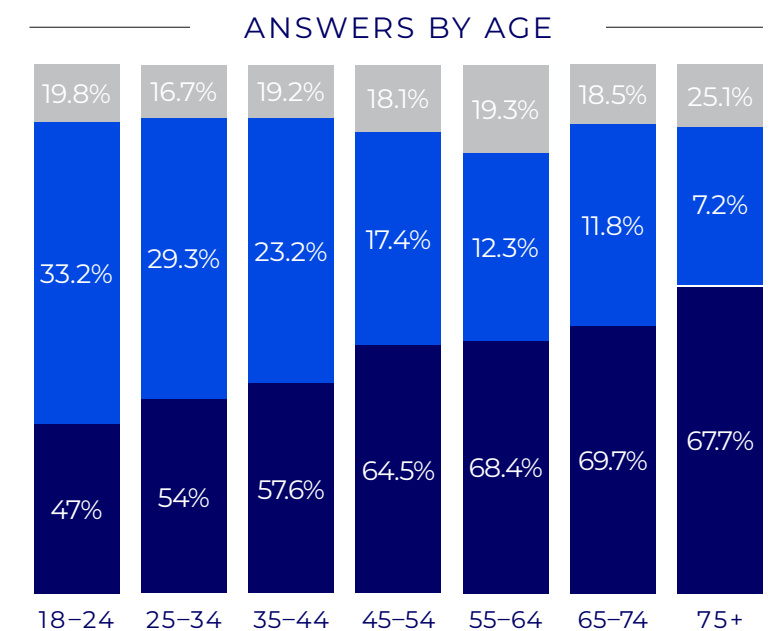
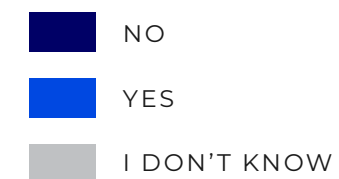
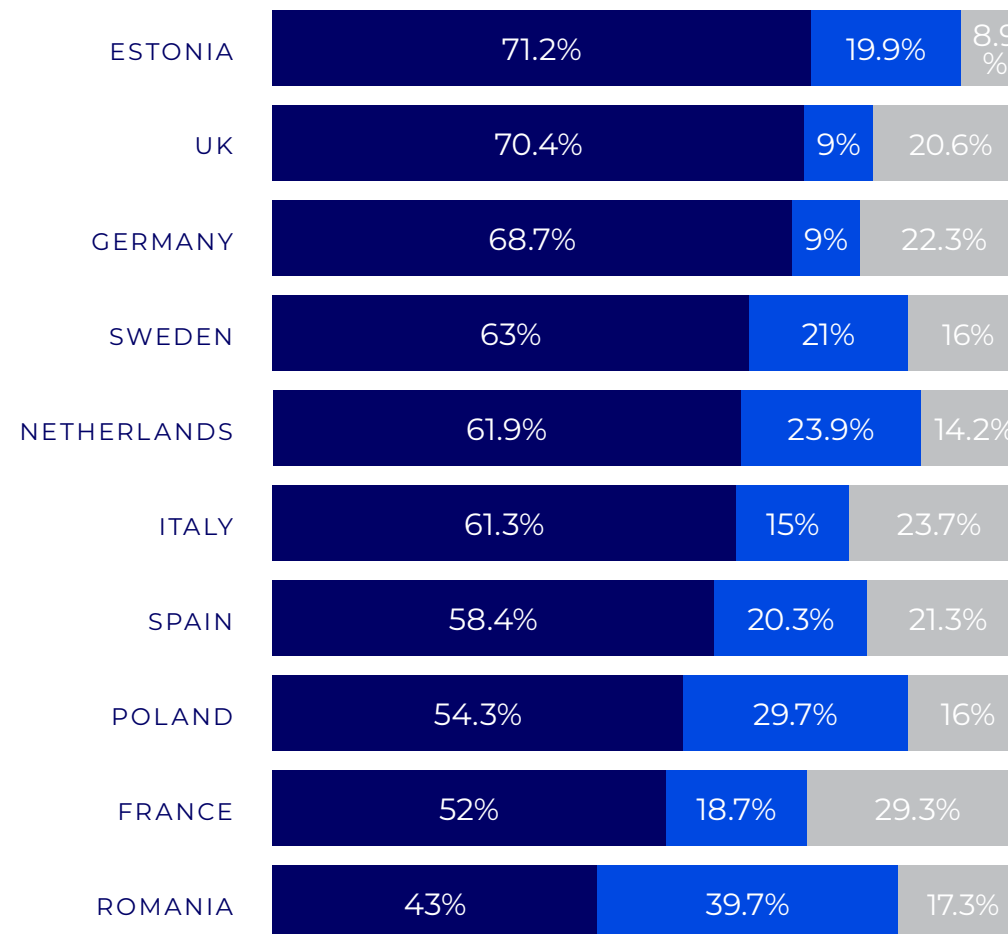
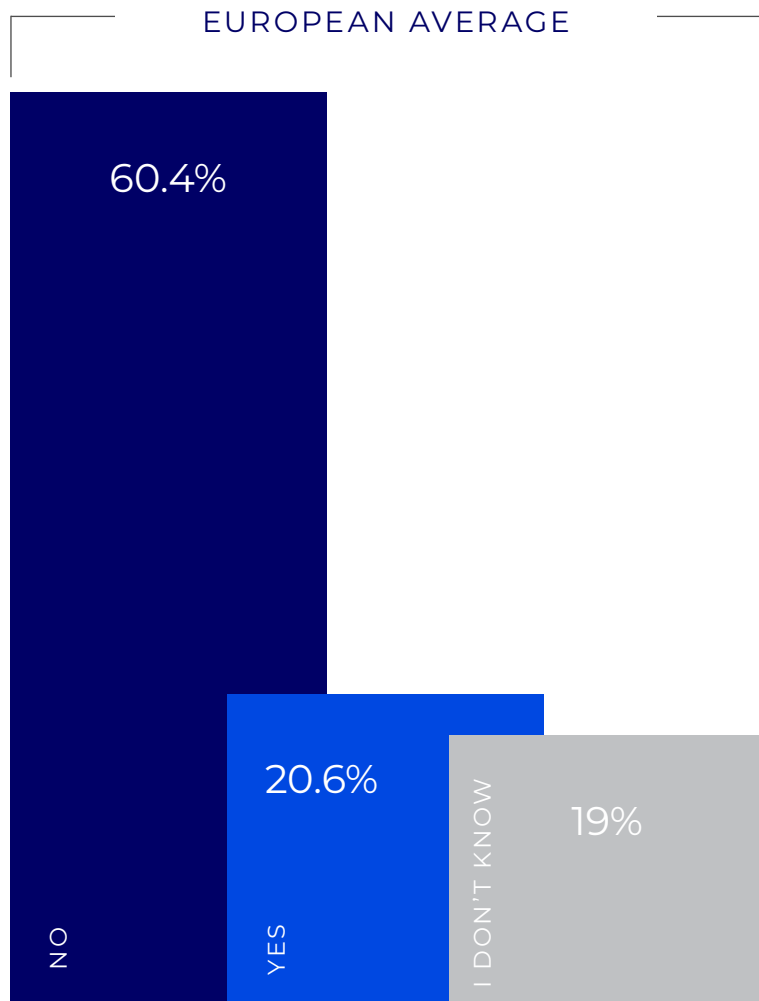


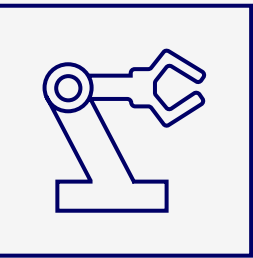
FINDING 15 — AUTOMATION AND EMERGING TECHNOLOGIES

A wide majority of Europeans (60.4%) do not believe their job will be automated within the next 10 years. Lowest rates are found in the UK and Germany (9%). Highest rates are found in Romania (39.7%) and Poland (29.7%). There is an important generational gap: older Europeans are less worried about automation: more than two thirds of those above 55 don't think their jobs will be automated in the next decade.

