

# Digitalisation and the Labour Market of Tomorrow

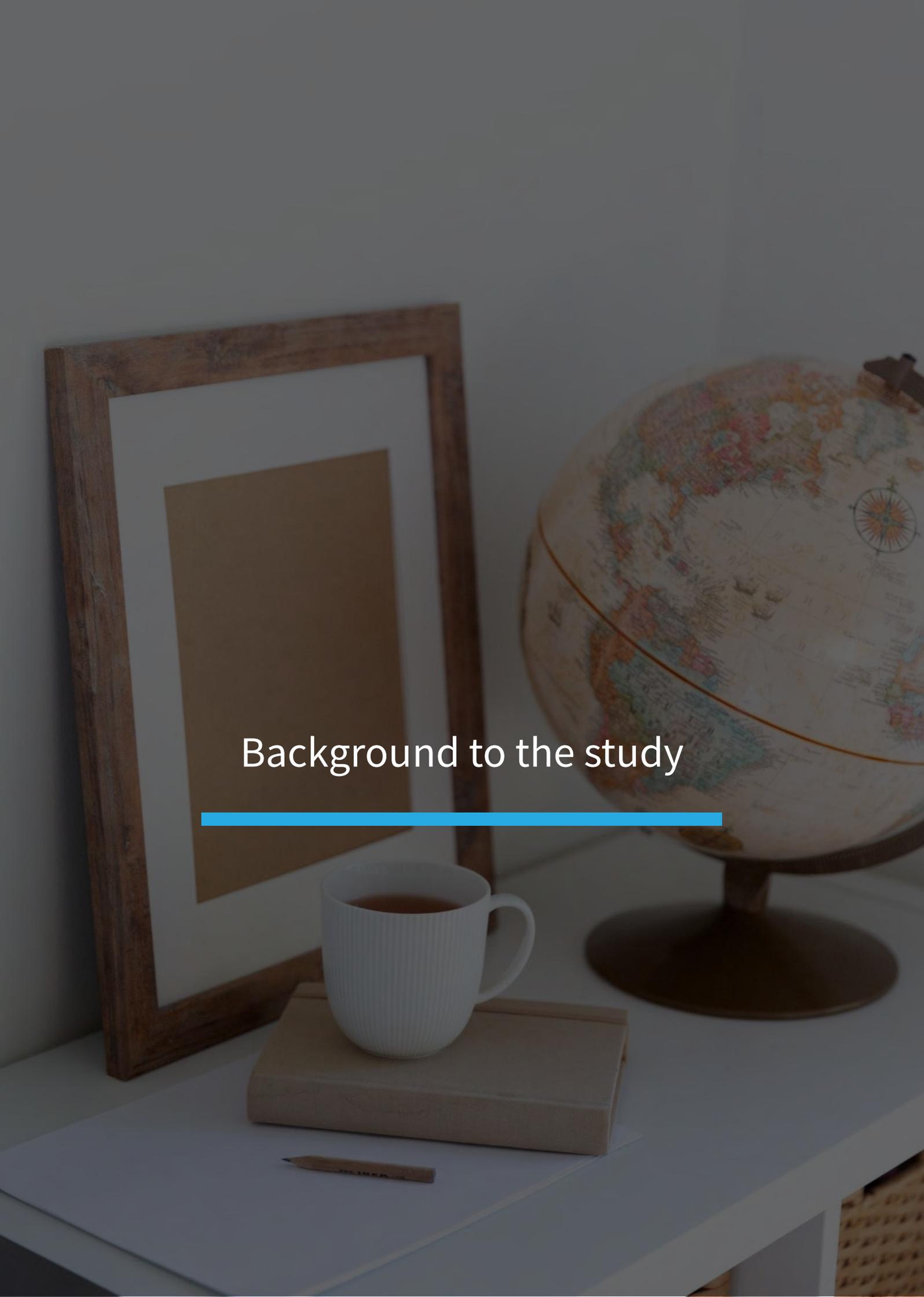
Future of Work Study 2023



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A photograph of a desk setup. On the left, a wooden frame contains a blank, light-colored page. To its right is a globe on a stand. In the foreground, a white ribbed mug filled with tea sits on a stack of two books. A pencil lies on a sheet of paper in front of the books. The entire scene is dimly lit, with a soft blue glow.

## Background to the study

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Moore's Law - attributed to a statement by Gordon Moore of Intel in 1965 - states that the number of transistors on a microchip doubles every two years. Many say that this is reaching its limit, but it has led to computers as big as a room making way for the laptops, tablets and smartphones that are all around us today and power - as well as facilitate - our everyday lives.

We are increasingly relying on machines and technology to speed up processes as well as assist us in carrying out tasks. As computer processing power increases as do the opportunities for new products and services.



Gordon Moore  
Source: [Nature](#)

In this vein, it cannot be underestimated how digitalisation and automation are changing the world of work for employers, employees and decision-makers alike. This is taking the form of increased remote work, open talent arrangements which are disrupting the traditional model of 9 to 5 employment as well as creating greater opportunities for a global workforce. From Zoom to ChatGPT and the rise of the Platform Economy things are moving fast and more potential than ever before is all around us. In addition, these changes are leading to increased efficiencies and cost savings for employers, as well as flexibility for individuals.

It is against this background that we look at the emerging hypotheses associated with digitalisation and the labour market of tomorrow, as well as benchmark European countries to assess how prepared they are for the evolution that is well underway.

**In terms of the structure of this study, we highlight the emerging hypotheses up front and then work backwards. In this way, the study bases the hypotheses on facts, figures and findings from across Europe which are revealed later in the document. This firstly takes the form of providing the European context on digitalisation, freelancing and labour market developments. We then underline and analyse the underlying data from Europe on digital infrastructure, skills & education, AI and government policy & services.**

A close-up, slightly blurred photograph of a person's hand holding a white pen with a blue stripe, writing in a notebook. The notebook is open, and the pages are filled with handwritten text. The background is dark and out of focus, suggesting an indoor setting. The overall tone is professional and focused.

Emerging hypotheses

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Regarding our emerging hypotheses, these are divided into key overarching themes and concrete changes that need to be made. In terms of the latter, and the issues that need to be addressed, these cover the labour market and education systems, and are aimed at individuals as well as companies and governments.

## KEY OVERARCHING THEMES

### The need to harness the power of digitalisation

Companies are rightly re-evaluating their remote work policies and embracing digital tools for communication, project management, and team collaboration. Employees must adapt to remote work environments, effectively use collaboration tools, and maintain productivity while working remotely. There is also a shift towards everything “as a service” whether it is software, mobility, payments, knowledge or even office space. This trend will only increase and gather pace over time and must be embraced by companies and individuals alike.

Digitalisation has given rise to entirely new business models and industries. E-commerce, sharing economy platforms, online streaming services, talent matching services and digital marketplaces are just a few examples of how digital technologies have disrupted traditional industries and created new opportunities. Despite the negativity expressed in certain quarters, digitalisation is creating more jobs than it is displacing, but this is sadly not an interesting narrative for the mainstream media. The reality and endless opportunities are ignored in favour of a narrative of a dark, Dystopian future.

Sadly, the current focus of legislators and decision-makers is stuck in the past and their policy inputs are from trade unions and large employer federations. It is time for them to listen to freelancers and platform workers as well as the solutions providers and entrepreneurs that make up the future of work in order to understand the changes underway and the drivers for why freelancing is attractive. It is time for legislators to break out of their traditional, dated mindsets towards the labour market in Europe in order to unleash the economic, entrepreneurial and social potential of citizens and the future of work.

### Accepting the disruptive role of AI

AI - the simulation of human intelligence processes by machines, especially computer systems - is all around us and growing exponentially. Individuals will need to work with machines and develop a symbiosis or their jobs and roles risk becoming obsolete in the labour market of the not too distant future. Similarly, companies and organisations will need to understand the potential of AI and adopt processes, as well as integrate technology, in order to remain competitive as well as increase efficiencies.

## The importance of talent attraction for countries and cities

For a long time, the focus of countries and cities has been on promoting tourism as well as attracting inward investment in the form of establishing companies and operations in a given area. Being appealing to talent is vital for a number of reasons, and this includes digital nomads as well as full time employees. Attracting open talent will be vital in the future of work and very few countries and regions have woken up to the potential of this.

Talented individuals drive economic growth by fostering innovation, starting new businesses, and contributing to established industries. They create jobs, generate tax revenue, and stimulate economic activity as well as drive competitiveness and entrepreneurship.

Attracting talent also ensures a pool of qualified individuals that businesses can tap into, helping them to remain competitive. It also facilitates industry specialisation, cultural diversity and a transfer of knowledge to the local population. Attracting international talent can also create global networks and connections, fostering collaboration and trade opportunities with other regions. The knock-on effect can also be that becoming known as a hub for talent attracts not only individuals but also businesses, investors, and other stakeholders interested in being part of a thriving ecosystem.

For these reasons, and more besides, it is vital that simplified procedures - for residency, taxation and social security, for example - are put in place to attract the skills, expertise and talent that is required. The establishment of “one stop shops” to facilitate this are an excellent step in the right direction.

## THE CHANGES THAT NEED TO BE MADE

### Building an online presence

Companies and individuals are required to establish an online presence through websites, blogs, social media channels and professional profiles. Taking a purely offline approach is no longer possible in the labour market of tomorrow. It is crucial to showcase skills, expertise, and offerings to as broad a range of stakeholders, audiences and potential partners as possible. This approach helps build credibility, attract potential clients or customers, and increase visibility in the digital landscape. The potential is therefore so much greater than in the offline world but companies and workers need to exploit this reality. Digitalisation means that it is important for companies and individuals to stay updated with emerging trends, technologies, and user demands. Fostering a culture of innovation and agility within companies is crucial to adapt to changing market dynamics and stay ahead of the competition.

## Lifelong learning

Reskilling and upskilling are a vital part of succeeding in the new labour market paradigm, since there will be more demands on personal effort and individual responsibility. Continuously upgrading skills and staying relevant is part of this so that workers can deliver value to organisations. Assessing the skills in demand on various platforms and investing in learning and improving those skills to remain competitive in the evolving digital market will be a vital component of every worker's personal responsibility. Companies and organisations will play a role here, but cannot be expected to do everything and fill all the gaps.

The onus is also now on individuals to engage digitally with others in their field or industry. Collaborating, networking, and building relationships with peers, clients, or customers can lead to new opportunities, referrals, and partnerships. Thinking expansively and creating communities is an essential part of being successful in the new economy.

## An education system fit for purpose

A fundamental issue given this new reality is that education systems across Europe will need to change in order to equip the youth with the knowledge, skills and expertise that they require to excel in the future labour market. The pace of change is accelerating exponentially but education systems and the teaching profession more generally remain mired in traditional ways of doing things. A step change will be required at every level of education - while attracting competent and engaged teachers with the right skills - in order to equip workers and citizens with the skills that they need.

## Having a freelancer strategy

Companies and organisations need to have a freelancer strategy and must integrate all talent into the organisation - this means a greater focus on motivation, inclusion and sharing vision, information and ideas - regardless of employment form. This requirement goes hand in hand with corporate openness to distributed workforces. For companies to be successful permanent employees, freelancers and interim staff all need to be engaged, pointing in the same direction and working towards the shared goals of the organisation. This focus on integration with blended teams will be vital but also place new demands on company leadership teams.

## Time for blended talent

Linked to the previous point, companies and organisations need to adopt a blended talent model with a small core of full-time employees complemented by contractors and freelancers who can be brought in to fulfil specific tasks on a value and results-orientated basis. This is more efficient than having someone fully employed but only utilised a fraction of the time. For the same money, organisations can benefit from several project workers with specific skills that can benefit the company on an ad hoc basis. On-demand talent platforms and matching services will therefore play a vital role in facilitating this. Organisations also need to become comfortable with utilising virtual

teams - hand-picked with a range of skills - who can be called on when needed. This type of “bench of services” is something that companies need to leverage more and more to improve efficiencies and benefit the company, while saving time and money.

## Time to reassess the 9 to 5

Similarly, digitalisation has facilitated the rise of remote work and the decoupling of a job from a specific location. The 9 to 5 - selling hours to one employer five days a week at a given location - is rightfully being challenged. Re-evaluating this situation is long overdue, along with the need to reassess the eight hour working day which has its origins back in the Industrial Revolution in the UK. Robert Owen formulated the goal of the eight-hour day in 1817 and coined the slogan: "Eight hours' labour, Eight hours' recreation, Eight hours' rest". With the availability of high-speed internet, collaborative tools, and communication platforms, many employees can now work from anywhere, leading to greater choice, flexibility and a better work-life balance.



Robert Owen  
Source: [Humanist Heritage](#)

## Acceptance of freelancing by society

Freelancing should be seen as a legitimate option for the general population, and those who choose this workstyle should not be treated as second-class citizens. Governments and public authorities should allow people to be classed as self-employed and freelancers: this should include providing social security and pension provisions as well as allowing the status by law. Similarly, financial service providers should not discriminate against these individuals when it comes to offering loans, mortgages and insurance products.

## Talent matching

Platforms will need to make more of an effort in sorting and filtering talent. To be valuable to companies and offer them the talent and skills that they need, platforms will have to start intensive vetting, onboarding and put in place quality assurance measures to ensure the standard of the talent they are offering. This is an area where platforms like Accace, Distributed, Ework Group and Supportwave excel. Engaging a freelancer will no longer be a potluck experience.

From a labour market perspective - in the era of open talent - it is clear that traditional recruitment agencies and their practices are not meeting the needs of companies or individuals. In many roles it is no longer sufficient to look at a CV and have an individual complete some written tests. Platforms and matching services need to field test talent to truly assess abilities and what they can deliver. This allows companies to be sure that the talent that they take on for a project can meet the needs and requirements of the task. Similarly, processes are being automated to save time and also preclude human bias. Much of the traditional recruitment sector today relies on manual processes and theoretical tests of limited practical use in the real world.

## Facilitate, not hinder, the Platform Economy

In broad terms, digitalisation has connected the global workforce, enabling businesses to hire talent from around the world. New platforms and services benefit society and individuals while remote work options and digital platforms for freelancers and remote workers have expanded the pool of available skills and increased diversity within organisations. Such platforms include Accace, Appjobs, Ework Group, Distributed and Supportwave. We are also seeing specific matching platforms for lawyers, computer programmers and models, for example, springing up and this will support the economy as well as the wants and needs of workers and organisations. We are also witnessing new services being created by the likes of Accace, Velocity Global and Deel. These companies allow organisations to employ people anywhere in the world and take care of payroll, taxes and compliance issues. As such, these platforms and service providers should be supported and encouraged by decision-makers and opinion-formers.

