Future-proof Your Career
Career guidance for a modern labour market

Index

Introduction

Future Proof Your Career (FYC) is a European project (Erasmus+ KA2) aimed to support marginalised job seekers to understand and gain awareness of key competencies which are essential employability competences for a future labour market, and to support guidance practitioners and other associated practitioners to engage in a culture change whereby they will utilise online tools to look forward and to participate in their own up-skilling so as to further support their clients into sustainable careers.

The overarching aim is to design, develop and implement a Future of Work Framework focused on the development of transversal skills that can be used to future proof the careers of disadvantaged job seekers.

In this regard FYC wants to support guidance practitioners and other associated practitioners to engage in a culture change whereby they will utilise online tools to look forward and to participate in their own up-skilling so as to further support their clients into sustainable careers.

FYC started on 1st of October 2019 and it will run for 24 months untill 30th of September-2021.

As mentioned above, the primary target group for FYC are disadvantaged job seekers in VET and the Labour market, including those with disabilities, low educational background, multiple barriers to access career guidance practitioners/employment support services, VET stakeholders (including employers): IAG and careers guidance practitioners, and those directly involved in provision of adult career guidance.

FYC presents a strengths based approach to career guidance delivery, offering the opportunity to provide an innovative tool that contributes not only to discovery of individual characteristics such as knowledge, aptitudes and abilities for job seekers, but also the improvement of IAG service provision and practice.

FYC is a complex and ambitious project with 5 foundational intellectual outputs, generated by **7 partners** from 6 countries: **Ireland** (Ballymun Job Centre and Headway), **Spain** (Fundaciòn Tomillo), **Italy** (CIOFS-FP), **Austria** (Hafelekar) and **Germany** (MetropolisNet), **Romania** (Universitatea Politehnica din Bucuresti).

7 COUNTRY REPORTS

6 EUROPEAN COUNTRY

Italy
Ireland
Germany
Spain
Austria
Romania

Project implementation is scheduled over a period of 24-months to enable the production and the testing of a high quality tool/intellectual outputs and impact.

The first Intellectual Output is a desk and field research conducted by the project partners to understand in-deepth, needs, expectations and experiences of different key actors, mainly employers, guidance pratictioners, and jobseekers, on the topic of new skills needed in the future job market, including:

● Information about the potential future labour market at EU and national levels (in partner countries) in terms of automation, digitalisation and future job opportunities;

● Facts and figures about the process of recognising worker oriented skills, soft skills, cognitive skills, technical skills in each partner country;

● Collection of existing tools/methods designed to identify or measure these skills.

The results of the overall researches are available in **7 different Country reports**, summarised in this final report.

FYC Framework and background

The world of work is changing. The rapidly evolving skill needs raise challenges for labour market and training policies, contributing to skill mismatch and shortages. Skill needs are changing as a result of the digital transformation, globalisation, climate mitigation and demographic changes.

Skill shortages can constrain the ability of firms to innovate and adopt new technologies while skills mismatch more generally reduces labour productivity. Individuals are also affected as skills mismatch can bring about a higher risk of unemployment, lower wages, lower job satisfaction and poorer career prospects (OECD-ILO 2018).
In relation to skills mismatch, resumes are often the first source of information on which an employer or recruiter decides whether to call a candidate for an interview. Resumes are also often the first tool a young person uses to introduce themselves and promote themselves in the professional world. But usually when one wonders what a person can do and how, one tends to look at the path of education and formal qualifications that the individual has achieved over time. Even if often this approach is fallacious, that is, it does not actually correspond to what that individual really knows how to do in the present.

According to the Digital Skills and Jobs Coalition, currently around 44% of European citizens do not have basic digital skills. About 37% of people in the labour force – farmers, bank employees, and factory workers alike – also lack sufficient digital skills, despite the increasing need for such skills in all jobs.

44%

european citizens

37%

people in the labour force lack sufficient digital skills

Europe also lacks skilled ICT specialists to fill the growing number of job vacancies in all sectors of the economy. A crucial issue underpinning this is the need to modernise our education and training systems, which currently do not sufficiently prepare young people and adult jobseekers, for the digital economy and society, and to move to a life-long learning approach so that people can adapt their skill sets throughout their life-times as needed. Research carried out across the EU states that education systems should involve life-long learning with training programmes that focus on key competences and soft skills (Pouliakas 2018).
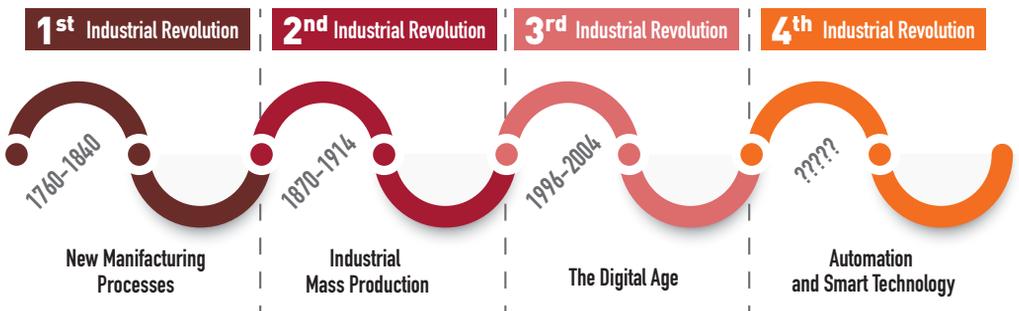
Technological change and modernising of the workforce has accelerated in recent years. For those already in the labour market their capacity to adapt will be essential to sustaining their career progression.

Many low skill and routine tasks are now automated, and increasingly computers perform more complex cognitive tasks, yet automation of simple human interaction has proven difficult (Deming, 2015).

Digitisation and automation, as versatile multi-purpose technologies, are the driving force behind numerous innovations in the form of new production methods and new goods and services. They create new needs and new opportunities to meet existing needs. In the long term, this strengthens demand and, as economic output grows so do real incomes. Digitisation is making its entrance and thus less qualified people in all occupational groups are confronted with increasing technical requirements and a greater need for specialist skills.

A common trend applies to many sectors: physical work is declining as many professions are increasingly dominated by technology, whereas heavy physical work is increasingly being performed by machinery and equipment. Even if technology can eliminate tasks but it doesn't eliminate work. Technology is going to automate some specific tasks rather than whole occupations.

Microsoft's Tomorrow's Jobs (2018) predicts that 65% of today's students will do a job that doesn't exist yet.

1st Industrial Revolution	2nd Industrial Revolution	3rd Industrial Revolution	4th Industrial Revolution
1760–1840	1870–1914	1996–2004	?????
New Manifacturing Processes	Industrial Mass Production	The Digital Age	Automation and Smart Technology

About the Country reports development

The following facts and figures are the result of the research that each partner of the project has carried out in their own country, here outlined and summarized in a single document to facilitate the reading of the overall results.

For further information, the individual country reports are available as project documents.

The research, both desk and in the field, aimed at identifing:
• soft skills useful for disadvantaged job seekers
• identify their significance in the future labour market at EU and national levels
• methodologies and strategies to make them emerge
• perspectives and needs of the future labor market in terms of automation, digitalization and future job opportunities and soft skills

in order to:

● identify and explore relevant theories and research evidence which can be used to inform the project development;

● explore and document the process of recognising worker oriented skills, soft skills, cognitive skills, technical skills in each partner country and identify how disadvantaged or marginalised job seekers access and use such services;

● research the potential future labour market at EU and national levels (partner countries) so as to define how it will differ from the current labour market in terms of automation, digitalisation and future job opportunities;

● define the types of capabilities developed formally, informally and non-formally through work experiences, community and civic participation, lived experiences, education and training;

● identify existing tools/methods designed to identify or measure these skills;

● outline the process of developing a model of skill identification specific to disadvantaged job seekers;

● establish a panel of advisers (guidance practitioners, academics, VET providers, employment services, employers etc.) and local reference group (consisting of disadvantaged job seekers and those in low skill employment).

Guidance practitioners, vulnerable jobseekers (including youths, older jobseekers, people with disabilities, the low skilled and undereducated), VET providers, and relevant stakeholders including employers, were involved through focus-groups and interviews, as main key actors and target groups for the future labour market issues. Facts and figures were collected to collect facts and figures, using a bottom-up approach and multistakeholder point of view.

In total more than **60 jobseekers**, **40 guidance practitioners** and **15 Employers** were involved around the EU Countries project.

60 JOBSEEKERS **40** GUIDANCE PRACTITIONERS **15** EMPLOYERS

Enjoy the reading...

In Ireland

Digital transformation is a key aspect of organisational success and is happening in Ireland at a steady rate. Just **under half of all jobs in Ireland are anticipated to be affected resulting in changes in jobs roles and tasks performed by individuals**. Some industries are likely to grow as a result but others, particularly those including jobs involving repetitive manual tasks such as elementary, low skill occupations or data entry and customer service occupations. There will be major implications for workers and the types of skills they will need to invest in to adapt as occupations are replaced by or adapted due to automation. Ongoing engagement of the workforce in education, reskilling and upskilling will be of vital importance!

The impact (all potential impact) of changes, drawing on recent developments and technological changes the world of work

Automation has the potential to transform future jobs and the structure of the labour force. For job seekers not currently in employment, the development of both **technological and soft skills will be crucial to accessing quality work into the future. In particular soft skills, which help people to adapt, will be essential for negotiating the new world of work**.

The impact on Irish jobs will be relatively light between 2018 and 2023, with **46,000** jobs being lost to automation across all occupations by 2023. The occupations showing the largest overall growth in Ireland are forecast to be skilled trades (**+50,100**) and professional occupations (**+40,100**). The smallest growth will be seen in caring, leisure and other services (**+21,200**) and managers, directors and senior officials (**+20,700**), although both occupational groups are estimated to experience consistent growth year-on-year.

2018 ┄➔ 2023	+50,100	+40,100	+21,200	+20,700
46,000 jobs being lost to automation	skilled trades	professional occupations	caring, leisure and other services	managers, directors and senior officials

> **One in three jobs in Ireland are at high risk (a probability greater than 70%) of being disrupted by the adoption of digital technologies, particularly in terms of changes to job roles and tasks performed by individuals, rather than job losses.**

Irish jobs will be significantly affected by automation, particularly in the areas of **transportation** and **storage**; **agriculture**, **forestry** and **fishing**; **wholesale** and **retail** and **construction**. Areas to be least affected by automation include **education**; **human health** and **social work activities**; and **information** and **communication**. Sectors that will be most at risk are those associated with repetitive manual tasks that can be replaced by automation, but not exclusively. Jobs at highest risk of displacement by digital technologies include many elementary, low skilled occupations, as well as sales and customer service occupations. People whose jobs involve manual data entry will also be under threat in sectors such as **financial services**, **retail** and **pharmaceuticals**.

Occupations with a low level of risk of being automated tend to consist of a higher number of tasks that require social, cognitive and literacy skills.

The Irish Government Economic and Evaluation Service (2018) found evidence of an inverse relationship between the degree of automation risk and level of educational attainment. In the last Educational Attainment Thematic Report by the Central Statistics Office (CSO) (2018), adults with a third level qualification were more than twice as likely to be employed than those with no formal education/primary education **Investment in higher education will be an important part of the response to the impact of automation, particularly for disadvantaged job seekers**.

Companies in Ireland are starting to prioritise digitalisation transformation initiatives:

> " Ireland has become a really vibrant hub for innovation over the past number of years, where we have essentially become the Silicon Valley of Europe "

More than half the jobs forecast to be created over the period up to 2030 will require a higher level of qualification.

In the past two decades, **15.1%** of jobs in manufacturing were lost. During this time, the increase in high skilled jobs was **14.4%**, with only **0.7%** per cent in low skilled jobs. Ireland has experienced over twice the rate of disparity to that observed in the US. According to the OECD (2018), over the same period, the average decline across OECD countries in traditional middle skilled jobs was **7.6%**. In turn, the increase in low skilled jobs was **2.3%** and **5.3%** in high skilled jobs.

IRELAND	OECD COUNTRIES

15,1%
jobs in manufacturing were lost

14,4%
increase in high skilled jobs

0,7%
increase low skilled jobs

7,6%
the average decline in traditional middle skilled jobs

2,3%
increase low skilled jobs

5,3%
increase in high skilled jobs

New roles are likely to be created: some current call-centre roles may diminish, new customer service roles will be created in sectors like retail and financial services, requiring higher-level skills and, potentially, educational qualifications. Career changes and workforce transitions have been identified as a feature of the future where ongoing engagement of the workforce in education, reskilling and upskilling will be vital. In summary, **technical advancement is happening steadily in Ireland and keeping up with this is critical for the success of organisations**.

Contributions of employers interviewed about automatisation:

- to increase speed and accuracy of tasks, to mitigate the risk of human error; to drive efficiencies; to reduce labour costs; **to allow for 24/7 support**, to allow for an overall better service to the end user or customer; to increase capacity/volume/productivity; to drive employee satisfaction.

- increased efficiencies in their Payments Operations and Compliance teams to allow speed and accuracy of tasks such as auto-batching of bank files and electronic verification of documents and automate of aspects of the organisation that had previously been 'out of hours'; reduction of staff workloads and allowing staff to focus on more value-adding tasks and those more challenging to them professionally.

- in some areas of the business you need a "human eye" to look into things **automation can remove the "unconscious bias"** that may be present in humans and not beneficial for people.

Practitioner Feedback:

Perspectives of automation provided by the guidance practitioners included the following:

- An increased involvement of technology in the workplace.
- Technology is becoming more and more in demand in more organisations and often taking the roles that have been previously done by people.
- The use of technology to replace roles that may currently have been done manually. Also, the use of technology to complete tasks that could not be completed in the past by individuals.
- IT tools and systems in services and industries to increase production and reduce labour costs.
- The workforce is being more dependent on technology.
- Involves implementing a system to complete repetitive, easily replicated tasks without the need for human intervention or input.

When asked what supports and information would be useful for guidance practitioners on the topic of automation in the workplace they felt the following would be helpful:

- Training in Vocational Rehabilitation; links to websites and opportunities for clients to engaged in experiential learning;
- Linking with support workers from various backgrounds and organisations to share advice on how they might tackle any difficulties faced;
- A newsletter with the latest data and findings in the area;
- Ongoing training and workshops offered to both staff and clients on automation and its impact on the workplace.

