



A Holistic Approach for Upskilling Competences of SMEs,
VET Institutions and VET Providers for Preparing the Future Works in the Digital Era
Turkey, Italy, Romania, Czech Republic, Spain, Portugal, Ireland



Co-funded by the
Creative Europe Programme
of the European Union

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- Hol Up -

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**IO1 - Analyze the gap between existing competences and
expected future competences of SMEs and VET
institutions/providers for future jobs in partner countries**

Hol Up Gap Report Executive Summary



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Main Description:

According to OECD Report, increasingly, countries are recognising that good initial vocational education and training (VET) has a major contribution to make to economic competitiveness. In related with this, VET can play a central role in preparing young people for work, developing the skills of adults and responding to the labour-market needs of the economy. Besides the past 25 years has seen major economic transformations in Europe. Key competences and 21st century skills are to a great extent driven by a growing awareness of the impact of globalisation in terms of the overall job turnover and reconfiguration of labour markets. This output draws upon the comparative analysis and the conceptualisation of the gap in the existing labour market needs and future jobs' requirements on the perspective of SMEs and VET institutions/providers. Also, this output manifests different attitudes of the SMEs and VET institutions/providers at the EU level.

Activities and Tasks:

O1 - Analyze the gap between existing competences and expected future competences of SMEs and VET institutions/providers for future jobs in partner countries

O1/A1 - Analysis of the existing competences of SMEs and VET institutions/providers in partner countries

O1/A2 - Analysis of the expected future competences of SMEs and VET institutions/providers in partner countries

O1/A3 - Producing "Hol Up Gap Report"

Methodology:

Within the scope of this report, the competences needed for future jobs in partner countries (Turkey, Italy, Romania, Czech Republic, Spain, Portugal and Ireland) are focused on. Within the scope of the study, the current situation of VET and SMEs in partner countries and the existing competences related to VET and SMEs have been examined as a research topic. In the second part of the study, competences related to VET and SMEs for future jobs were researched and the gap between existing competences and expected future competences of SMEs and VET institutions/providers for future jobs in partner countries was revealed. In the scope of the report, all of the steps called O1/A1, O1/A2 and O1/A3 were conducted in partner countries with desk research method. In this context, academic studies, legislation, reports and opinions of stakeholders related to VET / SMEs were used as resources.

Table 1. The Needed Competences of SMEs and VET institutions/providers for future jobs in partner countries (The gap between existing competences and expected future competences)

The Needed Competences	Turkey	Italy	Romania	Czech Republic	Spain	Portugal	Ireland
Advanced maintenance of railway rolling stock					•		
Analytical Skills		•					
Analytical Thinking	•						
Artificial Intelligence and Big Data					•		
Artisan Bakery and Pastries					•		
Audio Description and Subtitling					•		
Cell cultures					•		
Citizenship and employability						•	
Citizenship and Professionality						•	
Communication and Negotiation Skills		•		•			•
Counselling			•				
Creativity		•					•
Critical Thinking							•
Culture, language, and communication						•	
Culture, Technology and Science						•	
Cybersecurity in Information and Communication Technology Environments					•		
Cybersecurity in Operational Technology Environments					•		
Decision-Making	•			•	•	•	
Digital Design							•
Digitization of Industrial Maintenance Intelligent					•		
Emotional Connection					•		
Entrepreneurship							•
Flexibility	•						
Group Work		•					

Guidance			•				
Hybrid and Electric Vehicles Safety Maintenance Sector Additive Manufacturing					•		
Implementation of 5G networks					•		
Independent Thinking				•			
Information and Communication Technologies (ICT)						•	
Innovative Skills	•				•		
Intercultural Skills		•					
Language and Communication						•	
Manufacturing Building Information Modelling (BIM)					•		
Mathematics for Life						•	
Mathematics, science and technologies;						•	
Numeracy and Literacy	•			•		•	
Operation and Promote Responsibility				•			
Organization					•		
Peer Education		•					
People Management							•
Problem Solving	•	•		•			•
Railway Signalling and telecommunications systems					•		
Reflection skills	•						
Skills Assessment			•				
Taking Responsibility	•			•			
Teamwork		•					
Technological/Digital Competencies	•					•	•
The Capacity to Learn New Skills	•						
Videogame Development					•		
Virtual Reality					•		
Willingness to learn Tertiary sector – services				•			
Workshops on Real Tasks, Project Work, Public Events, Dissertations, Competitions		•					

In accordance with the findings from partner countries, Table 1 is prepared and presented above.