## Support flexibility through multi-apping

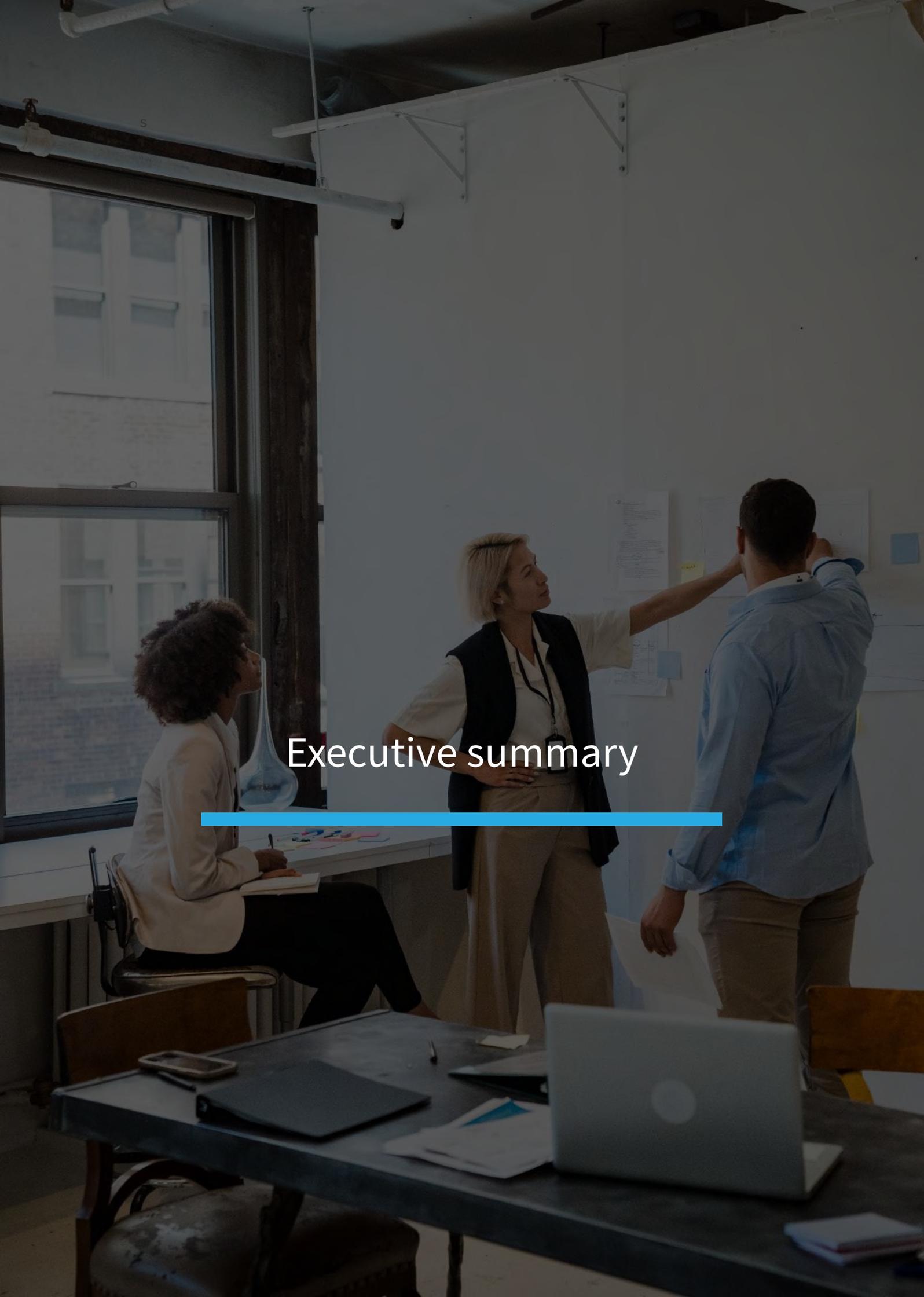
Individuals need the possibility to work with - and earn money from - multiple platforms. In the same way that talent should not be restricted to one 9 to 5 job, individuals should not be locked into a closed relationships with just one platform. Multi-apping is the process of signing up to several platforms in order to find different types of work with different companies to maximise earning potential. People should be allowed to access several of these at any time with no penalty: particularly free from the risk of being removed from the application. This possibility is as important for ride-hailing and quick commerce as it is for consultancy and project-based clerical roles. Multi-apping means more gig-platforms to choose from and more opportunities for workers to diversify. In turn, this results in more income security for workers.

There is more to this than freedom, since working for multiple platforms will reinforce productivity and growth too. It can foster healthy competition among platforms, who are incentivised to improve their terms and conditions for workers to attract and retain talent, leading to better working conditions and benefits. Furthermore, if there is less friction in moving between platforms then talent will be able to follow the needs and demands of the market in a smoother way. Matching skills from a demand and supply perspective will become easier, faster and involve less bureaucracy. Artificial barriers should be removed, and the true benefits of digital matching enjoyed. This will benefit workers, organisations, consumers and society as a whole.

It is for these reasons of freedom to multi-app that employer responsibility should not be artificially forced on platforms either. This overly excessive requirement will hinder the ability of workers to switch between platforms quickly, easily and smoothly. Once again this will limit the possibility of freelancers to be independent and flexible contractors as well as the full functioning of the market to increase productivity and support value creation.

## Leaders need new skills

With the changing labour market, and demands of open talent, comes new demands for management styles and leadership that reflect, and are in tune with, the new reality. Leaders will need to be a coach rather than a boss and will need to adapt their style to the talent around them and be able to tailor their approach to get the most out of colleagues and partners. This will be heightened due to the blended teams approach which is already taking hold. The days of one set of company rules and a one-size-fits-all approach is over. This will place more demands on leaders as the role becomes more complex and will require them to have a broader range of both hard and soft skills in order to be successful.



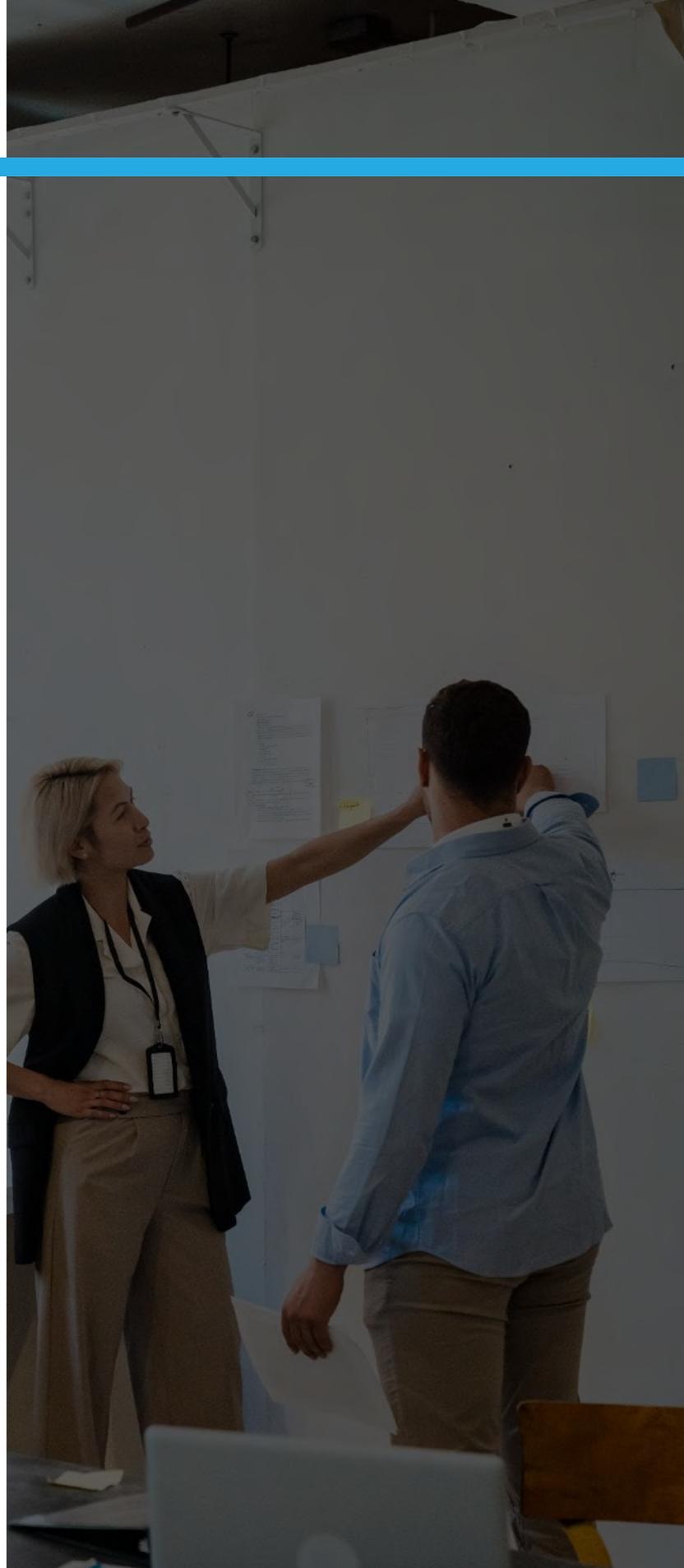
# Executive summary

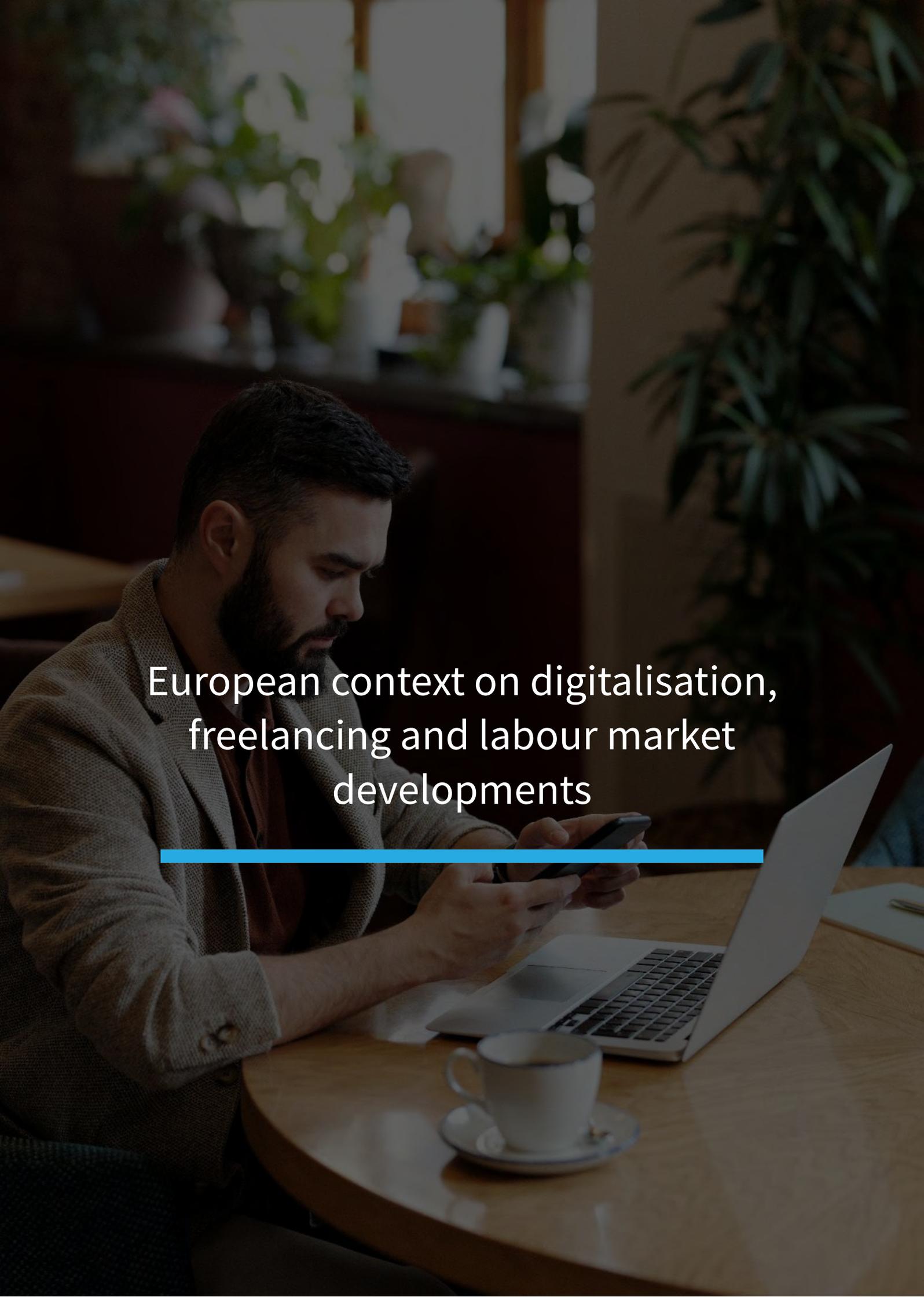
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In order for Europe to harness the power of digitalisation and adapt to the labour market of the future, it is vital that companies, individuals and decision-makers understand the evolution underway. Ignoring the digital dimension is no longer an option and the education systems across Europe need to develop in order to provide people of all ages with the skills, knowledge and expertise to thrive.

The new reality also requires companies and organisations to have a strategy for utilising open talent, reassess the traditional 9 to 5 set up and needs society to accept freelancing as the numbers of people wanting more flexibility and control over how, when and where they work grow exponentially.

Talent matching will need to improve - something that traditional recruitment firms have become increasingly poor at - as all stakeholders learn to facilitate, rather than hinder, the Platform Economy and future of work. The ability of individuals to achieve flexibility through multi-apping is vitally important in this regard. Finally, leaders need new skills. With the changing labour market, and demands of open talent, comes new demands for management styles and leadership that reflect, and are in tune with, the new reality.





European context on digitalisation,  
freelancing and labour market  
developments

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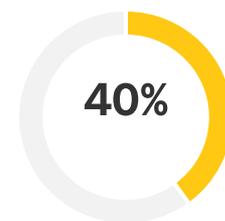
Digitalisation has revolutionised various aspects of our lives, including the way we work and the very structure of labour markets themselves. The rise of new technologies has led to new products and services being offered as well as significant changes in how businesses set themselves up, operate and how individuals find work opportunities. One of the prominent outcomes of this digital transformation - also fuelled by the COVID-19 pandemic, where technology had to be deployed due to restrictions on physical movement and in person meetings - is the growth of the freelancing and the Platform Economy.

In this section we provide an overview of the changing labour market and the shortage of skills, the rate of technological change that is taking place in Europe, as well as the changing demands and needs of workers, companies and organisations. We then conclude by looking at some of the policy and legislation that is shaping digitalisation, freelancing and developments across labour markets in Europe.

## A CHANGING LABOUR MARKET AND THE SHORTAGE OF SKILLS

The rise of freelancing has brought about substantial changes in labour market dynamics. Traditional employment models, characterised by long-term contracts, travelling to an office/physical facility, set hierarchies and established roles, are increasingly being challenged. Instead, we are witnessing a shift towards a more flexible and agile workforce that is project based. Many companies now rely on a blend of in-house employees, consultants and freelancers to meet their business needs. This trend has led to the emergence of a gig economy, where individuals engage in short-term or project-based work arrangements.

Europe is in the grip of a skills crisis, which shows no signs of slowing down. Unemployment in the EU is at a record low<sup>1</sup>, but more than three-quarters of companies report difficulties in finding workers with the relevant skills, according to European Commission data<sup>2</sup>. Furthermore, it is in the digital sector that the skills shortage is the most pronounced. 40% of adults and every third worker lack basic digital skills<sup>3</sup>, as this study will analyse in more detail.