Guidance practitioners felt identifying and measuring soft skills is important to give a better idea of the skills a client already possesses, what they may need help or training with or to capture their learning or growth. The felt it helped staff to assist clients with goal setting. It was also felt that **identifying and measuring soft skills relevant to the workplace can support a client to match their strengths with a role that meets their needs and identify areas where support is required**. Staff felt it also helped in their service delivery where it assisted them in tailoring the group to their skill level, for maximum learning. Some service users felt that it is important for soft skills to be identified and measured for increasing self-awareness, partly because it was felt that they **underlie hard skills** and also so that people can be aware of the needs of people with disabilities and engage with them better.

Certain skills, particularly soft skills, are more likely to be relevant in the next five years than others, and a key priority for policymakers is to ensure that the workforce possess those skills.

The transversal skills as identified by enterprise include:
- Creativity
- Innovation and entrepreneurship
- Critical & analytical thinking
- Team work
- Communication and business acumen

Transversal skills such as **communication skills, organisational skills** and **self-motivation**, **along with core competencies such as literacy, numeracy and digital skills, will be critical across all job sectors**. Skills such as **advanced cognitive skills, logic, social and emotional skills,** will be of particular importance and skills which will be needed in order to adapt and respond to technological change.

> UNESCO transversal skills: critical and innovative thinking; Inter-personal skills (e.g. presentation and communication skills, organisational skills, teamwork, etc.); Intra-personal skills (e.g. self-discipline, enthusiasm, perseverance, self-motivation, etc.); Global citizenship (e.g. tolerance, openness, respect for diversity, intercultural understanding, etc.); and Media and information literacy such as the ability to locate and access information, as well as to analyse and evaluate media content.

But also cross sectoral skills such as:

- ICT Skills • Data Analytics
- Foreign Language and Cultural Awareness
- Business Skills • Engineering
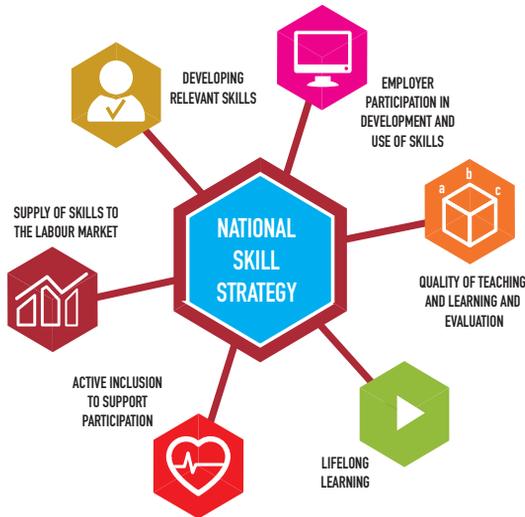
Skills such as creativity, problem solving and cognitive flexibility, will play a bigger part in the recruitment and retention of employees within specific sectors, along with a capacity to change and adapt to new and challenging situations.

In the focus-groups composed of 7 long term unemployed people with varying degrees of education, training and previous work experience,participants named the areas below as being impacted by technological changes:

- Warehousing
- Retail
- Construction
- Manufacturing
- Mechanics; move to electric cars
- Delivery driver jobs possible replacement by drones
- Manned information desks; being replaced by online/ audio information (customer service)
- Paying bills
- Risk of post offices closing
- Revenue service; has moved online
- Bus travel on the bus; more people are using leap cards/no more bus conductors
- Music; people downloading from different online sites as opposed to purchasing from the artist

> **Some older industries at risk of going or have gone for example: department stores have closed or downsized due to online shopping.**

> **Applying for a job is now a less a personal process with access to employers made harder by the use of jobs websites and questionnaires, preliminary to obtaining an interview.**

One participant had many years' experience in a warehouse position but is now struggling to obtain employment as he reports that employers are requesting **higher levels of ICT skills**. Another participant explained how in-house training in companies now often use a blended or online approach and that there is a need for **ICT skills too, to upskill**.

All participants were in agreement on the advertised roles which they have observed, stating that some advertised positions are very difficult to define in terms of a specific role and/or occupation, as employers are now looking for more 'rounded experience', 'a person who can do everything'.

During the focus group carried out with people affected by Acquired Brain Injury specific challenges expressed in relation to people with disabilities included trying to keep up with the pace of technological developments. For example, "We have to try to keep up with it...for some people it moves too quick". It may be difficult for people with cognitive and physical challenges to keep up with technological developments without the right supports, such as technology that can be adapted for their needs and teaching styles that match their specific learning needs.

They also expressed challenges of dealing with automated services as a result of

their disability. For example, "Computers are based on yes and no, there is no in-be-tween. Sometimes you need to speak to someone". This highlights that the needs of people with disabilities should be factored into developments in automated services, such as in the area of Customer Service, to ensure they remain accessible for all.

Another participant highlighted that technology can be used to the advantage of peo-ple with disabilities in adapting roles. Assistive technology such as voice to text soft-ware would be an example of this.

In the focus-groups composed 13 practitioners from various guidance services from around the Country noted the following areas of change:

1) decline in manufacturing jobs: packaging and manual labour and when available, these occupations are requesting IT skills and/or a higher level of qualifications;

2) the financial and insurance industries and how they now seek third level education in ICT;

3) office and administration roles, such as a standard role within a hospital, now re-quire additional skills such as knowing how to run a social media page and payroll, again, making it more difficult for lower skilled individuals to gain experience and employment. Other noted areas of change were:

• Construction; machines have replaced people
• The use of a diagnostic machine as opposed to a mechanic/Electric Cars
• Courses now available online which takes away from some course providers
• Presentations now being delivered digitally/ online which can lead to less network-ing opportunities
• Retail
• Delivery

For a fifty year old client on the one hand feels too young to retire, and other hand is too fearful and tired to learn new and challenging skills.

Soft skills which cannot be replaced by automation on practitioners' opinion:

Communication	Adaptability	Awareness of others
Confidence	Flexibility	Time Management
Problem Solving	Reliability	Human Interaction
Teamwork	Good work ethic	Literacy Skills/Punctuation
Creativity	Good attitude	Coping Skills
Resilience	Social Skills	Decision Making
Awareness of others	Emotional Intelligence	Common Sense
Time Management	Coping Skills	Commitment
Human Interaction	Decision Making	Interpretation
Literacy Skills/Punctuation	Empathy	Listening Skills
Personal Touch	Initiative	Critical Thinking
Language Skills		

Recruitment process is continuously changing and employers do seem open to the employees need for training. Employers are looking for an 'all-rounder', while job descriptions are becoming more broad. BUT An employer reports that there is a rise in people lacking social skills stating.

" we also find people joining the workforce from education are now really lacking in social skills so what they are gaining in online competency they suffer in real life practices. "

Skills currently important for employers:

• Agile Solutions Methodologies
• Ability to logically sequence information
• Computational thinking
• Team Leadership
• Planning
• Mentoring
• Advanced ICT Skills
• Problem solving Skills
• Mechanical and Technical Skills
• Effective Communication Skills
• Efficient Use of Time
• Time Keeping and Reliability
• Higher Levels of Education and ICT Skills

Identifying and Measuring Soft skills for the Future Labour Market

• Helps organisations reduce turnover
• Identify transformational organisational leaders
• Facilitate executive coaching
• Create more efficient work teams
• Improve organisational culture
• Stimulate creativity
• Enhance employee acceptance of radical change in a variety of different domains and industries.

People with low levels of self-efficacy experienced about twice the length of unemployment than those with medium or high levels. Higher self-efficacy has also been found to relate to higher job search efficacy resulting in shorter periods of unemployment, more job interviews and offers and higher job search intensity (Zenger et al, 2013). This highlights the need for job seekers need to be supported to develop their skills and their belief in their capacity to use them to achieve their employment goals.
Guidance practitioners need continous training on Soft and digital skills to support service users in the future labor market...

Around **36%** of occupations in Spain are at risk of being automated.

Spain is one of the countries where the highest percentage of jobs run the risk of disappearing as a result of automation processes, according to the Organization for Economic Cooperation and Development (OECD).

21% of jobs have a "high risk of automation", while **an additional third** has a high probability of significant changes.

36%

jobs are at risk
of being automated

21%

jobs with a high risk
of automation

30%

jobs has a high
probability of
significant changes

The industries most threatened with job loss are mainly related to those activities that have a routine nature and that can be subject to automation and replacement by robots. Among the most affected sectors are the food industry, construction, health, transportation, administration, industry and services sectors. This trend not only affects sectors that may have a low qualification of their workers but also affects those sectors that require a medium qualification such as the financial or legal sector.

The automation process will mainly affect workers with medium and low qualifications, so many of the jobs occupied by these people will disappear, which will increase the unemployment of these profiles.

There will be an increase in employment polarization between those workers with digital and technological skills and those who do not.

Automation and new technologies will involve not only the replacement of tasks and positions of working by machines, but will imply a change in professional skills required.

The technological process will require need for **technological capabilities** such as **design, programming and computer/digital knowledge**.
There are capabilities that can be performed in an automated way, such as those related to **managing or processing**. However, other activities require skills that machines cannot acquire, such as **multifunctionality, commitment, service, teamwork, emotional intelligence, resilience, leadership, initiative, creativity**.

SHARE OF SPAIN'S LABOUR FORCE WITH HIGH-LEVEL QUALIFICATIONS

2025
37,8%

2013
35,5%

2005
31,5%

People with medium-level qualifications in 2025 will account for **31.1%** of the labour force compared to **26.4%** in 2013. The share of the labour force with low-level or no qualifications is forecast to fall from **38.1%** in 2013 to **31.1%** in 2025. According to Cedefop's forecasts, by 2020 in Spain, around **41%** of 30-34 year olds will have high level qualifications, above the EU's educational attainment benchmark of **40%**, but lower than the national target of **44%** by 2020.

PEOPLE WITH MEDIUM-LEVEL QUALIFICATIONS

31,1%
2025

26,4%
2013
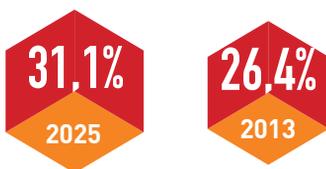
PEOPLE WITH LOW-LEVEL QUALIFICATIONS

31,1%
2025

38,1%
2013

30-34 YEAR OLDS WILL HAVE HIGH LEVEL QUALIFICATIONS

SPAIN

40%
2020

UE

41%
2020

NATIONAL TARGET

44%
2020
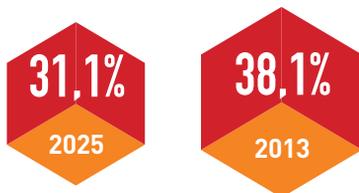
In relation to job skills, Spanish organizations and companies will needed in the next future:

- Knowing how to manage in organizations without instructions
- Teamwork
- Leadership
- Negotiation and entrepreneurship
- Resilience, optimism and enthusiasm
- Basic digital skills (working in the cloud or knowing how to search for information online)
- Continuous training and learning
- Technology design and programming
- Analytical thinking and innovation
- Active learning
- Creativity and initiative
- Critical thinking and analysis
- Emotional intelligence
- Reasoning and problem solving

Main recommendations related to the acquisition of basic digital skills in order to improve their capabilities, give a value to their CV and finally get a job:
- Basic computer knowledge.
- General digital skills through beginner training.
- Knowledge of the main communication technologies that exist in the market.
- Inclusion and develop of soft skills in the workplace.

There will be a gap in Spain between the population that will have specific technological training and thus be able to find work in the future and the one that does not. There will be those who have not achieved adequate preparation to assume the new activities. **There is a risk that there will be an increase in social inequality and a polarization in employment**.

Changes by stakeholders experience:

- **Adaptation** to the labor market through technology training.
- **Flexibility** by updating professional profiles.
- **Adaptation** of synergies and communication with other organizations and people.
- **Flexibility** to find to new jobs opportunities, new tasks and new professions.

> **It is an opportunity, specifically, for our services users in order to expand contacts with companies, increase customers and continue to train and specialize themselves in technology and computer issues.**

Changes by companies experience:

- Adapting processes and personnel to automation
- Technological development gaining in efficiency
- Improvement of costs and processes and communication
- New technologies in the different areas of their businesses.

By practitioners:

- The increase of the **social and economic digital gap** between low skilled workers and those with medium and high training and education.
- **The automation of the economy is unstoppable** but solutions can be sought so that this gap does not get bigger in the future.
- **Public administrations and third sector organizations should help workers with less skills** to change their life and short-term work strategy to a more long-term one.

It is important that workers think in the long term when it comes to having a job and not in the short term. Therefore, it is important that they be formed to aspire to more lasting and less precarious jobs. The short term would be those temporary jobs that require low training and do not usually enjoy indefinite contracts. **Continuing education is essential along with the flexibility to improve employability**.

In Romania

The employed civilian population amounted to **8.366.800** people, of whom **5.362.300** were salaried employees. Most of the employees were working in the services sector (**3.333.500** people), while **1.900.200** persons were employed in the industrial and construction sectors.
The number of employees in agriculture, forestry and fisheries was **128.600.**

civilian population

8.366.800

salaried employees

5.362.300

3.333.500
services sector

1.900.200
industrial and construction sectors

128.600
agriculture, forestry and fisheries

.
In 2018, the employment rate of the working age population (15-64 years old) was **64.8%**, with a higher rate for men (**73.2%**, compared to **56.2%** for women).

employment rate of the working age population (15-64 years old)

64,8%

73.2%

56,2%

The labour market situation in Romania has improved in recent years because of a continuous economic growth. In 2017, the employment rate for people aged 20-64 years reached **68.8%** (compared to **64.4%** in 2007), close to the national EU 2020 target of **70%**. However, it remains under the EU average (**72.2%**).

THE EMPLOYMENT RATE FOR PEOPLE AGED 20-64 YEARS

68,8%
ROMANIA

70%
NATIONAL EU 2020 TARGET

72,2%
EU AVERAGE

The distribution of employment by age groups and sex is unbalanced. In 2017, employment levels were particularly high for people aged **35-49**, while they were lower for youth between **15 and 24 years** and people **over 60**.

In the period between 2007 and 2017, Romania has not made any progress in ensuring access to employment for young people. While the level of employment for people **aged 35-49** has increased, that of people **aged 15-24** has decreased. Some progress has been made in increasing the employment rates of people **aged 55-64 years old**.

The continuous decrease in population between 2008 and 2017 (**-5%**), in particular of young people (**-29%**), coupled with the ageing of the potential work force, the strong increase in migration (**+162%**), in particular of people of working age, and the unused labor potential of women, young people represent a serious problem for labor supply. Added to this there is a mismatch between education and the labour market.