QUESTION:

Experts believe that up to 50% of jobs are at risk of automation in some industries. Do you believe your job will be automated within the next 10 years?



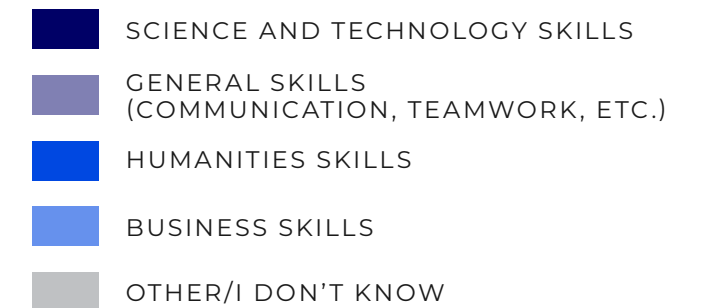
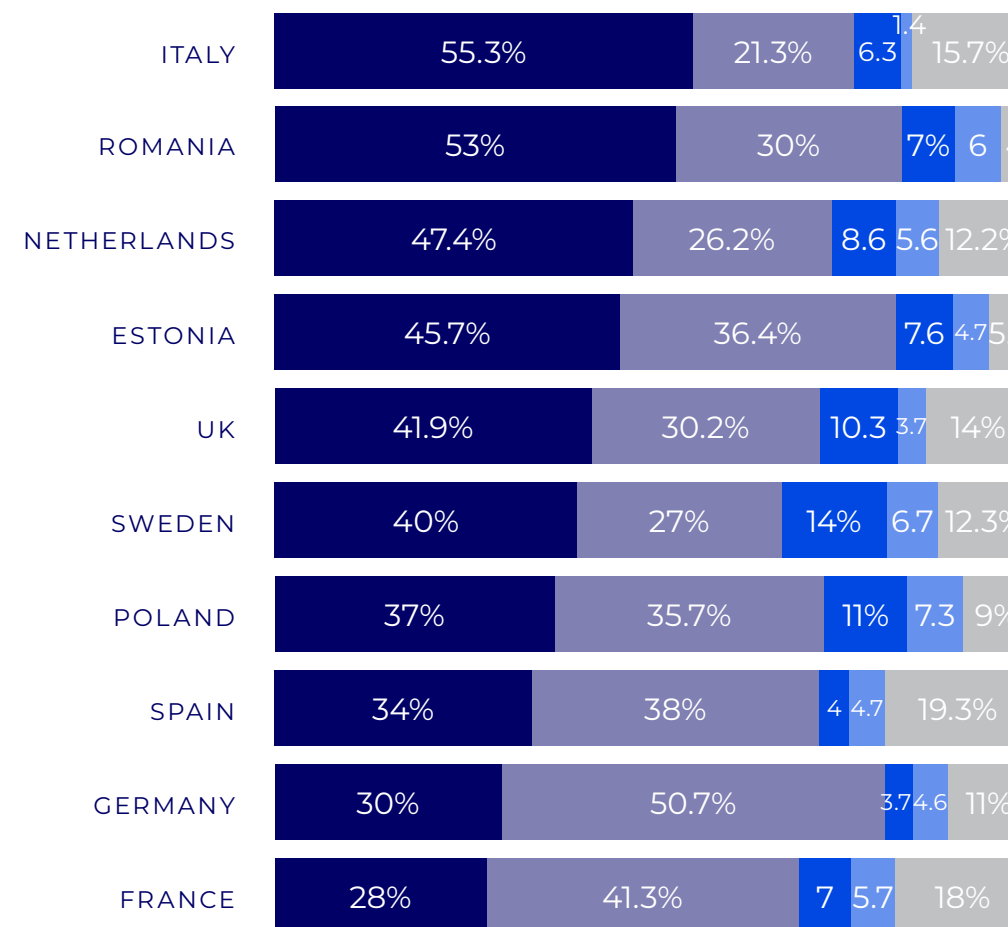
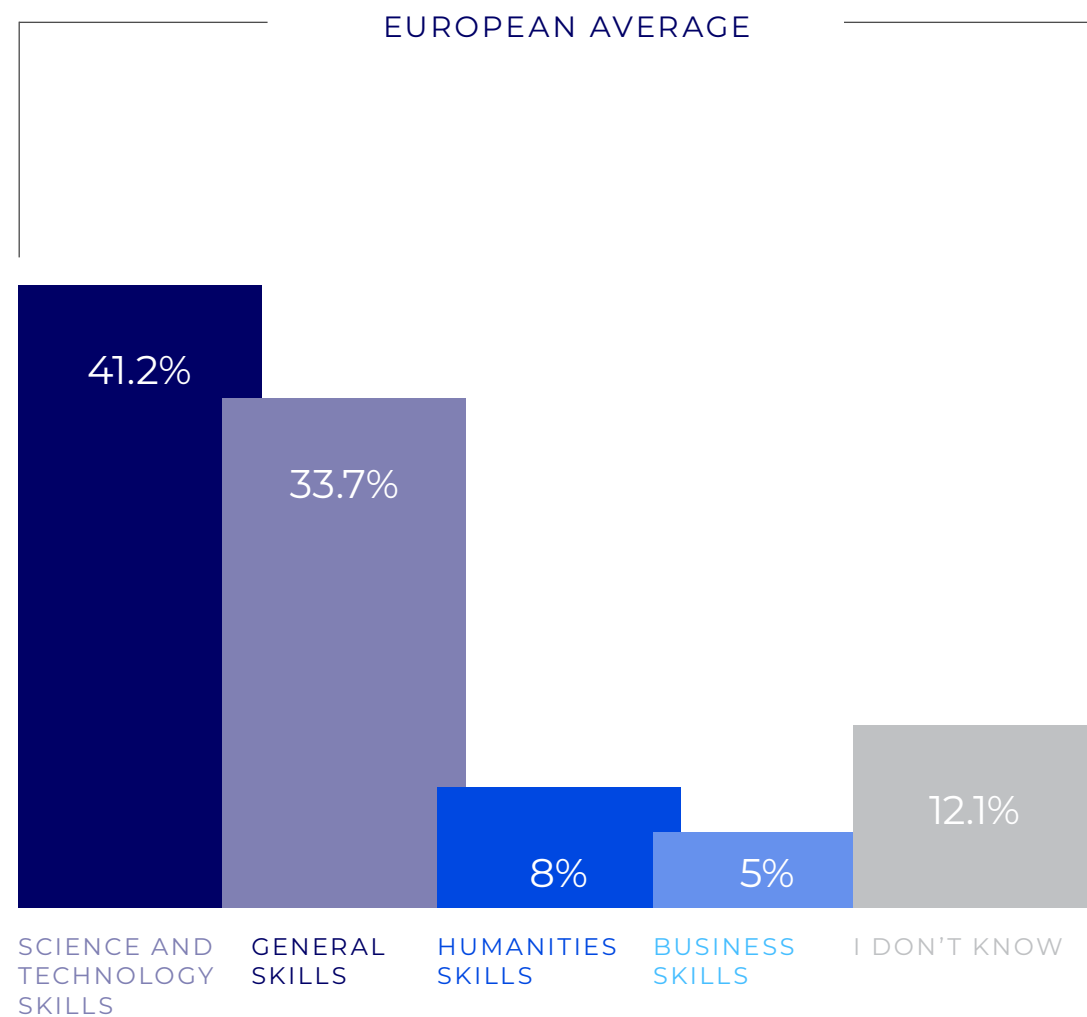


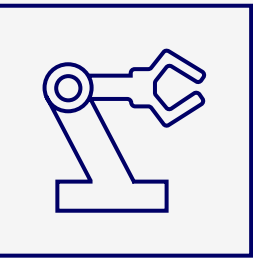
FINDING 16 — AUTOMATION AND EMERGING TECHNOLOGIES

Many Europeans (41.2%) believe that Science and Technology skills will be critical in the job market in 10 years, while only 5% believe Business skills will matter. A third of Europeans (33.7%) believe General skills will be the most critical. There are significant differences between European countries: while more than half of Germans (50.7%) and most of the French (41.3%) believe General Skills are the most important ones, more than half of Italians (55.3%) and Romanians (53%) think it is Science and Technology skills that will matter the most 10 years from now.

