

European Digital Sustainability Skills Strategy

Building Skills for the Twin Transition in Europe



About the Digital4Sustainability project

Digital4Sustainability is an Erasmus+ initiative dedicated to empowering the European workforce for the sustainable digital transition.

Bringing together 28 members of the Digital Large-Scale Partnership under the Pact for Skills from 13 EU countries, the project addresses the growing need for professionals capable of integrating advanced digital technologies with sustainable practices. By developing a European Digital Sustainability Skills Strategy, innovative learning programmes, and certification frameworks,

Digital4Sustainability bridges the gap between labour market needs and the skills required to drive sustainable innovation across industries. In doing so, it supports European organisations in strengthening their competitiveness, fostering innovation, and advancing Environmental, Social and Governance (ESG) practices.



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**28
members**

**Sustainable
practices**

**Pact for
Skills**

**Fostering
innovation**

**Advanced
digital
technologies**

Digital4Sustainability Consortium

A THE ADECCO GROUP

BADGEBOX

BASSCOM
Bulgarian Association
of Software Companies

BCS Koolitus

Cefriel
POLITECNICO DI MILANO

CEPIS
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Informatics Societies

CLUJ IT

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About the European Digital Sustainability Skills Strategy

The Digital4Sustainability Skills Strategy is the core strategic output of the project, providing **a comprehensive framework to support the development of digital sustainability skills across Europe**. Building on the Skills Needs Analysis, stakeholder consultations, desk research, and the continuous improvement process established within the project, the updated Strategy translates the identified skills needs into a set of strategic objectives, key actions and policy recommendations. It also incorporates recent EU policy developments, stakeholder feedback, emerging market needs and the recommendations from the project mid-term review to **ensure that the Strategy remains relevant, evidence-based and sustainable over time**.

Since 2025, two versions of the Strategy have been produced, reflecting its nature as a living document that evolves in line with developments in the market and the digital sustainability sector.