2008

2017

+162%   migration

-5%   population

-29%   young people

27
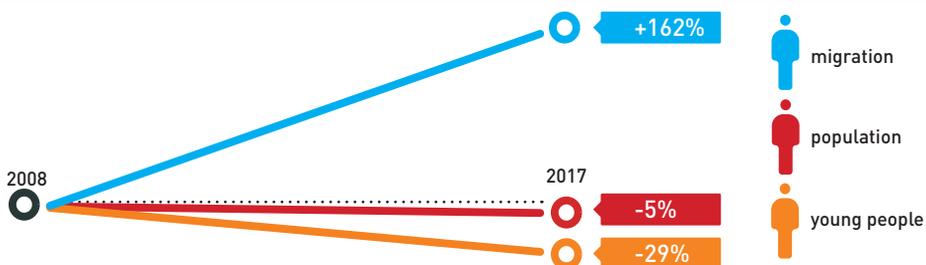
In fact, tertiary education is still significantly below the EU average. Furthermore, adult learning remains particularly low (**1.2%** in 2016) compared to the EU average (**10.8%**), despite the need for upskilling, and the market relevance of vocational training is insufficient.

TERZIATY EDUCATION

1,2%
ROMANIA

10,8%
EU AVERAGE

In 2016 **24%** of the people enrolled in tertiary education studied **business and law**, while only **7%** studied **ICT**. Some studies point out that in ICT and STEM the number of qualified graduates is insufficient to meet the demand for labour. Professionals in the following areas are missing on the labour market: ICT, health, education, sales, marketing and public relations, finance and legal, specialist services, forestry and administration services, while there is a surplus of supply for agricultural workers, client information workers, clerks, trade managers, street vendors, housekeeping and building supervisors.

PEOPLE ENROLLED IN TERTIARY EDUCATION

24%
BUSINESS AND LAW

1,2%
ICT

Over the next ten years, the digital transformation generated by new technologies will affect **600,000** jobs in Romania. **325,000** new jobs will be created over the next decade, while another **275,000** workers will need to improve their digital skills, as automation and the introduction of artificial intelligence will gradually eliminate repetitive activities. The improvement of employees' digital skills becomes vital. At the same time the partnerships with government institutions need to be encouraged in order to look for areas of common interest such as infrastructure, education or health, where investments may stimulate the adoption of new technologies. In the absence of investments, new jobs cannot be created in key sectors. Moreover, in the case of economies vulnerable to automation and changing business models, some jobs are at a higher risk.

NEW JOBS GENERATED BY NEW TECHNOLOGIES IN ROMANIA

600.000
new job

325.000
new jobs will be created over
the next decade

275.000
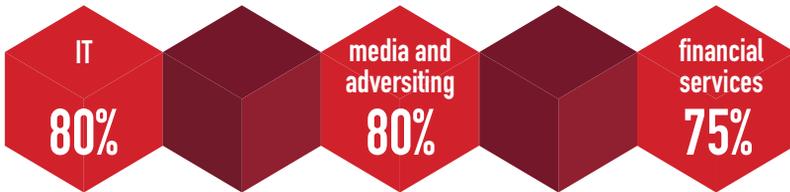workers will need to improve
their digital skills
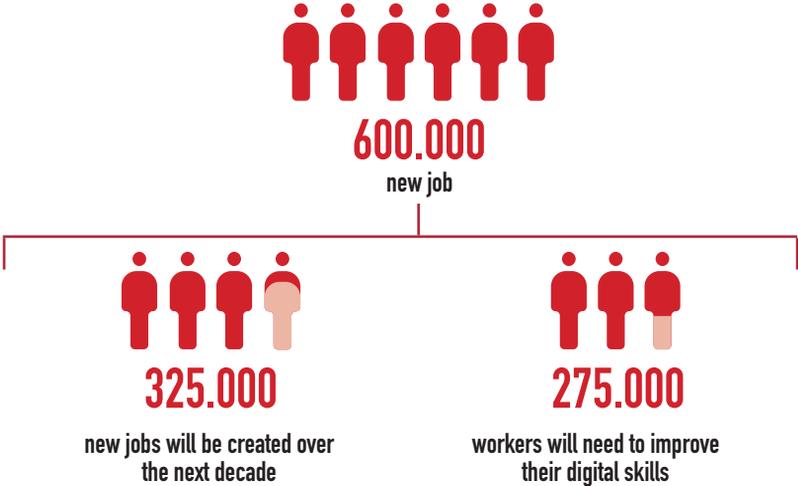
How digital automation will affect the labour market Romania:
- **600,000 jobs** will be impacted by the new technologies in Romania. To maintain or create jobs, an innovation and digitization strategy has to be introduced.
- Innovation and digitization will contribute to streamlining processes, but they also require the implementation of strategies to improve workers' digital skills.
- The **600,000 jobs** could contribute to an increase of local Gross Domestic Product (GDP) up to **USD 66 billion** by 2029.
- In manufacturing, agriculture and utilities, jobs are most likely to be replaced as these sectors do not currently use technology and automation. These sectors will need to improve the digital skills of employees.

New technologies will generate new jobs, especially in the areas of health, education or financial services.

INFLUENCED SECTOR BY DIGITALIZATION

IT
80%

media and adversiting
80%

financial services
75%

THE LEAST INFLUENCED INDUSTRIES BY DIGITALIZATION

construction real estate

food agriculture

transport

The most influenced firms by digitalization are **80% in IT** and **80% in media and advertising**, followed by **75% in financial /banking services**.
The least influenced industries by digitalization in Romania are **construction/real estate, food/agriculture and transport**.
If most of the utilities/energy companies are confident in digitalization but do not have the knowledge to tap this trend, whilst most transport companies (50%) are confident and say they know how to do this.

INCREASE OF THE PROFIT MARGIN OVER THE NEXT 3 YEARS

2020   2023

+30%

-1% to -5%

media and advertising, IT, other services   25% telecom companies
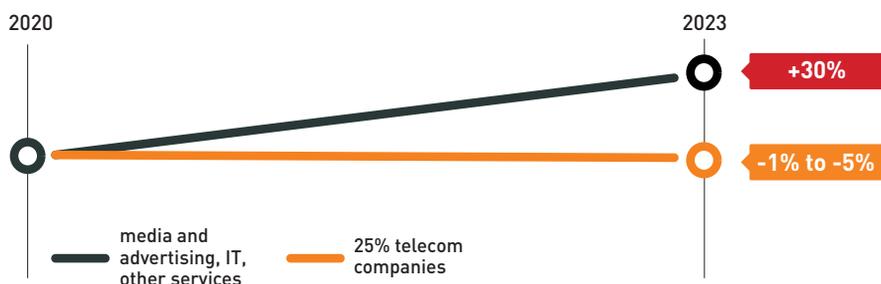
INCREASE OF THE TURNOVER GROWTH MARGIN OVER THE NEXT 3 YEARS

2020   2023

+30%

-5% to -10%

-10% to -20%

research and development, media and advertising, other services

25% of media and advertising companies

20% of construction/ real estate companies

31
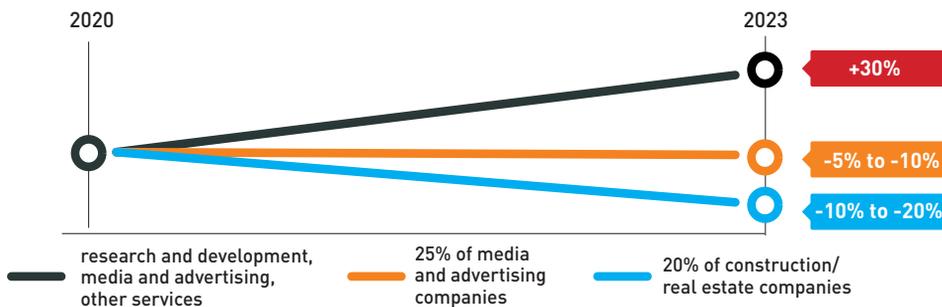
Impact of digitalization on business growth in Romania:

- The industries that expect more than **30%** increase of the profit margin over the next 3 years are the following: media and advertising, IT, other services (except financial-banking). It is noteworthy that telecom companies (25%) said that digitization would lead to a decrease in their profit margin by **-1% to -5%** in the next years.
- The industries that expect more than 30% growth in turnover over the next 3 years are the following: research and development, media and advertising, other services. On the other hand, we notice that 25% of media and advertising companies expect a **-5% to -10%** decrease in turnover over the next 3 years. Also, 20% of construction / real estate companies forecast a decrease in turnover between **-10% and -20%.**
- There are industries that expect an increase in the number of employees because of digitalization and industries expecting a fall of this indicator. However, the industries expecting a 30% fall in the number of employees over the next 3 years are IT and trade.
- The industries that expect more than 30% increase of the company's value because of digitalization are the following: research and development, media and advertising, and IT. The most pessimistic answers came from services other than financial-banking, because 25% of them expect a decrease in the company's value between -5% and -10% due to digitalization.

By 2022, augmentation of existing jobs through technology may free up workers from the majority of data processing and information search tasks—and may also increasingly support them in high-value tasks such as reasoning and decision-making as augmentation becomes increasingly common over the coming years as a way to supplement and complement human labour.
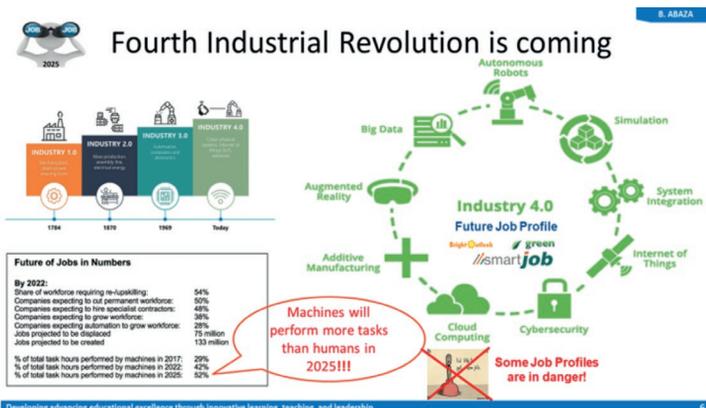
Employers are seeking workers with new skills from further afield to retain a competitive edge for their enterprises and expand their workforce productivity. Some workers are experiencing rapidly expanding opportunities in a variety of new and emerging job roles, while others are experiencing a rapidly declining outlook in a range of job roles traditionally considered 'safe bets' and gateways to a lifetime career.
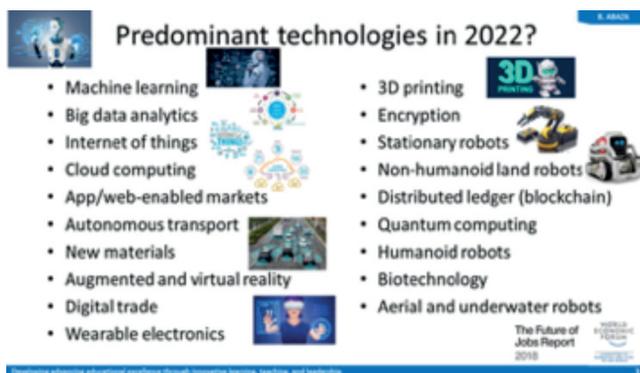
Emerging job roles for Eastern Europe in 2022

• Software and Applications Developers and Analysts
• Managing Directors and Chief Executives
• Sales and Marketing Professionals
• Data Analysts and Scientists
• General and Operations Managers
• Sales Representatives, Wholesale and Manufacturing,
• Technical and Scientific Products
• Human Resources Specialists
• Financial Analysts
• Assembly and Factory Workers
• Information Security Analysts

Mismatch priority occupations
Romania

Shortage occupations

ICT professionals

Health professionals

Teachers

Sales, marketing and public relations professionals

Financial professionals and legislators and senior officials

Professional services managers

Forestry and related workers

Administration services professionals

Surplus occupations

Market-oriented skilled agricultural workers

Client information workers

Clerks

Retail and wholesale trade managers

Street vendors (excluding food)

Building and housekeeping supervisors

SKILLS PANORAMA
Inspiring your choices on skills and jobs in Europe

Steps taken in Romania to address the challenges and skills gap, particularly for low skilled workers and those of low educational attainment and disabilities.

National Strategy for the Digital Agenda sets out four areas of action as follows:

1. **e-Government, Interoperability, Cyber Security, Cloud Computing and Social Media** - field which aims to increase efficiency and reduce costs in the public sector in Romania by modernizing the administration;

2. **ICT in education, culture and health** - field which aims to support these technologies at the sectoral level;

3. **ICT in e-commerce, and research, development and innovation in ICT** - area aimed at regional comparative advantages of Romania, and backs growth in the private sector;

4. **Broadband and digital infrastructure services** - aimed at ensuring social inclusion field.

Emerging skills in 2022 for Eastern Europe:

- Creativity, originality and initiative
- Analytical thinking and innovation
- Active learning and learning strategies
- Technology design and programming
- Emotional intelligence
- Critical thinking and analysis
- Leadership and social influence
- Complex problem-solving
- Systems analysis and evaluation
- Reasoning, problem-solving and ideation

Automation will accelerate the shift in required workforce skills we have seen over the past 15 years. **The strongest growth in demand will be for technological skills**, the smallest category today, which will rise by **55%** and by 2030 will represent **17%** of hours worked, up from **11%** in 2016. This surge will affect demand for basic digital skills as well as advanced technological skills such as programming. Demand for social and emotional skills such as leadership and managing others will rise by **24%**, to **22%** of hours worked. Demand for higher cognitive skills will grow moderately overall, but will rise sharply for some of these skills, especially creativity.

55%

demand for tecnhological skills

17%

hours worked (by 2030)

Social and emotional skills will grow rapidly, along with technological skills and some advanced cognitive skills, while basic cognitive and manual skills will decline.

The need for social and emotional skills including **initiative taking** and **leadership** will also rise sharply, and among higher **cognitive skills, creativity and complex information and problem solving** will also become significantly more important. In a more automated future, when machines are capable of taking on many more rote tasks, these skills will become increasingly important - precisely because machines are still far from able to provide expertise and coaching or manage complex relationships.

35

The skill shift is not only a challenge, it is an opportunity and retraining (or "**reskilling**") become the imperative of the coming decade. The jobs of the future will be more skill-intensive.

The development of the sort of soft skills likely to be in most demand in the future, **complex reasoning, critical thinking, creativity and socio-emotional intelligence**, are all best absorbed through hands-on experience rather than being learned by reading or listening.

