



VETInnovate

Transformation of VET Centres to become
regional leaders of inclusive, sustainable
and digital skills ecosystems

PILLAR 6: SUPPORTING AND PREPARING VET LEARNERS FOR THE DIGITAL & ENTREPRENEURIAL SKILLS TRANSITION



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1. Introduction

The labour market is undergoing one of the most significant transformations in recent history. Advances in automation, artificial intelligence, robotics, digitalisation and industrial interconnectivity are changing job roles, the way business sectors operate, and the creation of new employment opportunities for both individuals and companies.

Vocational Education and Training (VET) has become a central pillar of European policies aimed at strengthening human capital in a context characterised by accelerated digitalisation, productive automation and the transition towards sustainable economic models.

The emergence of new technologies—such as artificial intelligence, advanced robotics, big data analytics and the Internet of Things—has radically transformed professional profiles and redefined the skills demanded by the labour market.

As a result, VET centres are called upon to play a key role in preparing a workforce capable of performing in highly technological, flexible and innovation-oriented environments.

1.1 Objectives

VETInnovate self-assessment framework has been developed in response to the growing demand from European VET institutions for practical instruments that support institutional transformation.

Pillar 6 Supporting and preparing VET learners for the digital & entrepreneurial skills transition draws on the Self-Assessment Tool, which identifies how VET centres can support learners in developing advanced digital competences, entrepreneurial capacities and socio emotional skills that promote adaptability and lifelong learning.

It builds further on EU priorities including the Digital Compass 2030, the European Skills Agenda, and the Accessibility Act, situating digital inclusion firmly within the broader context of Europe's twin digital and green transition.

VET programmes are characterised by their strong links with all productive sectors, making them an ideal environment in which to integrate advanced digital content, practical problem-solving methodologies and real world entrepreneurial experiences. Moreover, VET centres have a privileged capacity to collaborate with

companies, incubators, local authorities and other actors within innovation ecosystems.

Why is this digital and entrepreneurial transition so important?

Digitalisation is no longer limited to technological sectors; it affects all sectors that enable societal development, such as:

- Manufacturing and industry (Industry 4.0)
- Digital health
- Smart logistics and transport
- Tourism and digital experiences
- Renewable energies and smart energy management
- E commerce
- Agriculture
- E government

Across all these sectors, as technologies advance, new competences emerge that learners and future workers will need to master, including:

- Data analysis
- IoT systems
- Cybersecurity
- Automation
- Robot programming
- Applied artificial intelligence
- Digital customer platforms

Entrepreneurship is no longer limited to the creation or startups. It also involves:

- The ability to propose improvements
- Adopting innovation
- Solving real world problems
- Leading small projects within organisations
- Adapting products or services to new needs
- Understanding digital business models

All of this must be achieved in a very short timeframe, as insufficiently rapid adaptation leads to loss of competitiveness when technology continues to evolve.

For this reason, VET centres and their teaching staff must foster learners' creativity, initiative and autonomy.

Soft skills: the “human engine” of employability

In this context, learners must not only be competent in emerging technologies; they must also develop key human skills such as:

- Interpreting complex problems
- Designing innovative solutions
- Cooperating in multidisciplinary teams
- Managing uncertainty
- Time management
- Adopting an entrepreneurial attitude towards professional challenges

Companies seek individuals capable of continuous learning and effective performance in rapidly changing environments.

Teaching staff must likewise adapt to these changes to ensure effective knowledge transfer. This highlights the need to promote continuous professional development for teachers, as well as close collaboration with the business sector, to avoid obsolescence and maintain relevance in a constantly evolving environment.

2. Development of Digital & Entrepreneurial skills transition

This pillar is structured around five key axes:

- *Development of digital competences*
- *Entrepreneurial education*
- *Development of transversal skills (soft skills)*
- *Career guidance and employability*
- *Integration of green and digital competences into educational projects*

Each of these axes is based on recognised conceptual frameworks such as DigComp, EntreComp, and European standards related to the digital and environmental transitions.

2.1 Development of digital Competences

The development of digital competences refers to the process through which learners and teachers acquire, apply and update the skills required to use digital technologies in a safe, critical, creative and effective manner, both in learning contexts and in current working environments.