QUESTION:

In your opinion, what kind of skills will be critical in the job market 10 years from now?



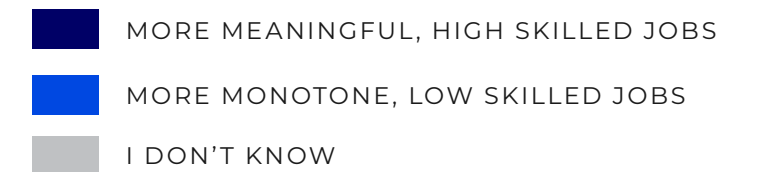
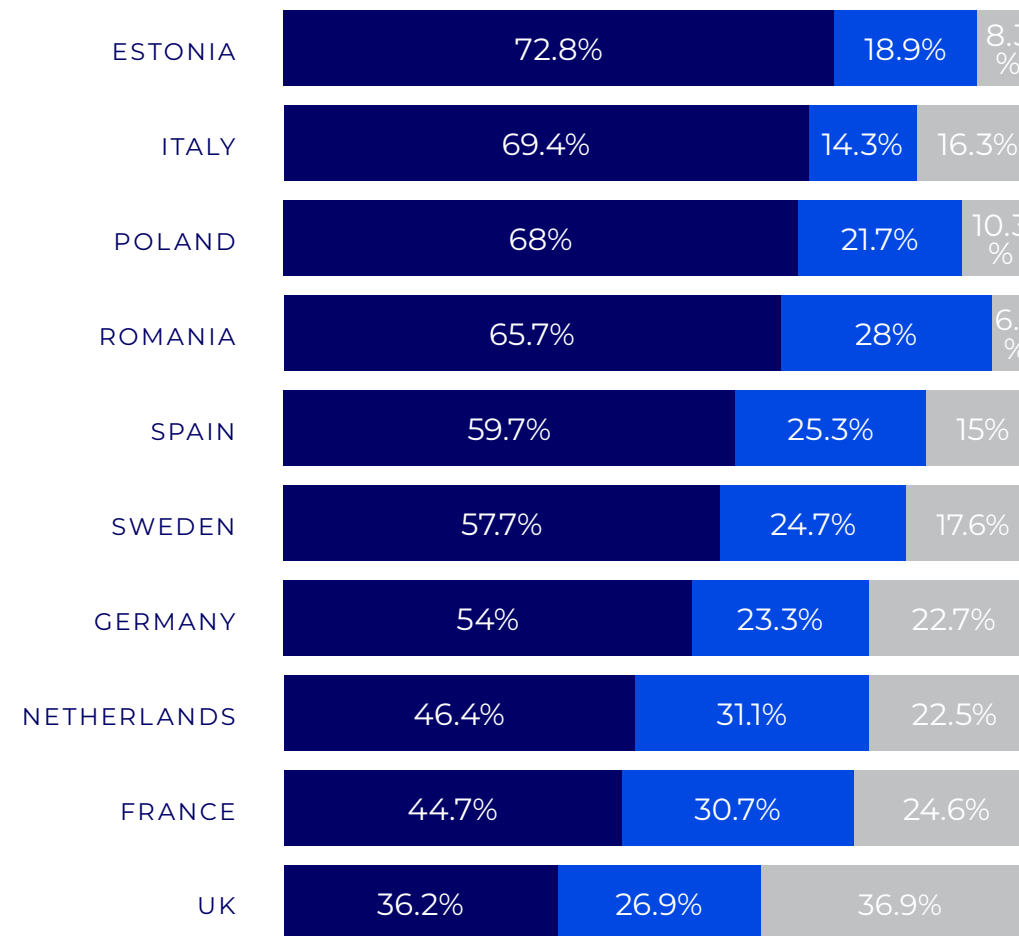
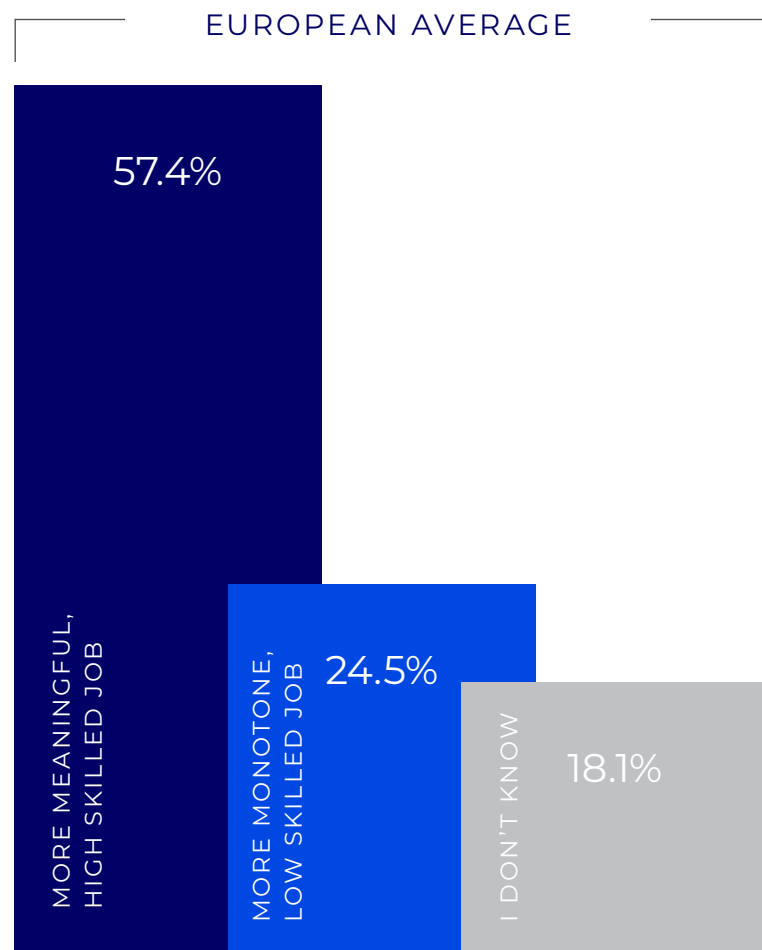


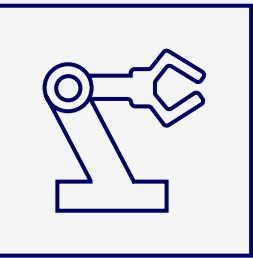
FINDING 17 — AUTOMATION AND EMERGING TECHNOLOGIES

Europeans are hopeful about the future of work, as most of them (57.4%) believe AI and automation will bring about more meaningful jobs. This opinion is more widespread in Estonia (72.8%), Italy (69.4%) and Poland (68%). Nevertheless, almost a third of Dutch (31,1%) and French (30.7%) citizens believe emerging technologies will produce more monotone jobs.

QUESTION:

Artificial Intelligence and automation are redefining jobs. What type of jobs do you think will be created in the next 10 years?