Social, emotional, and technological skills are becoming more crucial as intelligent machines take over more physical, repetitive, and basic cognitive tasks.

Based on McKinsey Global Institute workforce skills model   Low ▬▬▬ High

Category	Skill	United States, all sectors		Western Europe, all sectors	
		Hours worked in 2016, billion	Change in hours worked by 2030, %	Hours worked in 2016, billion	Change in hours worked by 2030, %
Physical and manual skills	General equipment operation and navigation		-24		-27
	General equipment repair and mechanical skills		-9		-11
	Craft and technician skills		-2		-21
	Fine motor skills		-8		-15
	Gross motor skills and strength		-9		-10
	Inspecting and monitoring skills		-20		-26
Basic cognitive skills	Basic literacy, numeracy, and communication		-6		-8
	Basic data input and processing		-19		-23
Higher cognitive skills	Advanced literacy and writing		-10		-8
	Quantitative and statistical skills		-2		2
	Critical thinking and decision making		17		8
	Project management		2		3
	Complex information processing and interpretation		18		18
	Creativity		40		30
Social and emotional skills	Advanced communication and negotiation skills		27		26
	Interpersonal skills and empathy		30		21
	Leadership and managing others		33		27
	Entrepreneurship and initiative-taking		33		32
	Adaptability and continuous learning		24		24
	Teaching and training others		14		8
Technological skills	Basic digital skills		69		65
	Advanced IT skills and programming		91		92
	Advanced data analysis and mathematical skills		25		22
	Technology design, engineering, and maintenance		31		20
	Scientific research and development		28		25

Skills	United States, all sectors		Western Europe, all sectors	
	Hours worked in 2016 Billion	Change in hours worked by 2030 %	Hours worked in 2016 Billion	Change in hours worked by 2030 %
Physical and manual skills	90	-11	113	-16
Basic cognitive skills	53	-14	62	-17
Higher cognitive skills	62	9	78	7
Social and emotional skills	52	26	67	22
Technological skills	31	60	42	52
Total	287		363	

The stakeholders from Automotive sector identified that most significant changes are:
1. Digitalisation
2. Requirements for full & continuous online learning
3. Multi – tasking is a must
4. Multi – foreign language is a must
5. Continuous improvement for procedures, performance or economy savings are considered normal targets

The Automotive sector have been impacted by technological advancement in some specific directions like:
1. Battery electrified vehicles
   a. Requirements: the need for new skills (design, testing, client necessities)
   b. Changes: industry considered high risk
2. Autonomous driving & Safety
   a. The need for new skills – developing new apps, Augmented reality, CAR 2x communication, User Xperience skills are considered a plus

Due to digitalisation/technological changes stakeholders indicate some areas of growth:
- Fast & Digital learning
- Social skills
- IT developing skills
- Augmented reality
- Practicality

The stakeholders from the Automotive Industry indicates that besides the technical basement needed for each sector, the main required skills are:

- Important: Team player, Social Skills, User Experience, Analysis oriented
- Vital: Innovations oriented person, Multi Language speaker (+3 languages), Creativity, Fast, Agile, Problem Solving, Multi Tasking

HR professionals report difficulty recruiting candidates who have the necessary soft skills for an automating world.

Top three areas of missing soft skills are:
- Problem solving, critical thinking, innovation and creativity
- Ability to deal with complexity and ambiguity
- Communication

Resolving the mismatch means hiring, retraining, or both.

One of the biggest change will take place in technological skills, both in advanced skills such as programming, advanced data analysis, and tech design, for example, and also in more basic digital skills relating to the increasing prevalence of digital technologies in all workplaces.
Most of stakeholders indicate that workers in all corporate functions are expected to improve their digital literacy over the next years.
Raise skill levels of employees by teaching them new or more advanced skills is one of the most adopted solution by companies in order to build their workforce for the future.

Examples of effective tools and methods used to capture formal and non-formal learning

Name of tool or method	Short description (2-5 sentences max)	Link to source	Why this method is relevant (3-6 sentences)
Counseling	Counseling allows to clarify the specific need	Structured discussions	It helps the student to clarify what he wants to do in his career, establish objectives
Lighting the creativity lamp	The ability to be creative is not innate, but rather is a skill that can be learned and improve upon through the use of various systems and strategies	The creative training idea book	It causes the students to discover and evaluate their creativity skills in a technical field
Public speaking workshops	Working with students on developing communication skills, public discourse, argumentation and logical and critical thinking skills.		For technical students the soft skills area is less developed. Participation in such activities helps students gain a complete profile of skills (technical and soft skills)
Career path strategy	Ho to create a career portfolio ()		
Observation	By observing, we can surprise, for example, how children learn the rules of a game just by playing		The observer does not intervene with anything, he only identify facts, behaviors, qualitatively evaluates the way in which the person learn nonnormally
Debate	Exchange of verbal arguments between groups with different opinions on the same subject in order to reach a conclusion		

List of soft skills used in informal and non-formal activities, identified by stakeholders:

Guidance practitioner

1. Communication skills, team work skills, leadership skills, presentation skills
2. Communication skills, team work skills, Creativity, Critical thinking, Problem solving skills, Negotiation skills
3. Communication skills, team work skills, leadership skills, Active listening, Helping skills

Employers

1. Innovations oriented person, Multi Language speaker (+3 languages), Creativity, Fast, Agile, Problem Solving, Multi Tasking
2. Team player, Social Skills, User Experience, Analysis oriented

To be aware of what you need to improve so you can achieve your goals.
Counseling was identified as an important tool in measuring soft skills for the future labor market.
It is important that you can evaluate yourself as a professional. Until you know yourself well enough and you properly evaluate your skills and abilities, you are likely to underestimate or over-value yourself. The incorrect evaluation may sabotage and make professional profile incorrectly placed on the labor market.

It is important to have a human-organization fit in terms of professional interests, soft skills, value held. Only in this way will be there efficiency, performance, professional satisfaction.
According with general view the most important solution for skill mismatch is to innovate in generating the customized upskilling pathways. For designing these pathways, the first process is the identification and documentation of skills, knowledge and competences that a person has acquired in any context (formal, non-formal and informal). The key starting point in this process is the way how identify/measure the skills.
There is a real need to innovate and create customized online tools updated to help the client to become aware of their hidden skills and tacit abilities gained from everyday activities.

In Germany

In Germany as in most other countries a lot of jobs will be affected by digitisation in some way or the other. Many of these jobs include financial, operational and administrative tasks, which will inevitably be affected by digitisation and new technology across different sectors. **It's important to highlight that digitisation does not necessarily mean job loss in the German market, however**. Rather, it is seen as a prediction to identify changes but also potential for the future job market.

The fear of massive job losses is not justified; many studies show that as many new jobs will be created as old jobs will be lost.

The two main concerns are to deal with **new ways of organising and dividing labour in production including the division between humans and machines, and to be able to develop new ideas and create new value from the possibilities offered by digitisation and the use of large amounts of data**.

Focus group research with different stakeholders suggests that how people see digitalisation is very different; it largely depends on their position and their age. Older people tend to be wearier of digitisation. They feel a disadvantage to younger generations who grew up with digital processes and computers; thus, they see it as a challenge to get up to speed with the changes required. Others, mostly younger people in higher positions, see digitisation as an improvement. It allows for faster, safer, more transparent, inclusive and environmentally positive work structures. Most of these stakeholders do not know a world that is not digital, they are so used to everything being done via computers, smartphone and social media etc.

For employers, the main concern with digitisation is to provide continuous training to their staff and to make sure data safety and data security is in place. They take some digital competences for granted such as being able to work with Word and Excel. This is in a way is the minimum requirement to work in any office environment. For job seekers who are more used to manual labour, dealing with simple technology such as Windows Office or machines is already a challenge. Some stakeholders not necessarily see it as an advancement and feel people prefer to work analogously.

It is predicated that **2.542.000** jobs will disappear in Germany by 2030, but that **2.768.000** new jobs will be created. Due to digitisation there has been an increase in new job roles as well as new tasks within existing jobs.

JOBS WILL DISAPPEAR AND NEW JOBS GENERATED BY NEW TECHNOLOGIES IN GERMANY*

+2.768.000

2020 2030

NEW JOBS WILL BE CREATED

JOBS WILL DISAPPEAR

−2.542.200
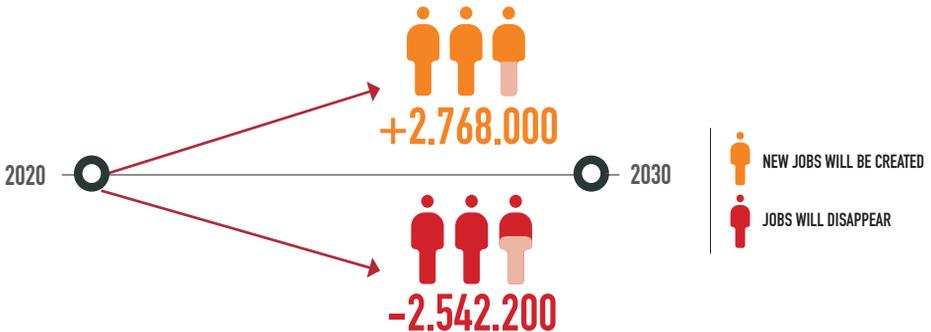
* (Bundesinstitut für Berufsbildung 2018)

Some of the new jobs include for example:
- Data Scientist,
- UX Designer,
- Social - Media Manager,
- Mechatronic Engineer.

Based on an online survey of 607 companies in industry, insurance and banking, it is believed that by 2023 around 700,000 additional tech specialists will be needed (Stift-erverband 2019). These include jobs such as:
- complex data analysis,
- web development,
- conception and administration of network IT systems,
- smart hardware
- robotics development.

With increased digitisation, new skills are needed in the future labour market, e.g.:

- **ability to use different software applications (simulation software, geoinforma-tion systems),**
- **technology (3D printer),**
- **experience and compliance with new rules legislations (drone license etc.).**

Jobs with a high risk of being replaced by computers (50 - 60 % probability of being automated) include jobs in manufacturing, machine-facility controlling, maintenance professions as well as business-related services, transport and logistics, trade and commerce jobs and insurance services (Weber 2017; Stifterverband 2019).

However, the finance sector, accounting and book-keeping will be affected the most. Regarding whole industries, it is argued that that employment in the manufacturing sector will be affected negatively, despite sales increases (Weber 2017). Sectors that are likely to benefit from digitisation are information, communication, and education (ibid). Jobs with relatively low risk of being replaced by digitisation include cultural services, medical and non-medical healthcare professions, IT and natural science professions. Teaching professions - which benefit from the need for further train-ing- are also on the rise. New technology also needs new workflows and procedures which ultimately leads to the creation of new job roles and tasks; these include e.g. quality and process management.

There are also regional differences inGermany in terms of how job change due to digtisation , e.g. in 2016 Berlin was affected by 15% and Saarland by 30%.

The demands of new jobs will have a rather big impact on low-skilled people. But if structural changes emerge in jobs at the medium-skill level, new job opportuni-ties could come up for low-skilled workers, resulting in individual, hard-to-automate tasks such as short cleaning or maintenance activities.

Germany seems to be economically well equipped for the changes ahead but it also faces a few challenges; one major challenge is to bring small and medium-sized en-terprises (SMEs) up to speed with digitisation.

What skills will be most needed in the future world of work

The demand for people with technological skills rises to around 60% of the German labour force, which also means an immense training challenge. Due to the changing nature of how we work (e.g. working in virtual teams across different countries, fast changing work environments and teams, flat hierarchies etc.), social skills are also becoming increasingly important. Skills (digital and social) that are valued most include the following (Stifterverband 2019):

- **team-working, collaboration, empathy**
- **perseverance**
- **conceptual and creative thinking**
- **strong communication skills**
- **abstraction**
- **organisation and self-management and independent working style**
- **digital literacy and digital learning incl. routine handling of electronic data and basic understanding of data privacy**
- **continuous learning**
- **entrepreneurial thinking and self-initiative**
- **agile working**

Furthermore, stronger English language skills are also required for workplaces which are more digitalised.

Emotional intelligence is still a highly valued and a desired skill in the labour market. Due to the rapidly changing nature of work it is seen as a necessary ability to cope with work in fast-paced environments, as you typically find in the start-up and IT sector. It's seen as crucial to be aware of your own emotions and those around you while being able to make informed decisions and interactions with others. As people work in many different teams and projects nowadays – often also in virtual teams – it's important to use emotional intelligence to be able to work together to complete projects and build effective teams.

The use of **mindfulness** as a defined soft skill for building resilience is also helpful to cope with stressful situations at the workplace. Studies have shown mindfulness training increases happiness, reduces stress and anxiety, and improves emotional intelligence, resilience, attention, decision-making and creativity.

Some of the methods identified by practicioners to measure soft skills for the future labour maket include:

Name of tool or method	Short description (2-5 sentences max)	Link to source	Why this method is relevant (3-6 sentences)
Competence balancing	Questionnaire at the end of the 3-month course	Self-developed by a practitioner	It gives participants the opportunity to reflect on themselves and what they have learned
E. Profile Pass (mentioned by 2 participants)	It is a nationwide qualification tool in the context of vocational and further education. Individual knowledge and skills are documented in order to link them to current professional wishes and plans.	https://www.profil-pass. de/	It offers a structured collection of materials for the reflection of professional and life experiences to help identify skills and career paths; it's accompanied by a professional consultancy with a coach / practitioner. Needs of the labour market and individual knowledge and skills are both taken into consideration. It helps with the preparation of (re-) entering the labour market, professional and personal (re)orientation and the planning of future learning projects
Skills- based profile mapping	Activity which begins with introspection and self-discovery wherein a person indicates their professional background and their aspirations – function, role and industry.	https://docplayer. net/ 16130045-Skills-based-profiling-and-matching-in-pes.html	Helps job seekers to discover opportunities based on their unique background, qualifications and previous experiences. It includes one-on-one interaction sessions with mentors and corporate leaders to help people connect to the relevant networks "Profiling" refers to the assessment performed by PES counsellors of an individual client' 'needs.

Competence Cards for immigration counselling	The Competence Cards have been developed for im-migrants' and their counsellors' needs. They are a set of cards which show different competencies (social skills, personal skills, technical skills, interests etc.)	https://www.ber-telsmann-stiftung.de/en/our-projects/creating-corporate-cultures/careers-via-competences/project-news/immigration-counseling-for-adult-immigrants/	This method is particularly relevant for immigrants. The cards are available in different languages and they can be used flexible; they are very practically oriented, visualise competences and are compatible with further counselling agencies like the Job Centre and public employment agencies. This method increases job seekers self-confidence as the cards show a wide set of things a person knows (including through their hobbies and interests) rather than looking what they do not know or the skills they lack to find a job.

