



DiTEMP

DIGITAL TRANSFORMATION
& EMPLOYABILITY



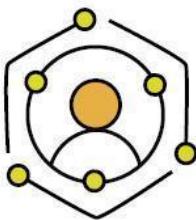
Co-funded by the
Erasmus+ Programme
of the European Union



Hybrid Jobs

&

Future Skills



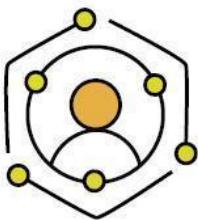
How to use the following materials



The following materials aims to help career counsellors in supporting students and graduates to identify new possibilities and not predetermined careers trying to predict which professions will be able to achieve results in the coming years and, consequently, with which skills should be equipped those who will enter and move into the upcoming labor market.

This material will provide useful information and external resources to all professionals involved in the world of training and work, in order to develop policies and actions aimed at reducing skills mismatch, through the construction of models and tools to innovate teaching, training and orientation, towards the path of increasing quality employment in your country.

The following analysis is focused on Italian scenario but most of the insights about medium-long term scenario, in response to the change of some key factors such as environmental sustainability, urbanization, growth in social inequality, political uncertainty, technological change, globalization and demographic change, showed in this study can be applied to the most of the modern European economies.



Introduction

Two of the most relevant challenges for new jobs are the interaction of knowledge and the compression of time.

The **interaction of knowledge** leads to **hybrid jobs**. For many of the existing jobs and for all the new ones, the basic expertise will have to be integrated with IT, digital, communication and social media skills, together with the ability of collaboration in a more and more technological, dynamic work environments. Hybridisation is a transversal, pervasive phenomenon, which includes all positions, trades and professions.

The **compression of time** forces the workers to keep up with technological, organisational innovations and doing it as quickly as possible.

In this perspective, education policies will need to be built on four pillars:

- development of transversal/soft skills;
- post-diploma interdisciplinary curriculum;
- efficient models for recurrent training;
- digital literacy plans for non-working and elderly.

The already established pathways for soft skills and guidance need to be strengthened with actions to train teachers delegated by HEIs. In order to prepare new generations for hybrid jobs, we need post-diploma paths that combine different disciplinary languages in challenging plans.

The today's initiative is part of the University's Third Mission that – together with Research and Teaching – completes the portfolio of activities to which the University is committed.

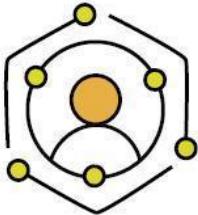
The interaction with the economic, social system is also necessary for the adjustment of educational programmes, in order to reduce the mismatch between the knowledge the University transfers and the ones enterprises need.

Digital transformation is a transversal issue that is also changing the education and training systems, making the interaction of experiences even more useful.

The Fourth Industrial Revolution (or Industry 4.0) is not only about technology, but also about new ways of organising and working

Hybrid jobs are becoming increasingly popular. Technology does not replace humans but helps them do their jobs better. Here below some examples:

- the surgeon operating with the Da Vinci robot;
- the mill operator of the company Tenaris;



- the taxi driver using the navigator and the automatic hailing system;
- the worker using the exoskeleton.

On the one hand, there is the need to detect, in the various sectors of employee and independent work, the tumultuous evolution underway at all levels of value, the importance in the design and management of new technological-organisational systems, the relation with the technologies (hybrid jobs). On the other hand, there is the necessity to improve the conditions of quality of working (physical, psychological integrity and possession of rights, economic conditions, integrity of the balance between working life and social life and above all integrity of the worker's human identity).

We need to overcome the formalism of profiles, duties, classifications, and organizational positions that we inherited from Taylor-Fordism and that are used to make statistics, manage labour relations, contracts, job training budgets, rather than to represent, monitor, understand work, and train people.

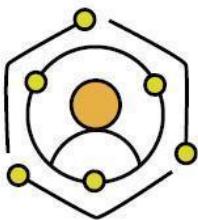
Secondly, there is the need to design and develop new roles in employment and self-employment, in private and public sectors. They will ensure the maximum economic and social value to work and develop the maximum quality of working life.

In this direction, three measures should be applied:

- industrial policies at local, national, European level directed to foster structural change;
- integrated planning for the companies, public administrations, cities, territories;
- participation and attendance.

University training must have a particular attention because very often is accused of being abstract and of not producing skills that are expendable in the labour market.

Academia is not a professional school. Actually, it must provide competencies and professional skills adapting to the ever-changing scientific, technological, economic and social reality. Internationality, hybridisation of technologies and languages, continuous experimentation are the pillars to build meta-competencies.