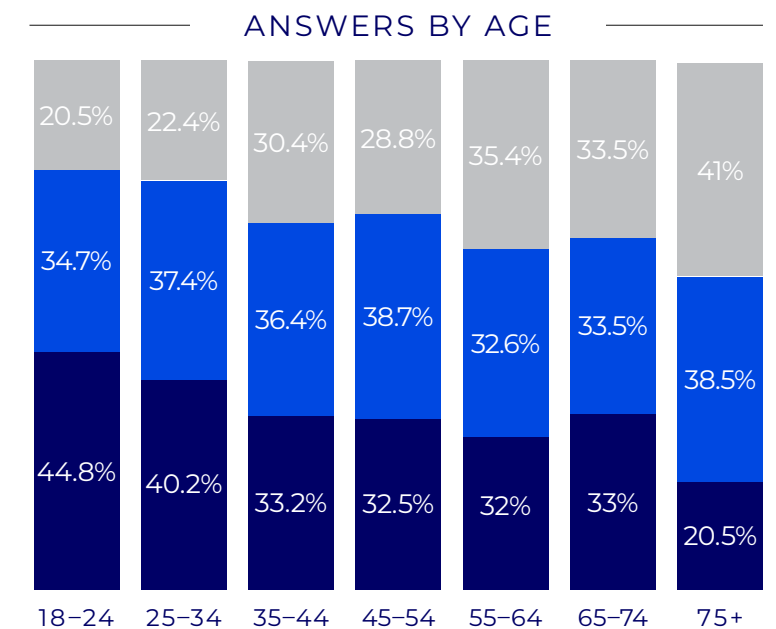
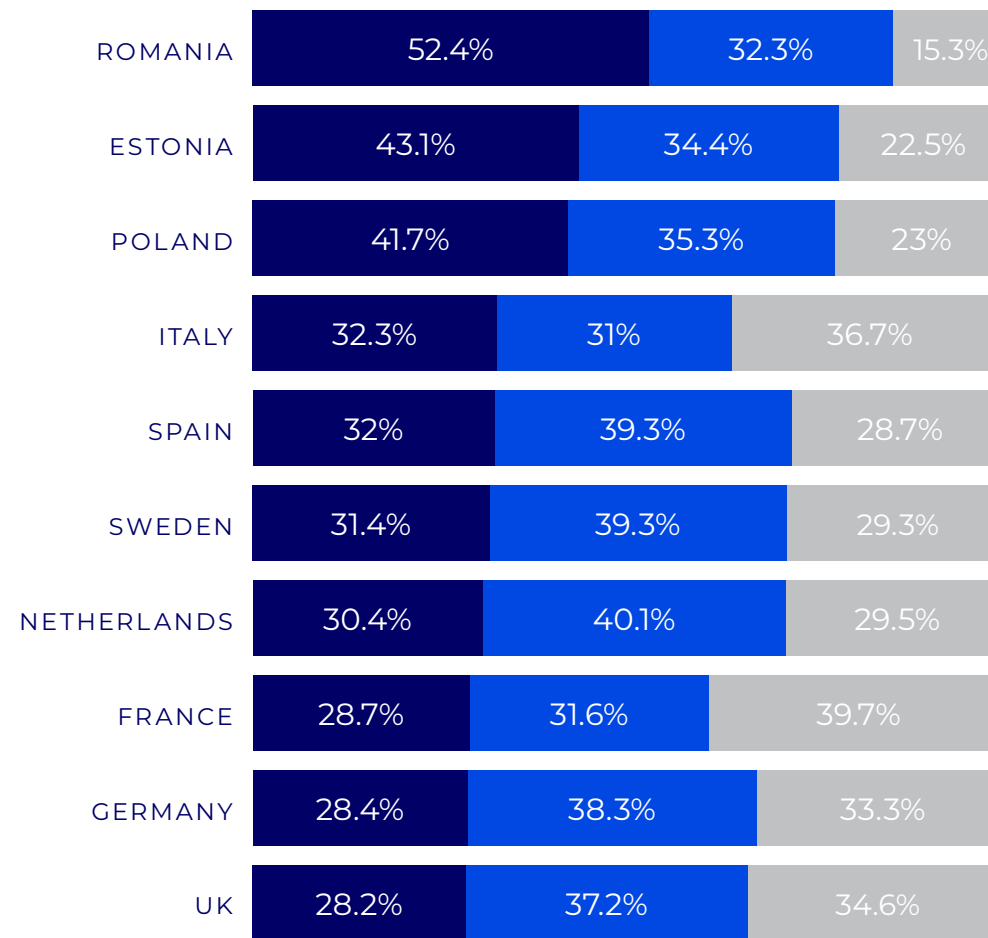
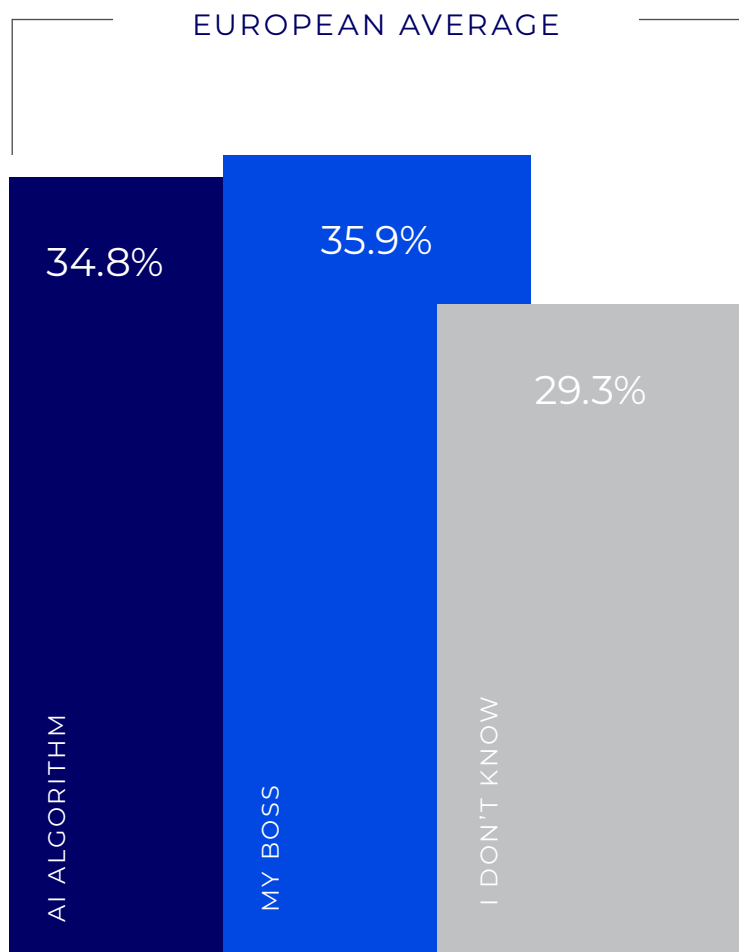


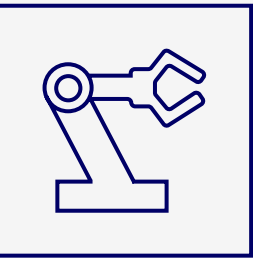
FINDING 18 — AUTOMATION AND EMERGING TECHNOLOGIES

More than a third of Europeans (34.8%) believe an AI algorithm would be more productive at work than their bosses. Many young Europeans aged 18 – 24 (44.8%) and 25 – 34 (40.2%) agree with this statement. Most Romanians (52.4%), Estonians (43.1%), Poles (41.7%) and Italians (32.3%) trust the AI to be more productive. On the opposite side, it is the citizens of the Netherlands, Spain, Germany, Sweden and the UK that trust their bosses more.

QUESTION:

Who do you think would be more productive at work, an Artificial Intelligence algorithm, or your boss?