In conclusion, digitalisation is a current process that has a massive impact in the world of work in Germany, like previously experienced e.g. by the industrial revolution. It involves a process of interconnectedness between the virtual-digital and the physical world as well as machine learning and spans across company and national borders. The expected result is to have more efficient, flexible and individual production.

Germany's labour market is well prepared in the field of engineering and sensor technology but might fall behind in cloud technology and bid data, which is currently predominantly led by the US. The employment rate in Germany will not decline due to digitalisation but it will face major challenges in terms of the restructuring of jobs and getting SMEs ready for the digital future.

Digitalisation will also have an influence on working culture and division of tasks. Thus, hierarchies are replaced by more flexible working structures, and demands and activities will change. Businesses see digitisation as an opportunity rather than a threat. They acknowledge however, that it comes with the need to offer further training and higher expenditure for data protection and cyber security. The need for more professional training is inevitable. Education and vocational training will become ever more important to deal with these demands.

Therefore, to face the challenges ahead the economy, labour market policy and education need to synthesise their efforts to respond to the growing demands of a digitalised world of work.

By pratictioners experience:

Most practitioners see digitisation as a positive progress.

❝ Since job seekers are located all around Berlin, processes, data and information must be stored electronically to be easily and quickly available for consultation appointments. ❞

❝ Digital applications are used during consultation to show clients hands-on examples of how work will function in 2020. The aim of this approach is also to take away fears regarding the use of digital applications. ❞

❝ The digital revolution and "paper-less" office allows to work and communicate much quicker and to be more effective. ❞

❝ Companies focus much more on digitisation in their recruitment process. E. g. current job advertisements are posted on Facebook and Twitter. In the past sending a job application was quite complicated and slow, whereas today you can attach one single file to an e-mail and send it to many employers. ❞

" It is important to also provide coaches with further training to make them understand digital processes better. This includes e.g. training in using job portals such as LinkedIn and Xing. "

By stakeholders experience:

" Digital recruitment process does not favour everyone; recruiters do not see the person anymore, but they just judge you by the design of your CV. This is particularly difficult for refugees and non-native speakers who are not used to the German labour market. "

" Older job seekers feel discriminated having to apply with a photo, as it already puts them in a disadvantaged position. "

" Digitisation makes work more efficient, eliminates human errors and makes some things easier. "

“ The advantage of machine-to-machine working is more time efficient and better for the environment and sustainability „

“ Working with digitisation needs more human understanding and intervention. „

“ We are not ready for digitisation; school and education systems are not prepared for it and people are not trained properly to use digital applications efficiently. We are still very new to digitisation; there are many tools and processes people do not fully understand yet. People are not yet ready to work with these tools efficiently. „

“ The pace and wealth of information is a big challenge for job seekers. „

“ The human and social side of work is being lost as more and more time is spent in front of the computer. „

❝ Relying on one system / technology will also generate security gaps (e.g. when you do not have back-ups). ❞

❝ Measuring peoples' social skills would also strengthen their self-confidence and would help them to develop new skills. This would help job seekers to develop their future career perspectives better. It improves team feeling in the workplace, ensuring that there is a healthy and productive work environment. Additionally, it helps understand how people interact with each other given that it includes a human perspective at work. ❞

❝ Work is always about teamwork. On top of that, assessing soft skills helps to create a better picture of a company; this in return can be used for corporate branding. You spend most of your time outside formal education, but you still always learn something new. The more we rely on machines the more we need social sills, particularly communication. ❞

By job seekers experience:

> **Automation will result in jobs being lost. Digitisation is difficult because it requires people to manage work processes rather than having to produce something themselves.**

> **Human interaction will become less important in future and human labour will become redundant. That is for example the case in the field of research, where a lot of surveys nowadays are done online or by social media rather than face-to-face.**

Digitisation definitely has an impact on the labour market in Germany (as in other countries) but that it also offers new chances for people. What is needed is further and continuous training, both for people who are tech-savvy as well as for people who are not used to the digital world.

When it comes to developing new skills, social skills are highly important, even if not many people think about social skills when applying for jobs...

In Austria

Automation and digitisation have arrived in the Austrian economy in very different ways: more than 1 in 3 small or medium-sized enterprises (SMEs) do not yet attach great importance to digital technologies for their own business model.
Austrian medium-sized industrial companies spend on average only about **10%** of their total investments on digital technologies. Opportunities are seen particularly in customer acquisition and cost reduction, but implementation often fails due to a lack of know-how. On the whole, Austria's small and medium-sized enterprises thus show only a low to medium degree of digitization.
Digitisation and automation have of course long since ceased to be the exclusive domain of industrial companies (Industry 4.0) and although SMEs are often much slower to change than large companies, they will have to face up to this change.

medium-sized industrial companies → **10%** total investements on digital technologies
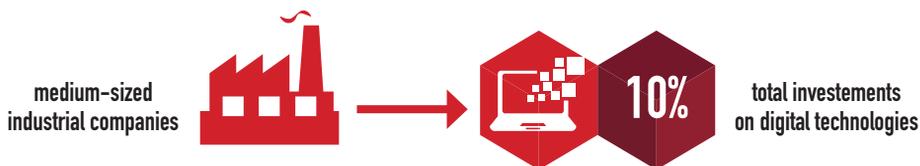
The biggest challenge today is no longer the "destruction" of entire professions by algorithms and robots, but the change and further development of activities and requirements for employees and job seekers. Today, the focus is on questions of the competencies that employees need in this changing world of work.
The dynamic development of online trade also results in an increased demand for messengers and professional drivers, which can be interesting for people with low qualifications. Similar phenomena naturally also apply to other sectors.
The working world in sales has changed considerably, mainly due to
- transparency of costs and information
- better informed customers in stationary trade
- an increasing number of small regional suppliers who produce their own products
- use of social media channels for marketing

However, the changes in the world of work go far beyond digital technologies: trends such as internationalization, diversification or ecologization will also influence the professional landscape in Austria in the coming years. Many of these trends influence each other or are side effects of digitisation.

Areas of the labour market in Austria that are showing marked changes cannot be identified by specific sectors or industries, but rather by occupational groups and activities. The occupational groups potentially most affected by automation - around 8.5 to 9.0% of the workforce - are unskilled workers, craftsmen, machine operators and people in service occupations. In contrast, academics and managers are the least affected.

The majority of high-risk workers are proportionally employed in the following sectors:
• **other economic services (23%)** and
• **work in construction (18%)**.

HIGH-RISK WORKERS INFLUENCED BY AUTOMATION

23%   **18%**
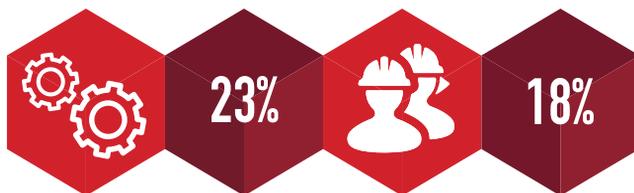
The occupational groups potentially most affected by automation are:
• **unskilled workers**
• **craftsmen and women**
• **machine operators**
• **persons in service professions**

They almost exclusively have medium and high automation probabilities. In contrast, academics and managers are the least affected. These have low automation probabilities. For the vast majority of employees (**79.5%**), a medium automation risk of between **30%** and **70%** is estimated.

The construction industry is a risk, but at the same time, however, the construction industry is the top occupational area, because this topic is not so much about sectors as it is about the level of qualification of employees. Monotonous manual work will

probably continue to exist on the construction site despite the increased use of machines, the demand for building aid professions is declining. The demand for qualified employees is growing.

Growth areas of the Austrian labour market would be:
• construction & ancillary construction industry,
• mining,
• office jobs,
• electrical engineering,
• telecommunications & IT,
• trade, mechanical engineering, social services & health,
• tourism and the hotel and restaurant industry.

A common trend also applies to these sectors: **physical work is declining as many occupations are increasingly dominated by technology**, whereas heavy physical work is increasingly being performed by machinery and equipment. Digitalisation is making its entrance and so even **the less qualified are confronted with increasing technical requirements**, but also **interdisciplinary skills are becoming increasingly important**: languages play a major role, and due to the increasing service orientation, **activities with customer contact play a central role**.

Composition of the risk classes in terms of occupational groups:
In the group with a high probability of automation of over **70%**, unskilled workers (**25.1%**), craftsmen (**24.8%**) and service professions (**19.5%**) are strongly represented.

## OCCUPATIONAL GROUPS A HIGH PROBABILITY OF AUTOMATION

high probability of automation
70%

→

unskilled workers
25,1%

craftsmen
24,8%

service professions
19,5%

The employees with a lower probability of automation, are mostly made up of academics (**61.8%**), managers (**16.4%**) and technicians (**15.2%**).

academics
61,8%

managers
16,4%

technicians
15,2%

It is alarming that unskilled workers have the highest proportion of high-risk workers, **30.3%**. The second and third largest shares are found among craftsmen (**18.7%**) and machine operators (**17.7%**).

HIGH-RISK WORKERS

unskilled workers
30,3%

craftsmen
18,7%

machine operators
17,7%
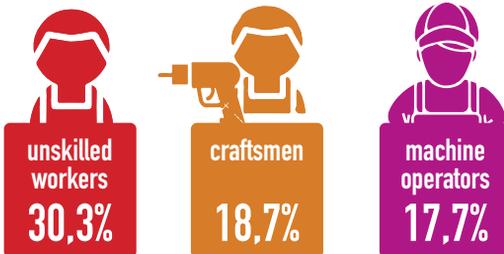
But low-skilled workers are a very heterogeneous target group and their requirements for basic and further training are very different, for that the training offers should therefore be tailored to the specific learning needs of each individual, depending on whether the person is in a low-skilled occupation, a school drop-out or an unemployed person without compulsory schooling.

It is shown that unskilled workers in agriculture, forestry and fisheries have the high-est average risk of automation at **69%**. Very high average risks of over **65%** are also found in assembly, cleaning and support staff and unskilled workers in mining, con-struction, manufacturing and transport. To occupations in personal service and sales staff, almost all craftsmen, machine operators and unskilled workers have an aver-age automation risk of at least **60%**.

UNSKILLED WORKERS WITH RISK OF AUTOMATION

HIGHEST AVERAGE RISK OF AUTOMATION

agriculture, forestry, fisheries workers

69%

VERY HIGH AVERAGE RISK OF AUTOMATION

found in assembly, cleaning and support staff and unskilled workers in mining, construction, manufacturing and transport

65%

HIGHEST AVERAGE RISK OF AUTOMATION

craftsmen, machine operators and unskilled workers

60%

Current forecasts for employment development in Austria up to 2020 show that the prospects for low-skilled workers are more pessimistic than for people with a higher level of education: the Austrian vocational landscape is characterised by a strong concentration on jobs requiring an intermediate qualification (skill levels 2 and 3).

The experts consulted for this study seem to agree on the following basic points:
• It is essential that higher qualifications for groups affected by exclusion are sought.
• The recognition of informal and non-formal competences is still not sufficiently advanced in Austria.
• There is still too much emphasis on formal education and training qualifications.
• Social inclusion and exclusion tendencies are still too little considered.

The job profiles of employees in the occupational groups with higher qualification requirements have on average a lower automation risk. There is also a negative correlation between the highest completed education and the individual automation probability of the activity profile.

In every technological innovation certain activities have been replaced by machines. The current digitization process more complex activities - both cognitive and manual - can be performed by machines, even if until recently, it was assumed that these activities could only be carried out just by humans.

In Austrian fewer employees work in the occupational groups with a lower risk of automation (managers, academics, service professions) and more in the professions with a higher probability of automation (office staff, farmers and foresters, craftsmen).

All competences acquired in life are an essential prerequisite for competitiveness and employability, as more and more is demanded of employees in view of structural changes. This makes it all the more important to make acquired skills visible.

Knowledge acquired outside the formal education and training system is often not documented or formally recognised. Unfortunately, implementation in Austria is not yet very far advanced although there are some best practice examples.

In Austria the recognition of informal and non-formal competences is still in its infancy. Formal educational qualifications are still considered very important and that a rethink is only slowly beginning…

Basic points on low-skilled workers in Austria:
1. It is essential to strive for a higher qualification of groups affected by exclusion.
2. The recognition of informal and non-formal competences is still not sufficiently advanced in Austria. There is still too much emphasis on formal education and training qualifications.
3. Social inclusion and exclusion tendencies are still too little considered in the discourse.

Recommendations focusing on digitisation - from a socio-economic perspective: Social enterprises are an important place of learning to enable people who are far from the labour market to participate in the social and digital (working) world.

There are also many other influences on work and employment that we should not lose sight of. Demographic development, the continuing increase in urbanization, cli-

mate change and mobility with all their interactions are just a few of the aspects that are massively changing the world we live in and the world of work and presenting companies with a wide range of challenges. In conclusion, **we should move away from a purely technology-driven perspective and focus on an overall view**.

New Digital Skills - from a technical to a holistic view. For several years now, special attention has been paid to the changes brought about by digitisation. Today's challenges to education and training go deeper than initially assumed. It is clear that technical skills - which are undoubtedly urgently needed - are only one side of the coin. Under certain circumstances, some experts speculate, these may even be the more manageable ones. For it can be seen that through and with digitisation, structures, processes and business models are changing in a way that requires new mind-sets on the part of both employees and managers. **Methodological, social and personal skills are thus gaining in importance more than ever before - for all those involved**.

DIGCOMP - The Digital Competence Framework
The European Digital Competence Framework, also known as DigComp, offers a tool to improve citizen's digital competence. Today, being digitally competent means that people need to have competences in all areas of DigComp.

DigComp describes which competences are needed today to use digital technologies in a confident, critical, collaborative and creative way to achieve goals related to work, learning, leisure, inclusion and participation in our digital society.