Hybrid jobs

Hybrid job, therefore, combines and integrates technical, managerial, professional or relational skills with computer and digital skills, the communication in social networks, the interaction with other people through the mediation or use of digital technologies. For this reason, hybrid work concerns not only newly conceived activities, which could not exist before the widespread diffusion of digitalisation, but also traditional ones, which do not change their name but modify their content, in order to adapt to the new needs of production.

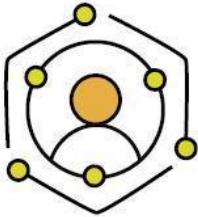
Two recent research have introduced new and interesting aspects to understand the impact of hybrid jobs on the internal business organisation.

The first one (*Colbert, Yee, George, 2016, The digital workforce and the workplace of the future. Academy of Management Journal, 59(3), 731-739*) is about intergenerational relationships (between millennials and digital natives clashing with other workers) and the effects that can result from it. An interesting way to fill this gap is to initiate **mentoring programs** – in this case, they would be bi-directional.

The second one (*Kunze, Menges, 2017, Younger supervisors, older subordinates: an organizational- level study of age differences, emotions, and performance. Journal of Organizational Behavior, 38(4): 461-486*) is about the difficulty for mature workers to accept much younger hierarchical superiors. Organizations that fail to manage these relationships lose competitiveness and reduce the performance. In other words, the diffusion of hybrid jobs will lead to a change in organisational structures and processes, which will reward companies with **digital dexterity**. This means the ability to adapt the organisation to seize the emerging advantages offered by digitalisation, both in terms of structure and leadership (greater autonomy and involvement). Hybrid jobs, in fact, reward experienced employees who manage to acquire digital knowledge and interpersonal skills.

The hybridisation of work, therefore, is a two-way phenomenon. On the one hand, there are the well-known and well-established professions that evolve, either by incorporating new activities or, due to technology, by enabling them to exercise greater discretion and control, or even by changing the ways in which they used to be carried out. On the other hand, there are the digital jobs that evolve through the incorporation of certain activities of known and established jobs.

Another relevant aspect to understand the transformation induced by hybrid jobs has to do with the **compression of time**. The speed of technological and organisational innovation requires the recurrent acquisition of new skills (social, digital, technical or professional).



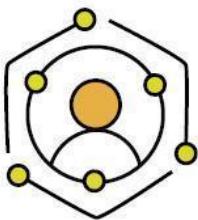
The recurrent training of those who already work demands original solutions. On the one hand, training sessions centred on specific skills and abilities, which lead the workers to a quick acquisition and a prompt adaptation to the new requirements. On the other hand, participatory teaching methods, where the workers learn by experimenting, interacting and observing the others.

Conclusion

The social effects of digitalisation should not be feared, but we need to design and develop together qualifying technologies, flexible organisations and enterprises, professional works, digital, social skills and competencies. As much as possible, the planning must be carried out together with stakeholders, workers and users, to facilitate innovations and their continuous implementation, aiming at productivity, sustainability, and quality of life. Industrial and educational policies not only need to be appropriate to the current change, but more importantly, they need to be implemented to help businesses and workers strengthen themselves in the transition.

2016 has been called the year of hybrid jobs. In a growing number of professions, in addition to the typical skills that define and give identity to a specific occupation, it is increasingly required to possess skills that are almost entirely new to that position.

In hybrid jobs the technical, managerial, professional or relational skills of established professions are combined and integrated with new digital, communication and social media skills. The methods of collaboration will be less hierarchical and the structured work environments will become more technological and dynamic. The research *People and hybrid jobs* aims to investigate the nature and the different features of born digital professions and study the transformation of the established ones.



Future skills – The Italian Job Market in 2030

The 2030 scenario describes a positive, and in some cases significantly optimistic, employment trend for a wide range of occupations. Not only those related to technology, but also education and training, communication, care services and personal support. However, for others a considerable negative trend is expected. Such significant transformations, which will affect an extremely large number of workers in the short space of a decade, must be governed with awareness of the objectives and actions to be taken. More than ever, it becomes necessary to provide for investments in education and training systems, taking into account the real needs of the professions of the future. Above all, the greatest risk associated with the transformations underway, and accelerated by the Covid-19 pandemic, is the shift of the focus from the mismatch between supply and demand for skills to the structural difficulty of insertion/reinsertion in the labour market (unemployment).

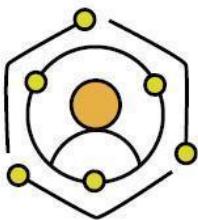
In order to make the development process truly effective, it is important to know which skills will be required by the new professions, in order not to be found unprepared and to be able to adapt in time to the new realities. The forecast model appears particularly useful from this point of view because it also provides indications on the classes of skills most frequently associated with growing professions, whether technical or, more often, typically human. In fact, while it is clear that the professions considered to be on the rise require specific skills that need to be constantly updated, it is equally clear that social and relational skills play an important role.