■ adults and every third worker lack basic digital skills

The picture is the same in the UK where over 80% of all jobs advertised require digital skills<sup>4</sup>, yet UK employers say the lack of available talent is the single biggest factor holding back growth.

<sup>1</sup> [Eurostat figures](#)

<sup>2</sup> [European Commission data](#)

<sup>3</sup> [European Commission data](#)

<sup>4</sup> [UK government's New Digital Strategy](#)

This reality is a cause for concern among European leaders and the European Digital Decade target of 20 million ICT specialists employed within the EU by 2030<sup>5</sup> will only be met if wide-ranging measures are funded and implemented as a matter of urgency. The UK unveiled a new Digital Strategy and Tech scholarship fund in 2022 while the EU made 2023 the European Year of Skills to heighten awareness and focus minds on the need for collective action.

It should be highlighted that top talent increasingly does not want to sell hours to just one company on a traditional 9 to 5 contract. Instead, individuals want to work on projects which provide more variety, more money and also allow individuals to benefit from accelerated learning possibilities through direct feedback on each project rather than a traditional annual performance review approach which delivers very little value. Given the rapid developments in many sectors, it is vital that talent keeps evolving and learning to stay relevant as well as to add value to clients and partners.

Furthermore, workers across Europe want more flexibility and choice as to when, where and how they work. These trends have been turbocharged by the COVID-19 pandemic which enforced remote working and also put more focus on the technology, tools and applications which facilitated this shift away from work being associated with a physical location. These trends remain - despite some organisations demanding a return to the office - and while not all workers are fully remote, there is now an established favourability towards a hybrid model of working which is facilitated by freelancing. This reality has made work more accessible to more people too.

## TECHNOLOGICAL CHANGE

Technology change in Europe over recent years has been significant, and it has had a profound impact on the labour market. Firstly, Europe has witnessed a rapid advancement of automation, AI and machine-learning technologies across various industries. Automation has led to the transformation of traditional job roles, with many routine, repetitive and dangerous tasks being done by machines. Companies today can leverage AI-powered systems for tasks like customer service, predictive analytics, and process automation. In doing so, companies can automate routine tasks, increase operational efficiency, and reduce costs through the adoption of automation. This has also enabled the development of innovative products and services. In turn, this shift has affected both low-skilled and routine-based jobs. In recent times, this has spread to high-skilled and creative jobs. Generative AI can now write contracts, website content and market analyses, as well as solve legal problems, create images and suggest marketing campaigns in the blink of an eye. In this way, no sector remains untouched, and this has led to the restructuring of job roles and the demand for digital skills across

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<sup>5</sup> [Europe's Digital Decade](#)

industries. Yet while automation eliminates some jobs, it also creates new opportunities for workers to focus on higher-skilled and creative tasks that require human ingenuity.

This is uneven across Europe, however, with Northern Europe – particularly the Nordics and Baltics – being digital first in their approach while Southern Europe and parts of Eastern Europe moving more slowly in their adoption of digital infrastructure, products and services. The impact of technology change on the labour market is therefore not evenly distributed across Europe. Some regions and industries have embraced digitalisation and experienced significant growth, while others face challenges in adapting to technological advancements. This has led to regional disparities in terms of job opportunities, skills availability, and economic growth. Policymakers are focusing on promoting digital inclusion and addressing regional disparities to ensure a more balanced and inclusive labour market.

## CHANGING DEMANDS AND NEEDS OF WORKERS, COMPANIES AND ORGANISATIONS

To better understand the changing demands, it is important to describe the current impact on workers, companies and organisations separately since the consequences are different.

### Workers

Digitalisation has placed a heightened focus on skills and upskilling for individuals, since the rapid pace of technological change has created a significant skills gap in the labour market. Many traditional jobs are being disrupted, while new jobs are emerging that require digital literacy, data analysis, coding, and other specialized skills. This shift necessitates the upskilling and reskilling of the workforce to meet the changing demands of the labour market. Governments, educational institutions, and businesses are increasingly emphasizing the importance of lifelong learning and providing training programmes to bridge the skills gap.

The impact of technology change in Europe has also resulted in job polarisation, characterized by the simultaneous growth of high-skilled and low-skilled jobs at the expense of middle-skilled jobs. High-skilled jobs that require advanced technical skills, cognitive abilities and align with technology are in high demand, while low-skilled jobs that involve manual labour or routine tasks are more resilient to automation. However, middle-skilled jobs, such as administrative and manufacturing roles, face greater risks of being automated or outsourced. This includes lawyers, accountants, consultants and copywriters.

### Companies and organisations

From a company perspective, technology enables companies to automate and streamline processes, leading to increased efficiency and productivity. Automation tools, software applications, and digital systems eliminate manual and time-consuming tasks, allowing employees to focus on more strategic and value-added activities. This

efficiency gain translates into cost savings, faster turnaround times, and improved overall operational performance.

In the same way, advancements in technology have revolutionized communication and collaboration within companies. Tools such as email, instant messaging, video conferencing, and project management platforms facilitate real-time communication and collaboration across teams, departments, and even geographical locations. This connectivity improves coordination, teamwork, and decision-making, leading to enhanced productivity and innovation.

Technology has also broken down geographical barriers, enabling companies to expand their market reach and tap into global opportunities. E-commerce platforms, digital marketing channels, and social media also allow businesses to connect with customers worldwide. This expanded market reach opens up new revenue streams and growth prospects.

Furthermore, technology provides companies with access to vast amounts of data and analytics tools to make informed business decisions. Data collection, analysis, and visualization tools help companies gain insights into customer behaviour, market trends, and operational performance. By leveraging data-driven decision making, companies can identify growth opportunities, optimize processes, and personalize their products and services to meet customer demands. At the same time, companies can adopt a more worker-centric approach thanks to digitalisation.

## POLICY AND LEGISLATION

The policy context in Europe is important to understand since there are a number of legislative and policy initiatives underway which impact the future of work.

### European Digital Decade Programme

The Digital Decade policy programme 2030<sup>6</sup> entered into force in January 2023 and sets concrete objectives and targets in four key areas - as well as a strategic vision - for the development of the digital economy.

The targets of the programme are therefore to:



Improve citizens' basic and advanced digital skills;



Improve the take-up of new technologies in EU businesses, such as artificial intelligence, data and cloud;

<sup>6</sup> [Decision \(EU\) 2022/2481](#)



Further advance the EU's connectivity, computing and data infrastructure;



Make public services and administration available online.

The objectives of the policy programme, which include ensuring safe and secure digital technology, a competitive online environment for small and medium-sized enterprises, safe cybersecurity practises, fair access to digital opportunities for everyone, and developing sustainable, energy- and resource-efficient innovations, are embodied in these targets.

## NextGenerationEU

The centrepiece of NextGenerationEU<sup>7</sup> is the Recovery and Resilience Facility - an instrument that offers grants and loans to support reforms and investments in the EU Member States for a total of EUR 723.8 billion. Of this amount, significant resources have been made available to support digital transformation across EU Member States. EUR 127 billion are dedicated to digital related reforms and investments in the national Recovery and Resilience Plans. This is seen as an opportunity to accelerate digitalisation, increase the EU's resilience and reduce external dependencies with both reforms and investments.

## European Year of Skills

Acknowledging the skills shortage that exists in Europe, 2023 is the European Year of Skills<sup>8</sup>. The aim of this initiative is to help people to get the right abilities and knowledge for quality jobs and support companies in addressing skill shortages in Europe. European governments and institutions understand that having a workforce with in-demand skills is important for long-term sustainable growth and competitiveness. It will also ensure that the green and digital transitions are socially fair and just.

With this objective in mind, many events and activities on skills development are taking place across Europe throughout the course of 2023.

## AI Act

The AI Act was proposed in 2021<sup>9</sup> and intended as a European law on artificial intelligence (AI) and represents the first comprehensive law on AI by a major regulator globally. The law assigns applications of AI to three risk categories. First, applications and systems that create an unacceptable risk, such as government-run social scoring of the type used in China, are banned. Second, high-risk applications, such as a CV-scanning tool that ranks job applicants, are subject to specific legal requirements. Lastly, applications not explicitly banned or listed as high-risk are largely left unregulated.

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<sup>7</sup> [NextGenerationEU official page](#)

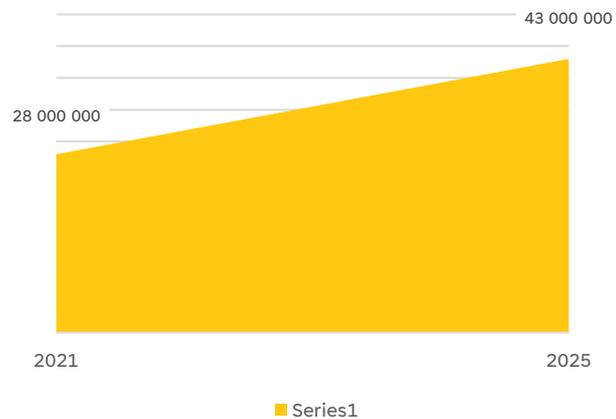
<sup>8</sup> [European Commission page](#)

<sup>9</sup> [Legislative proposals linked to 2021/0106\(COD\)](#)

When implementing the regulation, it is highlighted that Member States should promote measures for the development of a sufficient level of AI literacy, across sectors and taking into account the different needs of groups of providers, deployers and affected persons concerned, including through education and training.

## Platform Economy Worker Rights

The EU wants new rules in place to improve the working conditions and social rights of people working in the gig economy<sup>10</sup>. Decision-makers recognise the size of the sector with European Commission statistics highlighting that over 28 million people in the EU work through one (or more) of these digital labour platforms today. In 2025, this number is expected to reach 43 million people<sup>11</sup>.



Current proposals in this area, however, will force a presumption of employment, meaning that many freelancers will be forced into being classified as workers against their will. Furthermore, having law courts across the EU decide on the employment status of platform workers on a case-by-case basis will be cumbersome, slow and expensive. More controls and transparency are also being demanded on algorithms for human resources management. This trend is worrying and needs to be rethought so that the power and potential of the Platform Economy is unlocked, rather than hindered.

The focus should be on facilitating flexibility, choice and entrepreneurship. This is extra important since the EU is the first legislator in the world to attempt proposing specific rules for digital labour platforms. The effects could be felt globally if this is not done correctly.

## Strategic framework for a European Education Area (2021-30)

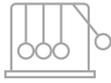
The European Education Area is based on decades of European cooperation in the field of education, and aims to build trust and mutual understanding as well as implement national reforms. The goal is to make the European Education Area - collaboration between Member States and stakeholders to build more resilient and inclusive national education systems - a reality by 2025<sup>12</sup>.

Specifically, over the coming years, the strategic framework will address the following five strategic priorities:

<sup>10</sup> [Legislative proposals linked to 2021/0414\(COD\)](#)

<sup>11</sup> [European Commission data](#)

<sup>12</sup> [2021/C 66/01](#)



Improving quality, equity, inclusion and success for all in education and training;



Making lifelong learning and mobility a reality for all;



Enhancing competences and motivation in the education profession;



Reinforcing European higher education;



Supporting the green and digital transitions in and through education and training.

## Digital Education Action Plan (2021-2027)

The Digital Education Action Plan (2021-2027)<sup>13</sup> is an EU policy initiative that sets out a common vision of high-quality, inclusive and accessible digital education in Europe, and aims to support the adaptation of national education and training systems to the digital age.

The Action Plan was adopted on 30 September 2020, and is a call for greater cooperation at European level on digital education to address the challenges and opportunities of the COVID-19 pandemic, and to present opportunities for the education and training community (teachers, students), policy makers, academia and researchers on national, EU and international level.

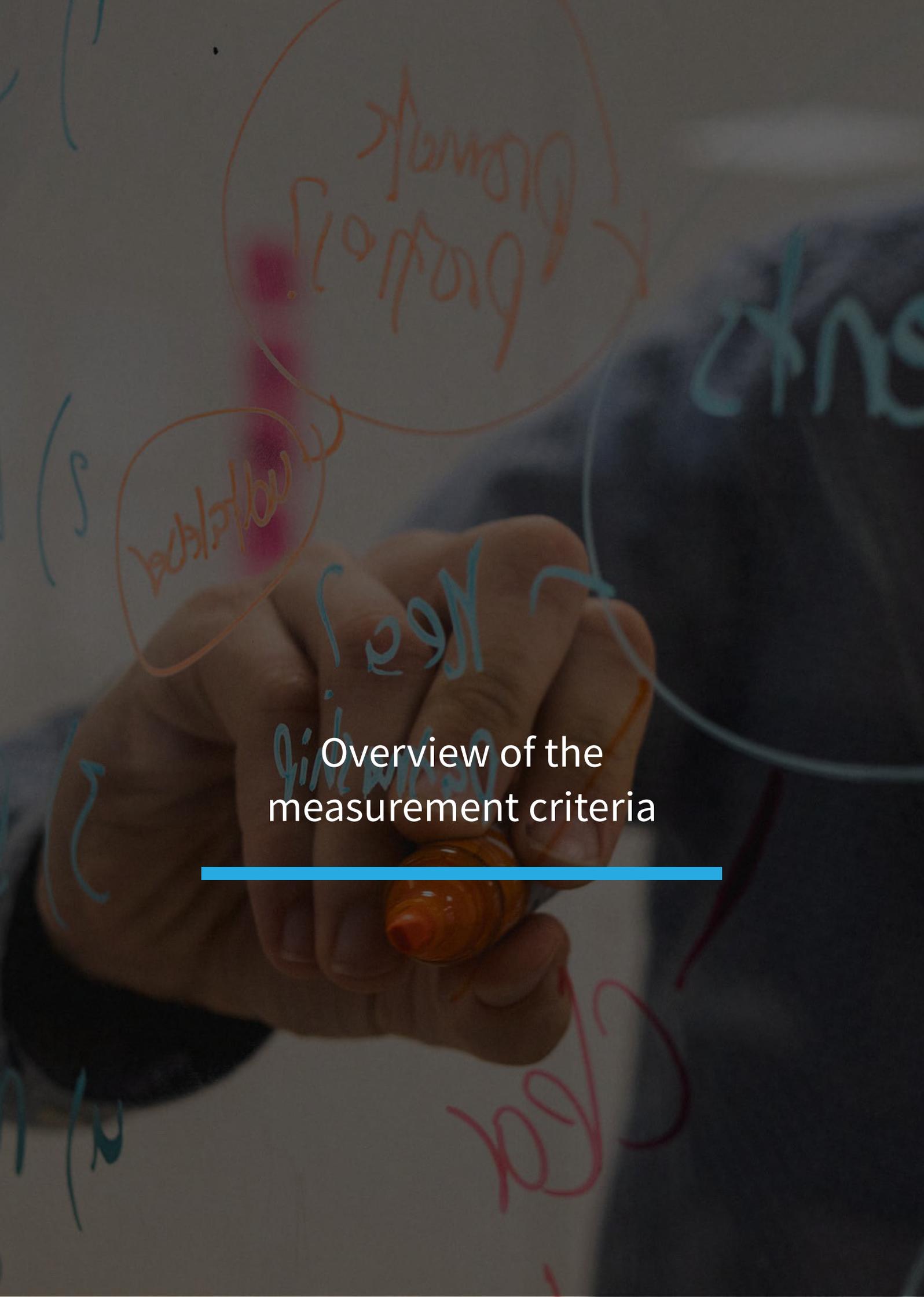
The Digital Education Plan sets out two strategic priorities and fourteen actions to support them. The strategic priorities are:

**1.** Fostering the development of a high-performing digital education ecosystem; and

**2.** Enhancing digital skills and competences for the digital transformation.

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<sup>13</sup> [Information on the Action Plan](#)

A hand holding a blue marker, writing on a whiteboard. The whiteboard is covered with various diagrams and text, including a large circle with the word 'Biomark' written inside, and several smaller circles and lines. The text is written in blue and red markers. The background is slightly blurred, showing a person's head and shoulders.