T.1 DigCOmp competence areas and competences	
COMPETENCE AREAS	**COMPETENCES**
1. Information and data literacy	**1.1** Browsing, searching and filtering data, information and digital content
	1.2 Evaluating data, information and digital content
	1.3 Managing data, information and digital content
2. Comunication and collaboration	**2.1** Interacting through digital technologies
	2.2 Sharing through digital technologies
	2.3 Engaging in citizenship through digital technologies
	2.4 Collaborating through digital technologies
	2.5 Netiquette
	2.6 Managing digital identity
3. Digital content creation	**3.1** Developing digital content
	3.2 Integrating and re-elaborating digital content
	3.3 Copyright and licences
	3.4 Programming
4. Safety	**4.1** Protecting devices
	4.2 Protecting personal data and privacy
	4.3 Protecting health and well-being
	4.4 Protecting the environment
5. Problem solving	**5.1** Protecting devices
	5.2 Identifying needs and technological responses
	5.3 Creatively using digital technologies
	5.4 Identifying digital competence gaps

"**Digitisation is not everything**". There are also many other influences on work and employment that we should not lose sight of. Demographic development, the continuing increase in urbanization, climate change and mobility with all their interactions are just a few of the aspects that are massively changing the world we live in and the world of work and presenting companies with a wide range of challenges. In conclusion, the call is made to move away from a purely technology-driven perspective and focus on an overall view.

The good news for us humans: **As a result of digitisation, typical human skills have gained in importance - in addition to IT skills**.

Successful soft skills could be:
- Open-mindedness
- Ability to work in a team-oriented and flexible manner
- Openness and willingness to change and learn (important for learning digital skills)
- Project management knowledge
- Combination of expertise, process knowledge and "common sense"
- Social, communicative and dynamic corporate culture
- Increased communication competence
- Basic knowledge in handling data
- Active listening
- Paraphrasing skills
- Nonverbal communication skills
- Effective team-working skills
- Self-study skills
- Knowledge sharing skills
- Coping with stress
- Mentor team colleagues
- Taking criticism
- Creativity skills
- Empathy skills
- Mutual (process) understanding and holistic thinking (for new type of cooperation).

Social interaction

Ability to engage effectively and in a goal-directed manner with other people encountered at work or study, e.g. with colleagues, peers, customers, clients and patients.

Alternative label

Social interactions

Broader skills/competences

Transversal skills/competences

Narrower skills/competences

Instruct others
use questioning techniques
use bogy language
demonstrate intercultural competence
persuade others
address an audience
work in teams
negotiate compromise
support colleagues
give advice to others
report facts
accept constructive criticism
motivate others
interact with others
lead others

Concept URL

http://data.europa.eu/esco/skill/8f18f987-33e2-4228-9efb-65de25d03330

Especially for low-skilled workers, the recognition of non-formally and informally acquired knowledge can be a first step towards making existing competences visible, showing that formal recognition is possible by clearly linking them to vocational qualifications. In addition, self-confidence and motivation can be built up, since many low-skilled workers are often not even aware of how much knowledge and skills they have or that this knowledge is also relevant to a vocational qualification or can be recognised.

By stakeholders' experience:

> **Advising people with low qualifications of all age groups is a priority for us. With regard to automation, older clients in particular are very afraid of being "rationalised away" or not being able to find a job at all (especially in the craft sector). In consulting, it is important to us to counteract dramatization and to show people perspectives within the scope of their possibilities. Therefore, it is all the more important to make existing competences visible".**

> **We encourage our clients to take their "digital competences" - which are present in everyday life - seriously themselves: e.g. smartphones are actually small computers, so you can learn to use a computer system in a job. It is a lot about taking away fear and giving courage. On the other hand, of course, it takes courageous employers who have confidence in the less qualified and are willing to invest in their further training.**

“ It is to be hoped that the recently launched digitization offensives in Austria will result in more money for training and continuing education courses in the future. We have many interested parties, but too few cheap (or free) providers. This gap must be closed. „

“ Digitisation is of course a big issue, but we have an even bigger one in our work with refugees from various countries of the world, and that is linguistic competence. Without a good knowledge of German, it is still very difficult to gain a sustainable foothold in the labour market in Austria. As the classic unskilled worker jobs become fewer and fewer, language skills, but of course many other skills are also gaining in importance. A positive aspect of digitalisation is that there are, for example, good and inexpensive language learning apps that we can recommend to our clients. Besides the linguistic aspect, it is important for refugees to strengthen them on various levels. Making competences already acquired visible is a good start. „

“ To be honest, we consultants also sometimes have problems understanding very technical job profiles and explaining them to clients. Digitisation also affects our own competences. Regular further training has also become much more important in our field. In addition, we are constantly working with new tools internally and must adapt to many changes. „

> My best employees are already at a mature age and have never had anything to do with computers or complex machines. It is extremely difficult to take away people's shyness when dealing with new systems. Fortunately, we are active in a niche sector where craftsmanship is more important: We handle many special requests and special orders from customers who are willing to pay a good price for our services. I couldn't go into mass production with my team.

By employers' experience:

> In our hotel business, reception staff are challenged to constantly learn new systems and programs. It is important to be able to use several booking platforms, to do marketing via social media channels or to be able to use the CMS for the homepage. Then there are internal programs for room availability, the accounting system, a tool for personnel allocation, the ordering system, right up to the cash register system at the bar and the accounting system. As an owner with an affinity for technology, I find it easy to deal with these requirements. But actually it is already very much and I am probably sometimes too impatient with my staff members.

“ As the owner of a graphics agency, I now spend about a third of my working time familiarizing myself with new systems, programs and apps. The developments - especially in the field of film production and website development - are so rapid that I sometimes have existential fears. Another topic for us is information security and data protection. Here I rely on external experts, as I am not able to train my employees in all these areas. When I take on new employees, digital literacy is the top priority. It is a pity to say that, because a creative industry should be about the creativity of the applicants. But everyday life is different these days. **”**

“ When I look at my work as a managing director over the last 20 years, I only realize how much digitization has changed my everyday life: In the past, the focus was clearly on personal discussions with customers. I had to wait a few days for requested documents to arrive by mail (there were no e-signatures yet), etc. Today, I have much less personal contact with customers, since everything is handled by sometimes very specialized systems and collaboration tools. On the positive side, we work much more efficiently and overall shorter, as a lot of travel time can be saved. When it comes to welcoming new employees, they must have good digital skills. But since our systems are very specific, we must train the employees anyway. It is very rare that applicants have worked with the same programmes before. **”**

> " In the medical field, digitization is becoming increasingly important. Due to the strict data protection regulations, great care must be taken not to make any mistakes in the transmission of patient information, to comply with data protection regulations overall, and to design the documentation in such a way that the rights of patients are safeguarded. Under these circumstances, even scheduling appointments with patients becomes difficult. As a small company, we purchase ready-made database solutions and train our employees internally. When we take in new people, the human being is still the most important thing. "

By clients' experience:

> " I took the European Computer Driving Licence and got a job. Unfortunately, I had to leave after only 3 weeks, because the employee said I was much too slow. Of course, I continue to practice at home, but you can only really learn how to handle the various programs and company-specific requirements on the job. "

> " Now in my early 20s, it is very important for me to invest even more in my education so that I have several pillars to stand on. Everyone says that the demands of the working world are becoming increasingly complex, but that can be exciting. The difference is probably that you can no longer rely on vocational training. I want to be as flexible as possible and try different things. "

" Since I was never interested in computers, I have a really hard time finding a new job. As a geriatric nurse I used to dedicate my time to the patients - except for team meetings and a little documentation. Today it seems to me that the various software programs for documentation are more important than the people themselves. There is also much less talk in the team than before. The technical requirements also have disadvantages. **"**

" Job profiles often sound very complicated. Sometimes I have the feeling that only top technical experts are being sought. I often felt very lost. My guidance practitioner then showed me how to "decipher" these job profiles. With the help of search engines and some research, you can quickly find out what is really behind the technical terms: Often it is very simple things or terms that refer to the handling of very special software. If this is the case, I write in my application that I am very interested in learning this software knowledge. I also list my personal skills. **"**

Informal or non-formal activities as identified by:

GUIDANCE PRACTITIONERS	
Training activities for consultants	Many of the consultants have noted that it is primarily important for them to keep up to date: both with regard to new technical requirements, completely new emerging job profiles and the associated demands on their clients.
Better recording of informal and non-formal competences. These must be made visible.	The fact that formal educational qualifications are still so important in Austria is criticised. Even people who have already worked in a profession for many years and have a lot of practical experience must - at least to a large extent - complete formal vocational training in order to obtain an official certificate. In our fast-moving world of work this is often difficult.
	The educational system is perceived by many counsellors as too rigid and does not adapt enough to practical conditions.
	The situation is particularly difficult for low-skilled persons who often feel overstrained - both by the strict requirements of the education system and the high demands of companies.
Demand for a regulated recognition of non-formal and informal competences.	Austria is only at the beginning of recognition processes in these areas. The interviewed advisors hope that there is more political movement and that we will soon arrive at a binding framework. Here, too, they stress that particularly low-skilled people are affected. This "non-recognition" of competences (e.g. degrees and qualifications acquired abroad) often leads those concerned into precarious employment relationships. If the courage to go on, it is very difficult for clients to improve the situation.

EMPLOYERS	
We demand more flexibility from all sides.	We live in fast-moving times, in which many changes are coming to entrepreneurs. However, in doing so, we are required to comply with legal principles that are often no longer up to date (e.g. Austrian labour law is one of the most complex in Europe, many of the requirements of the Trade Licensing Act are so outdated that they no longer make sense, etc.). Many of the legal foundations urgently need to be revised in order to be able to respond to the flexibility - which is both increasingly demanded of the market and employees. An official recognition of non-formal and informal competences would greatly help entrepreneurs to deploy employees more flexibly.
Participation in further education measures with regard to digitisation.	Entrepreneurs are often overwhelmed by the many new requirements themselves. Many would like to participate more in further education activities themselves or take advantage of favourable counselling services. Many are willing to invest in the further training of employees. It is also a requirement to be allowed to employ suitable staff without an official training qualification. From the point of view of entrepreneurs, formal qualifications are not always the most important thing. The educational system is perceived by many counsellors as too rigid and does not adapt enough to practical conditions.
We are looking for employees with common sense.	Formal educational qualifications and professional competence may be important. Many entrepreneurs stress that one key competence is even more crucial: common sense - i.e. the ability to think for oneself in a rapidly changing world of work. With regard to this competence in particular, a survey of soft skills and social competences would be very helpful in order to better identify suitable persons.

SERVICE USERS	
Further training is considered important	Many clients emphasise the importance of further training for them. Here is an apt example: "In the discussions with my careers advisor, I realised that I have to be open and flexible in this rapidly changing world of work. I try to get my formal degree and then add further education. Unfortunately, many measures that interest me are not formally recognised. I hope that the entrepreneurs will also appreciate these non-formal competences".
It is important not to lose courage.	• Older workers are aware that they can no longer learn everything about digitisation. • Low-skilled workers are struggling to move from often precarious employment to sustainable jobs. • Refugees are in a particularly difficult position as they usually do not have a secure residence status and are dependent on political decisions. These are just three examples of people for whom recognition of their competences - which they have acquired in their everyday lives - would be particularly important. Some consultants stressed that in these cases it is a matter of encouraging and showing possible perspectives.
Employers are called upon to give opportunities	We have given above the example of a young client who successfully completed the computer driving licence, but then was "too slow" in her job and lost her job within the first month. This is probably the best way to describe our ever faster moving world of work. We think it is important to emphasize here to give people a fair chance (in this case a little more time).

Formal and non-formal learning measures for:

Educational advisors
• to encourage their clients by making them aware of their strengths,
• to find suitable job profiles based on informal and non-formal competences,
• and perhaps show their clients completely new career prospects.

Identifying missing competences is important in order to be able to determine the next steps in education and training more precisely.

Entrepreneurs
• to better assess the suitability of applicants,
• broadening the job profile/area of work by means of informal and non-formal competences,
• and to work out longer-term development measures with the employees.

The holistic recording of employees' competencies facilitates the planning of areas of application and further development possibilities.

Clients (service users)
• to be able to expand their formal portfolio through informal and non-formal competences in order to
• to be able to prepare their curriculum vitae in a comprehensive manner, and
• to plan their training and further education needs in a more holistic way - also with regard to social skills.

Being able to clearly identify one's own competences, apart from formal training, is important in the search for a sustainable employment relationship from which both sides will benefit.

Methodological, social and personal skills are thus gaining in importance more than ever before - for all those involved.

In Italy

The demand for knowledge, skills and competencies is profoundly, with a different composition of the set of skills and tasks required of workers (hard, soft, e-skill). Training will have to provide the employability skills, the characteristics that a person must be equipped to enter and remain in the labour market, to qualify and retrain in this world characterized by change.

Employability Skills

- Confidence
- Adaptability
- Attitude
- Accountability
- Presentation
- Motivation
- Stress Management
- Time Management
- Teamwork

Knowledge
"What we know and undeerstand"
Interdisciplinarity
Traditional (i.e. Mathematics)
Modern (i.e. Entrepreneurship)
Themes (i.e. Global Literacy)

Skills
"How we use
what we know"

Creativity
Critical Thinking
Communication
Collaboration

21st
Century
Education

Character
"How we behave
and engage in
the world"

Mindfulness
Curiosity
Courage
Resilence
Ethics
Leadership

Meta-Learning
"How we reflect and adapt"
Metacognition
Growth Mindset

© Center for Curriculum Redesign

The digitization of many production and disbursement processes and, in perspective, also of decisions, is one of the macro-trends that are literally reshaping not only the landscape of the world of work but also of society itself (and therefore of the consumer and the institutions that govern and regulate the market). This link between companies and customers becomes increasingly close with digital: undigitalized customers, in fact, slow down the digitalization processes of companies.

The progressive tertiaryisation of the economy puts the service sector at the centre, once considered to be ancillary to manufacturing and essentially low in innovation. Today, however, it is in this area that the economy runs faster and expands.

The world of software, logistics and transport, the media sector, the welfare universe (from healthcare to wellbeing) are examples of sectors related to the so-called innovative tertiary sector where a lot of innovation takes place and where sophisticated and continuously updated skills are increasingly required.

The competence that records the highest frequency of demand by companies is re-lated with to basic digital skills, such as the use of internet technologies and the ability to manage visual and multimedia communication tools", requests to **58.7%** of incoming profiles.