These competences are defined at European level by the European Digital Competence Framework (DigComp), which identifies five key competence areas:

- Digital literacy (searching, evaluating and managing digital information)
- Digital communication and collaboration
- Digital content creation (from documents to programming)
- Digital safety (data protection, privacy and security)
- Technological problem-solving (adapting to and learning new tools)

Vocational Education and Training plays a particularly relevant role, as the majority of professional sectors are being transformed by digitalisation, including industry, healthcare, commerce, logistics, energy, tourism and public administration. Therefore, it is essential to promote the integration of this axis within both learner training and teacher professional development.

How can this be implemented in practice?

- Transversal integration of digital content across all VET pathways and professional fields.
- Participation in collaborative projects with technology-based companies.
- Educational use of professional software, simulators and digital laboratories.
- Continuous training programmes to ensure the ongoing methodological and digital upskilling of teaching staff.
- Creation of technology-based challenges (internal competitions encouraging learners to propose solutions).
- Strengthening collaboration with companies to keep teaching staff up to date with relevant digital developments for classroom application.

VET centres must ensure that learners:

- Develop both basic and advanced digital competences;
- Are familiar with Industry 4.0 technologies (robotics, artificial intelligence, IoT);
- Are able to analyse data and use it for decision-making;
- Acquire knowledge of cybersecurity and information protection.

All of these elements enable learners to adapt more quickly to technological changes when entering the labour market.

2.2 Entrepreneurial Education

Entrepreneurial education is a learning approach aimed at developing a set of skills, attitudes and knowledge in learners; it is not limited to teaching how to create companies.

Its scope is much broader, as it promotes entrepreneurial thinking that can be applied both to self-employment and to salaried employment.

At European level, this approach is framed within the European Entrepreneurial Competence Framework (EntreComp), which offers a holistic vision based on three dimensions: Ideas and Opportunities, Resources and Action.

These dimensions encompass competences such as creativity, vision, motivation, planning, decision-making, team management and implementation.

Entrepreneurship is understood here as a transversal competence defined by the ability to transform ideas into value, applicable both in business projects and in conventional working environments.

What is the entrepreneurial mindset?

It is not only about creating companies, it also involves:

- Identifying needs
- Thinking of creative solutions
- Making informed decisions
- Learning from mistakes
- Working on real-world projects
- Showing initiative in the workplace

How can it be fostered within the VET centre?

- Creation of innovation spaces (creative laboratories).
- Implementation of active methodologies such as design thinking.
- Organisation of idea competitions and business challenges.
- Collaboration with incubators, accelerators and local start-ups.

- Development of entrepreneurship projects within each training module.
- Inspirational talks delivered by entrepreneurs.
- Visits to start-ups and innovation hubs.

The objective is for learners to be able to transform ideas into real projects that can be applied within real companies.

2.3 Development of Transversal Skills (Soft Skills)

Transversal competences must be integrated across all subjects followed by learners.

Main transversal skills

- Adaptability
- Critical thinking
- Creativity
- Collaborative leadership
- Effective communication
- Conflict resolution
- Emotional management
- Resilience

Methodologies for their development

- Mandatory group-based activities
- Oral presentations
- Business simulations
- Interdisciplinary projects
- Resolution of real challenges proposed by companies
- Self-assessment and peer-assessment among learners

2.4 Career Guidance and Employability

Career guidance refers to a set of processes, services and actions aimed at supporting individuals in:

- Academic and professional decision-making
- Identifying their interests, skills and values
- Exploring career pathways and opportunities
- Planning their careers in the short, medium and long term
- Transitioning into the labour market or self-employment

In Vocational Education and Training, career guidance is not limited to the final year of study; it must be conceived as a continuous process integrated throughout the entire training pathway.

Employability is defined as the capacity of an individual to obtain, maintain and progress in employment. It includes:

- Technical knowledge (hard skills)
- Transversal skills (soft skills)
- Digital competences
- Practical experience
- Attitude, motivation and autonomy
- Entrepreneurial competence
- Capacity for lifelong learning

Employability does not depend solely on holding a qualification, but rather on learners' ability to adapt, learn and generate value in diverse professional environments.