If the transformation of the world of work in the coming years will be epochal, the change in the guidance and training system will have to be just as radical.

The study *Future skills – The Italian Job Market in 2030* differs from the previous ones because it is configured both as a survey on the **future of occupations** and as a research on the **future demand for skills**. Introducing a mixed approach to forecasting methods, it combines the opinions of experts and multiple players in the labour market with the database of public institutions, both national and supranational, regarding the Italian employment system.

The new background – The Italian labour market in 2030

Before the Covid-19 outbreak, the OECD3 mismatch indicator – which measures the share of workers who are less qualified than the jobs they perform – was high throughout Europe (33.5% in the EU average). It was particularly high in Italy (38.2%), primarily due to the overqualified workers (18.2% versus 14.7% of the European average).



Italy is the third country with the highest talent shortage share (47%). Italian employers, along with those in the United States and Mexico, are unable to find workers with the right skills. The percentage of companies in Italy that cannot find the skills they are looking for reaches 84% in enterprises with more than 250 employees. In 2018, more than 25% of the professional figures surveyed were hard to find by companies, with significantly higher shares for specialist (38%), technical (37%), skilled workers (38%) and graduates (35%).

As for the labour market, between December 2019 and December 2020, there was a drop in employment of 1.9%, nearly 444.000 workers.

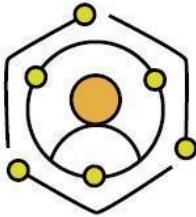
According to a research of the International Monetary Fund, the **groups most at risk of unemployment or inactivity** are:

- **young workers** and those without a higher education degree. This suggests that the crisis may be amplifying the intergenerational inequality;
- the **female workforce**, concentrated where the crisis has had the greatest impact – such as food service and hospitality. In addition, limitations on childcare and elderly companionship services have provoked additional domestic workloads, primarily on women;
- **part-time workers**, employees of small and medium-sized enterprises and informal workers;
- **professional profiles** especially in the technical, executive, commercial and services fields, as they are normally associated with less possibility of working independently and the difficulty of working remotely.

Overall, the most significant information from this data is that approximately 30.8% of those employed in 2020 are in an occupation that is going to change, whether positive or negative.

Here below there are the 14 mega trends used in the *Future skills* study:

1. **Social inequalities**
2. Changing of the working models
3. Climate change and environmental degradation
4. Continuous urbanisation
5. Lack of natural resources
6. Diversification of learning and education processes
7. Expansion of the economic influence from the East and the South
8. Growing influence of the new systems of government



-
- 9. Growing consumerism
 - 10. Increasing of the migration
 - 11. **New health challenges**
 - 12. **Technological innovation and interconnection**
 - 13. New reference models of the citizen safety
 - 14. Increasing of the demographic imbalances

Macro trends of greatest impact

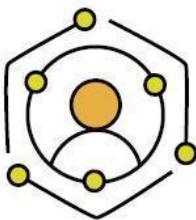
According to the survey, the trends that have the greatest influence on the labour market are **technological innovation and interconnection** – a megatrend that alone contributes 20% of the overall effect – and **social inequalities**.

In particular, for 2030 the participants of the survey assume a growth trend for employment in the following sectors:

- Computer and telecommunications services (+1.5%);
- Cultural, sports and other personal services (+0.9%);
- Operational business and personal support services (+0.9%).

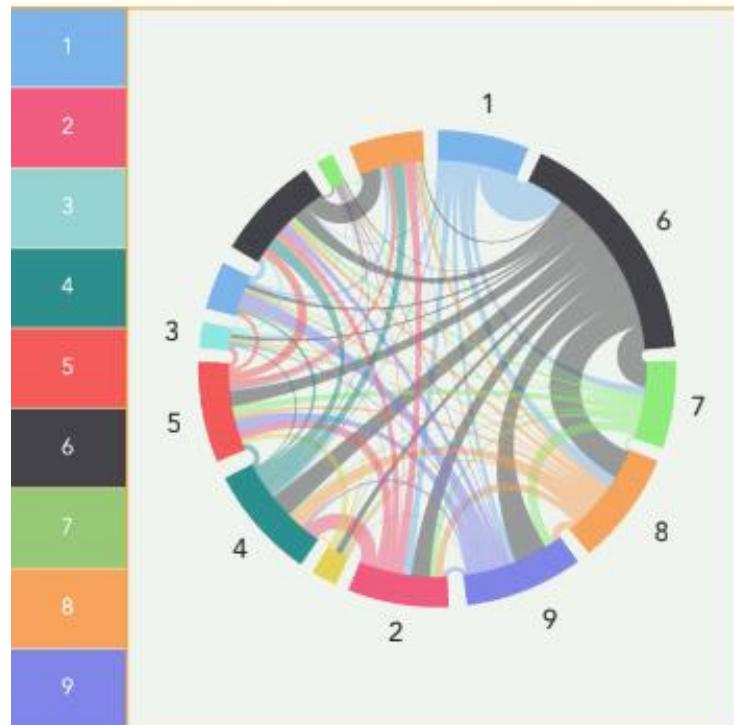
On the other hand, employment has a sharp decline in the following sectors:

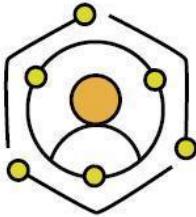
- Financial and insurance services (-1.7%);
- Agriculture, hunting and fishing (-1.5%);
- Paper and printing industry (down 1.5%).