1. Upskilling and Updating VET

There is a general need to strengthening skills intelligence, this meaning that in order to skill for a job, there is a need for 'real-time' information on skills demand, including at regional and sectoral level, using big data analysis of job vacancies and making it widely available. Artificial intelligence and big data analysis have great potential to identify the skills needs of the future. They can complement more traditional sources of information such as official statistics and employer or sectoral surveys. All reports mention the need to adapt the system to the requirements of the labor market and to the socio-economical general context (including, for example, the big changes produced by the Covid crisis). The future needs to ensure that vocational education and training is agile, adapting swiftly to labor market needs and providing quality opportunities for young and adults alike. Several reports mention skills to support the green and digital transitions: developing a set of core green skills, statistical monitoring of the greening of our workplaces, boosting digital skills. Companies are already facing skills mismatches and gaps notably to master the green and digital transitions. Several reports mention meta skills/transversal skills, soft skills and skills for life: complex problem solving, critical and analytical thinking, taking responsibility, communication skills, flexibility, and the capacity to learn new skills. There is a need for increasing STEM graduates and fostering entrepreneurial skills by encouraging especially women into Science, Technology, Engineering and Maths. The integration between formal and non-formal learning contexts, enhancing the cultural and educational dimension of the "work system" is highly considered. The aim is to increase the flexibility of vocational education and training, including by encouraging modular and non-formal learning methods. It is important to broaden the teaching methods to be used, so as to encourage the expression of all types of student intelligence by including in ordinary teaching activities capable of stimulating practical, social, emotional-relational, intuitive, reflective and argumentative intelligence (group work, peer education, problem solving, workshops on real tasks, project work, public events, dissertations, competitions, etc.) Several reports refer to the key competences in VET and lifelong learning: - Basic Level Standard: Language and Communication; Mathematics for Life; Citizenship and employability; Information and Communication Technologies (ICT). - Secondary Level Standard: Culture, Technology and Science; Citizenship and Professionalism. There is a general need for embedding environmental and social sustainability into vocational education and training curricula and organizational management.

2. Continuous VET Training for Trainers/Teachers

Teachers and trainers in VET are key actors in ensuring its quality and relevance to today's demands. They work in the context of innovation, globalization, rapid technological and societal changes that pose challenges to education and training systems across Europe and globally. Committed and competent teachers, trainers and other VET professionals were acknowledged as key agents for high quality initial and continuous VET. Evidence shows they can embrace new challenges and reforms and ensure quality and effective learning experiences for both young and adult learners. Various arrangements are in place for teachers and trainers in initial and continuous VET aiming for modern pedagogical and adult learning approaches and the appropriate mix of skills and experience they need to deal with current and emerging needs. All reports sustain that teachers are to update their knowledge, skills and competences and the professional development of teachers/trainers is often included in the country's strategic priorities. Continuous professional development requirements, regulation, provision and monitoring vary significantly across countries: there are established legal basis for it, it is a teacher right, sometimes covered by collective agreements or an obligation or part of the school development and quality assurance processes. Sometimes, attending continuous professional development translates into wage bonuses for teachers. Teacher's continuous professional development provision also varies across countries. In most, accredited training courses or programmes are considered together with training in companies or using e-environments. Some tailor-made courses complement teacher competences. Different bodies provide teacher continuous professional development programs, depending on the organization of VET: higher education institutions and universities, teacher training institutes, in-service training institutions, national centers or agencies working in VET, non-state providers of adult education, VET schools, municipalities and companies. In recent years, EU-funded projects have acted as significant drivers of teacher and in-company trainer professional development. Most measures supporting VET trainers have originated in EU-funded projects.

3. The Training Opportunities in VET Education for Future Works

All reports include existing systemic opportunities within their VET educational system for future works and jobs that will be required in the future. These opportunities are highly related with the VET systems and the way each system is organized. A special mention is for the dual system education for initial or advanced VET which seems operational in all countries involved in this research. There is a sustained need to strengthen and further develop this type of education, as it seems to be the most fit with the future works. Some reports include systems

aimed at young people who have left the education system and who are at risk of social exclusion. These systems include qualified training, oriented towards their specific needs and interests, aligned with local labour market trends or Vocational Training Opportunities Schemes for unemployed people. A special emphasis can be observed on the importance of the participation of representatives of the world of work and the professions whose important contribution is highly needed not only to identify the skills in relation to occupational needs, but also to set the same construction of the profiles considering the rapidity of the changes taking place in all economic and production sectors and that require skills that are also in continuous evolution.