Professional guidance and mentoring are essential in order to manage learning pathways, understand labour market developments and access employment or self-employment opportunities.

Without effective guidance, learner demotivation and dropout rates increase. Career guidance improves both the level of preparation and the realism of learners' expectations.

Likewise, without teaching staff who are connected to the productive sector, employability outcomes are reduced.

Actions to be implemented by the VET centre

- Permanent mentoring and guidance services.
- Guidance programmes on entrepreneurship, digital CV development and job interview preparation.
- Provision of up-to-date labour market information.
- Collaboration with alumni and partner companies in mentoring activities.
- Support and guidance for entrepreneurship processes.
- Participation in job fairs and networking activities with companies.

All these actions contribute to increasing learner autonomy and motivation, which is reflected in improved access to the labour market.

2.5 Integration of Environmental and Digital Skills

The integration of environmental and digital skills consists of teaching and applying both competences in a combined manner, based on the understanding that:

- Digitalisation is essential for innovation, automation and data analysis
- Sustainability is a requirement across all productive sectors
- Together, they create new occupations and transform existing ones

This approach is framed within two European competence frameworks:

- DigComp (digital competences)
- GreenComp (sustainability competences)

It is also aligned with key European initiatives such as:

- The European Green Deal
- The Digital and Green Transition (Twin Transition)
- The European Skills Agenda

VET teachers play a fundamental role, as they train the future workforce that will implement these changes in companies, workshops, industries and services.

The current economy demands qualified professionals capable of applying digital solutions that reduce environmental impact, bringing together two major global challenges:

- Digital transformation
- Ecological transition

Examples of real-world applications developed by companies

- Use of renewable energy managed through IoT sensors
- Energy efficiency achieved through data analysis
- Smart agriculture systems
- Sustainable and digitalised mobility solutions
- Technological solutions for reducing industrial and urban waste

The combination of environmental sustainability and digitalisation contributes to protecting the planet and addressing many of today's environmental challenges.

2.6 Next steps

Practical actions to be implemented in VET centres

In VET, this integrated approach requires updating curricula, work-based learning, projects and teaching methodologies, including:

- Eco-technology projects
- Challenges linked to the European Green Deal
- Electronic waste recycling and circular economy approaches
- Sustainability-based technological prototypes

Expected impact on learners

Following the implementation of this pillar, learners are expected to:

1. Master digital competences and the use of different tools

2. Be creative, autonomous and capable of undertaking entrepreneurial initiatives
3. Understand how digital businesses operate
4. Demonstrate effective communication skills
5. Adapt rapidly to technological change
6. Integrate sustainability into all projects
7. Improve access to the labour market, either through employment or by creating their own projects

Learners acquire a hybrid profile combining digital and environmental competences, which is highly in demand in sectors such as:

- Renewable energy
- Energy efficiency
- Sustainable mobility
- Smart logistics
- Environmental management
- Sustainable tourism
- Home automation (domotics)
- Smart buildings

This makes them more complete, resilient and employable professionals.

Fostering critical thinking and social responsibility

Through this approach, learners develop a deeper understanding of:

- How technology affects the environment
- How to reduce the ecological footprint
- How to design more responsible products and services
- How to act as agents of change within their organisations

Employers increasingly seek profiles that are able to:

- Use advanced digital tools
- Comply with sustainability standards (e.g. ISO)
- Automate processes to reduce resource consumption
- Work effectively in multidisciplinary teams

As a result, learners gain greater relevance in real-world labour market contexts.

Continuous professional development for teachers

Successful integration requires teaching staff to:

- Regularly update their digital skills
- Understand circular economy models
- Be familiar with environmental legislation
- Master green technological solutions
- Collaborate with companies, innovation hubs and research centres

This enables VET centres to remain up-to-date and closely aligned with industry needs.

3. Self-Assessment

The [VETINNOVATE self-assessment tool](#) evaluates digital transformation in VET centres through a set of indicators linked to the broader dimensions presented in this pillar.