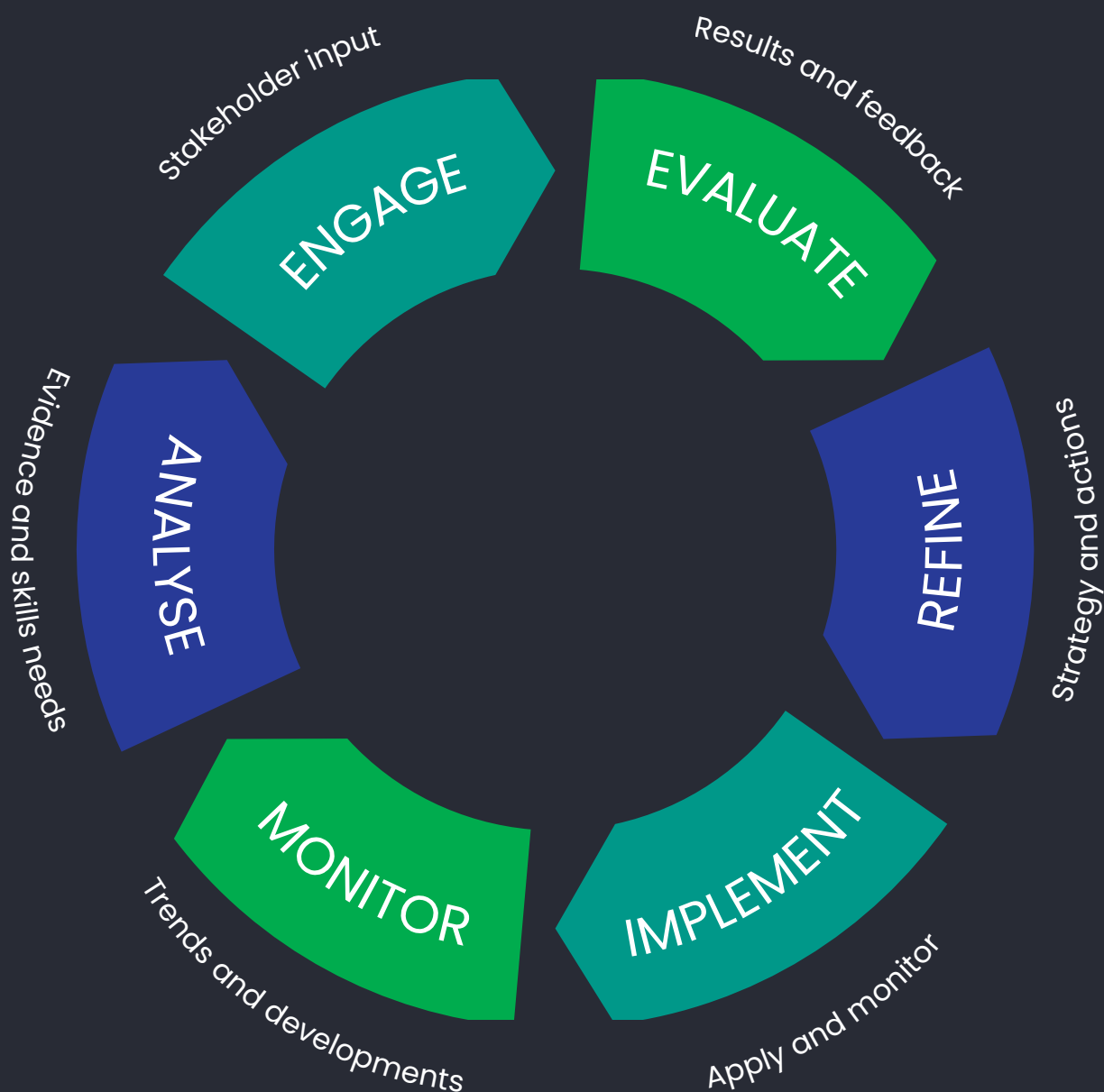
The Methodology

This Skills Strategy has been developed through an **iterative monitoring, evaluation and continuous improvement** process to ensure its long-term relevance, effectiveness and sustainability.

The methodology combines desk research, analysis of labour market and policy developments, stakeholder engagement and periodic evaluation to **identify emerging digital sustainability skills needs** and assess the effectiveness of the proposed actions. Regular feedback from industry, education and training providers, policymakers and other stakeholders has been used to refine the Strategy, ensuring that it remains aligned with evolving market demands and policy priorities.



Digital4Sustainability methodology



The current version, released in June 2026, also incorporates the recommendations from the project mid-term review, the latest policy developments, and the skills needs identified by project partners across Europe during the first quarter of 2026.

This **continuous improvement approach** provides the basis for future revisions, ensuring that the Strategy can adapt to technological change, labour market evolution and emerging digital sustainability challenges.



The Skills Strategy is structured around **six core components**:

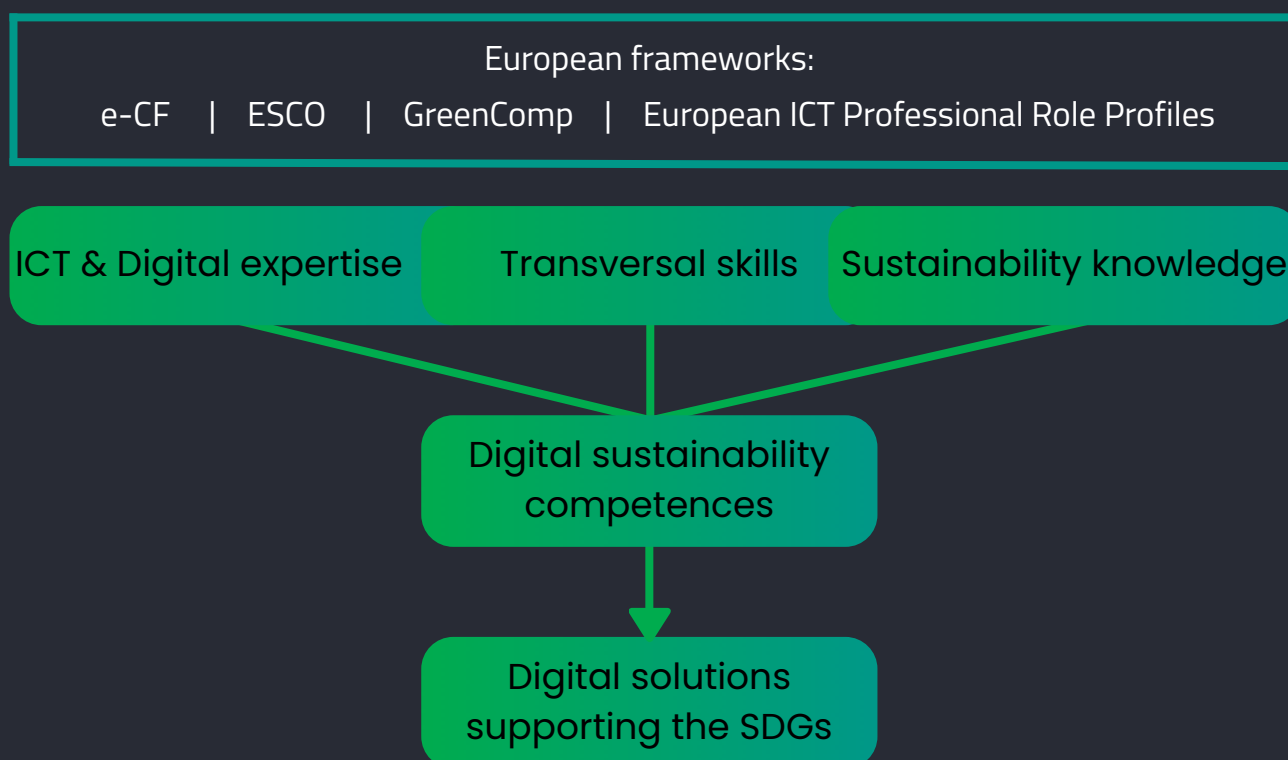


Digital Sustainability Context

Digital sustainability combines digital technologies and sustainability objectives to **create solutions** that generate environmental, social and economic value.

The Skills Strategy adopts a broad sustainability perspective aligned with the **UN SDGs**, promoting the development of digital skills, professional roles and learning programmes that prepare the workforce to design and deploy digital solutions for a sustainable future.

The **digital sustainability workforce** combines ICT expertise, sustainability knowledge and transversal skills to develop digital solutions that support the SDGs. The Skills Strategy identifies the key competences and role profiles needed, building on **recognised European frameworks** such as e-CF, ESCO, GreenComp and the European ICT Professional Role Profiles.





Vision & Mission

The vision and mission define the long-term vision and mission of the Skills Strategy, establishing its **purpose** and **strategic direction**.

VISION

A sustainable and skilled society in which digital technologies are used to achieve goals aimed at social, economic, and environmental sustainability in Europe.

MISSION

To equip digital professionals with the competences and skills necessary to steer digital innovation towards social, economic and environmental sustainability.



Skills Ecosystem

The Skills Strategy defines the digital sustainability ecosystem by **identifying the professionals, competences and learning pathways** needed to support Europe's green and digital transition. It focuses on ICT professionals and introduces dedicated **Digital Sustainability Role Profiles** based on recognised European frameworks.

The Strategy promotes formal education and lifelong learning across EQF Levels 4–7, encouraging **collaboration** between universities, training providers, industry and policymakers to equip the current and future workforce with the skills required to deliver sustainable digital solutions.





Strategic Objectives & Actions

The strategic framework of the Skills Strategy is composed of its **strategic objectives, priority actions, implementation milestones and policy recommendations** that support the development of digital sustainability skills and the green and digital transition.

1 Monitor the demand for and supply of digital sustainability skills and roles

Facilitate and guide education and training **2**

3 Develop, maintain and promote a validation framework for learning outcomes

Raise awareness about digital sustainability careers **4**

5 Promote a supporting regulatory framework

Strengthen cooperation between the industry, academia and policymakers **6**



SO1

Monitor the demand for and supply of digital sustainability skills and roles

Explains **how digital sustainability skills, role profiles and training provision should be identified** and continuously monitored to address skills gaps and align education with evolving labour market needs.

It introduces **ten Digital Sustainability Role Profiles**, grouped into three areas (Management & Consultancy, Data Processing & Analysis, and Development & Operations) as a reference for workforce development.

This Strategic Objective also outlines a **continuous monitoring** approach based on stakeholder engagement and expert consultation to ensure the Skills Strategy remains responsive to evolving market needs.