## Overview of the measurement criteria

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With the EU context understood on digitalisation, freelancing and labour market developments, it is important to benchmark European countries based on their progress in a number of fields which underpin how prepared they are for digitalisation and the future of work.

The measurement criteria therefore cover the following areas:



Infrastructure issues - including internet penetration and the associated costs



The role of AI



Skills & education levels in Europe - highlighting the level of digital competence, the number of IT specialists, and the education provided around using technology.



Government policy & services - underlining the public services that are offered online, the engagement of the public, digital services for citizens and companies, and electronic ID services.

These are important for digitalisation and the future of work since they constitute the building blocks and benchmarking European countries against each other shows how ready they are to capitalise on the changes currently underway.

This study looks at the raw data before analysing the finding, drawing conclusions and making recommendations.



# Digitalisation and the labour market

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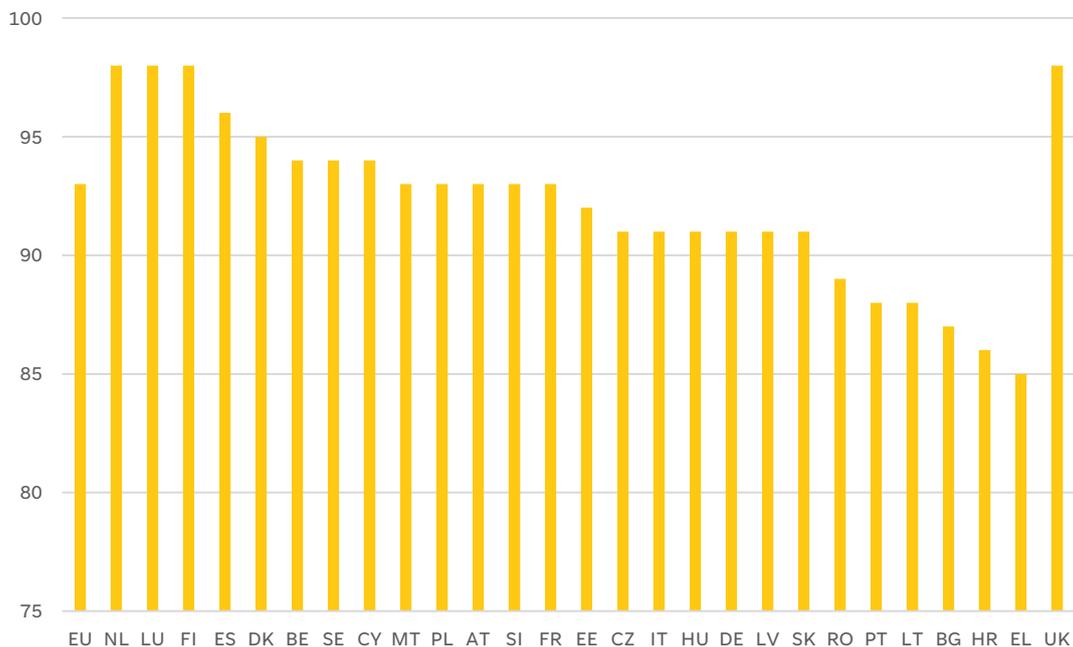
In order to look at digitalisation and the labour market in Europe properly, it is crucial to look at data highlighting infrastructure issues (covering internet penetration and the associated costs); skills & education levels in Europe; the role of AI; and government policy & services.

## INFRASTRUCTURE

To enable access to digital services there is a vital need for the infrastructure which facilitates this. Furthermore this needs to be available at affordable prices. The EU has made it a priority to invest in connectivity, fibre networks and the roll out of 5G and 6G. EU institutions and governments understand that companies and households need gigabit connections to meet their current and future needs and underpin economic growth. In the European Digital Decade Programme<sup>14</sup> two specific targets in the area of broadband connectivity are defined for 2030: gigabit coverage for all households and 5G in all populated areas. Similarly the UK has adopted a Digital Inclusion Strategy<sup>15</sup> and made digital infrastructure and connectivity an important part of its Levelling Up White Paper<sup>16</sup>.

### Internet penetration

Figure: Internet access of households, 2022



Source: [European Commission](#)

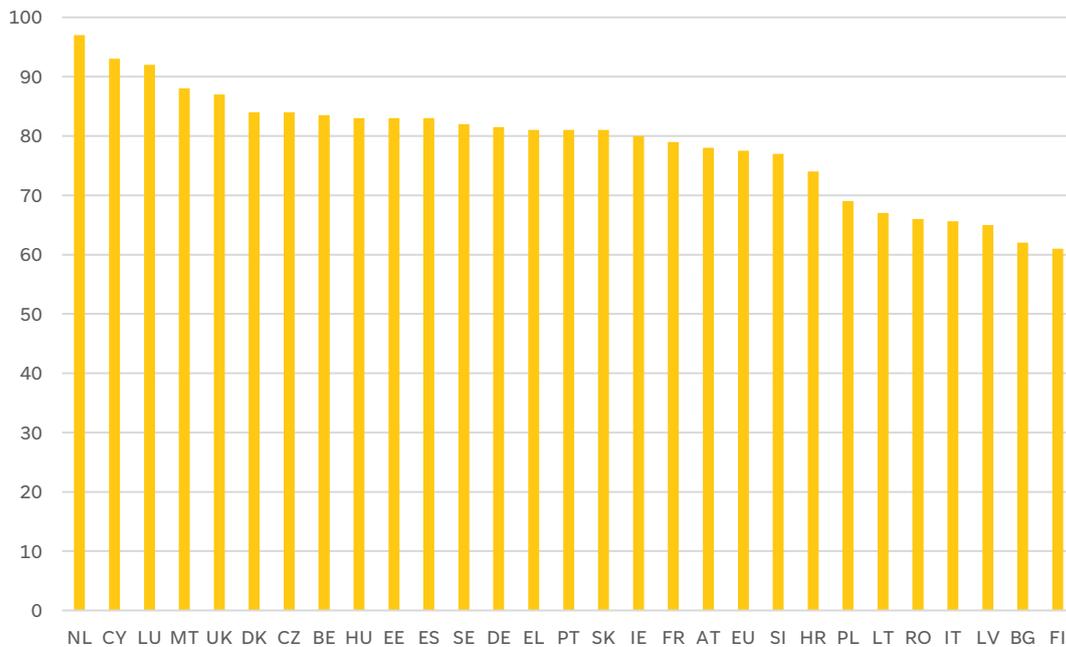
<sup>14</sup> [Europe’s Digital Decade](#)

<sup>15</sup> [UK Digital Inclusion Strategy](#)

<sup>16</sup> [UK Levelling Up White Paper](#)

Regarding the internet penetration of households, the EU average is 93% while The Netherlands, Finland, Luxembourg and UK enjoy almost universal coverage. The lowest penetration rates are found in Latvia, Bulgaria, Croatia and Greece. Within these figures, there is still a disparity between penetration rates in rural areas and urban areas, although the gap has been closing year on year.

**Figure: Households with a fixed broadband subscription (% of households), 2021**



Source: [Eurostat](#); [Ofcom 2022 report](#)

Regarding broadband connections, according to European Commission figures overall fixed broadband take up in the EU stands at 78% and national take-up rates range from 61% to 97%. The Netherlands, Cyprus, Luxembourg, Malta and UK registered the highest figures, while Finland, Bulgaria, Latvia, Romania, Lithuania and Poland registered the lowest.

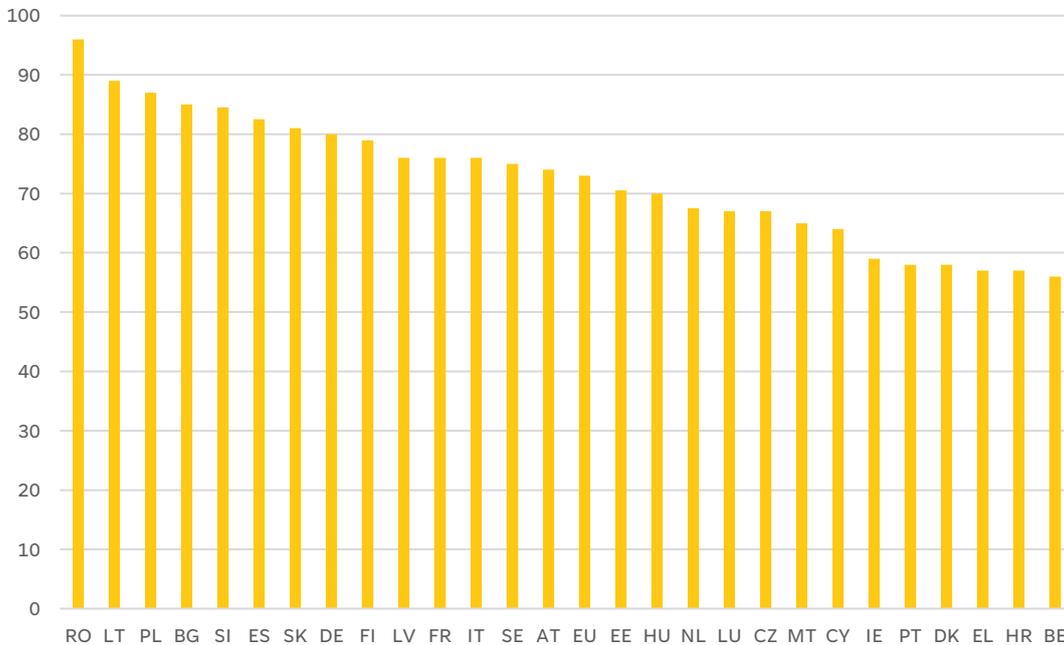
Despite these figures for overall broadband penetration, the take up of fixed broadband with a speed of at least 100 Mbps stands at just 41% across the EU. Spain, Sweden, Portugal, Luxembourg, Hungary and UK lead on this indicator with over 60% of households subscribing to at least 100 Mbps. In Greece, Croatia and Austria, by contrast, uptake is very low (less than 20%). When we consider a fixed broadband connection of 1 Gbps (Gigabits per second) this figure drops to 7.6%. At the same time, mobile broadband take up stands at 87% across the EU but 5G coverage stands at just 66%.

## Prices

Broadband prices are based on the EU Broadband Price Index which measures the prices of representative baskets of fixed, mobile and converged broadband offers. The Broadband Price Index is therefore a score that measures the prices of over 30

representative broadband consumption baskets of different speeds and different products (including standalone internet, double play, triple play and quadruple play).

**Figure: Broadband price index – all baskets (score 0-100, 100 meaning the lowest prices) 2021**



Source: [European Commission](#)

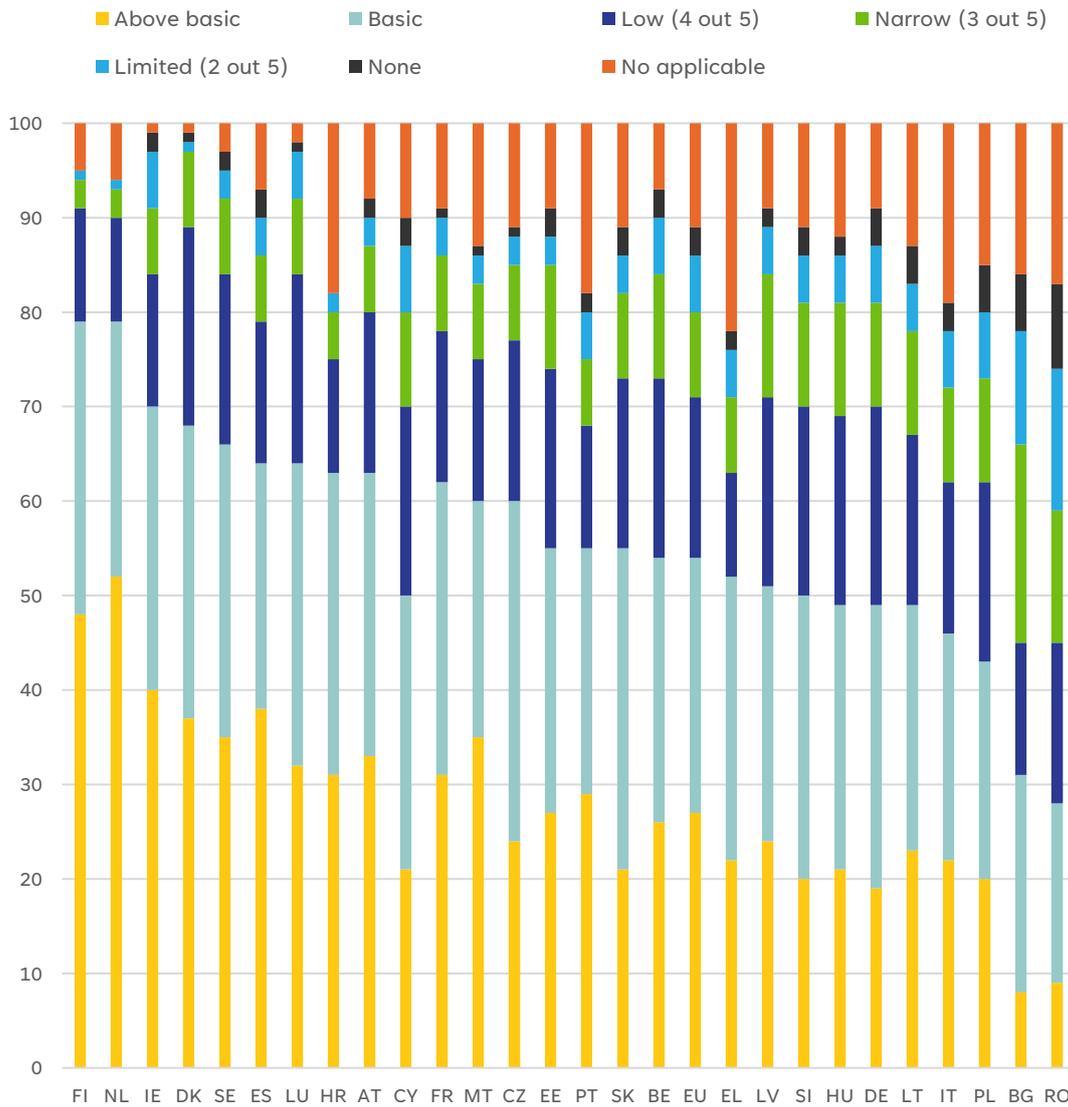
Romania, Lithuania, Poland and Bulgaria have the lowest broadband prices, while Belgium, Croatia and Greece are the most expensive.