The VETINNOVATE self-assessment framework is designed to help VET centre evaluate their current support and prepare VET learners for the digital & entrepreneurial skills transition.

At the [VETINNOVATE selfassessment tool](#), each KPI is scored on a scale of 1 to 5, where 1 indicates minimal or no capacity and 5 indicates exemplary practice.

Score		Description
1	Initial	Limited or no evidence of this capability. The area is at an early stage with no structured approach yet in place.
2	Emerging	Initial steps have been taken, but practice is informal, inconsistent, or limited in scope.

3	Developing	Structured approaches are in place, but implementation is uneven or not yet fully embedded.
4	Advanced	The capability is well-developed, consistently applied, and producing measurable results.
5	Transformational	The institution demonstrates best practice, serves as a model for others, and continuously innovates.

4. KPIs

Ten key indicators (KPIs) are established in order to assess the level of implementation of this pillar, ensuring full alignment between strategic priorities and measurable performance indicators.

- Integration of DigComp Framework – Extent to which digital competences are embedded across entrepreneurship curricula.
- Industry 4.0 Course Offerings – Number and quality of training modules covering robotics, IoT, AI, and advanced manufacturing.
- Entrepreneurial Learning Opportunities – Availability of start-up incubators, innovation labs, and business competitions for learners.
- Soft Skills Development – Proportion of programmes explicitly incorporating teamwork, resilience, and communication skills.
- Career Guidance Services – Accessibility of mentorship, counselling, and labour market information for learners.
- Work-Based Digital Projects – Percentage of learners participating in real company projects with a digital or entrepreneurial focus.
- Cross-Disciplinary Innovation – Presence of projects combining digital competences with green and sustainability themes.
- International Exposure – Opportunities for learners to gain digital or entrepreneurial experience abroad through Erasmus+ or exchanges.
- Graduate Start-Up Activity – Number of graduates who establish or join start-ups within a defined period after completing training.
- Learner Satisfaction – Feedback on how well the centre prepares them for digital and entrepreneurial careers.

#	KPI	Description	Guided questions
KPI 1	Integration of DigComp Framework	Which areas are strongest or weakest?	To what extent are digital competences included in all curricula?

		How widely digital skills from the DigComp framework are integrated across study programmes.	
KPI 2	Industry 4.0 courses offerings	Availability and quality of courses covering Industry 4.0 topics such as robotics, IoT, AI and advanced manufacturing.	How many relevant courses are offered? Do they match current industry needs?
KPI 3	Entrepreneurial learning opportunities	Opportunities for learners to develop entrepreneurial skills through incubators, innovation labs or competitions.	What opportunities exist for learners to explore entrepreneurship? How many learners participate?
KPI 4	Soft skills development	Degree to which programmes explicitly develop skills such as teamwork, communication and resilience.	Which programmes include soft skills? Are these skills clearly defined and assessed?
KPI 5	Career guidance services	Access to career guidance, mentoring and up-to-date labour market information.H	How accessible are guidance services? Do learners feel well supported in career decisions?
KPI 6	Work-based digital projects	Participation of learners in real company projects with a digital or entrepreneurial focus.	What percentage of learners take part? What types of projects are most common?
KPI 7	Cross-disciplinary innovation	Projects that combine digital skills with green and sustainability-related topics	How many initiatives link digital and sustainability skills? Which themes are most frequent?
KPI 8	International exposure	Opportunities for learners to gain international digital or entrepreneurial experience through exchanges or Erasmus+.	How many learners participate in international activities? What skills do they gain abroad?
KPI 9	Graduate start-up activity	Number of graduates who create or join start-ups shortly after completing their training.	How many graduates become entrepreneurs? In which sectors are start-ups created?

KPI 10	Learner satisfaction	Learners' perceptions of how well the centre prepares them for digital and entrepreneurial careers.	How satisfied are learners overall? What aspects are rated highest or lowest?
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5. Transformation pathways and practical redommendations

VETINNOVATE self-assessment process is designed to be practical, transparent, and accessible for VET centers of different sizes and organisational structures. By following a structured sequence of steps, institutions can ensure that the assessment is conducted in a consistent and meaningful manner while engaging relevant stakeholders throughout the process.