FINDING 19 — AUTOMATION AND EMERGING TECHNOLOGIES

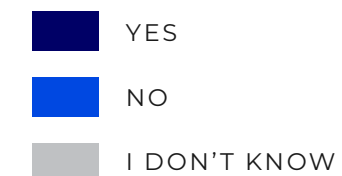
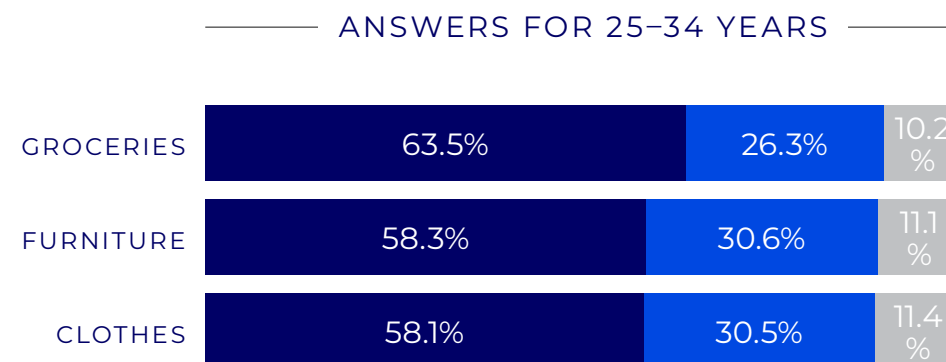
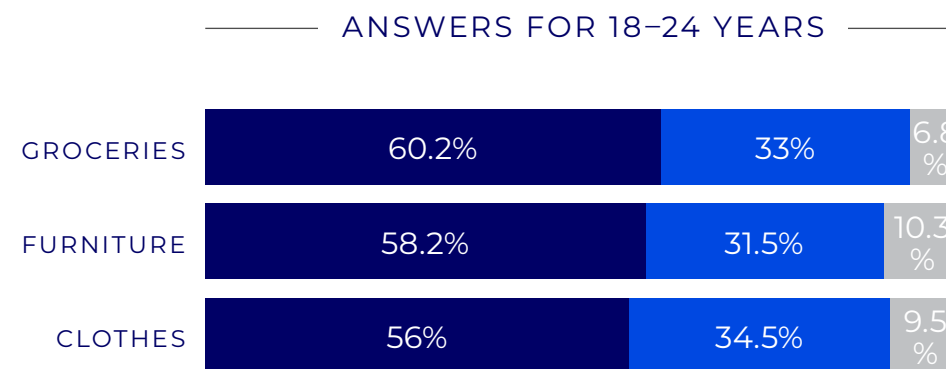
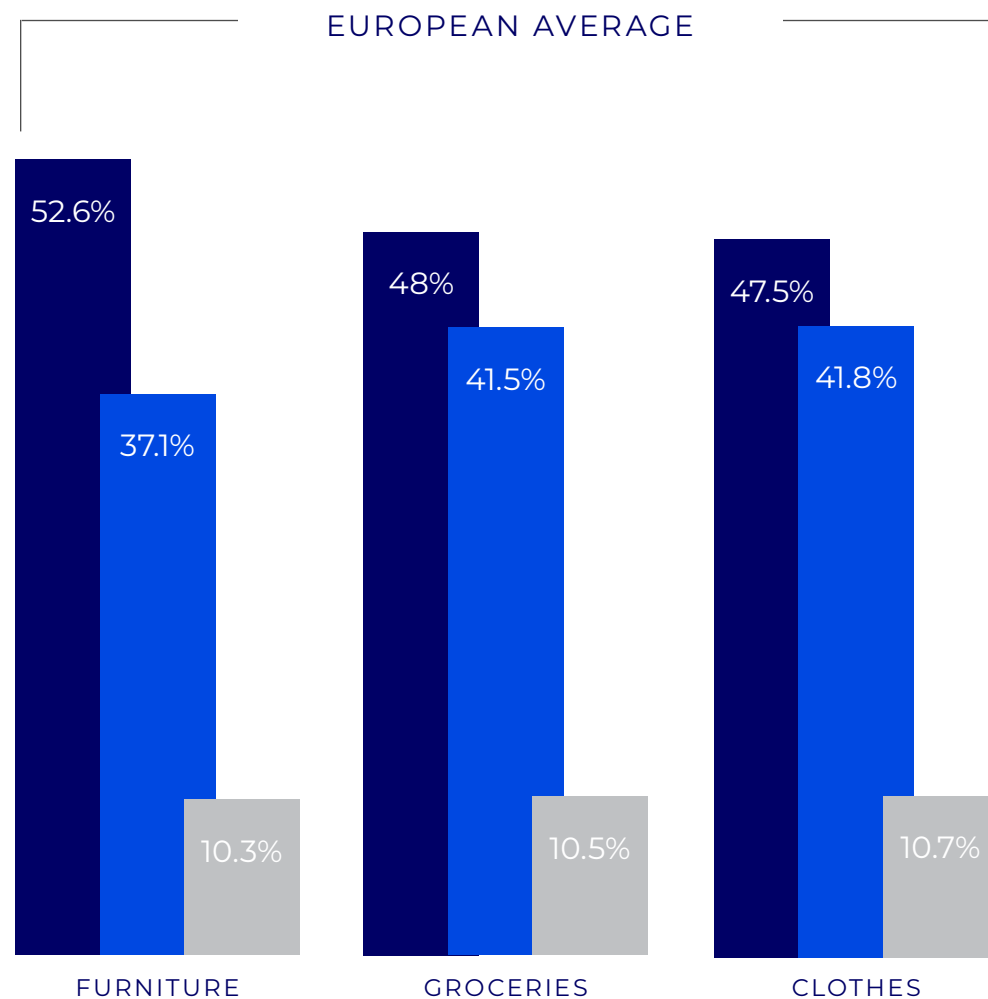
A majority of Europeans would be willing to buy furniture (52.6%), groceries (48%), and clothes (47.5%) using Augmented Reality (AR). Younger generations of Europeans overwhelmingly support the use of this technology: more than 60% of those under 35 would buy furniture using AR, while 58% of the same age bracket would buy groceries online with AR.

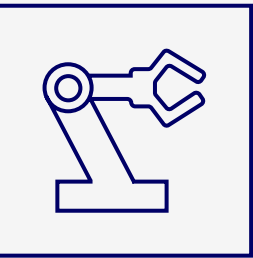
QUESTION:

Augmented Reality (AR) is a technology that adds digital content to the real-world. For instance, retail stores are introducing AR experiences that allow you to explore the aisles from home and shop online.

Would you be willing to use this technology to:

1. Buy groceries at the supermarket
2. Buy furniture for your house
3. Buy your day-to-day clothes



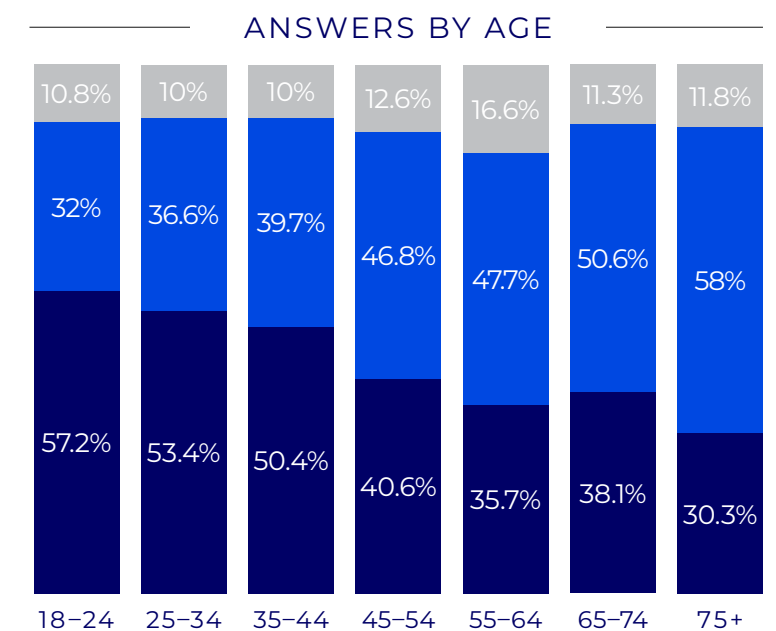
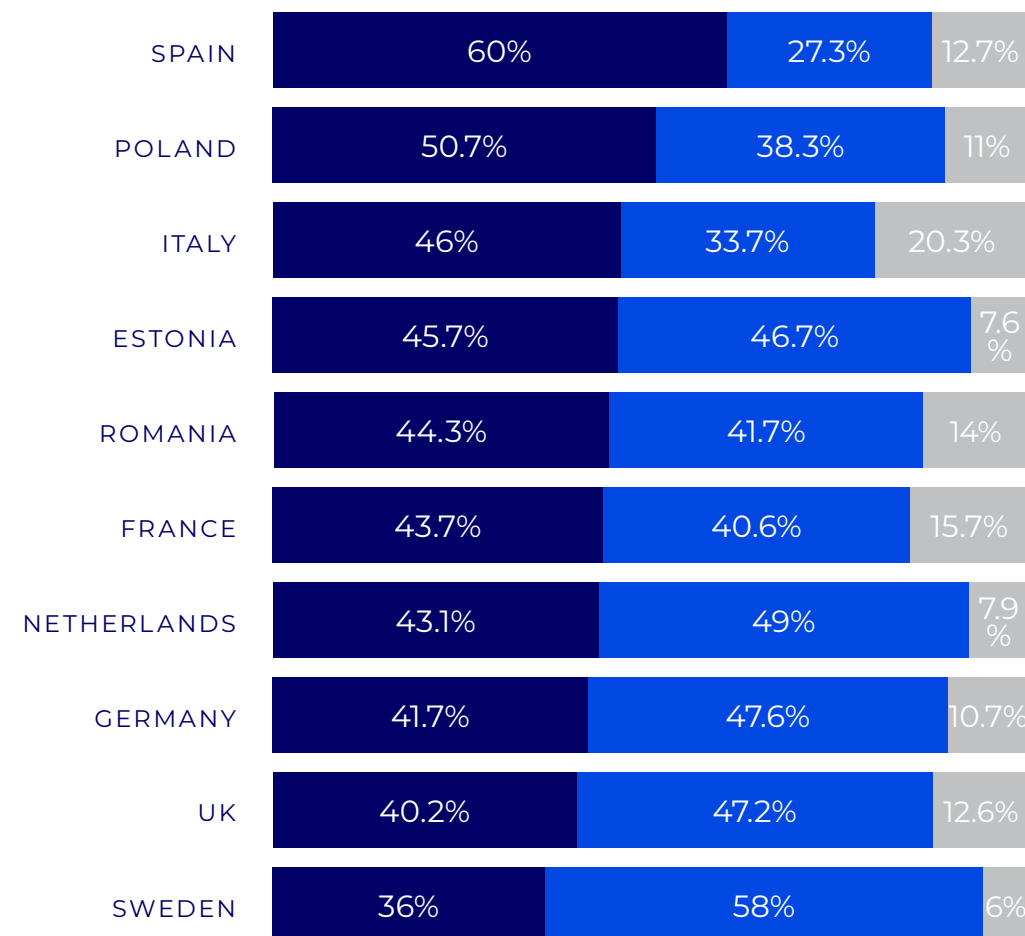
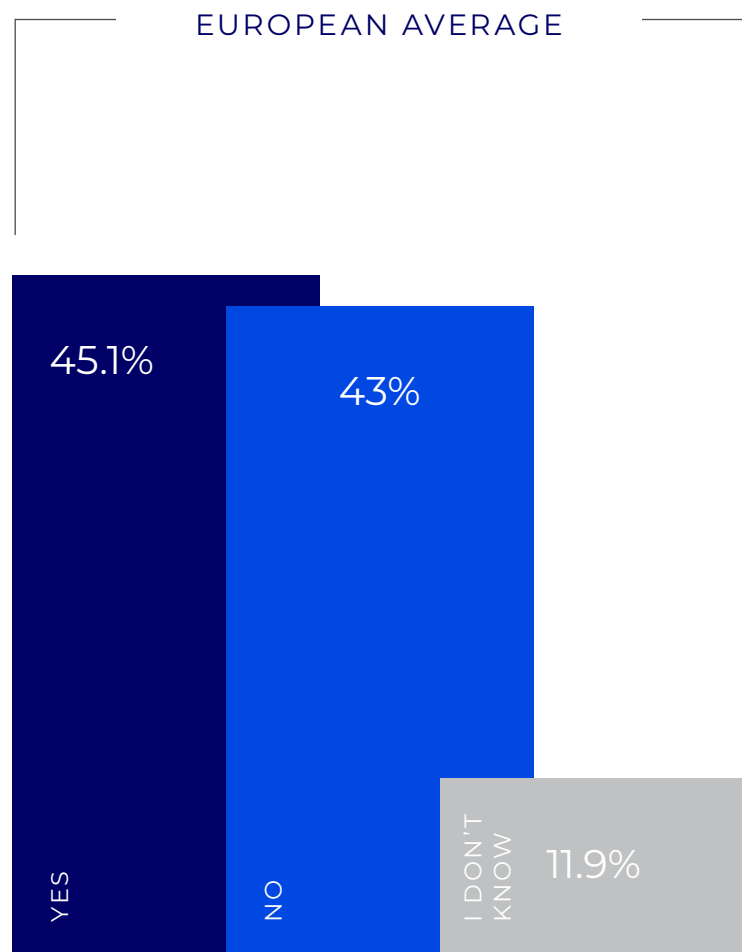


FINDING 20 — AUTOMATION AND EMERGING TECHNOLOGIES

A large number of Europeans (45.1%) do not trust digital devices and worry about their privacy around them. The citizens of Spain (60%) and Poland (50.7%) are most worried about their gadgets, while Swedes (58%), Germans (47.6%) and Brits (47.2%) trust them and do not feel observed or listened to. The generational gap is pronounced, as younger people are more worried about their privacy: 57.2% of those under 25 years old worry about their connected devices, while the same percentage of those aged 75 and more are not worried about them.

QUESTION:

Some people worry about the privacy implications of home appliances being connected to the internet. Do you feel observed or listened to by your digital devices (smartphone, computer, smart TV, etc.)?