Trend correlation

- Social inequalities
- Growing consumerism
- Continuous urbanisation
- Growing influence of the new systems of government
- Lack of natural resources
- Technological innovation and interconnection
- Climate changes
- Demographic imbalances
- Changing of the working models





The effects of Covid-19

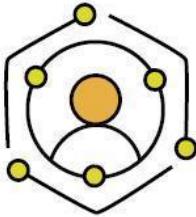
The analysis takes into account only the direct and indirect effects resulting from the **new health challenges** trend, without considering the impact of the other trends.

The scenario shows heavy **negative effects** on the following sectors:

- Agriculture, hunting and fishing (-2.8%);
- Mineral extraction (-2.0%);
- Paper and printing industries (-2.0%);
- Textile and footwear industries (-2.0%);
- Wood and furniture industries (-1.5%);
- Accommodation, food and tourism services (-1.1%).

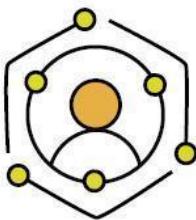
On the other hand, overall **positive effects** were noted in the following sectors:

- Chemical, pharmaceutical and oil industries (+3.0%);
- IT and telecommunications services (+2.8%) driven by smart working and distance learning;
- Education and training services (+1.7%);
- Wholesale trade (+1.2%), compared with the retail sector (-0.7%).



Tendenze occupazionali dei singoli settori.

Settore	Tendenza occupazionale
Commercio al dettaglio	+1,0%
Commercio all'ingrosso	+0,9%
Commercio e riparazione di autoveicoli e motocicli	+0,2%
Costruzioni	+0,2%
Estrazione di minerali	-1,9%
Industrie alimentari, delle bevande e del tabacco	-0,1%
Industrie chimiche, farmaceutiche e petrolifere	-2,7%
Industrie dei beni per la casa, per il tempo libero e altre manifatturiere	+0,8%
Industrie del legno e del mobile	-1,2%
Industrie della carta, cartotecnica e stampa	-1,4%
Industrie della fabbricazione di macchinari e attrezzature e dei mezzi di trasporto	+0,1%
Industrie della gomma e delle materie plastiche	+0,2%
Industrie della lavorazione dei minerali non metalliferi	+0,6%
Industrie elettriche, elettroniche, ottiche e medicali	-1,4%
Industrie metallurgiche e dei prodotti in metallo	+0,2%
Industrie tessili, dell'abbigliamento e delle calzature	-1,5%
Public utilities (energia, gas, acqua, ambiente)	+0,8%
Servizi avanzati di supporto alle imprese	+0,2%
Servizi culturali, sportivi e altri servizi alle persone	+0,9%
Servizi dei media e della comunicazione	+0,7%
Servizi di alloggio e ristorazione; servizi turistici	+0,4%
Servizi di trasporto, logistica e magazzinaggio	+0,4%
Servizi finanziari e assicurativi	-1,7%
Servizi informatici e delle telecomunicazioni	+1,5%



Growing professions

The survey has identified the top 30 occupations for positive employment trends. It is noteworthy that 17 of these 30 (57%) are directly related to **informatics** and **technology**. The second large group (5 out of 30 – 17% of the top 30 occupations) is **education and training**. The third one is related to **personal support** with direct reference to **job placement or reintegration** (3 of 30, or 10%). These results show the urgency and the need to increase in specifically trained personnel.

Decreasing professions

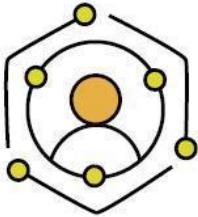
Decreasing occupations tend to be those associated with high values in physical and psychomotor aptitudes, partly because they are often related to highly repetitive activities and, for this reason, they have a high risk of automation. In many cases, it is particularly associated with a lack of adaptability (social skills) in the field of that occupation.