4. Upskilling and Updating Workforce: “Existing Competences and Expected Future Competences”

The demand for qualified employment with mixed high skills is colliding with the speed of technological change, accelerated by the pandemic. New personal and soft skills like communication skills, adaptability, continuous learning etc. will be needed more Demand for emerging, highly digitalized professions will grow as new technologies are adopted in the production of goods and services. The technological podium is occupied by cloud computing, big data analytics and the Internet of Things. This is followed by cybersecurity, artificial intelligence, and digital commerce and robotization. Among the sectors most affected by this transformation are Digital Communications and Information Technology, Financial Services and Healthcare. The sudden and dramatic change in the workplace landscape has accelerated emerging trends such as flexible working, high-EQ leadership, and re-skilling, to the point where they are now fundamental to organizational success (hybrid working, result driven work, new leadership competencies, mass upskilling, increased personal responsibility) More emphasis on sustainable development and practices doubled by HRM and Talent Management – managing more diverse workers (in-line with ageing population and diverse ethnic backgrounds).

5. Current Competences Are Expected/Needed to Be Updated and Upskilled Within Labour Market

The following clusters of skills can be considered as Current Competences Are Expected/Needed to Be Updated and Upskilled within Labour Market:

- a. Technological and digital skills – technology, media, information literacy, data analytics and online content development and curation – particularly in-line with the changing nature of work (remote and hybrid working); technical competences corresponding to 4.0 industry
- b. Higher order skills (extended set of competencies in addition to core qualifications, key across all skill levels) – flexibility, entrepreneurship, willingness and ability to adapt, problem solving, conflict management etc.
- c. Transversal skills/cross-sectoral skills – data analytics, foreign language and cultural awareness, problem solving, innovation, creativity etc.
- d. Multilingual skills - particularly relevant to professionals in ICT, Sales & Marketing, Financial Services and Freight Transport, Distribution & Logistics
- e. Social skills – interpersonal skills - communication and negotiations, empathy, social awareness, tolerance, cultural adaptation and awareness of diversity, gender equity
- f. Physical skills – motor skills and strength, all skills that involve physical condition The transversal skills, soft skills, cross-sectoral skills may include some very relevant new aspects such as: Meaningful decisions, Social intelligence, Innovative and adaptive thinking, Culture and diversity, Big Data Universe, Media literacy, Trans disciplinarily, Creative mindset, Knowledge management, Virtual collaboration.

Perspective of the SMEs; The skills and competences that need to be updated and reinforced coincide with the "future" skills that workers should have considered the current scenario The professions will continue to have the same names but will undergo major changes at functional level (many, more specifically, with a heavy load of analytical functions). We are witnessing the emergence of new professions, precisely those that arise from the specialization of functions that historically were not disaggregated, as is the case of modelling technicians, a profession that did not exist until now Beside the already mentioned clusters of skills, SMEs may consider also: Management skills – leadership and people management skills, supervisory skills, financial literacy, strategy, project management, risk management, innovation and change, marketing and Business / Cross-enterprise skills – entrepreneurship, innovation, creativity and design, sales and marketing.

Technological perspective; Urgent upskilling needed. All ITC related skills and basic digital skills are required and will be further required. All technical competences corresponding to 4.0 industry are to be developed, updated and upskilled. Various industries involve high demand

of more specific technical skills, in new domains and in emerging industries together with reorganization of other traditional domains (e-commerce, marketing, etc.).

6. The Lower/Higher Cognitive Skills and Socio-Emotional Skills Are/Will Be in Demand Within Labour Market as A Consequence of Lower Interest in Manual and Repetitive Jobs

It will make no sense for young people of school age to prepare them only for the professions of today, which may disappear in the future. They need to be equipped. They must be equipped above all with horizontal skills and abilities that will enable them later on to adjust more easily to the occupational profiles of the future. For the active workers, the ongoing mutations are giving increased importance to training and professional recycling actions so that they maintain the necessary employability skills. They will certainly need to have the ability to process and evaluate information, the ability to learn, to process and apply knowledge, to analyze and reason, and to evaluate and decide.

Among the mentioned higher cognitive skills mentioned are: cognitive flexibility, complex problem solving, critical thinking, literacy and numeracy (including quantitative and statistical skills), strategic thinking, decision making, reliability, research skills, time management, organization, creativity.

Emotional intelligence has clearly emerged as the defining trait of today's successful employee. Some emerging mentioned skills are also: entrepreneurship and initiative taking, interpersonal skills, empathy and respect (including ethical values), communication and negotiation, adaptability and resilience, passion and enthusiasm, personal motivation, self-control and ability to focus, team working.

Some of the additional skills mentioned are: Foreign languages, Intercultural competences, Personal well-being, Mental hygiene, mental health, Resilience, Skills for international trade, Cross-enterprise skills. Good leadership from companies is essential. The border between working and personal life might become important. There will be a greater need to reform education and emphasize the vocational training routes.