## SKILLS & EDUCATION

In Europe there is a digital skills gap and it is understood that all Europeans need digital skills to study, work, communicate, access online public services and find trustworthy information. However, many Europeans do not have adequate digital skills. To tackle this, the European Commission has set targets in the European skills agenda<sup>17</sup> and the digital education action plan to ensure that 70% of adults have basic digital skills by 2025. These initiatives aim to reduce the level of 13-14 year-olds who underperform in computing and digital literacy from 30% (2019) to 15% in 2030.

<sup>17</sup> [EU Skills Agenda](#)

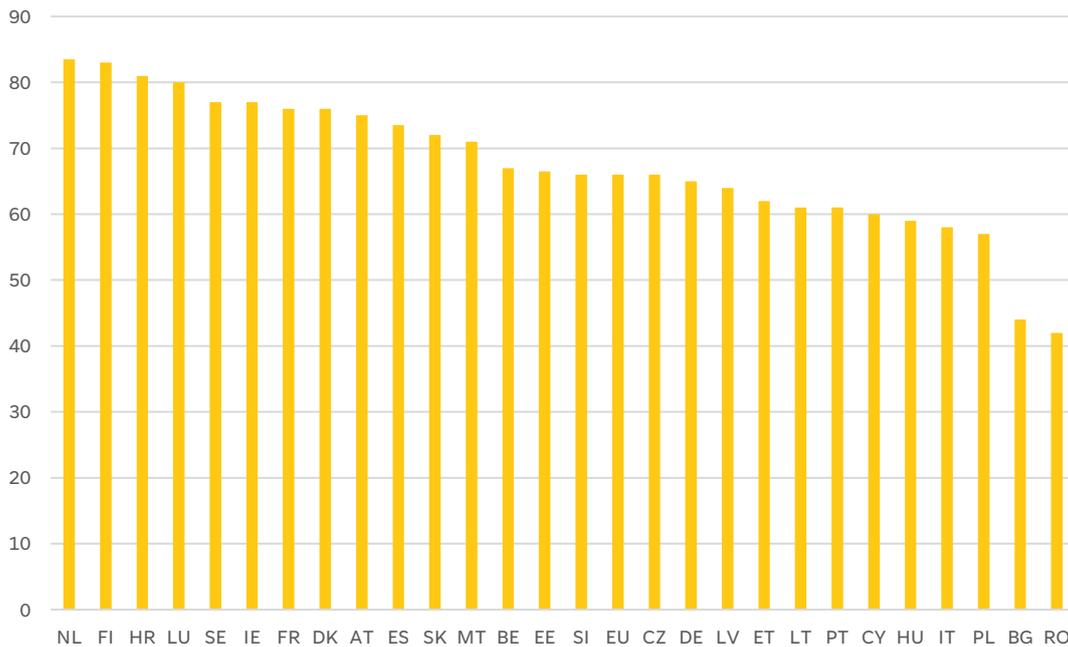
## Level of digital skills (basic/advanced, content creation and ability to use digital channels)



Source: Eurostat

The important overall figure to highlight is that 4 out of 10 adults and every third person who works in Europe lack basic digital skills. 71% of young adults (aged 16-24), 79% of individuals with high formal education, and 77% of higher education students have at least basic digital skills. By contrast, only 35% of those aged 55-74 and 29% of the retired and the inactive have at least basic digital skills. European data also shows that the gap between rural and urban areas is still substantial regarding the digital skills of the population: only 46% of individuals living in rural areas have at least basic digital skills compared to people living in the predominantly urban areas (61%).

**Figure: At least basic digital content creation skills (% of all individuals), 2021**



Source: [Eurostat](#)

When it comes to content creation skills, the results vary across the EU. The Netherlands and Finland lead in at least basic digital content creation skills, closely followed by Croatia and Luxembourg with scores above 80%. Romania, Bulgaria, Poland and Italy, on the other hand, have the lowest share of individuals with activities accounting for at least basic content creation skills in 2021.

### IT specialists

According to EU figures, about 9 million people worked as ICT specialists in the EU<sup>18</sup>. The highest numbers were reported in Germany (2 million ICT specialists), which provided work to more than one fifth (22.5%) of the EU ICT workforce. Germany was followed by France with 1.2 million of ICT specialists (13.9% of the EU total) and Italy with 0.8 million (accounting for 9.5% of EU total). Their combined share accounted for more than 40% of the EU’s ICT workforce. In the UK, the number of people employed in the IT, software and computer services sub-sector is over one million.

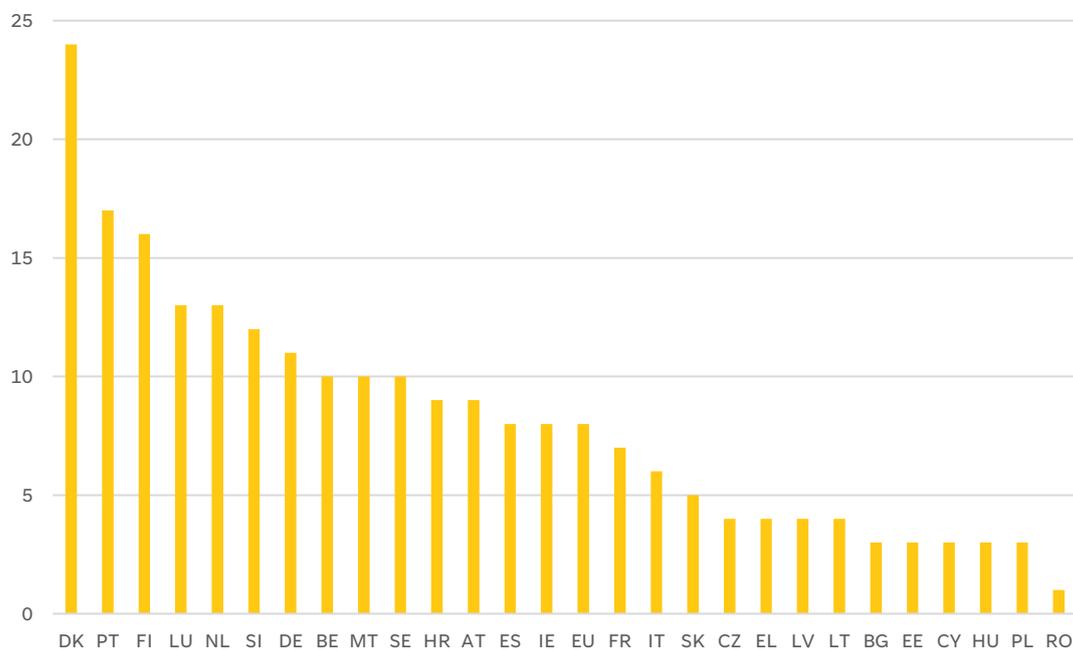
The EU target requires to have 20 million ICT specialists by 2030, representing around 10% of total employment, with a convergence between men and women.

<sup>18</sup> [Eurostat figures](#)

## THE ROLE OF AI

The EU Digital Decade target requires that more than 75% of EU companies adopt AI technologies by 2030. The uptake of AI technologies in the European Union is generally quite low, at 8%<sup>19</sup>. However, there are some differences among Member States. The countries with an AI adoption rate of more than 10% are Denmark (24%), Portugal (17%) and Finland (16%). In UK, 15% of all businesses have adopted at least one AI technology. At the same time, there are 10 EU countries that have a very low adoption rate, and do not reach 5% (such as Bulgaria, Estonia, Cyprus, Hungary and Poland, who each have 3%). With 1%, Romania has the lowest uptake in the EU.

**Figure: Enterprises using an AI technology (% of enterprises), 2021**

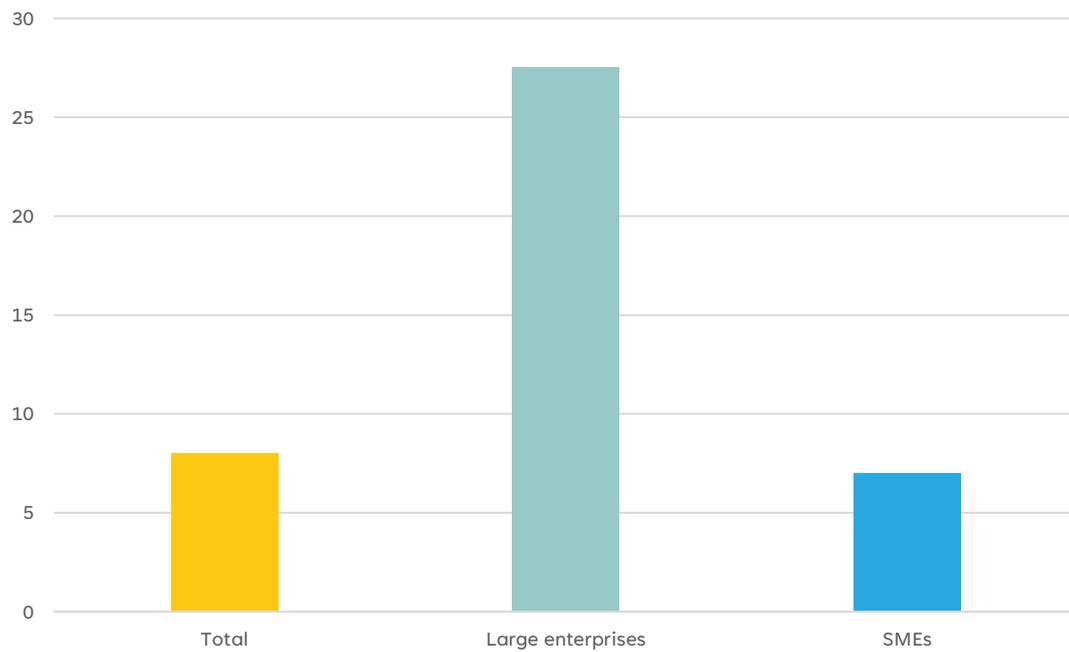


Source: [Eurostat](#)

As with most advanced technologies, the uptake of AI technologies is much higher in large enterprises compared to SMEs. In 2021 the share of large enterprises adopting AI was three times higher than those of SMEs (29% versus 7%).

<sup>19</sup> [Eurostat figures](#)

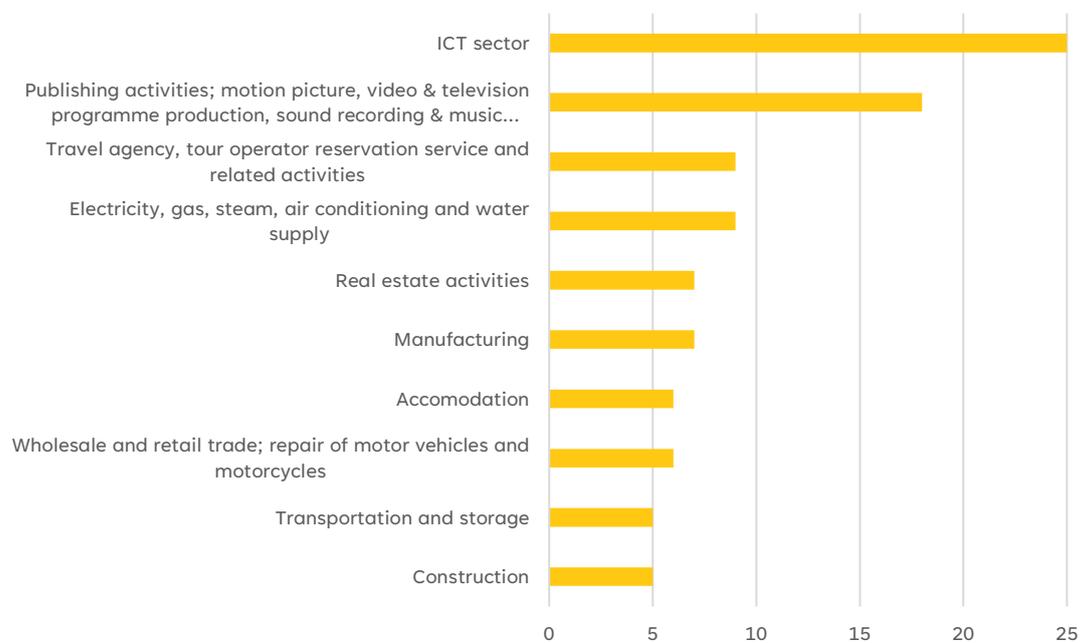
**Figure: Use of AI technology by enterprise size (% of enterprises), 2021**



Source: [Eurostat](#)

The use of AI also varies considerably across sectors.

**Figure: Use of AI technology by sector (% of enterprises), 2021**



Source: [Eurostat](#)

The findings on the uptake of AI in Europe go hand in hand with the levels of overall digitisation of enterprises (as can be seen in the case of Denmark at the top end, and Romania at the bottom).

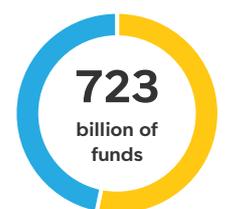
When looking at a sectoral overview, the ICT sector is clearly more advanced in its use of AI technologies with 25% of enterprises adopting AI, followed by publishing activities at 18%. Other sectors, such as real estate activities and manufacturing are much further behind with only 7% of enterprises using AI. The transportation, storage and the construction sector are the least likely to use AI technologies, with an uptake of about 5%. The figures show that there is a need for all sectors to understand and start to utilise the benefits that are presented by AI.

## GOVERNMENT POLICY & SERVICES

Digital technologies increasingly place new demands and expectations on the public, as well as the private sector. Government organisations and public bodies face a significant challenge in realising the complete potential of these technologies. Effective e-government offers various benefits, including increased efficiency and savings for governments and businesses, along with improved transparency. The accessibility of public services online has grown steadily, notably accelerated by the COVID-19 pandemic which made digital interaction the norm in many European countries.

The EU Digital Decade programme aims to have all crucial public services for citizens and businesses fully available online by 2030. While several Member States are nearing the 100% goal, progress remains uneven within and across states. Online services for citizens lag behind those for businesses. While basic digital public services are expanding consistently (like online forms and appointment booking), more advanced services utilising innovative technologies like AI, big data, and robotics still require significant investment.

To help meet these needs the EU Recovery and Resilience Facility (RRF)<sup>20</sup> provides EUR 723 billion to invest in reforms and projects (EUR 385 billion of funds in loans, and EUR 338 billion of funds in grants). Technology and digitalisation elements play an important part in this initiative. The twin goals for Europe's future are to make economies and societies more sustainable, resilient and prepared for the ongoing green and digital transitions.



