The future of work in the EU

SUMMARY
Economic and technical changes are redrawing the map of the world of work: new jobs are appearing while others are becoming obsolete, and atypical work patterns are replacing full-time work and open-ended contracts.

In addition, work is increasingly being carried out on online platforms connecting buyers and sellers, or by large project teams across borders and time zones.

Robotics and digitalisation raise new questions, as machines are progressively replacing the human workforce for routine tasks, and as new types of professional and personal skills are required to respond to technological progress.

Active labour-market policies are needed to cater for the changing reality in the world of work. This concerns social security systems, which must adapt to new, constantly changing, requirements, unresolved ethical and practical problems relating to robotics, and the need for new digital skills, which are essential to survive in the new working environment.

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Changes in the world of work

The reality of work and working patterns are constantly undergoing change. Currently, economic transformations resulting from the development of digital technologies are causing the pace of this change to accelerate. New jobs are appearing, necessitating new types of skills, while other jobs have become obsolete. Skills, which are the best guarantee of geographic and social mobility, are not static, but need to be updated and fine-tuned during an individual’s working career. It is essential that skills are geared to new realities, in order, for instance, to facilitate the transition from employment to freelance work.

Work is increasingly becoming an ‘umbrella concept’ for tasks carried out by workers from various socio-economic and geographic backgrounds. Two recent trends involve either jobs being divided into smaller projects, which might be carried out by local workers or be outsourced, or, on the contrary, individual jobs being grouped together, with a view to completing a single project, and being carried out by local or virtual expert project teams, sometimes across borders and time zones.

Trends shaping work contracts

Part-time work

According to Eurostat statistics, the proportion of the EU-28 workforce in the 20 to 64 age group reporting that their main job was part-time increased from 16.5 % in 2005 to 19.0 % by 2015. The highest proportion of part-time workers in 2015 was found in the Netherlands (46.9 %), followed by Austria, Germany, Belgium, the United Kingdom, Sweden, Ireland and Denmark, where part-time work was performed on average by more than 20 % of those in employment. By contrast, part-time employment is relatively uncommon in Bulgaria (2.2 % of those in employment) as well as in the Czech Republic, Slovakia, Hungary and Croatia (between 5.2 % and 5.9 %). Estonia stands at 9.2 % below the EU average. The frequency of part-time work differs considerably between men and women. Almost one third (31.5 %) of women aged 20 to 64 employed in the EU-28 worked on a part-time basis in 2015, a much higher proportion than the share for men (8.2 %). The highest rate (75.3 %) of women employed on a part-time basis was found in the Netherlands. The share of Estonian women working part time was 12.9 % in 2015. In the USA,¹ the proportion of workers working fewer than 35 hours a week was 23.7 % at the beginning of 2017. The share of women working part time in the USA was 20.03 % in the same period.

Fixed-term contracts

Statistics show that in 2015 the proportion of employees aged 20 to 64 in the EU-28 with a contract of limited duration (fixed-term employment) was 11.1 %. More than one in five employees in Poland (21.9 %) and Spain (20.7 %) had a temporary contract. Contracts of limited duration were least common in Lithuania (1.8 %) and in Romania (1.0 %). The share in Estonia (2.8 %) was rather low as well. The differences among EU Member States in the use of limited duration contracts may reflect national practices, the supply and demand of labour, employer assessments regarding potential growth/contraction, and the ease with which employers can hire or fire.
Disappearing jobs
Experts predict that almost 50% of the jobs that exist today will be redundant by 2025, as artificial intelligence continues to transform businesses. Customer work, process work and vast swathes of middle management will simply ‘disappear’. Workspaces with rows of desks will become completely redundant, not because they are not fit for purpose, but simply because that purpose no longer exists.

Outsourcing
For a long time, companies have been outsourcing non-essential tasks and functions in order to decrease their costs and to make their core competences their added value. This tendency is increasing steadily: trade and marketing companies use external contractors for their around-the-clock call centres and customer support services. Consulting and accounting firms outsource basic research and accounting tasks, while publishing houses outsource type-setting and editing to production teams. More and more frequently, these teams are located on other continents, as time-zone differences allow companies to run their projects faster and at a lower cost. In this kind of dynamic environment, temporary positions are common and organisations contract with independent workers for short-term engagements. Tasks can be broken down and distributed even more widely through mobile applications and online platforms.