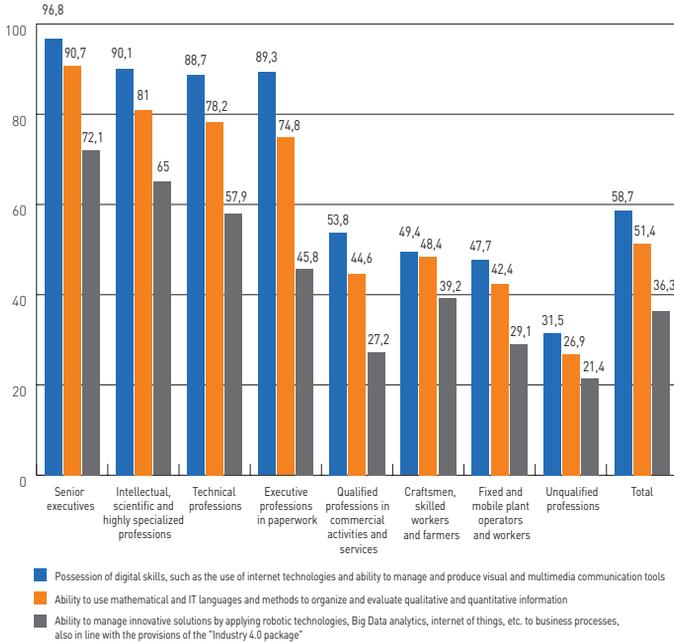There are **270,000 / 300,000** entries (2019-2023) with digital skills.

The business areas where the greatest use of e-skills is expected are precisely the areas most affected by the change technology, particularly IT and information sys-tems, design, research and development and quality control systems.

THE COMPETENCE THAT RECORDS THE HIGHEST FREQUENCY OF DEMAND BY COMPANIES

frequency of demand
58,7%

270,000/300,000
profiles with digital skills
(2019–2023)
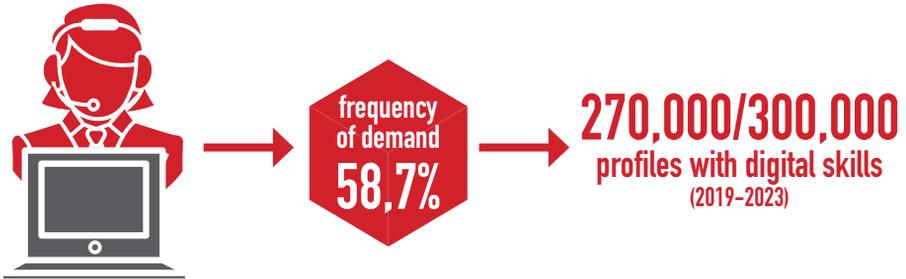
E-skills are most in demand for "higher" professional groups (so-called high skills): managers, specialists, technicians. It should be noted, however, that there are some specific professional profiles to which, although belonging to the "lower" professional groups (craftsmen, specialized workers; plant operators and machinery workers), companies require high e-skills.

Figure 1**. Soft skills request**

Figure 1. Soft skills request

Chart data:

Category	Possession of digital skills	Ability to use mathematical and IT languages	Ability to manage innovative solutions
Senior executives	96,8	90,7	72,1
Intellectual, scientific and highly specialized professions	90,1	81	65
Technical professions	88,7	78,2	57,9
Executive professions in paperwork	89,3	74,8	45,8
Qualified professions in commercial activities and services	53,8	44,6	27,2
Craftsmen, skilled workers and farmers	49,4	48,4	39,2
Fixed and mobile plant operators and workers	47,7	42,4	29,1
Unqualified professions	31,5	26,9	21,4
Total	58,7	51,4	36,3

■ Possession of digital skills, such as the use of internet technologies and ability to manage and produce visual and multimedia communication tools
■ Ability to use mathematical and IT languages and methods to organize and evaluate qualitative and quantitative information
■ Ability to manage innovative solutions by applying robotic technologies, Big Data analytics, internet of things, etc. to business processes, also in line with the provisions of the "Industry 4.0 package"

Some data from an Excelsior System survey on employment need with eco-friendly and digital skills and for sectors for the period 2019-2023:

• Between **518,000** and **576.00** placements expected between 2019 and 2023 with skills related to the environment and circular economy.

• The need to equip staff capable of exploiting developments in the eco-efficiency sector, for greater sensitivity, to optimise the use of raw materials (savings, waste reduction, recycling, increased use of energy sources renewables).

• The question concerns: the search for new figures (expert in energy management, green chemist, environmental marketing expert, waste management, low-impact plant installer, etc.), in a cross-cutting way, both high-skilled professions and specialization, both technical professions, employees, as well as commercial and tourist service workers, people's service workers, workers and craftsmen.

- The attitude to energy saving and environmental sustainability: in 80% of the professions required, even in 73% of those with low qualifications and for figures not related to environmental issues. The most requested skill after soft-skills. From production and food preparation technicians (**77%** important), as well as other professions, mechanical technicians (**64%**), power line and dog installers (**59%**), services (especially tourism, commerce and advanced services) etc.

SOME DATA FROM AN EXCELSIOR SYSTEM SURVEY ON EMPLOYMENT

production and food preparation techicians
77%

mechanical technicians
64%

power line installers
59%

Another 25% of the work needs are concentrated in five sectors:
- Health and well-being (in addition to specific skills also relational and organizational related to the care of the person, but also new frontiers of medicine).
- Education and culture, innovation in educational systems and processes, lifelong training system, distance learning.
- Mechatronics and robotics, automation and mechatronic systems technicians, industrial robot technicians, designers and numerically controlled machines. Industry 4.0, large but also small and medium-sized enterprises.
- Mobility and logistics, changes in purchasing and consumption models related to online platforms, logistics workers, warehouse workers, department managers, drivers heavy goods...
- Energy, electrical production technicians, chemical control workers, waste recovery and treatment, water, public utilities.

Recruitment accuracys for those with a diploma:
Annual supply average of **435,000** graduates against a demand of between **270,000** and **258,000**.
Aggravated by the stock of many graduates looking for a job (**1,241,000** in 2017).

435,000
annual graduates

258,000 / 270,000
demand

Which skills companies need most in 2019 according to a recent survey by Linkedin:

1. **Creativity**: it can be a very popular quality in candidates as it is the basis of innovation.

In the modern society a company needs to be able to reinvent itself as much as possible, which is why a creative employee can be a great asset.

2. **Teamwork**: the ability to work in a team is linked to a person's relational skills and is very important especially because in companies you are often required to work in a group.

In addition, having good relational skills also allows you to create a good relationship with customers and coordinate with others, making the working environment healthy and free from tensions.

3. **Time management**: to manage the time so that time is timely, identify goals and achieve them efficiently and effectively, organize activities on the agenda, but also know how to handle stress well, without ever losing control even in the most difficult situations.

This type of skills are among the most requested in a possible employee, also because we live in a way that always runs and sometimes no slowdowns are allowed.

4. **Problem Solving**: it is definitely one of the most requested skills in an ideal employee because it consists of the ability to analyze and understand the various situations in order to always find the optimal solution.

In essence, this characteristic consists of a proactive, solution-oriented attitude that allows you to deal with all kinds of problems or eventualities.

5. **Flexibility**: it allows to easily adapt to the work environment, facing new things without anxieties or stress and knowing how to make the maximum from every situation.

Being flexible does not mean not expressing your needs or being surrendering, but only being able to always adopt the most appropriate behavior for the situation and to perform different tasks with the same skill and ability.

6. **Motivation**: it is another of the skills now essential in a working environment because we know that between a thing done with commitment and passion and one made with reluctance there is a big difference in terms of quality.

Being motivated people, then, can be a good reason why a company should prefer you than another candidate.
Hiring you, in fact, would know that you have an employee who is committed to his profession, that really care about the success of the work.

7. **Persuasion**: especially those in the field of marketing - prefer candidates who can persuade others, able to become real thought leaders.

About Sardinia Region

Unlike in the past, the development trajectories of the Sardinian Region affect not only areas of "vertical" innovation, related to specific sectors, but also those "specialist areas" and technologies that tend to converge and integrate in different areas, in which Sardinia has better possibilities to develop innovative products and/or services, even if placed in particular market niches.
The areas that show the greatest potential for competitive innovation have been identified in biomedicine, ICT, agrifood, aerospace, tourism and cultural heritage, smart networks for efficient energy management.

Below is the result of a survey on the needs of companies in Sardinia conducted in 2019 by CIOFS-FP Sardinia.

ANSWERS	Food and agriculture	Typical and artistic craftsman- ship	IT and Telecom	Wood processing	Personal services	Services and consul- tancy	Textile	Tourism	Total
Communicative and group work	35%	23%	31%	52%	69%	35%	15%	34%	**36%**
Organizational and managerial	30%	29%	27%	45%	19%	59%	17%	20%	**32%**
Language	9%	16%	60%	0%	11%	33%	6%	70%	**30%**
IT and telematic	12%	19%	6%	6%	26%	29%	15%	37%	**21%**
Marketing and market knowledge	14%	23%	44%	3%	4%	11%	8%	19%	**16%**
Commercial in general	16%	16%	21%	0%	0%	35%	35%	35%	**35%**
Administrative and accounting	7%	10%	15%	0%	2%	6%	6%	8%	**7%**
Other skills	0%	0%	2%	0%	4%	0%	0%	0%	**1%**
None	27%	23%	6%	26%	11%	5%	29%	10%	**16%**
Does not respond	0%	0%	0%	3%	2%	0%	21%	1%	**3%**

The initiative to promote the development of the "Green&BlueEconomy", aims to promote integrated activities, functional to create job positions in sectors that show potential for growth and development, through the activation of synergies between local development policies and training and employment policies, with the direct involvement of economic and social realities of the territory (e.g. businesses, employers and social associations, local action groups), together with key players in vocational training, primarily training agencies.

The areas of action of the initiative are:
1. ICT;
2. Smart networks for intelligent energy management;
3. Green Chemistry;
4. Biobuilding;
3. Agrifood;
6. Tourism and cultural and environmental heritage;
7. Aerospace

By guidance pratictionners' experience:

"In the past the intermediation was done using the classic recruiting channels, today the selection activities are done online, so operators also have to work with intermediation platforms."

"The change of digital has also had an impact with regard to job searching: today the online job offer channel, where the intermediary is the web, is more used. Operators push and train users to use online work websites and platforms, and to use specific apps. In particular, immigrants looking for work are educated in this mode, which they are often unaware of".

"The way to search for work on the web has a positive impact on young people."

According to the guidance operators and VET trainers/tutors it would be important to measure the learning of soft-skills in a unique and structured way, because it would be easier for them to have common and observable indicators in order to identify which soft-skills they are observing in the user and to what extent they possess them. According to the perception of guidance pratictioners, who have a broad vision and come into contact with different types of users, the labour market is differentiated by target: there is a labour market for high profiles and a market for low profiles. High profiles, such as graduates, are more ready to cope with digital change, because they have been able to acquire the use of technology during the course of study.

For low profiles, on the other hand, there is an urgent need to acquire technology-related skills so as not to be cut-off from the labour market, and according to the interviewees, the world of school and vocational training is not always ready to close this gap.
Younger and with less work-experience, and adult or young but with work experience, who fall into the 25-40 range, find it easy to use the web and the different platforms that exist as a way of applying and searching for work, but believe that online applications are less effective than showing up in person.

Different situation for adult users (45-60), who are reintegrating to the world of work and who are not familiar with new technologies, in fact consider online applications a waste of time and consider much more effective the application in person.
With regard to automation in the workplace, trainers constantly need the use of technology, through Lim, projectors, videos and power-points, tools that serve to keep high students' attention, otherwise difficult to manage because they are not stimulated by the classic frontal lesson of the past.

In Sardinia it is often found that in adult users there is a perception of work and the tasks they have to perform that is not adhering to reality: they do not think that it is necessary to master technologies, because they are resistant to technological innovations that are gradually affecting all professions.

By employers' experience:

> Automation has also increased in the tourism sector: softwarer are used to manage infrastructures; the important channels with which you sell the structure and with which you maintain contact with clients are social, fb, twitter, instagram".

> In the field of aesthetics and catering is mainly required the ability to communicate, relate and manage the customer. The technical aspect is overshadowed, because it can be learned through practice, and it is given greater importance to the relational skills of the employee.

> Identifying and measuring soft-skills is important to increase the sense of effectiveness of job seekers: in fact, making the person aware of the soft skills possessed increases the sense of effectiveness, and affects the way in which they search for a job, because the path of orientation and accompaniment to work becomes more effective. In fact, when you identify what soft-skills the person has and in which they need to improve, you can design a personalized and targeted path of job placement and implementation of the skills gap.

Currently, is given a lot of relevance to the work environment: it has been seen that a healthy and positive working environment leads to an increase in productivity.
In some companies there is still a shortage of IT tools, which are not perceived as a problem-solving tool but something difficult and to avoid. As if there is a resistance to change that leads to a slow ness in updating.

Employers recognise that it would be relevant to be able to measure non-formal and informal learning and identify the soft skills acquired/implemented. This is especially the case in the first phase of recruitment, and they believe that it is important to observe and support the dependencies in the company, to prove what has been declared during the selection phase.

In the management of the training activities, the **CIOF-FP Sardinia** requires that for each module a test of initial and final assessment of the teaching is carried out. This assessment includes both the dimension of content learning and the assessment of personal resources: commitment/motivation, collaboration/cooperation, management of interpersonal relationships, use of problem solving strategies, time management, autonomy, creativity.

There are no specific shared indicators that allow an objective measurement of soft skills. The observations can be inserted into a grid, but the compilation is subjective as it depends on the teachers/trainers' ability to observe and hypothesize which soft-skills the student has acquired.

By users' experience:
Users between 40 and 60 years old, who have already held professions where the use of technology was required don't perceive great difficulty in adapting because they felt part of this change, they grew during this transformation, and they have often been accompanied in this process through the support of companies (e.g. training in the company), and claim that being young during change have not suffered as much as people who have undergone automation in age already advanced. On the contrary, they understand the need for innovation because living through the phase of change has provided them with the basis for keeping up with this need for the world of work.

Users have clear that even in non-formal/informal learning contexts, certain soft skills are learned/implemented, they would have greater awareness of which ones they own, so they should be able to spend them in different work contexts, and to feel more effective in presenting themselves in the world of work.

So it is important that people have good relational skills, and that they are aware of their own communication styles and we know how to manage conflicts. It is therefore important to identify people's relational skills, to enhance them where the profession requires them, and to direct the person to professions more similar to his livell of relational skills.

About Apulia Region

In Taranto, it emerged that the work areas that concern the most recent changes in Italy are undoubtedly those most sensitive to automation and digitalization:

- for teachers/trainers: 3D printing,
- for students: audiovisual, video games and sport,
- for institutions: personal services and transport.