- EUR 385 billion in loans
- EUR 338 billion in grants

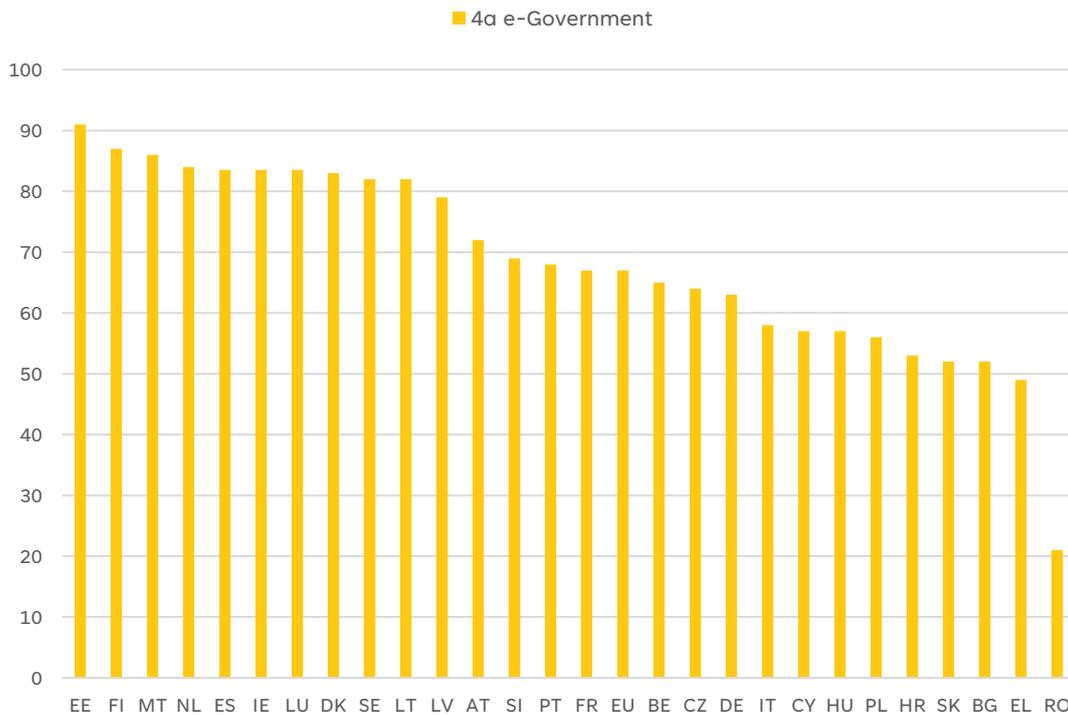
Certain countries allocate over 50% of their digital budget to digitize public services (such as Malta, Lithuania, Finland, and Croatia). In general, Member States are striving to modernise and enhance public administration procedures, making them more user-centric, citizen-focused, and interoperable. The objective is to increase individuals' and businesses' access to, and adoption of, digital public services.

<sup>20</sup> [Recovery & Resilience Facility \(RRF\)](#)

## Public services online

When it comes to offering eGovernment services, the top performers are Estonia, Finland, Malta and the Netherlands, while Romania, Greece Bulgaria and Slovakia have the lowest scores.

**Figure: Digital Economy and Society Index (DESI) 2022, Digital public services**

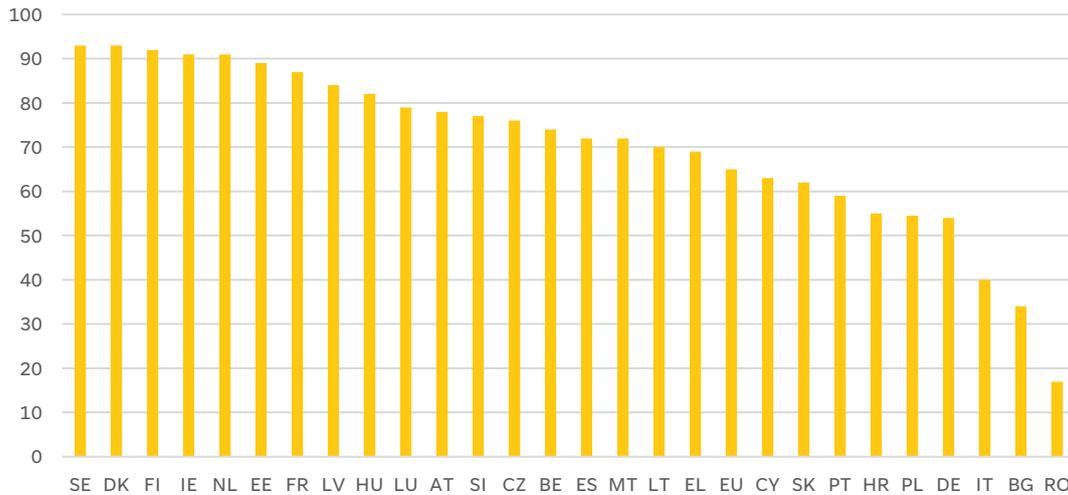


Source: [European Commission](#)

## Engagement of the public

When it comes to using eGovernment services, citizens from Sweden, Denmark, Finland, Ireland and the Netherlands performed very well on this measure, with more than 90% of internet users (aged 16-74) interacting with the public administration choosing government portals. Romania, Bulgaria and Italy performed less well in this measure, and were the only three countries where the percentage of citizens interacting with public administrations was lower than 50%.

**Figure: Digital Economy and Society Index (DESI) 2022, Digital public services**

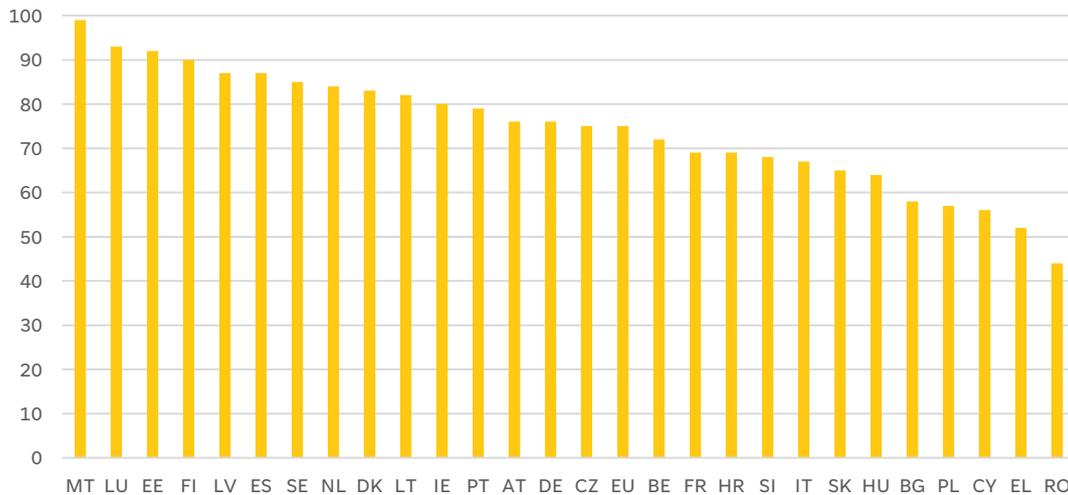


Source: [European Commission](#)

### Digital public services for citizens

The European Commission provides a score for all countries which measures the extent to which a service or information on a service for citizens is provided online, and via a government portal. These services may be offered fully, partially or offline only. The indicator represents the share of steps that can be done online for significant events (such as registering or reschedule an appointment at a hospital or filing taxes) for citizens.

**Figure: Digital public services for citizens (score 0 to 100), 2021**



Source: [eGovernment benchmark](#)

Malta, Luxembourg and Estonia performed the best on this measure, scoring more than 90 points. Altogether 11 countries (Malta, Luxembourg, Estonia, Finland, Latvia, Spain,

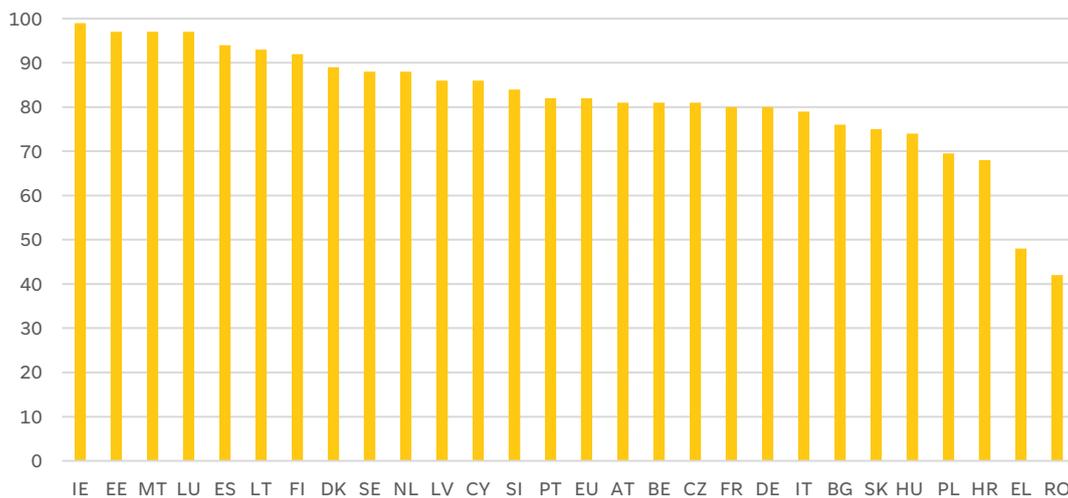
Sweden, the Netherlands, Denmark, Lithuania and Ireland) scored 80 points or above. Romania, Greece, Cyprus, Poland and Bulgaria scored less than 60.

### Digital public services for companies

This measures the degree to which public services for businesses are interoperable and work cross-border. This European indicator also reflects to what extent informational and transactional public services for businesses are available. These include when starting a business and conducting regular business operations. Services provided through a portal receive a higher score, while services that only provide information online but which require operations to be carried out offline receive a lower score.

A total of seven countries (Ireland, Estonia, Malta, Luxembourg, Spain, Lithuania and Finland) scored more than 90 points (out of 100). However, Romania, Greece, Croatia and Poland scored below 70.

Figure: Digital public services for businesses (Score 0 to 100), 2021

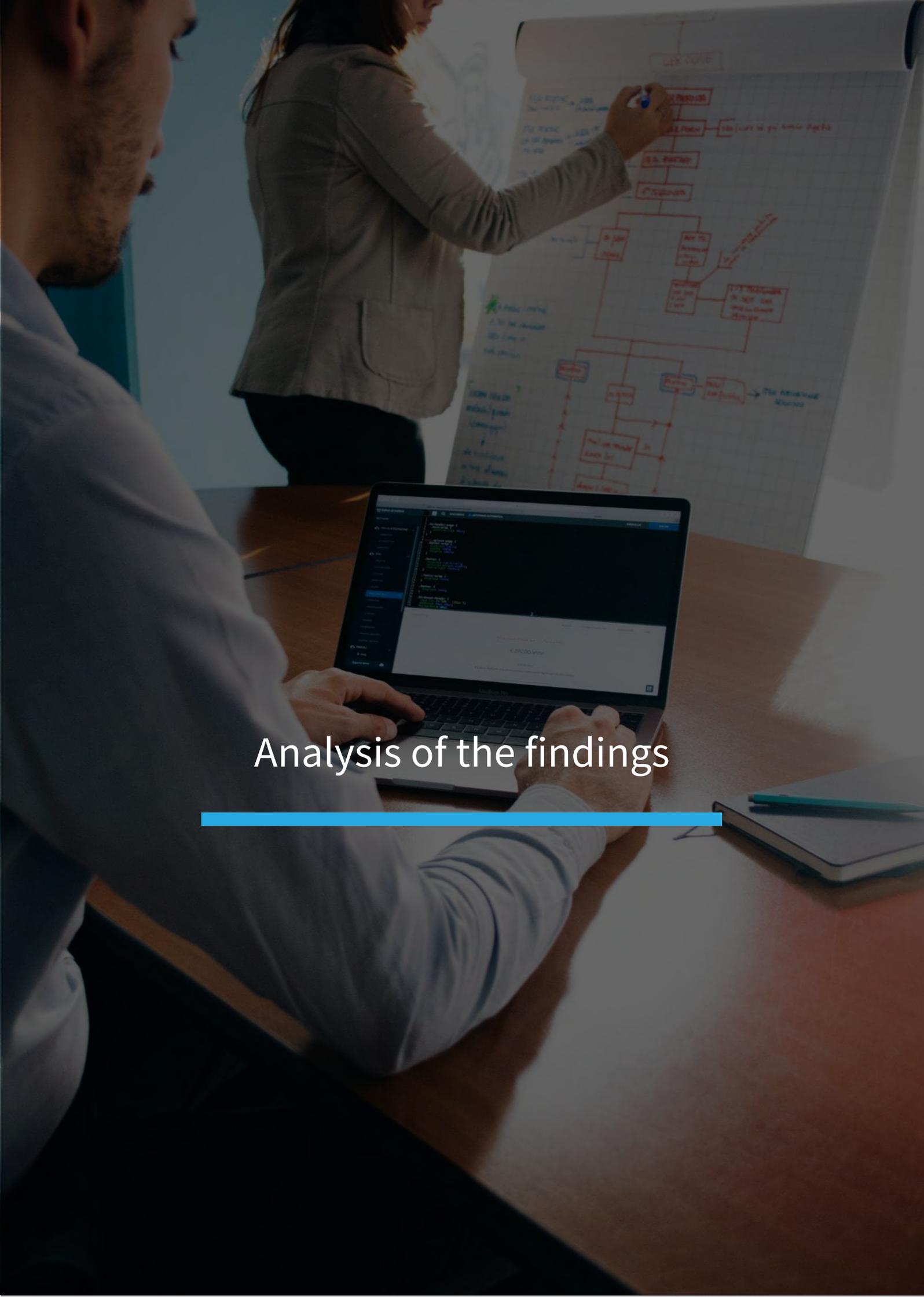


Source: [eGovernment benchmark](#)

### Electronic ID services

Electronic identification (eID) means the process of using personal identification data in electronic form uniquely representing either a natural or legal person, or a natural person representing a legal person. Based on data provided by Member States, more than 60% of European citizens have an eID, with 25 out of 27 Member States have at least one eID scheme in place.

Cyprus and Romania are the odd countries out who do not have an eID scheme in place, yet Cyprus started issuing an eID as a pilot in the third quarter of 2022. Romania included in their RRP an investment that is expected to deliver 8.5 million eIDs by June 2026.

A person is seated at a wooden table, working on a laptop. The laptop screen displays a software interface with a dark theme and a sidebar. In the background, a woman in a grey blazer is standing and pointing at a large whiteboard with a blue marker. The whiteboard contains a complex flowchart or organizational chart with various boxes and connecting lines, some in red and some in blue. The scene is dimly lit, suggesting an indoor office environment.

## Analysis of the findings

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Based on the official data on digitalisation and the labour market in Europe, this next section analyses the facts and figures to understand what lies behind the raw data and looks at some of the best practice in Europe.

## INFRASTRUCTURE

To analyse the data on infrastructure, this study looks at broadband penetration and prices, as well as adds access to co-working sites in Europe.

### Broadband penetration

The low internet penetration rates in some European countries - and the lack of high-speed broadband - are a problem for citizens, companies and the economy as a whole. This issue can contribute to a number of factors that can harm the country. Non-existent or slow broadband can hinder efficient communication, collaboration, and data transfer, leading to decreased productivity across businesses and industries. This can also slow down work processes, delay decision-making, and ultimately affect the overall output of companies and the economy.

In the economy of today, high-speed internet is also essential for accessing and sharing information, research, and ideas. Slow broadband can impede the development and adoption of new technologies, innovative services, and digital products, limiting a country's ability to compete on a global scale.