Collaborative economy
The number of freelancers is increasing at a pace comparable to that of the growth of the gig economy. Teams are assembled around a given project and often across borders, thanks to digital technologies, with platforms connecting buyers with sellers. Such platforms can also exist in the framework of a collaborative economy (sometimes called the sharing economy), which offers opportunities for people looking for more job flexibility and for those who have fewer chances of finding a permanent job. Tasks are offered, assigned and performed through an online platform, which allows for real-time, interactive and often mutual rating of the performance of service providers and the reliability of users. Tasks offered can include babysitting, finding a shared car or holiday rental, or finding a designer for a brand logo. This form of economy offers ways to discover talent, services and expertise at a global level with unprecedented affordability and transparency, because of the permanent and visible evaluation of services provided and the rewards for the best performers.

On demand work
'On demand' work, which means a ‘project-focused’ approach to work, is on the rise. What has been referred to as the 'Hollywood model' is a noticeable trend in a number of sectors. Once a specific project, product or assignment is identified, a team of people from different professions with distinct but complementary skills come together and collaborate in order to complete the project. When the assignment has been completed, the team disassembles and reconfigures with other members on another project (similarly to Hollywood, where teams and artists move on to the production of another film). The advantage of this approach is its flexibility, particularly in conditions of economic uncertainty. However, there are real concerns that this way of working may negatively impact protection and safety standards.

Atypical work contracts
In the EU, the majority of workers have permanent contracts. However, recent economic, technical and societal developments are reshaping the ways in which work is performed. Corporation structure is changing as a result of the increasing use of digital technologies
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and technical innovation, and the volatility of economic recovery. These factors are pushing businesses to offer short-term contracts in case a crisis hits. Atypical work contracts are sometimes chosen on a voluntary basis by the worker (for instance, in order to achieve a better work-life balance). In other cases (for example when the worker’s skills are too low or not competitive), workers are obliged to accept working arrangements that are disadvantageous for them. A study by the European Trade Union Institute (ETUI) points out that part-time work has also been used as a tool against unemployment (in the form of 'job sharing', in which a particular job is performed by two or more workers). Atypical work contracts include part-time work, fixed-term contracts and other, less common, forms of employment.

A Eurofound study identified the following atypical forms of employment as being of increasing importance:

- **employee sharing** – an individual worker is jointly hired by a group of employers to meet the HR needs of various companies, resulting in permanent full-time employment for the worker;
- **job sharing** – an employer hires two or more workers to jointly fill a specific job, combining two or more part-time jobs into a full-time position;
- **interim management** – highly skilled experts are hired temporarily for a specific project or to solve a specific problem, thereby building external management capacities into the work organisation;
- **casual work** – an employer is not obliged to provide an employee with regular work, but has the flexibility of calling on him or her on demand;
- **ICT-based mobile work** – workers can do their job from any place at any time, and they are supported by modern technologies;
- **voucher-based work** – the employment relationship is based on payment for services with a voucher purchased from an authorised organisation that covers both pay and social security contributions;
- **portfolio work** – a self-employed individual works for a large number of clients, doing small scale jobs for each of them;
- **crowd employment** – an online platform matches employers and workers, often with larger tasks being split up and divided among a 'virtual cloud' of workers;
- **collaborative employment** – freelancers, the self-employed or micro-enterprises cooperate in some way to overcome limitations of size and professional isolation.