5

**THE DIGITALISATION
OF MONEY**

Payment
Accepted Here





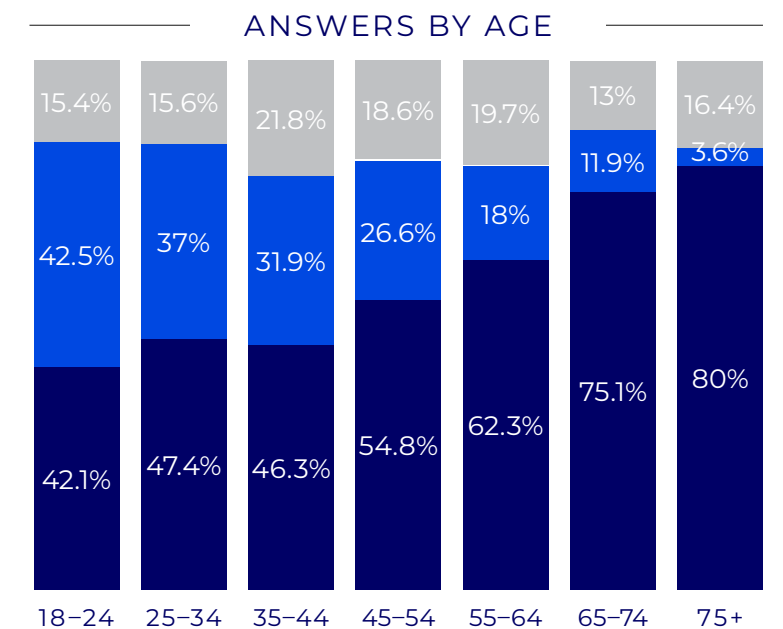
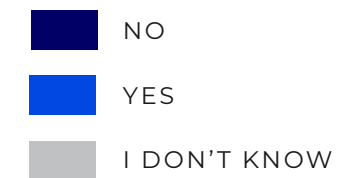
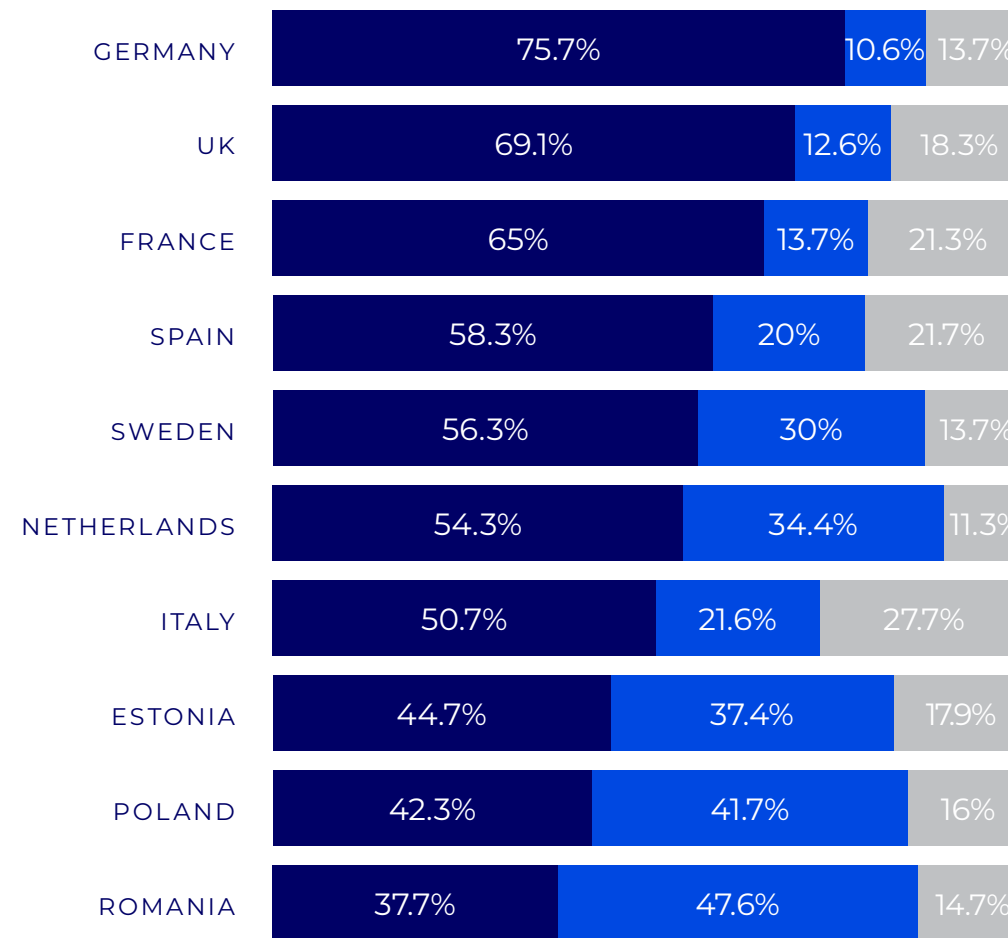
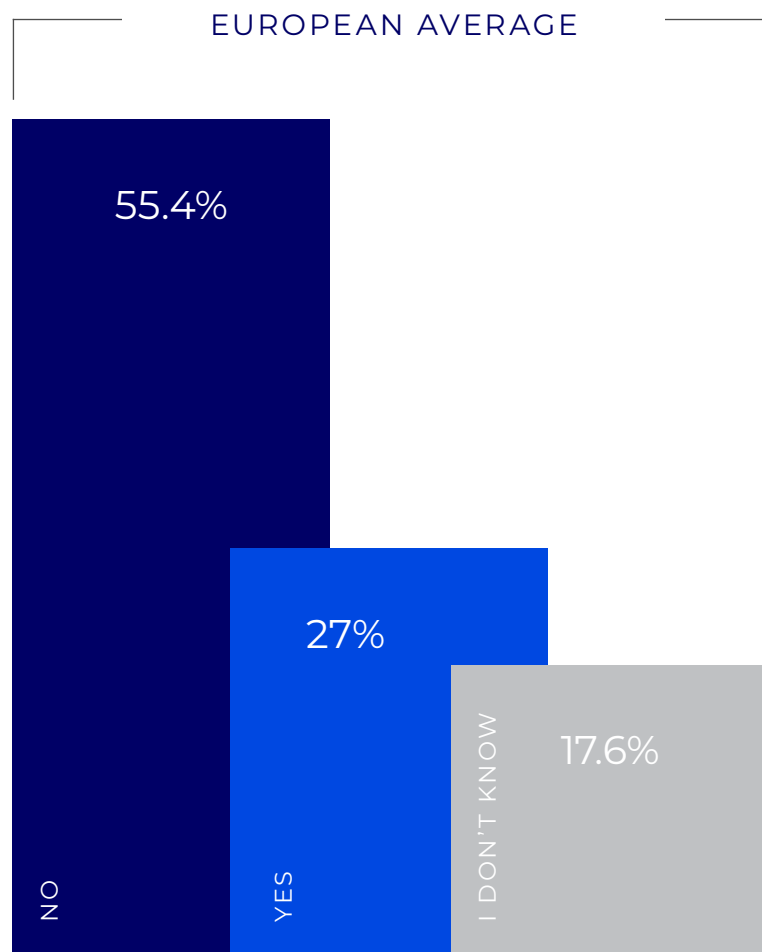
FINDING 21 — THE DIGITALISATION OF MONEY

More than a quarter of Europeans (27%) would support making Bitcoin legal tender.

A significant number (42.5%) of Europeans under 25 years old favour the measure. Lowest support for Bitcoin becoming legal tender is found in Germany (10.6%), the UK (12.6%) and France (13.7%).

QUESTION:

El Salvador has become the first country in the world to make the cryptocurrency Bitcoin legal tender. Would you support making Bitcoin a legal form of currency in your country in addition to the Euro? This would mean that you could use Bitcoin as a form of payment in shops and businesses.