Furthermore, the lack of access to a quick and stable broadband connection can exacerbate the digital divide, where some regions or demographics have access to high-speed internet while others do not. This inequality can hinder the educational and economic opportunities of those without adequate internet access: for example the growth of platform and remote work options can be impeded, limiting individuals' flexibility and potential to work for companies outside their immediate geographic area. This issue is particularly acute in Europe since the divide between access to fast broadband in urban rural areas is still considerable. The figures show that:

**70%** of European citizens have access to a very high capacity network in Europe.

But this figure drops to below 40% in rural regions (below 20% in rural areas of Czech Republic, Croatia, Italy and Austria). It is important that more investment is earmarked through European and national funds to address these issues in rural regions and prevent a widening digital divide which, unchecked, will lead to increased depopulation.

A lack of high-speed broadband can also hinder the growth of tech start-ups and digital businesses that rely heavily on internet connectivity. These businesses are often drivers of economic innovation and job creation. In turn, this will affect the attraction of foreign investment and the creation of innovation clusters.

Regarding national figures, the relatively low broadband take-up rates in Finland may partly be due to fixed-mobile substitution. In Bulgaria, Latvia, Romania and Poland, the very low levels of basic digital skills seem to contribute to the low take-up of fixed broadband services.

## Prices

When it comes to mobile and fixed broadband prices - and their differences across Europe - there are a number of factors in play which explain the higher prices in Greece, Croatia and Austria, for example.

These cover infrastructure costs: the money associated with building and maintaining the necessary broadband infrastructure, such as fibre-optic networks, cables, and other equipment. In some cases, countries with more challenging geographical terrain or extensive rural areas (mountains and many islands included, for example) face higher infrastructure costs, which are reflected in higher prices for consumers.

The level of competition in the broadband market can also influence pricing. In EU countries with limited competition among internet service providers (ISPs), there is less pressure to lower prices. This is particularly relevant when a small number of large ISPs dominate the market and this leads to higher prices for consumers.

## Availability of co-working spaces

Another important infrastructure element linked to the future of work is the availability of co-working spaces. Europe has roughly 6,850 co-working spaces available today<sup>21</sup>, and the expected yearly growth rate for co-working spaces in Europe is 4.7%. Although the Covid-19 pandemic led to a considerable drop in the number of individuals using their co-working space for work, and even forced the closure of many spaces, rates are once again increasing.

Regarding the availability of co-working spaces, the UK leads the way in Europe with 1,044 spaces, followed by 939 in Spain and 791 in Germany.

Although remote work is increasing, many individuals feel increased levels of isolation and loneliness associated with this. As such, co-working facilities can help in this regard. Co-working space users also claim that they pick up new skills and also find inspiration as well as business opportunities in their locations. These facilities seem to be increasingly popular with freelancers and technology workers, as well as younger workers and particularly millennials.

## SKILLS & EDUCATION

Skills & education underpin the future of work and determine the impact of digitalisation. This study analyses the availability of digital skills.

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<sup>21</sup> [Shared workspace in 2023](#)

## Focus on digital skills for human capital

A strong digital economy powered by Europeans with digital skills is vital for innovation, growth, jobs, and European competitiveness. The spread of digital technologies is having a massive impact on the labour market and the type of skills needed in the economy and in society. Member States, business, training providers, the European Commission and other organisations need to work together to tackle the digital skills gap.

The exponential growth in technology means that individuals without digital skills have a shrinking ability to add value to companies and organisations, and therefore earn money. It is therefore vital that funding and policy is geared towards increasing digital skills as part of the education curriculum for younger people while resources are channelled to life-long learning so that older workers can benefit from reskilling and upskilling in the technology sector. Governments should also look to public-private partnerships with a view to rolling out these schemes and ensure that the skills and expertise that are being taught are relevant for companies and the evolving labour market more generally.

## Level of digital skills, education and training

When it comes to digital skills, these have become essential to businesses and the workforce as they are no longer a “nice to have” but are vital. Digital skills are essential to the survival and growth of businesses, as well as the ability of individuals to add value to companies and organisations. A growing number of workers need to gain new skills to work in unison with digital technologies.

It is obvious that all EU Member States and the UK - even those who are performing best - have a critical shortage of digital experts. This hinders the development, uptake and use of emerging key digital technologies. This needs to be addressed by policy initiatives and focusing on education, as highlighted above.

Analysing the data in more detail, there is still a persistent gender gap which exists across the EU. Only one in five ICT specialists and ICT graduates are women, which may affect the way digital solutions are devised and deployed. This is compounded by the demographic decline across the EU, and a lack of specialised



Only one in five ICT specialists and ICT graduates are women

education offered in key digital areas. These areas need to be addressed. Furthermore, faced with a growing number of jobs for people with advanced digital skills, educational policies should be encouraging undergraduates to opt for technology studies which can improve their employment prospects linked to higher earning potential. Since many of these jobs currently go unfilled, promoting advanced digital skills will form part of a solution to unemployment. Governments therefore need to ensure a wide range of easily accessible and relevant upskilling and reskilling opportunities to their workforces in order to help satisfy the demand for more ICT specialists, advanced digital technology users and above basic digital skills.

## THE ROLE OF AI

To understand why AI has gained significant traction in various industries, and not in others, it is important to look at several factors. Much of this disparity can be attributed to a lack of awareness and understanding, since the appearance of AI is still fairly new. Some industry sectors do not yet fully understand the potential benefits of AI or how it could be applied to their specific processes or challenges. Lack of awareness about AI's capabilities and benefits therefore leads to hesitancy and reluctance to adopt it.

Linked to this is the fact that AI technologies can be complex to implement, requiring specialized technical knowledge and skills. There is also an issue of integration with older legacy systems. Industries that lack the necessary expertise or resources to develop and deploy AI solutions might be hesitant to invest in them, given the upfront costs.

Furthermore, in Europe, certain industries like healthcare and finance are cautious about adopting AI due to concerns about data privacy, security, and compliance with industry regulations. Some sectors - like transportation and construction - are also rather conservative and therefore culturally resistant to change. Industries with traditional or hierarchical cultures also resist change, including the adoption of AI.

These issues and reservations need to be addressed, however, since AI presents a whole host of opportunities for individuals and businesses. Failure to keep pace with technology will lead to a lack of innovation, growth and unemployment which will affect society and the economy as a whole.

## GOVERNMENT POLICY & SERVICES

To analyse government policy & services, this study looks at the findings on government approaches to technology and future of work, freelancing and remote work. It also looks at the ease of starting a company online and the provision of one-stop-shop services electronically as well as the provision of digital nomad visas.

### Government approach to technology and its benefits

Many European governments have understood the benefits of offering public services online, since these provide numerous benefits for governments and citizens alike. Online services are available 24/7, allowing citizens to access government services at their convenience without the need to visit physical offices during working hours. This accessibility is particularly valuable for individuals with busy schedules or those living in remote areas. Online services also reduce the need for individuals to travel to government offices, saving both time and transportation costs. Similarly, governments can save on administrative costs associated with manual processing of paper-based transactions.

Online services often streamline processes and reduce paperwork, leading to faster processing times. This can result in quicker access to information, approvals, permits, and benefits. Digital platforms can enhance transparency by providing citizens with easy

access to information about government services, processes, and decisions. This promotes trust and accountability. It is interesting that the countries which appear further down the list of offering eGovernment solutions suffer in these departments and offering more services online would improve their image in the eye of citizens.

In the same vein, online services can simplify complex bureaucratic procedures, making it easier for citizens to understand and navigate government processes. Online platforms can also offer personalised experiences by tailoring information and services to individual needs. This enhances the user experience and increases satisfaction. Well-designed online platforms can be accessible to individuals with disabilities, ensuring that everyone can use government services regardless of their physical or cognitive abilities.

Reducing the need for paper-based transactions and in-person visits can contribute to environmental sustainability by saving paper and reducing carbon emissions from transportation.

Digital government platforms can also integrate services across different government agencies, providing a seamless experience for citizens who require multiple services. Going further, online services generate valuable data that governments can use for informed decision-making and policy development. More broadly, implementing online services demonstrates a commitment to technological advancement, positioning governments as modern and forward-thinking entities.

## Ease of starting a company online

Many European companies are making it easier to start a business and do so electronically. Estonia, for example, is known for its advanced e-governance and digital services. The country offers an e-Residency programme<sup>22</sup> that allows non-residents to establish and manage a company online, providing access to various government services and business tools.

Similarly Denmark has a well-developed digital infrastructure and streamlined administrative processes for company registration<sup>23</sup>. Online services and information are readily available, making the start-up process smoother. Finland also offers efficient public services and online platforms for business registration<sup>24</sup>. The country's digital infrastructure and government support contribute to a relatively smooth process for starting a company.

The UK also has digital platforms that facilitate business registration, tax filing, and other administrative tasks<sup>25</sup>. Companies House provides an online platform for company formation which can be done in a matter of days.

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<sup>22</sup> [Estonian e-Residency programme](#)

<sup>23</sup> [Danish company registration](#)

<sup>24</sup> [Finnish public services online portal](#)

<sup>25</sup> [UK portal](#)

The Netherlands also offers digital services for company registration, taxation, and other administrative tasks<sup>26</sup>. Online platforms provide information and tools to guide entrepreneurs through the start-up process. Furthermore, Sweden has a strong digital infrastructure and efficient online services that simplify the process of starting and managing a company. The government also provides resources and information for entrepreneurs.

## Government approaches to the future of work and digital platforms

The approach of governments and the public sector to digitalisation and digital labour platforms generally goes hand in hand. The more digitally savvy and progressive countries like UK, Nordics and Baltics are supportive of the Platform Economy while less developed countries such as those in Southern and Eastern Europe are less aligned and more sceptical of progress and digital developments. They fear a perceived lack of control through increased openness and reliance on technology to supplement the work of individuals.

### Approach to “employer” and “employee” statuses, as well as “Employers of Record”

Digitalisation is having an impact on society and the labour market but legislation, rules and practices are struggling to keep up and can often create barriers and prevent the development of the Platform Economy sector. Old definitions and rules still dominate today - particularly in Southern and Eastern Europe - on what constitutes a job, as well as what is the definition of an “employer” and an “employee”. Platforms offering “matching” services should not be classed as employers. The platforms are facilitating an economic transaction but should not be weighed down by irrelevant rights and responsibilities just to shoe-horn their activities into an outdated labour market concept. Many workers want to be independent contractors and earn more money by adopting this mode.

When it comes to an “Employer of Record” - a third-party company or organisation that takes on the rights and responsibilities of the employer - this concept is more established in the UK and also in the US. This is not the case yet in the EU but allowing an Employer of Record offers significant opportunities for companies and individuals, while removing some of the main barriers to the acceptance of the Platform Economy and future of work more broadly. By allowing an Employer of Record, workers will be provided with a safety net and the notion that no organisation is taking care of them and being responsible for their rights and welfare will be resolved. Similarly, an Employer of Record will take responsibility and ensure that taxes are paid. In short, European-wide acceptance of the Employer of Record concept will play a vital role in authorities having someone to turn to if they have issues or problems, while protecting the future labour market and allowing it to develop in a sustainable way.

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<sup>26</sup> [Dutch business portal](#)

## Approach to freelancing

The Gig Economy allows sectors of the population who have previously found it difficult to enter the traditional workforce to earn money. This includes migrants, young people, workers with a disability or a physical/mental health condition which means that office-based work is not good for them, carers and working mothers and fathers. For example, an interesting example here is that workers who are deaf or have a hearing impairment can drive for ride-hailing firms but they are not allowed to drive a taxi in many countries. Furthermore, there is a large percentage of the working age population who feel that the 9 to 5, location-based structure is not tailored to their needs. Most European governments have however been slow to catch on and promote these opportunities.

At the extreme end of the spectrum, Spain introduced a law on platform work - the so-called riders' law<sup>27</sup> - in summer 2021 which was ostensibly aimed at improving the condition of platform workers. The result has been the opposite: many workers have lost their jobs, while those that kept theirs are earning less money than before. In effect, the new law also kills productivity by forcing people to "single app" (through old-style employment) instead of being able to multi-app. This wrong approach reduces labour market efficiency and ends up hurting the workers as well by making them less productive. The introduction of a "freelancer license" in Spain is also contributing to make the situation worse and also driving corruption. Because freelancers need to be a Spanish citizen to attain a license, unscrupulous operators are paying for licenses but "renting them out" to foreign nationals and illegal immigrants.

## Willingness to allow remote work

This issue is seen as very important by many workers and in The Netherlands the Flexible Working Act<sup>28</sup> makes this possible under the law. Under legislation passed in July 2022, employees may work entirely or partially from home or from another location with the employer's approval. To do so, the employee must submit a written request, and the employer must have a good reason to refuse it. The Netherlands is the first country in the world to have this kind of legislation around remote work, and other countries will likely follow suit.

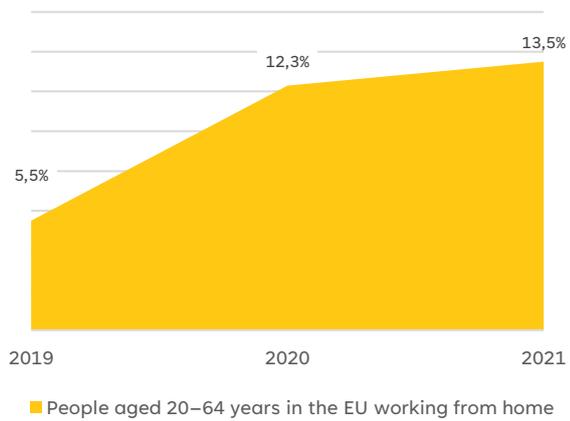
In other countries, the issue of remote work is something that is decided between employers and employees on a corporate entity policy or case by case basis. At the public sector level, there has been acceptance of remote working conditions during the COVID-19 pandemic, yet there has been a gradual push towards a return to the office in recent times. Hybrid arrangements are still quite common but there is move towards it being demanded that public sector employees are in the office three to four days a week.,

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<sup>27</sup> [Ley Rider in Spain](#)

<sup>28</sup> [Information on Dutch flexible working](#)

In 2019, approximately 1 in 20 (5.5%) employed people aged 20–64 years in the EU usually worked from home<sup>29</sup>. The impact of the COVID-19 crisis was apparent as this share more than doubled in 2020 to 12.3% ( an increase of 6.8 percentage points). To a lesser extent, there was a further increase in the share of people usually working from home in 2021, as it reached 13.5%.

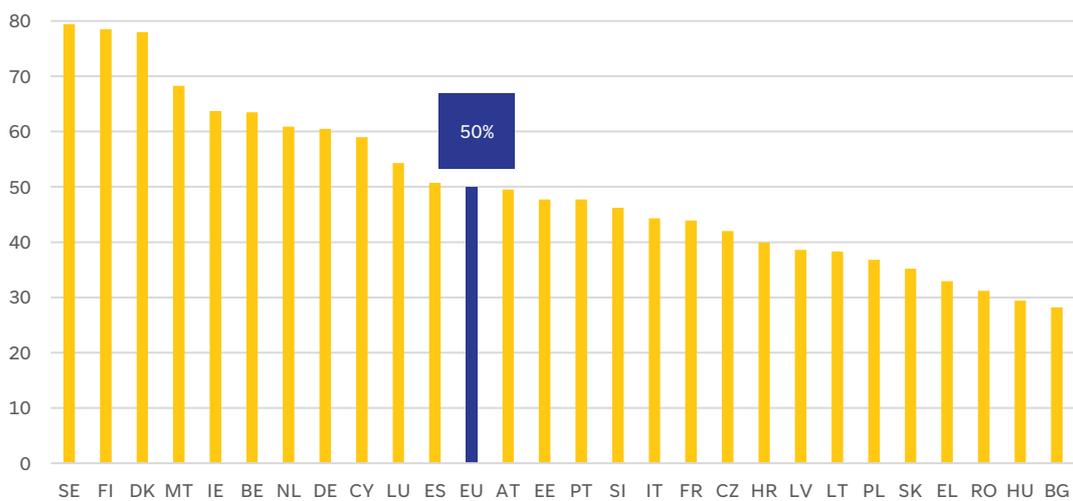


According to the data, the UK is the country with the most remote jobs and accounted for about 30% of all European remote job opportunities in 2022. This number had fallen to around 20% by March 2022. Germany was in second place in offering remote opportunities. At the other end of the spectrum, France has the least share of remote workers (around 2–3%).