The influence of robotics and digitalisation on the future of work

The impact of automation on jobs

A 2016 OECD comparative analysis on The Risk of Automation for Jobs in OECD Countries examined the risk posed to jobs by automation for 21 OECD countries. It found that the share of jobs at risk of automation was on average 9% across OECD countries. The risk of automation is highest in Germany and Austria (12%), while it is lowest in Korea and Estonia (6%). Observed differences across countries may reflect general differences in workplace organisation, differences in previous investments in automation technologies, as well as differences in the education of workers across countries. Jobs that fall in the high-risk category for automation are those involving mainly routine tasks (e.g. bookkeeping, auditing and accounting). Services, sales and office jobs are especially at risk. The risk of automation is higher for low-skilled workers and for low-wage occupations. The jobs less threatened by automation are those that involve active
observation, perception and manipulation, especially when such tasks are performed in unstructured situations. Other tasks that are likely to continue to be carried out by humans are those that require creativity and social intelligence. The OECD paper also points out that the adoption of new technologies goes hand in hand with a new division of labour, one in which workers increasingly perform tasks that complement machines (for instance, tasks involving the monitoring of machines are likely to gain importance). Hence, new technologies are unlikely to fully automate workplaces or occupations on a large scale, but rather they will transform workplaces and the tasks involved in certain occupations. Moreover, labour productivity will increase to the extent that new technologies complement workers. This may lead to higher wages, higher employment, or both, which in turn raises labour income. As a consequence, the workers concerned may consume more products and services, thereby further increasing the demand for labour in the economy.

Digitalisation and ICT skills
Digital technology complements almost all existing job tasks; consequently, digital skills are required for nearly every kind of job. According to the Digital Skills and Jobs Coalition, in the near future, 90% of jobs (especially engineering, medicine, art and architecture) will require some level of digital skills. Today about 45% of Europeans have only basic digital skills. While all sectors of the economy are becoming digital, 36% of the labour force – low and high skilled workers alike – have insufficient digital skills. There is a lack of digitally skilled people to fill job vacancies, despite high unemployment rates. In 2020, there might be a deficit of more than 500 000 information and communication technologies (ICT) professionals.

In addition to working life, digital technology is penetrating almost every field of public and private life, leaving a marked transformative effect. Technological innovation is forcing people, in their capacity as individuals, workers, learners and citizens, to look for and develop new types of skills. Therefore, everybody will need to have at least basic digital skills in order to live, work, learn and participate in society, and a digitally skilled workforce will need to be present on the labour market to avoid skill gaps or skills mismatches. According to an OECD report entitled Skills for a Digital World, digital skills are wide-ranging:

- ICT generic skills (related to the use of digital technologies for professional purposes, such as accessing information online or using software);
- ICT specialist skills (skills needed for the production of information technology (IT) products and services (such as programming, developing applications and managing networks);
- ICT complementary skills (skills for performing tasks associated with the use of ICT, such as information-processing, self-direction, problem-solving and communication);
- foundation skills (digital literacy, and emotional and social skills enabling the use of digital technologies).

Social security systems in changing circumstances
Labour laws and related social security systems are generally built around a stable, long-term contract with one employer, but the majority of people no longer work in that manner. Pension schemes and most other social security schemes are financed by contributions that are deducted from salaries or from self-employed income. The sustainability of these schemes relies therefore on a working population generating a
steady flow of income to cover the benefits. Nowadays, the concept of work is undergoing constant change and work can be organised in more flexible and mobile ways. There are other fundamental changes, such as the growth of an informal sector called the sharing economy. Consequently, existing social security schemes need to be rethought; they need to respond to recent changes, but there are obstacles to achieving this goal.

According to one Eurofound study, atypical forms of work are regulated differently, following country-specific traditions in social security and labour law:

- countries where non-standard work is prevalent, well-embedded and has been regulated for some time such as, for example, Austria, Germany, the Netherlands and the United Kingdom;
- countries where recent changes have been made to allow for non-standard forms of work such as Italy, where the legal framework was changed in 2003;
- countries where full-time, open-ended employment accounts for the vast majority of work, such as Bulgaria, the Czech Republic, Estonia and Latvia.

When it comes to health, there are some specific issues that tend to affect workers engaged in non-standard forms of work, and even more so those workers on very atypical contractual arrangements. Firstly, workers on these types of contracts are more exposed to certain risks and work-related accidents on account of the types of jobs they do and the sectors they work in. Secondly, there is a higher risk of mental stress owing to the uncertainty of the situation of workers with very atypical contracts. Finally, although workers in non-standard work contracts are theoretically covered by the same health and safety provisions and complaint procedures as other workers, differences are reported in health and safety outcomes.