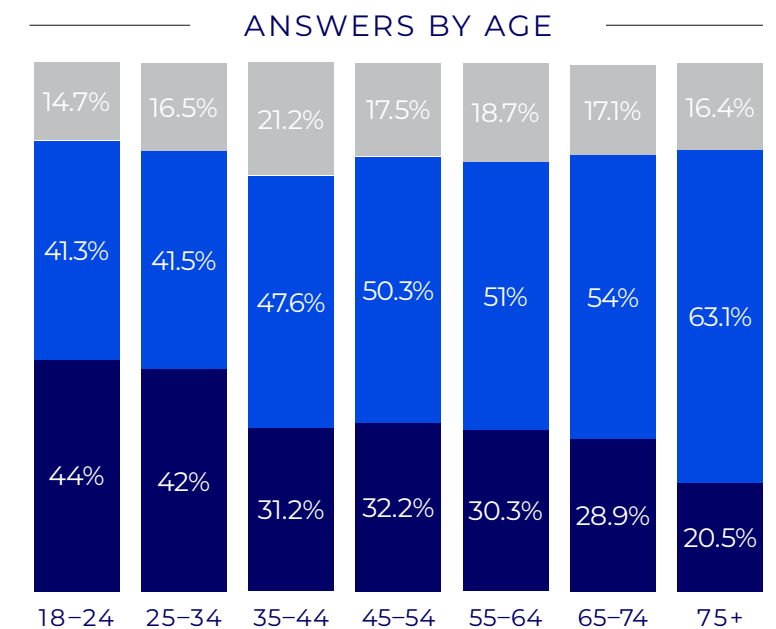
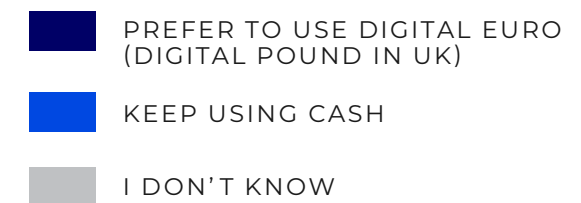
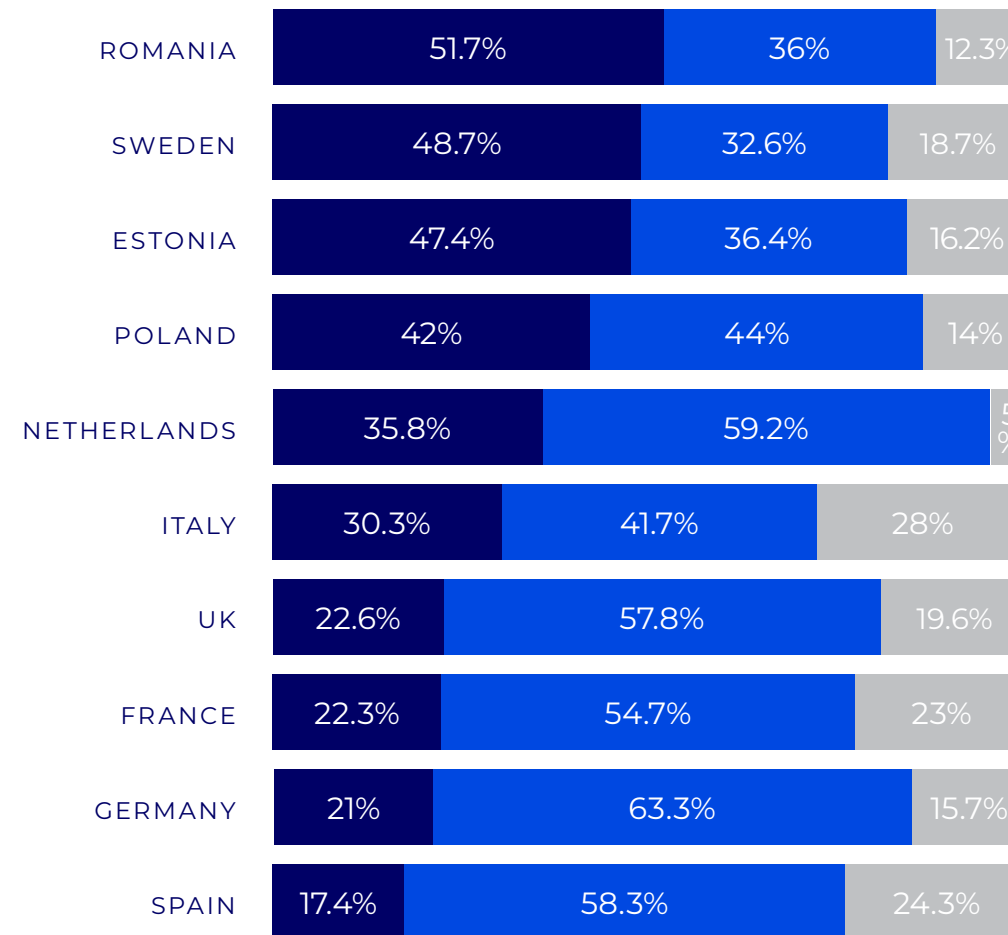
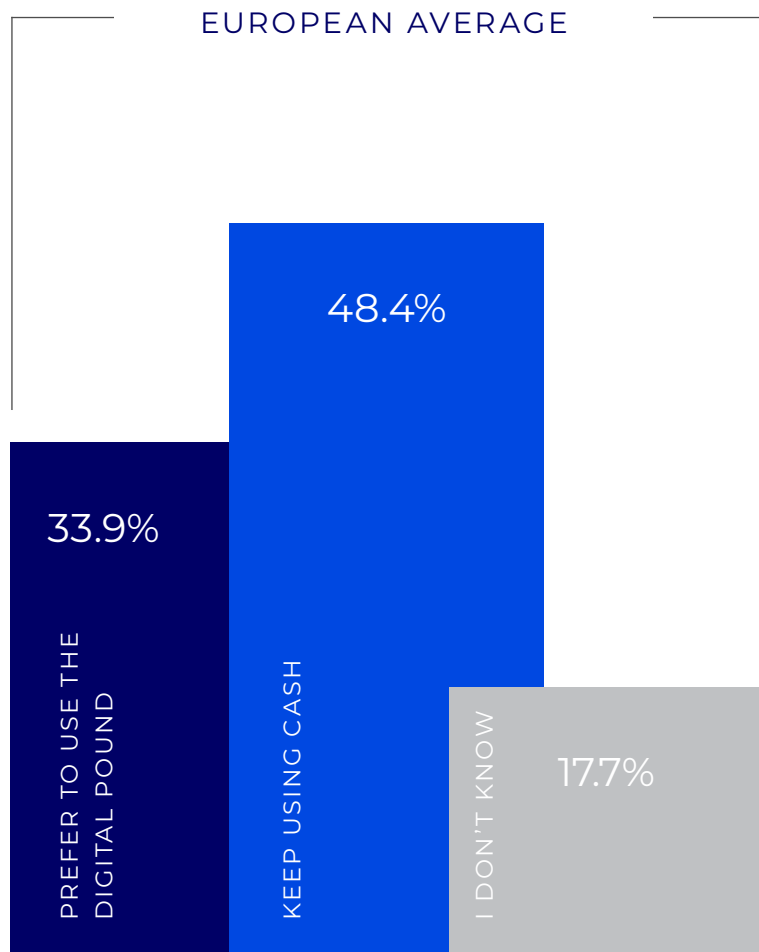


FINDING 22 — THE DIGITALISATION OF MONEY

More than a third of Europeans (33.9%) would prefer to use a digital currency (Digital Euro, Digital Pound, etc.) rather than cash in their countries. Many Europeans (43%) under 35 favour digital currencies over cash. Romanians (51.7%), Swedes (48.7%) and Estonians (47.4%) are the most enthusiastic about the use of digital currencies over cash.

QUESTION:


The European Central Bank is studying launching a Digital Euro: an electronic form of money (akin to banknotes and issued by the EU) that would compete against other cryptocurrencies. Unlike Bitcoin, a Digital Euro would be less prone to fluctuations and would be considered money. If this project goes ahead, would you:



SURVEY METHODOLOGY

European Tech Insights 2022 was fielded in June 2022. The data was received in July and analyzed by the IE Center for the Governance of Change in July and August 2022. We surveyed 3,005 adults from 10 countries (Estonia, France, Germany, Italy, Netherlands, Poland, Romania, Spain, Sweden, United Kingdom). Samples were representative in terms of age and sex.

Respondents were part of recurrent panels recruited by Netquest or affiliated companies into panels via social media, direct mailing or through referrals from other respondents. They receive small in-kind incentives for responding to each survey.



ESTONIA,
FRANCE,
GERMANY,
ITALY,
NETHERLANDS,
POLAND,
ROMANIA,
SPAIN,
SWEDEN AND
UNITED KINGDOM

**3,005
RESPONDENTS**

**Irene Blázquez,
Director**



Irene Blázquez is a legal scholar and international lawyer by training, as well as a specialist in strategy, security, defense, and technology. She previously served as Adviser to the State Secretary for Global Spain (Ministry of Foreign Affairs) and as Head of the Strategic Planning Office (National Security Department – Spanish Prime Minister’s Office) between 2012 and 2020. Her duties included the coordination of the Technical Secretariat of the National Security Council, a Government Delegated Commission headed by the Prime Minister.

Irene is a Senior lecturer in public international law (on leave) at the Universidad Autónoma de Madrid and was awarded the best PhD thesis prize. Irene holds a master’s degree in EU Law (Universidad Autónoma de Madrid), and diplomas in National Defense (Spanish Ministry of Defense), National and International Security (Harvard Kennedy School), and Common Security and Defense Policy (European Security and Defense College).

**Carlos Luca de Tena,
Executive Director**



Carlos Luca de Tena Piera is a public policy professional and technology specialist who has advised multilateral organisations and top multinational companies in public affairs and strategic communications. He is the Executive Director of the Center for the Governance of Change.

Carlos has worked as a Consultant at Llorente & Cuenca and APCO Worldwide and was in charge of European Affairs at the French Association of Town Mayors. He has extensive experience helping organisations effectively build and increase their visibility and reputation and has worked with all types of actors in defining and implementing their stakeholder engagement strategies. Carlos holds a master’s degree in European Affairs from Sciences Po Paris and the University of Bath and studied as an undergraduate at Sciences Po Paris, Universidad Carlos III de Madrid and the London School of Economics.





ABOUT THE CGC

This study was conducted by the IE Center for the Governance of Change (CGC), an applied-research, educational institution that studies the political, economic, and societal implications of the current technological revolution and advances solutions to overcome its unwanted effects.

The CGC does so by producing pioneering, impact-oriented research that cuts across disciplines and methodologies to unveil the complexity of emerging technologies such as artificial intelligence, big data, blockchain, and robotics, and explores their potential threats and contributions to society.

Moreover, the CGC also runs a number of executive programs on emerging tech for public institutions and companies interested in expanding their understanding of disruptive trends, and a series of outreach activities aimed at improving the general public's awareness and agency over the coming changes.

All this for one purpose:

**TO HELP BUILD A MORE
PROSPEROUS AND SUSTAINABLE
SOCIETY FOR ALL.**