Furthermore in 2022, in the EU, 50% of enterprises with 10 or more employees or self-employed persons conducted remote meetings via the internet according to Eurostat<sup>30</sup>. Among the EU members, there was a large variation in the percentage of enterprises that used this feature. The largest shares were registered in Sweden (79.4%) and Finland (78.5%), followed by Denmark (78.0%), Malta (68.3%) and Ireland (63.6%).

At the opposite side of the scale, the lowest shares were recorded in Bulgaria (28.2%), Hungary (29.4%), Romania (31.2%), Greece (32.9%) and Slovakia (35.2%).

**Figure: Enterprises conducting remote meetings via the internet, 2022**



<sup>29</sup> [Eurostat figures](#)

<sup>30</sup> [Eurostat figures](#)

Source: [Eurostat](#)

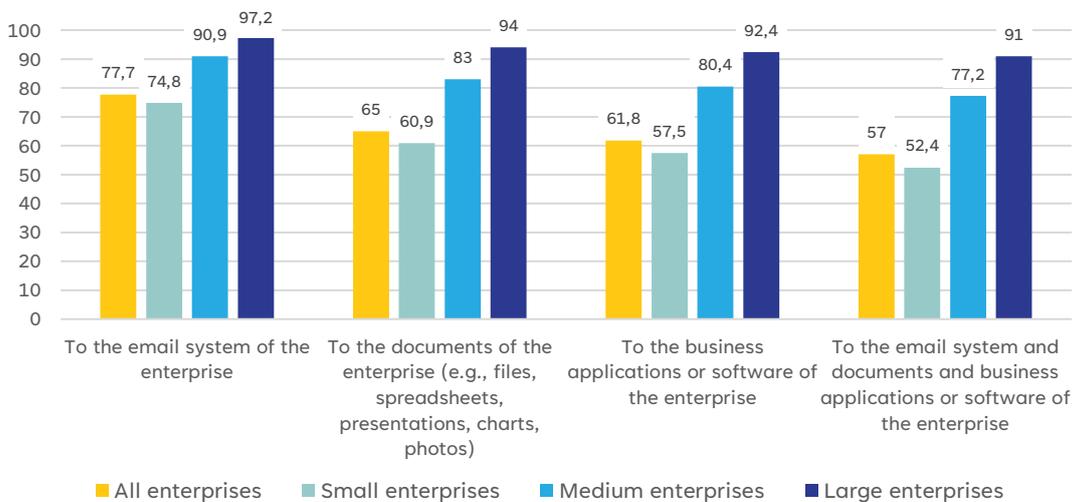
Eurostat statistical data on remote access aims to measure the technological readiness of enterprises to make it possible for their employees to work remotely by giving them remote access to three types of enterprise resources:

- 1.** to the email system
- 2.** to documents and
- 3.** to business applications or software of the enterprise.

In 2022, in the EU, almost 6 out of 10 enterprises (57.0%) with 10 or more employees or self-employed persons offered all three types of remote access to their employees.

When it comes to the size of the enterprises, 91.0% of large enterprises (250 or more employees or self-employed persons) offered all three types of remote access to their employees, while the same happened in 77.2% of medium enterprises (from 50 to 249 employees or self-employed persons) and 52.4% of small enterprises (from 10 to 49 employees or self-employed persons).

**Figure: Enterprises with employed persons having remote access by type of access and size class, EU, 2022**



Source: [Eurostat](#)

The data shows progress in the move towards remote options being universally offered, yet the regional and national differences are worrying and need to be addressed. A less happy, motivated and productive workforce in the South and East of the continent will have repercussions throughout the wider European economy.

## One-stop shop for taxation, social services and administrative requirements

Given the skills shortage in Europe, there is a need for talent but migrant workers often find themselves confronted by a myriad of agencies that do not speak with each other, administrative processes and documentation to complete.

Finland has been addressing this via the establishment of One-Stop Guidance Centres<sup>31</sup>. This initiative brings together services under integrated support centres to shorten the service provision processes as well as save time and money for the authorities too. These centres have received exceptionally wide support and cover immigration, taxation and social security, as well as providing counselling and advice. This multi-agency concept is also breaking down silos and challenging conventional practices and operational cultures.

Estonia has followed suit with its “House of Estonia” initiative<sup>32</sup>. This also provides a one-stop shop for information and counselling about relocating, working and living in Estonia. This covers visa and residency requirements, taxation, administration and general questions about life in the country. All the related services are available in English and are free of charge.

These models of cutting red tape and administrative facilitation should be used as the blueprint for the rest of Europe. They will allow companies to access the labour that they need and reduce waiting times. Similarly, more coordination among public authorities will increase efficiencies and allow decisions to be reached more quickly and smoothly.

## Provision of digital nomad visas

Many European countries are capitalising on remote work by offering digital nomad visas. Branching out from pure tourism, countries are making it easier for non-EU nationals to gain temporary residency visas while working for a foreign company or as a freelancer.

Such visas take the form of a temporary residency permit which affords visitors the right to stay in a country and work remotely and legally via a computer/laptop to a foreign-based employer or business, thus not contravening any employment or immigration laws in destination countries. Digital nomad visas also help with the creation of networks and facilitate collaboration through an increase in co-working spaces, networking events, and communities of like-minded individuals as migrants are drawn to specific locations. Typically such visas have a duration of 12 months (longer than a tourist visa) and can be extended for one or more years depending on the country issuing the visa. Fees apply and there is a minimum savings and monthly salary requirement in order to be eligible.

### 12 months

Typical duration of digital nomad visas in EU

<sup>31</sup> [Guidance centers in Finland](#)

<sup>32</sup> [“House of Estonia”](#)

In the EU, such visas are offered by Cyprus, Estonia, Hungary, Finland, Germany, Greece, Latvia, Malta, Italy, the Czech Republic, Portugal, Romania, Spain and Slovakia.

In order to attract high-skilled talent, Estonia also offers start-up visas and e-residency. The start-up visa is designed to attract start-up entrepreneurs, and was introduced in 2017. The visa is valid for up to 12 months and can be prolonged for another 6 months. Migrants working for a start-up can get a residence permit for up to 5 years which can be extended for another 5 year period. The national immigration quota does not apply to permits issued for start-up workers. The scale-up visa, which is new in 2023, aims to allow scale-ups to enrich and grow their companies by employing non-EU talent



In December 2014, Estonia also became the first country in the world to begin offering an e-residency or digital identity service to citizens of foreign countries, thereby allowing them to use Estonia's e-services regardless of the location of that person. It does not grant residence rights, tax residency, citizenship nor a permission to enter into Estonia or the EU, however. The term e-residency may thus be misleading as it does not confer residency or working rights. E-residents can establish a company in Estonia, perform e-banking transactions, access international payment services and file the income tax returns, sign documents digitally and use other e-services provided by the Estonian public and private entities.

## Electronic ID services

Although many European countries have eID solutions in place, very few countries actually have eIDs that are in widespread use. Many users who have access to eID do not use them, and many eIDs only allow users to access a limited number of public services, thus limiting their use. Germany is a good example, where the federal government has had an eID solution in place for about a decade, but with virtually no usage to date.

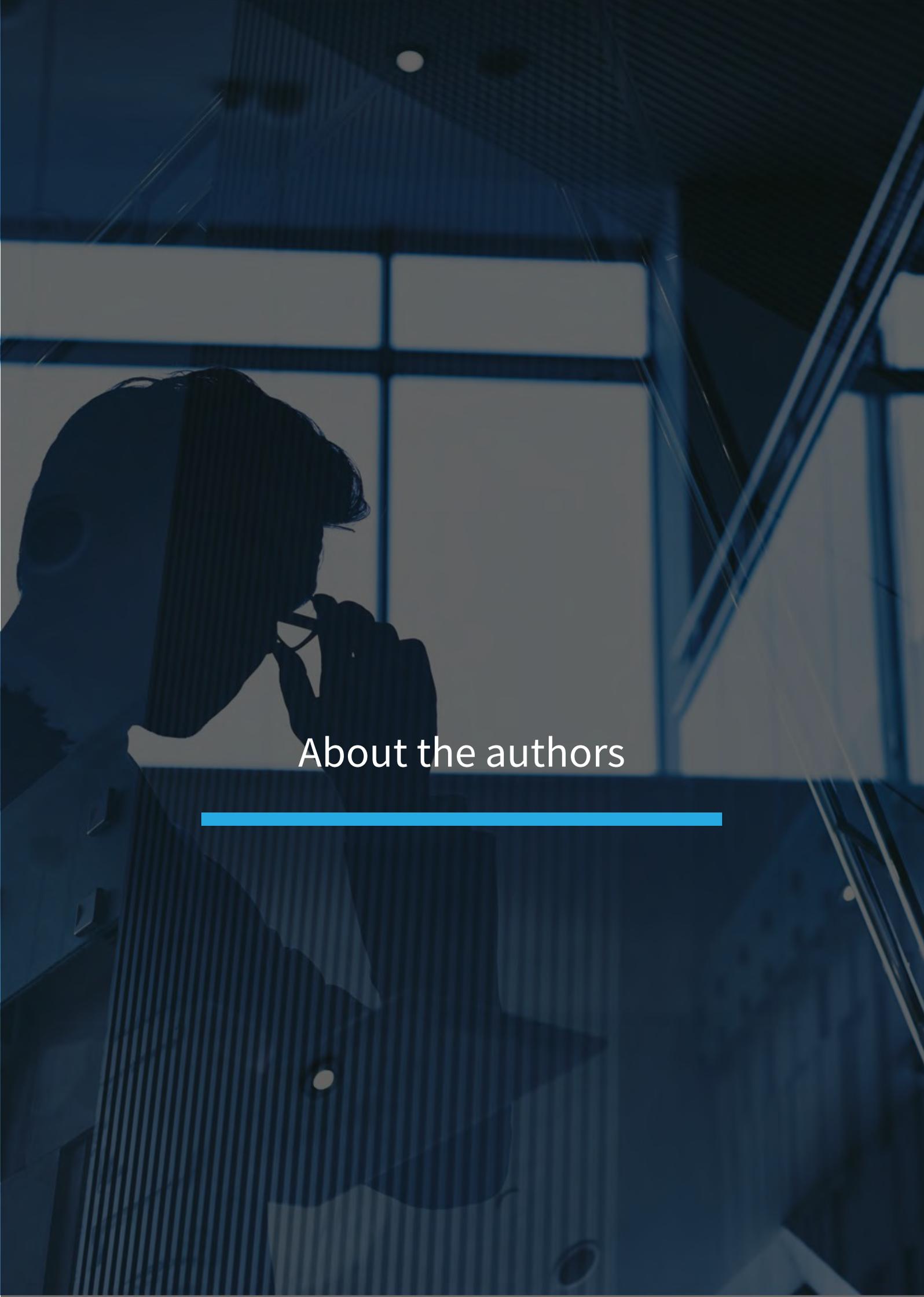
In addition, all existing eIDs only work nationally, and only for a country's citizens. This means that all countries create digital exclusion in their home market, and that users who engage in cross-border activities cannot use their eIDs. The existing EU scheme, run under the eIDAS legislation, was designed to address this challenge but it has failed to do so. As a result, the EU is currently aiming to replace the existing eIDAS framework with a new Digital Identity Wallet<sup>33</sup>. If the scheme meets current deadlines, it will be up and running within a couple of years. However, there are significant technical,

<sup>33</sup> [EU Digital Identity Wallet Pilot implementation](#)

organisational and political complexities to manage before the wallet can become a reality.

There are also several private initiatives underway to create reusable digital identities, typically using digital wallet infrastructure and sometimes with the ambition to leverage blockchain technology. At present, however, there are no large players involved, nor any frameworks that have been widely adopted.

At the same time, recent developments in AI have supercharged the already pressing need to combat identity fraud and theft as well as to help users and businesses protect user identities, credentials and data from breach, theft and misuse. The existing generation of identity and authentication solutions do not meet current needs and will become increasingly risky to use as fraudsters step up their level of ambition, leveraging new technology.

A silhouette of a person in a suit, seen from the side, with their hand to their chin in a thinking pose. The background is a modern office interior with large windows and structural beams, all in a dark blue color scheme.

## About the authors

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## FREE TRADE EUROPA

Free Trade Europa is an independent think tank promoting the social, economic and political benefits of openness, liberalisation and free trade for governments, companies and citizens. Free Trade Europa has written extensively about the platform, gig and sharing economy and published the following studies: “Nordic Disruption: Analysing the Platform Economy in Sweden”, “A New Hope: the role of the Platform Economy in facilitating migrants into the Swedish Labour market” and “A Fair Gig: addressing the working conditions of platform workers and the policy approach to the Platform Economy in Europe”.



[www.freetradeeuropa.eu](http://www.freetradeeuropa.eu)

## FUTURE OF WORK INSTITUTE

The Future of Work Institute was founded with the intention to make the future of work transparent and comprehensible for everyone. The Institute shares insights and collaborates with researchers to provide stakeholders within the labour market in general - and the gig economy in particular - with up to date data, for them to be able to make rational decisions built on facts. Publications cover a wide range of issues linked to the gig economy, including taxation, regulation, employment classification and the role of algorithms.



[www.appjobs.com/institute/](http://www.appjobs.com/institute/)

## ework GROUP

Ework Group provides total talent solutions by forming successful collaborations; connecting partners & professionals and clients in partnerships; as well as by bridging brilliant minds to great ideas, for the benefit of individuals, organizations and society. Ework Group believes that bridging, not broking, is the future of work and the future of business.



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## ACCACE

Accace is a proactive consultancy and outsourcing partner who bridges the gap between needs and solutions. Combining smart and streamlined technology with a holistic approach, Accace provides accounting; payroll and HR services; tax advisory and compliance support; transaction and legal advice; as well as market entry support to companies and organisations. With over 800 experts and more than 2,000 customers, Accace has vast experience in facilitating the smooth operation and growth of small to large-scale, global businesses.



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We would like to thank all the platforms, freelancers and independent workers from a whole range of sectors across Europe who generously gave their time and freely shared their thoughts, ideas, hopes and concerns with us. We also immensely appreciate the support of Atlas Network as well as national statistics bureaus and Eurostat for the neutral empirical data. The raw data highlights the evolution that is underway thanks to digitalisation and the changing labour market in Europe. Understanding where to regulate and where to stand back in order to facilitate opportunity, entrepreneurship and growth is vital for decision-makers.

Future of Work Study 2023



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