Grande gruppo	Decrescita	Stabili	Crescita
1. Legislatori, imprenditori e alta dirigenza	14	3	4
2. Professioni intellettuali, scientifiche e di elevata specializzazione	12	41	86
3. Professioni tecniche	8	25	113
4. Professioni esecutive nel lavoro di ufficio	12	9	7
5. Professioni qualificate nelle attività commerciali e nei servizi	29	15	8
6. Artigiani, operai specializzati e agricoltori	125	24	8
7. Conduttori di impianti, operai di macchinari fissi e mobili e conducenti di veicoli	85	14	3
8. Professioni non qualificate	14	10	1

The redevelopment process

In order to plan possible actions to counteract the rising unemployment rate, we need to identify how we can requalify the employees in specific occupations to other ones expected to grow. Clearly, different redevelopment actions can be defined, for example:

- directing employees to a new occupation by minimizing the need for training to reduce the skills gaps;
- maximizing the employment trend for the final occupation;

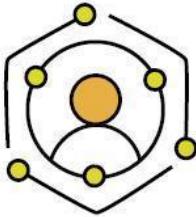


- taking into account the person's actual skills, even if they are not certified in the actual occupation.

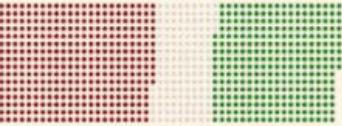
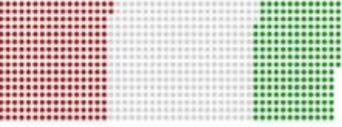
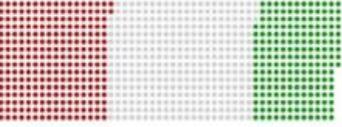
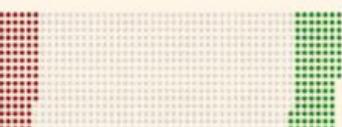
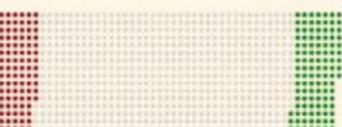
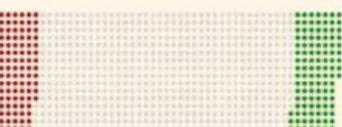
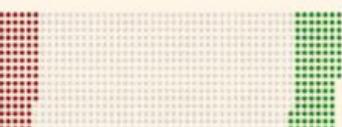
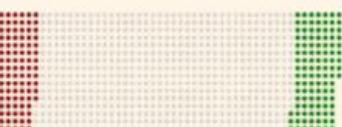
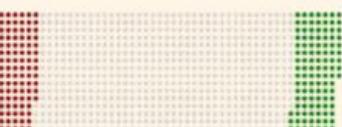
Different opinions

The research, through workshops, webinars and digital games, collected the opinions of different subjects including labour market experts, employed (with different professional classifications) students, unemployed and retired people.

Basically, participants with little or no professional experience tend, on the whole, to underestimate the existence of occupational trends in the professions, especially for those expected to grow. Obviously, this inability has a notable indicative implication, since the lack of understanding of the dynamism of the labour market makes it difficult for young people to set up a life path that, through a process of conscious choice, can positively mark their professional experience.



Confronto tra tendenze occupazionali secondo le diverse categorie oggetto dell'analisi.

CATEGORIA	SINTESI	Tendenza		
		In decrescita	Numero	Variazione
			Stabili	In crescita
Esperi		In decrescita	363	+5%
Pensionati		In decrescita	137	-15%
Pensionati		In crescita	293	+2%
Occupati		Tendenza	Numero	Variazione
Occupati		In decrescita	258	-25%
Occupati		Stabili	337	+109%
Occupati		In crescita	198	-31%
Inoccupati/ Disoccupati		Tendenza	Numero	Variazione
Inoccupati/ Disoccupati		In decrescita	476	+38%
Inoccupati/ Disoccupati		Stabili	45	-72%
Inoccupati/ Disoccupati		In crescita	272	-5%
Studenti		Tendenza	Numero	Variazione
Studenti		In decrescita	72	-79%
Studenti		Stabili	513	+219%
Studenti		In crescita	208	-28%
Studenti		Tendenza	Numero	Variazione
Studenti		In decrescita	92	-73%
Studenti		Stabili	593	+268%
Studenti		In crescita	108	-62%

Legenda:

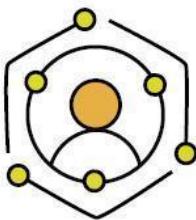
 In decrescita

 Stabili

 In crescita

While for experts, retired and employed the significant skill sets are fairly overlapping and do not include basic skills, for unemployed and students basic skills and knowledge are important elements in determining an employment growth rate. For students, in particular, knowledge is the most significant indicator for predicting a positive employment trend.

In other words, while for the first three types of participants the knowledge is essential, both unemployed and, above all, students consider the area of knowledge skills fundamental.