VET institutions can follow a structured transformation pathway:

- **Step 1: Establish an Assessment Team**

The first step involves forming a small internal team responsible for coordinating the assessment process. This team should ideally include representatives of institutional leadership, teaching staff, administrative personnel, and where possible, external stakeholders such as industry partners or alumni. Their role is to ensure that the assessment is conducted objectively and that relevant data is collected from across the organisation.

- **Step 2: Collect Institutional Evidence**

The assessment team should gather evidence related to the ten key performance indicators. This may include internal reports, staff development records, infrastructure inventories, digital platform usage statistics, sustainability initiatives, and financial data. The objective is to provide a factual basis for evaluating institutional performance rather than relying solely on subjective perceptions.

- **Step 3: Score the Indicators**

Each KPI is evaluated using the five-level scale from 1 to 5. The team should discuss the available evidence and assign scores that best reflect the current institutional situation. Open discussion during this stage is important in order to ensure consensus and transparency within the evaluation process.

- **Step 4: Analyse the Results**

After scoring all indicators, the assessment team should review the overall results to identify patterns and key insights. Particular attention should be given to

indicators with lower scores, as these often highlight areas where institutional development is needed. At the same time, high-scoring indicators can reveal institutional strengths that may serve as good practices within regional VET ecosystems.

- **Step 5: Define Improvement Priorities**

Based on the assessment results, institutions should identify a set of priority actions aimed at strengthening organisational capacity. These actions may include upgrading infrastructure, expanding staff training programmes, introducing new recognition systems, improving collaboration between departments, or strengthening sustainability policies.

- **Step 6: Integrate Results into Institutional Planning**

The results of the self-assessment should be incorporated into the institution's broader development processes. This ensures that the assessment leads to concrete improvements and contributes to the long-term transformation of the institution.

Through this continuous improvement cycle, VET institutions can progressively strengthen their digital capacity and contribute to the development of regional digital skills ecosystems.

6. Conclusion

The digital and entrepreneurial transformation is not an option, is an ongoing process that requires institutional commitment, innovation and collaboration; is strategic necessity for enabling Vocational Education and Training (VET) learners to successfully respond to the demands of a rapidly evolving labour market.

By strengthening digital competences, fostering an entrepreneurial mindset, developing transversal (soft) skills, providing high-quality career guidance and integrating sustainability across learning pathways, VET institutions play a key role in preparing proactive, innovative and resilient learners. These learners are better equipped not only to access employment or self-employment opportunities, but also to actively contribute to economic competitiveness, social inclusion and sustainable development.

Through this integrated approach, VET systems contribute to the objectives of the Erasmus+ Programme and wider European strategies by empowering learners to become agents of change, capable of adapting to technological, economic and environmental transitions throughout their professional lives.

By applying the VETINNOVATE self-assessment framework, institutions can identify their strengths, address areas for improvement, and develop strategies that support the development of inclusive, sustainable, and digitally advanced skills ecosystems.

7. References

- Guide Erasmus+ European Commission (2024–2027) <https://erasmus-plus.ec.europa.eu/programme-guide>
- The Digital Competence Framework for Citizens (DigComp 2.2), 2022 https://joint-research-centre.ec.europa.eu/digcomp_en
- EntreComp: The Entrepreneurship Competence Framework, 201 https://joint-research-centre.ec.europa.eu/entrecomp_en
- GreenComp: The European Sustainability Competence Framework, 2022 https://joint-research-centre.ec.europa.eu/greencomp_en
- Council Recommendation on Vocational Education and Training for sustainable competitiveness [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020H1202\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020H1202(01))
- European Skills Agenda https://commission.europa.eu/strategy-and-policy/skills_en
- Digital and Green Transition https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en
- Future of Jobs Report [https://www.weforum.org/reports/the-future-of-jobs-Future of Education and Skills 2030](https://www.weforum.org/reports/the-future-of-jobs-Future-of-Education-and-Skills-2030)
<https://www.oecd.org/education/education-2030/>
- CEDEFOP. (2022). Digitalisation and the future of vocational education and training in Europe. https://www.cedefop.europa.eu/files/3094_en.pdf



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