SO1 Monitor the demand for and supply of digital sustainability skills and roles	
Actions	Short-term milestones
1.1 Identify existing and emerging digital sustainability skills and roles	The most relevant skills and roles in the field of digital sustainability are identified
1.2 Monitor changes in digital sustainability and roles	A process is designed to monitor changes in digital sustainability skills and roles
1.3 Map existing training and education offering to determine skills gaps and shortages	The existing training and education offering is mapped and analysed to determine skills gaps and mismatches
Stakeholders involved	
Education and training providers, potential learners, businesses and other organisations that need digital sustainability skills	
Long-term milestones	
Periodic review of relevant skills and roles in the field of digital sustainability, following the change monitoring process	



S02

Facilitate and guide education and training

Explains how **education and training systems** can support the development of digital sustainability professionals by translating market needs into educational profiles, curricula and learning programmes.

This SO describes how **educational profiles**, aligned with the Digital Sustainability Role Profiles and EQF levels, provide the foundation for **competence-based curriculum design**. It highlights the importance of **flexible and modular learning programmes** that can be adapted to different target groups, local contexts and individual learning pathways, while supporting micro-credentials and lifelong learning. Finally, it emphasises the need for continuously updated learning resources and stakeholder collaboration to ensure education and training remain aligned with evolving technologies, labour market demands and the digital sustainability landscape.

S02 Facilitate and guide education and training	
Actions	Short-term milestones
2.1 Maintain educational profiles for digital sustainability roles	A set of educational profiles based on digital sustainability role profiles at different EQF complexity levels and including learning outcomes and types of assessment
2.2 Maintain flexible curricula based on educational profiles	Several standard curricula based on educational profiles, designed in a modular, flexible way
2.3 Based on the curricula, showcase flexible learning programmes for a specific context	Several concrete learning programmes based on those curricula for various target groups in different contexts
2.4 Provide, update and maintain learning resources	A set of relevant and ready-to-use practical learning resources
Stakeholders involved	
Education and training providers, potential learners, businesses and other organisations that need digital sustainability skills	
Long-term milestones	
A set of comprehensive, well-developed digital sustainability education profiles that are considered and used as an authoritative source in curriculum development	
A set of comprehensive, well-developed digital sustainability curricula that are considered and used as an authoritative source in curriculum development	
A set of ready-to-use practical learning resources that have proven to be relevant and useful for learners and education and training providers alike	



S03

Develop, maintain and promote a validation framework for learning outcomes

Explains how the recognition and quality assurance of digital sustainability skills can be strengthened through a **certification and quality framework**.

S03 introduces a multi-level certification framework based on professional certifications, micro-credentials and digital badges, enabling learners to progressively demonstrate competences, support lifelong learning and facilitate mobility across Europe.

It also describes the development of a **quality label for learning providers and certification bodies**, based on recognised European and international quality assurance standards, to ensure the reliability of assessments, the credibility of learning outcomes and the consistent recognition of digital sustainability qualifications across countries and sectors.

S03 Develop, maintain and promote a validation framework for learning outcomes	
Actions	Short-term milestones
3.1 Develop, maintain and promote a certification framework, including micro-credentials	A first version of a certification framework aligned with learning outcomes of the educational profiles and certificates is promoted
3.2 Design, maintain and promote a quality label for digital sustainability learning programmes	A first version of a quality label is delivered and promoted
Stakeholders involved	
Education and training providers, certification organisations, accreditation bodies, industry associations and networks	
Long-term milestones	
A certification framework, accepted among education and training providers as well as certification institutes and companies, is widely recognised at both national and European level The quality label is broadly recognised	



SO4

Raise awareness

Explains how **awareness and stakeholder engagement** can accelerate the adoption of digital sustainability skills and practices.

The SO4 outlines actions to establish **knowledge-sharing pathways** through collaborative platforms, resource repositories, toolkits and best practice exchange, supporting organisations, educators, decision-makers and professionals in addressing digital sustainability challenges.

It also promotes **awareness-raising initiatives**, including webinars, workshops, networking events, campaigns, competitions and learner-focused activities, to increase understanding of digital sustainability, encourage collaboration across sectors, and stimulate interest in education, training and lifelong learning opportunities.