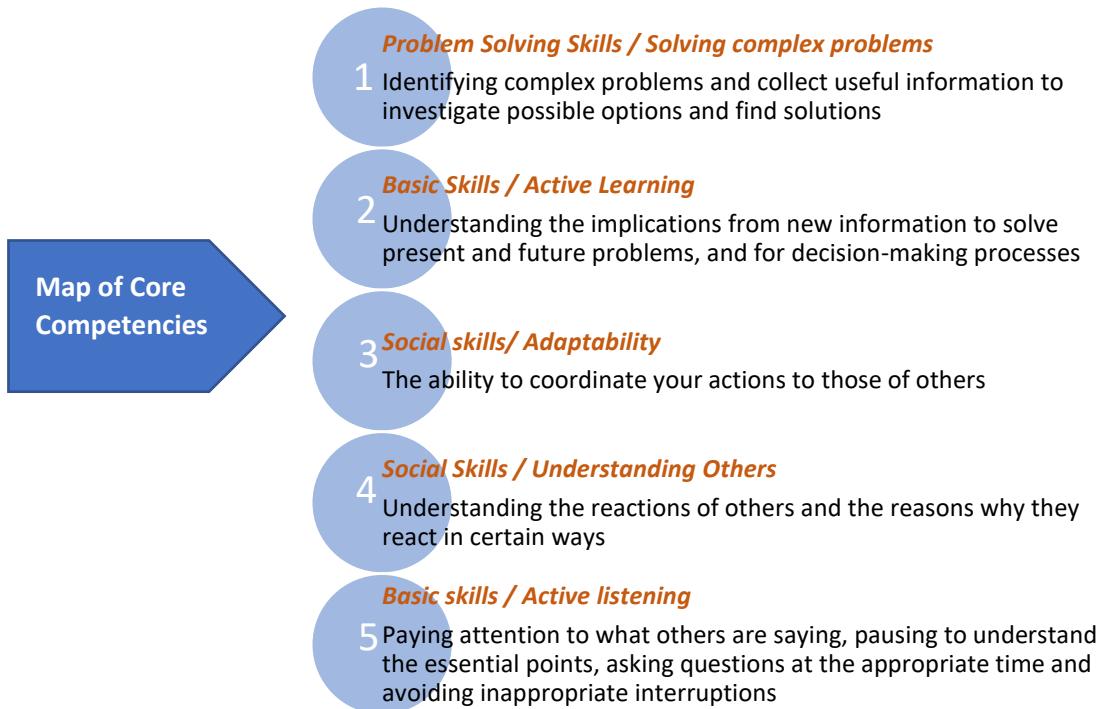


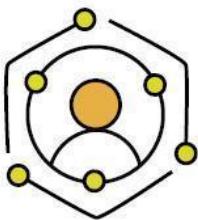
Future of skills

On the one hand, the aim is to identify one or more sets of competences that will ensure the resilience of people's employability up to 2030. On the other hand, there is the need to better understand the transformation process, already underway today, that will change the space of professions by adapting it more and more to the market needs.

The model has identified – as a result of the research:

- five core competencies that will progressively enrich the set of each profession and, therefore, should be included in any educational or training programme aiming at increasing people's employability;
- an ecosystem of additional competencies that have a different effect for each profession;
- a set of competencies acting as a catalyst for the process of transformation of professions through hybridisation.





Of these skills, two are considered basic (active learning, active listening), two are social ones (adaptability and understanding others) and one concerns the ability to solve complex problems.

Future Jobs

The professions are not a static and immutable whole but, on the contrary, the market in which they are is extremely changeable and must constantly adapt to the demands of companies. Trying to compete in increasingly globalised sectors, they seek new skills and professionalism able to achieve the desired objectives.

The three processes of transformation of professions are:

1. **creation**
2. **destruction**
3. **mutation**

These three processes can be implemented through:

1. the **creation** of a profession by splitting competencies from an existing one. The new profession will be defined by a set of competences that is a subset of the original one. Splitting describes the dynamics of specialisation of an occupation. In general, the existing profession may survive or die.
2. the creation of a profession by joining skills from two or more existing professions. The fusion of two or more professions involves the creation of a new profession and the simultaneous **destruction** of professions that have been joint.
3. the **mutation** of a profession by hybridisation. It means a profession evolves by copying a subset of skills from the skill sets of other occupations.

The competencies to be developed to increase employment resilience are listed below.

Competences

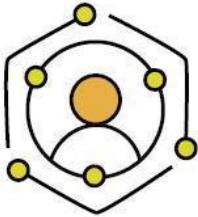
Identifying complex problems and collect useful information to investigate possible options and find solutions

Understanding the implications from new information to solve present and future problems, and for decision-making processes

The ability to coordinate your actions to those of others

Understanding the reactions of others and the reasons why they react in certain ways

Paying attention to what others are saying, pausing to understand the essential points, asking questions at the appropriate time and avoiding inappropriate interruptions

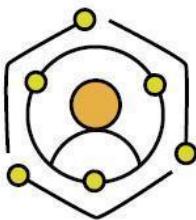


About 70% of the jobs with a very low hybridisation index fall into the large group of intellectual, scientific and highly specialised professions in the health, humanities, social sciences and arts.