Digitizing and automation will impact quickly and drastically, so it will be increasingly necessary to focus on continuous training in the company not only of a technical and / or updating type with respect to new technologies but above all of a cognitive/motivational type , focusing on the emergence of transversal skills and in particular on the following:

- flexibility
- resilience
- creativity
- tenacity

If companies want to resist change, or they adapt to itself, or they are destined to extinc companies and their human resources, must be attentive and intercept new international challenges (just think that from 2000 to today, only **4,100** remain on **9,700** companies in the textile sector! These were mainly small family businesses that have failed to cope with the changes taking place).

The sectors considered to be at high risk of loss are above all those linked to artisan traditions where the introduction of increasingly sophisticated machines makes it easy to replace a large portion of the workforce, especially as regards workers and employees who have always been entrusted with relatively simple tasks.

Digitizing the work inevitably means reducing the number of the most repetitive jobs, due to the process innovation and transfer to machines or programs from the more repetitive tasks, but it can mean considerably increase the less serial ones, due to the of product innovation.

Before digitizing a production process, therefore, it is necessary to take care to enhance the preliminary stages to implementation, especially the most creative ones, and also those subsequent to implementation, related to distribution logistics, sales strategies, after-sales service quality, customer care.
Communication and personalization of goods and services, in a scenario characterized by a high degree of digitization, will also play a fundamental role thanks to the collection of data on customer response to the offer and service, increasingly through the use of platforms company.

The massive introduction of digital must also make reflect on possible discontinuities in the worker-employer relationship. The most successful digital experiences (Google, Facebook, Instagram) show a production organization based almost uniformly on a high degree of parceling and distribution of the work.

In a highly digitalized production context, the producer-customer relationship cannot end with the delivery of the product, but this moment is only the beginning of a more lasting relationship, in which the subject to whom the services are addressed, is included in the post-production process.

The real risk is to choose a training course today and not be able to put skills into practice tomorrow due to the enormous volatility of the professions induced by the technological framework. Social media manager, Airbnb host, influencer, podcast producer and drone operator; these are just some of the works that did not exist 10 years ago...

About digital and automatization the Fourth Industrial Revolution pushes towards overcoming the already evanescent boundaries between employee and self-employment: the "gray area" of formally autonomous relationships, albeit with more or less typical forms of hetero-direction. It continues to expand, while **the latest technological tools admit a perennial availability that blurs the contours between private and working life**.

Mass production gradually leaves room for mass customization: no longer the same products for everyone, but all with a personalized, unique, tailor-made product. The focus on the customer therefore becomes central in the market strategies of companies, directing them towards what has been defined as "servification", ie overcoming the distinction between industry and services. Thus an "on demand", "*just in time*" economy takes shape, where the competitiveness of companies is measured on the basis of the ability to perfectly meet consumer demands. The customer's full satisfaction forces companies to invest, often substantial, aimed at intensifying the degree of specialization in the various production areas.

Five strategic challenges must be faced and accepted so that the changes taking place in the labor market are translated into an opportunity for improvement for everyone, from workers to businesses to the entire country system:
1. the fight against undeclared work
2. to facilitate the entry of young people into the job market
3. to respond to the challenge centered on the worker 's continuity of employment: flexicurity & "training welfare"
4. to encourage training
5. the collaboration between the different public and private stakeholders that make up the network of services for work (including digitalization and automatization of PES)

What difficulties do the stakeholders of the focus group experience?
Entrepreneurs are experiencing difficulties in adapting to the changes taking place caused by new technologies that require continuous and sudden research and innovation;

Labor consultants live the difficulties of the companies in the search for qualified workers; **Students** despite their strong propensity for technological innovation as digital natives, they are afraid of the future and are afraid of not finding their own place in the job market;

The teachers reflect the students' difficulties and feel almost powerless to instill their trust in the future;

Public institutions are unable to find adequate solutions to help companies and workers.

What worries do they have?

Entrepreneurs do not find adequate human resources for the needs of their business both for training and for soft skills and think that young people in particular are unwilling to sacrifice themselves to learn a job.

Labor consultants are concerned with offering companies adequate solutions to deal with changes;

The counselors feel the inconvenience of job seekers and are concerned with proposing solutions and interventions necessary to bring out the soft skills necessary to enter the world of work;

The teachers face the uncertainties of the students on a daily basis, infusing them with courage in facing the challenges of the future with adequate didactic preparation;

The institutions are concerned with finding funds to encourage technological innovation

How are they currently addressing these concerns?

Entrepreneurs are opening up to the training of resources already engaged in the company but also to other forms of work / training such as traineeships and apprenticeships that allow companies to get to know and train future workers;

Students are concerned with mastering foreign languages and new technologies in order to be able to face training periods abroad necessary to prepare adequately for the challenges of the future;

The teachers encourage students to study in other countries to improve technical and professional skills and develop soft skills;

Institutions increasingly are involved with programs and actions to encourage companies to hire, to encourage young people to train and workers to retrain. Too often, however, these interventions prove inadequate to resolve the difficulties in the labor market as they do not take into account the real needs of the parties concerned but rather of mere political needs.

About Soft skills, they make the difference between suitable candidates and ideal candidates. Practical skills and emotional intelligence, make a candidate, not only ideal but potentially appropriate to the role for which it is proposed.
About Digital Skills, they are required not only in the ICT professions, but also in all professions and sectors, with peaks for the support and management figures and in the production, design, research and development, marketing areas, and human resource management: the role of digital skills grows in all sectors with an average incidence of 13.8%. There are 63% tips for specialist professions and 41% in Services.

The **digital skills** required can be divided as follows:
- **applied**: the ability to use tools and software in operational and decision-making processes;
- **ICT techniques**: the ability to design technological solutions and platforms;
- **basic**: the ability to use IT tools on a daily basis;
- **information brokerage**: the ability to use IT tools for the exchange of information and communication.

This type of digital skills is increasingly accompanied by requests for soft skills or transversal skills, such as:
- problem solving,
- openness to change,
- creativity and the ability to work in a team.

The professions and sectors of digital transformation:
- **Mechanical industry**, where more than a quarter of job advertisements require digital skills (26%) in the areas of management, workers management, research, web promotion and image;
- **Fashion industry**, which is also marking important numbers for job opportunities. Here digital skills are asked for the most highly professional figures (in 59% of cases) and where the digital transformation goes from structured training to training on the job;

- **Small fashion detail**, where the search for digital skills prevails through part-time contracts, and above all external consultancy, and where digital skills can be an extra gear to contribute to success, such as managing store websites, social networks , online sales and e-commerce;
- **The hotel sector**, which also marks very tempting numbers and opportunities, requires extensive digital skills. It is a sector that operates more and more on online platforms, even in the management of museums;
- **The public sector** where digital evolution is transforming local authorities and IT companies into houses.

Further key issues needed to face changes in the world of work:
- **Field preparation** - Increase consideration of on the job training in spite of university education. According to the InfoJobs Observatory, in fact, the ability to structure a coherent professional growth path within the world of work will be an increasingly fundamental indicator for recruiters. In this way, the quality of university education will be accompanied by the ability to build a growth path and the ability to acquire new skills in the "field".
- **Employer Branding** - Promoting the image of a company, through a reputation built as an employer, is fundamental to attracting talent. The implementation of multi-channel employer branding strategies offers important levers to attract the best candidates to be included in the company. Consequently, structuring your online presence and defining a coherent and integrated employer branding strategy will be increasingly important, thus differentiating yourself from competitors in highly competitive markets.
- **Smart Working** - Working remotely is increasingly common thanks to the mobile and cloud tools that each of us is equipped with. The digitization of a constantly growing number of professional applications, as well as the increasingly widespread diffusion of remote tools for managing a variety of activities, will lead to the implementation of smart working policies by companies operating in different sectors and markets.

To summarize what emerged from the different countries, the soft skills considered most relevant below, and the distinction by country:

THE MOST REPRESENTED SOFT SKILLS OF ALL COUNTRIES

INIZIATIVE
TEAM ORIENTATED/TEAM WORKING
PROBLEM SOLVING
DIGITAL COMPETENCIES
COMMUNICATION SKILLS
ACTIVE LISTENING
CREATIVITY
SELF REGULATION/CONTROL/STRESS MANAGEMENT
SOCIAL INTERACTION/SOCIAL
DECISION MAKING
ADAPABILITY
LEADERSHIP/INFLUENCING
PLANNING/ORGANISING
SKILLS
LITERACY/PUNCTUATION
TIME MANAGEMENT
EMOTIONAL INTELLIGENCE
RESILIENCE

OFT DIGITAL SKILLS IN IRELAN

iniziative   team orientated/team   working communication skills
social interaction/social skills   adapability   time management
active listening   self regulation/control/stress management
leadership/influencing   problem solving   resilience
planning/organinising   emotional intellingence literacy/punctuation
decision making

SOFT SKILLS IN SPAIN

communication skills   social interaction/social skills
digital competencies   adapability   creativity   time management
leadership/influencing   resilience   decision making

SOFT SKILLS IN ITALY

team orientated/team working   social interaction/social skills
digital competencies   adapability   creativity   time management
self regulation/control/stress management
leadership/influencing   problem solving   resilience
decision making

SOFT SKILLS IN AUSTRIA

initiative team orientated/team working
communication skills social interaction/social skills
digital competencies adapability active listening
creativity self regulation/control/stress management
resilience emotional intelligence

SOFT SKILLS IN GERMANY

team orientated/team working communicaiton skills
social interaction/social skills time management
problem solving resilience planning/organising
literacy/punctuation emotional intelligence

SOFT SKILLS IN ROMANIA

iniziative creativity leadership/influencing problem solving
critical thinking and analysis complex problem solving
emotional intellingence originality reason, problem solving
and ideation innovation technological design abd programming
system analysis and evaluation

Conclusion

These anxieties and worries have always informed the intellectual debate that in the Nineteenth century, following the first industrial revolutions, saw the idealization of the countryside oppose, which embodied the old known, guarantor of a less anomic sociality, opposed to the city, which offered on the one hand new jobs in the factory and in related industries, as well as the possibility of new social mobility and greater income security, while at the same time generating social atomism, marginalization and environmental pollution due to the miasmas of the factories.

With respect to the epoch-making impact that the new production structure was generating, in terms of social upheavals and new poverty, different philosophers and thinkers, among supporters or detractors of the changes taking place, opposed each other. In summary of the various contributions, it is not possible not to mention that of Karl Marx, who in full awareness of the negative consequences of what was looming, stated that it made no sense to oppose the inevitable change in the name of the times in the name of times gone by, idealized not without romance. At the time, as today, a question of social divide arises, partly attributable to a divergence of social class, albeit with other features compared to two centuries ago, which in this new revolution translates precisely into a digital divide.

So today we are inevitably going towards an increasingly digital and technological world, and the only way to take part in it is to acquire the skills and knowledge necessary to enhance the possibilities that technology offers us, without letting ourselves be succumbed to it.

As in all industrial revolutions, also in this one, on the one hand, anxieties alternate for the new, partly unknown, which is advancing, and which will make old crafts or consolidated ways of production set, causing the loss of knowledge

and skills which are no longer not always useful to the new world-system; and on the other hand enthusiastic and optimistic impulses that welcome the new, undoubtedly performing, capable of more easily and quickly resolving previously unresolved problems, wholly or in part, not considering that all this is not zero impact, just think of the impact on the health, think of electromagnetic pollution, just to give an example (similarly to the previous industrial revolutions). Just as the fear of being excluded or expelled from production systems or work contexts is real because of the lack of new skills required.

At the same time, in these days the Covid19 emergency has forced millions of citizens at home, making services and activities stop and making run the risk of paralysis of entire productive sectors. Many workers, however, have been able to continue working (where possible), thus managing to carry on activities and at the same time managing to secure an income thanks to smart working, where the risk of economic poverty and the risk of counting are around the corner for many people, because of this situation of emergency. This experience is showing how internet and new technologies can often guarantee work and not necessarily threaten it, besides obviously facilitating contacts and relationships that until now seemed to be undermined in terms of quality by the same technologies. Precisely in the days of the emergency, to face the social detachment imposed by the pandemic, on the other hand, fundamental resources for the relationship dimension were also revealed. And who knows what other useful Soft skills are emerging right now to face the emergency...

Who we are

The **Ballymun Job Centre** (BJC) was established in 1986 as a community response to a chronic unemployment situation. Since opening, the BJC has adapted to changes in the environment in order to respond more effectively to the needs of the community. A voluntary organisation with charitable status, the BJC has a proven track record of providing quality and innovative services. www.bmunjob.ie/

Founded in 1985, **Headway** is a not for profit organisation that provides community-based rehabilitation services for adults aged eighteen and over living with Acquired Brain Injury . It acts as a lifeline for people as they try to come to terms with their brain injury after stroke, haemorrhage, infection, road traffic accident, fall or other trauma to the brain. www.headway.ie

CIOFS-FP is a non-profit association. It pays great attention to the Labour World and the Vocational Training. CIOFS-FP operates in 11 Italian Regions through its Lo cal Boards with about 60 Operative Centres, engaging more than 900 trainers. It covers activities such as: vocational training, orienting, services to local enterprises and particular needs. It provides training, workshops, transnational exchanges, research and work-oriented services. The main beneficiaries are youth, dropout, women, unemployed, NEETs, migrants, and other minorities. www. ciofs-fp.org

The **University politehnica of Bucharest** (UPB) is the oldest and most prestigious engineer school in Romania. Its main mission is to train an engineer capable of adapting to the requirements of market economy and new technologies, with an economic and managerial knowledge and promote the principles of sustainable development and environmental protection. To do this, he must be formed according to the modern principle of direct participation in choosing his formative trajectory and to be included in a learning process that will give him real chances to compete on the labour market. www.upb.ro

Fundación Tomillo is dedicated to serve the general interest in the fields of promotion and attention to people at risk of social exclusion, promoting the social economy, education, and cooperation for growth and development. It´s vision is working with children and youths, and with their families and communities, providing them with the necessary tools to to take responsibility for their own lives and environment. www.tomillo.org

Hafelekar combines expertise in managerial, social and educational sciences. Customers are business companies, non-profit organisations as well as clients in the public sector. It is mainly engaged in the following lines of business: Consulting, Research, Studies, Surveys, Evaluation, Validation of informal and non-formal learning, Development of (ICT) training models, Curricula design, Analysis of training needs, Vocational orientation, Career guidance, Process Management, EU-funded projects. www.hafelekar.at

MetropolisNet (MET) is a European network of different types of organisations; all of them working in European city contexts. MetropolisNet concentrates its partnership on metropolitan areas and contributes significantly to deal with the challenges facing urban regions through information exchange and mediation between practitioners and policy-makers in order to design programmes and develop partnerships for joint policydevelopment. www.metropolisnet.eu