SO4 Raise awareness	
Actions	Short-term milestones
4.1 Establish pathways to share resources and best practices for digital sustainability challenges	Organise workshops or webinars to facilitate initial sharing of resources and encourage stakeholder collaboration
4.2 Organise awareness raising initiatives and campaigns to steer interest in digital sustainability topics and learning opportunities	Develop an awareness campaign strategy targeting key sectors and audiences
Stakeholders involved	
Policymakers, education and training providers, industry representatives	
Long-term milestones	
Achieve cross-border collaboration and long-term commitment from stakeholders on sharing digital sustainability solutions and knowledge	



S05

Promote a supporting regulatory framework

Explains how a **supportive regulatory and financial framework** can accelerate the integration of digital sustainability skills into education, training and workforce development.

This SO outlines the **development of a roadmap** to embed digital sustainability competences into national and European education policies and lifelong learning frameworks, ensuring alignment with labour market needs and the green and digital transition.

It also highlights the importance of financial support, public-private partnerships and regulatory incentives to promote investment in skills development, strengthen collaboration among policymakers, education providers and industry, and create a sustainable ecosystem for digital sustainability skills across Europe.

S05 Promote a supporting regulatory framework	
Actions	Short-term milestones
5.1 Develop a roadmap for integrating digital sustainability skills into existing education policies and frameworks at national and European levels	Engage key policymakers, education providers and industry representatives in consultations and workshops
5.2 Advocate for financial and regulatory frameworks supporting skills development for digital sustainability	Propose initial recommendations to policymakers
Stakeholders involved	
Policymakers, education and training providers, industry representatives	
Long-term milestones	
More EU and national policies focused on digital sustainability	



S06

Strengthen cooperation

Explains how stronger cooperation among industry, education and training providers, policymakers and civil society can accelerate the development of digital sustainability skills.

The SO6 highlights the importance of building and maintaining a collaborative community of digital sustainability stakeholders to promote knowledge exchange, joint initiatives and long-term engagement, including through the Digital LSP and the Digital4Sustainability Alliance Community.

It also emphasises closer collaboration between education providers and industry to develop relevant training programmes and practical learning opportunities, while encouraging cross-border and cross-sectoral mobility to foster knowledge transfer, innovation and workforce development across Europe.

SO6 Strengthen cooperation	
Actions	Short-term milestones
6.1 Build and maintain a community of digital sustainability stakeholders	Establish an initial network of key stakeholders
6.2 Facilitate collaboration between education and training providers and industry to develop, promote, and deliver digital sustainability training programmes	Identify and engage key industry partners and training providers
6.3 Encourage cross-border and cross-sectoral mobility	Facilitate cross-border exchange or internship programme
Stakeholders involved	
Organisations, education and training providers, policymakers, learners and potential learners	
Long-term milestones	
Develop a knowledge hub that provides continuous updates on digital sustainability trends, policies, and skill development Expand partnerships across different sectors in Europe Facilitate mobility exchanges or cross-sector placements in Europe	





Policy Recommendations

The Skills Strategy is complemented by a set of policy recommendations designed to support its **implementation** and maximise its **long-term impact**.

The recommendations translate the Strategic Objectives into **concrete actions** for policymakers and stakeholders, covering areas such as the integration of digital sustainability skills into education and training systems, the development of common certification frameworks, financial incentives and dedicated funding, awareness raising, stakeholder cooperation and skills intelligence.

Examples include increasing investment in sustainability-focused digital training, promoting a common European certification framework, expanding apprenticeship opportunities, strengthening public-private-academic partnerships, leveraging the European Digital Innovation Hubs (EDIHs), and integrating digital sustainability skills into the future European Skills Intelligence Observatory.

Together, these recommendations provide a coherent policy framework to **foster the recognition, development and adoption of digital sustainability skills across Europe**.

**Dedicated
funding**

**Skills
intelligence**

**Stakeholder
cooperation**

**Common
certification
frameworks**

**Digital
sustainability
skills in
education**



Policy Recommendations



Increasing investment in sustainability-focused digital training



Promoting a common European certification framework



Expanding apprenticeship opportunities



Strengthening public-private-academic partnerships

Leveraging the European Digital Innovation Hubs (EDIHs)



Integrating digital sustainability skills into the future European Skills Intelligence Observatory



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