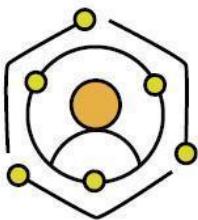
However, for many occupations – about 21% (168 out of 793) – in addition to the basic transformative process, there is a further process of modification of the skill set. This involves the addition of some skills normally associated with other occupations.

This phenomenon is concentrated in the large groups of professions characterised by lower qualification, and often-higher risk of automation, an assessment that confirms the need for hybridisation as a response to changing occupational trends.

Here below there are the 10 occupations most involved in hybridisation.



Job	Competencies	Hybridization Index
Manual and unskilled labourer involved in the building of public construction projects	Systems assessment Evaluating and Decision Making Fixing	0.81
Journalist	Programming Information and technology Systems assessment	0.76
Unskilled labourer involved as keeper of industrial plants	Fixing Maintenance Systems assessment	0.74
Personal care workers	Analysis Psychology Customer Orientation	0.71
Legal experts in private companies	Analysis Originality Media & Communication	0.66
Legal experts in public institutions	Analysis Originality Media & Communication	0.66
Stockbroker	Programming Design Information and technology	0.66
Museum Technician	Media & Communication People services Information and technology	0.61
Salesperson	Media & Communication Flexibility Originality	0.61
High School teachers in humanistic studies	Information and technology Fixing Maintenance	0.60



Conclusion

The study *The Future of Skills - Work in Italy in 2030* seeks to provide a comprehensive picture of employment trends from 2020 to 2030, also including the effects of the Covid-19 health emergency.

The ability to come up with ideas (ideation), including innovative ones (originality), combined with high adaptability, understanding of others and the ability to assess situations and make decisions (autonomy) emerge as necessary characteristics that all workers should invest in the next decade. These competencies should be the cornerstone of any intervention aimed at improving the employability of young people, but also to complete any retraining of workers.

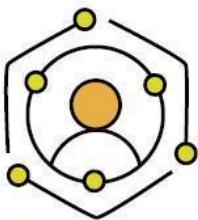
The challenge that emerges from the report, in particular for training and education providers, is to design innovative methods of intervention that enable the acquisition, the reinforcement and the certification of these competences.

In a complementary way, the model defines a set of additional skills for the different professions that amplify the effects of the core competencies on the employability and re-employability of workers. These skills can be easily integrated into training and education programmes.

The model of the research takes into account the dynamism of markets (through a scenario analysis of 14 mega trends) and, consequently, the processes of transformation that markets can induce, over the decade, in the landscape of professions and employment. These processes largely determine the creation of new professions and an evolutionary path of professions through a mechanism of hybridisation of skill sets.

Covid-19 has accelerated these dynamics, highlighting the processes of digitalisation and hyper-connection that will require multiple skills profiles – able to manage the complexity in work contexts that were difficult to imagine today.

The complexity of the scenario that the model describes – and its constant evolution – make it necessary to continue and further develop these analyses. For this reason, EY, Pearson and ManpowerGroup intend to set up a permanent Observatory, which will focus specifically on different areas of the country, individual sectors or economic districts. The project intends to reaffirm the commitment to underline the issue of skills in education and training courses. Today more than ever, they remain essential in order to invest and build the next generation necessary for the relaunch of the Country.