**The role of the EU**

At EU level, as the above-mentioned ETUI study points out, the European social partners have formulated successive framework agreements to bring the regulation of non-standard forms of work closer to that of standard forms. Fixed-term and part-time work contracts are governed by two European directives: Directive 1997/81/EC (supplemented by Directive 98/23/EC) on part-time work and Directive 1999/70/EC on fixed-term work. The latter aims to ensure that workers on fixed-term contracts are not discriminated against compared to workers with open-ended contracts. It also aims to establish a framework that will prevent abuse of successive fixed-term work contracts or relationships with the same employer. The former aims to provide a legal framework to combat discrimination against part-time workers and to improve the quality of work, while at the same time facilitating the development of part-time work on a voluntary basis. The above-mentioned directives have since been transposed into national legislation in all EU Member States, causing many Member States in recent years to change their legislation in relation to part-time and fixed-term workers in order to comply.

Robotics and artificial intelligence are high on the EU agenda and an important concern of the European Parliament. In a recent resolution, the European Parliament asked the European Commission to propose rules on robotics and artificial intelligence, in order to fully exploit their economic potential and to ensure a standard level of safety and security. As regulatory standards for robots are being planned in several countries, the EU should take the lead on setting these standards, so as not to be forced to follow those set by third countries. The growing use of robotics also raises ethical issues. Parliament
asked the Commission to consider creating a specific legal status for robots, in order to establish who is responsible if they cause damage. It also proposed a Charter on Robotics which would establish a code of conduct for robotics engineers, a code for research ethics committees and a set of model licences for designers and users. Parliament also called on the Commission to consider creating a European agency for robotics and artificial intelligence, in order to supply public authorities with technical, ethical and regulatory expertise. Parliament launched a public consultation on robotics and artificial intelligence on 7 February 2017 to canvass public opinion.³

Reducing the mismatch between the skills available and those demanded for a digital transformation of the economy has been a key EU-level priority over the past decade. The 2010 Digital Agenda recognised the need for indicators to measure the extent of digital competence in the EU. This was implemented through the development of the Digital Competence Framework ('DigComp'), enabling citizens to evaluate their digital skills, and the Digital Economy and Society Index ('DESI'), summarising relevant indicators on Europe's digital performance and tracking the evolution of EU Member States in the area of digital competitiveness. The Grand Coalition for Digital Jobs, a multi-stakeholder partnership formed in 2013, aims to facilitate collaboration between businesses, education providers, and public and private actors. The 2016 New Skills Agenda for Europe seeks to improve the quality of skills training and to make the skills acquired more visible and comparable from one country to another. Data on ICT skills should also be improved in order to better anticipate developments and help people make better career choices. Skills acquired in non-formal ways should also be assessed and validated.

The European Pillar of Social Rights planned by the European Commission will cover three main areas:

- equal opportunities and access to the labour market, including skills development and life-long learning and active support for employment, to increase employment opportunities, facilitate transitions between different statuses and improve the employability of individuals;
- fair working conditions, to set an adequate and reliable balance of rights and obligations between workers and employers, as well as between flexibility and security elements, to facilitate job creation, job take-up and the adaptability of firms, while promoting social dialogue;
- adequate and sustainable social protection, as well as access to high quality essential services, including childcare, healthcare and long-term care, to ensure dignified living and protection against risks, and to enable individuals to participate fully in employment and more generally in society.

Within these policy areas, 20 principles have been identified. One is the need for flexible labour contracts that can facilitate the entry to the labour market and promote career transitions for employees, while also maintaining employers' ability to respond swiftly to shifts in demand. Also important from the point of view of flexicurity are secure professional transitions, including the preservation and portability of social and training entitlements and access to individualised job-search assistance.
Main references

New forms of employment, Eurofound, 2015.


The future of work: Skills and resilience for a world of change, EPSC Strategic Notes, 2016.


Endnotes

1 According to statistics of the United States Department of Labor, Bureau of Labor Statistics.

2 In a gig economy, temporary, flexible jobs are common and companies tend to hire independent contractors and freelancers instead of full-time employees.

3 The consultation was initiated by the European Added Value Unit, which is part of the European Parliamentary Research Service, at the request and under the coordination of Parliament's Committee on Legal Affairs.

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