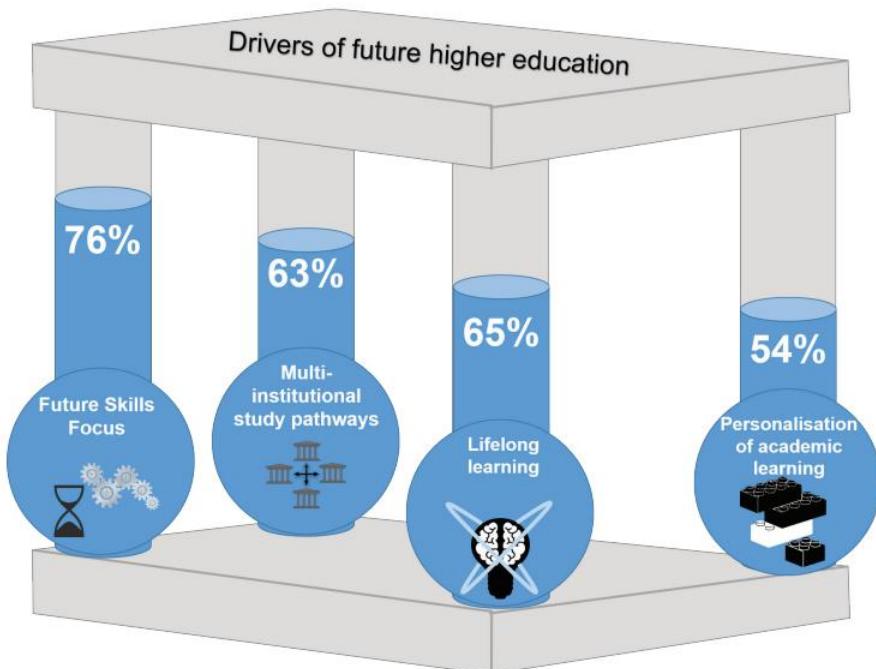
Website

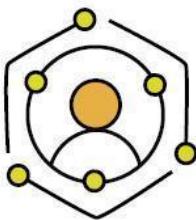
As part of the study *The Future of Skills - Work in Italy in 2030*, it was developed a website (<http://www.job2030.it>) with a dual purpose: describe the project, the methodologies used and the results obtained and make available the outcomes of the research.

One more external resource is the website "[Will robots take my job?](#)" that examines how susceptible jobs are to computerisation, by implementing a novel methodology to estimate the probability of computerisation for 702 detailed occupations, using a Gaussian process classifier.

A Framework for the university of the future

The study results indicate four different influencing factors that are referred to below as the pillars of change in higher education.





Pillar 1: Future skills focus

An emerging future skills focus is changing the common focus of knowledge transfer in higher education in favour of a “next mode” of studying

Future Skills should be the skills that enable university graduates to master the challenges of the future in the best possible way. To deal with future challenges, students must develop curiosity, imagination, vision, resilience and self-confidence, as well as the ability to act in a self-organised way. They must be able to understand and respect the ideas, perspectives and values of others, and they must be able to deal with mistakes and regressions, while at the same time progressing with care, even against difficulties.

The focus in higher education will shift to future skills, leading to a radical change in the definition of graduate attributes. This change implies that the current focus in higher education on academic and valid expertise (learning is understood as a mean to provide correct answers to familiar issues) would change in favour of a next mode of study. In this next mode, learning is understood as application and reflection on knowledge and as creative development of new knowledge, which replaces memorizing knowledge. New teaching and learning methods aiming at the development of future skills would be used to support this.

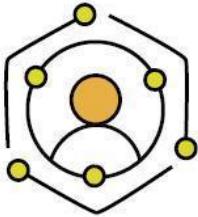
Among other things, future skills and knowledge are not perceived as opposing components of higher education, but rather build on one another. Knowledge is the basis for Future Skills but is no longer sufficient.

Pillar 2: Multi-institutional study programmes

Higher education is increasingly moving from a ‘one-institutional’ to a ‘multi-institutional’ model, in which several institutions unite to form alliances for higher education transfer.

Study courses that extend beyond institutional boundaries would require a consolidated experience in dealing with the recognition of previous academic credits. In such a setting, students would change higher education institutions according to their personal preferences in terms of reputation, quality and the range of courses. Smaller or larger parts of the curriculum would be divided between different institutions, which generate patchwork-like, multi-institutional study organisations.

Erasmus mundus, for example, offers a joint Master’s degree and organises the academic training of students as an integrated, international study programme provided by a consortium of



different universities. This programme was also mentioned by the sample of experts as an existing example of the increasing importance of multi-institutional study paths.

Pillar 3: Personalisation of academic learning

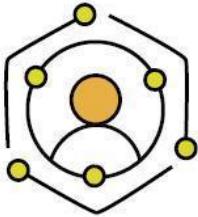
The curricula are developing from a completely predefined structure to a more flexible, personalised and participative model in which students cooperate with their professors, lecturers and counsellors to jointly develop curricula.

Thus, the degree of personalisation is linked to an increased offer of coaching and support for students to help them develop their own academic structures and develop them into autonomous learners. This role was considered necessary to help learners reflect on their progress.

Pillar 4: Lifelong learning

The current higher education model aims to prepare students for their future careers. This model is complemented by opportunities for lifelong learning

Lifelong learning – or in the higher education context lifelong academic learning – allows students and workers alike to continue their education and to adapt to the new challenges of their changing field of work. However, this concept should and cannot only be thought of from the perspective of an individual. Rather, it highlights the need for a paradigm shift in higher education organisation: Academic education should no longer be seen as a phase at the beginning of working life, but as a continuum of constant biographical learning episodes.



Bibliography

- Gubitta P., Gianecchini M. - Persone e Lavori Ibridi. Nuove Competenze per Nuove Professioni (People and Hybrid jobs. New skills for new jobs)
- EY, ManpowerGroup, Pearson - Il Futuro delle Competenze - Il Lavoro in Italia nel 2030 (Future skills – The Italian Job Market in 2030)
- Ehlers Ulf-Daniel, Future Skills – The future of learning and higher education