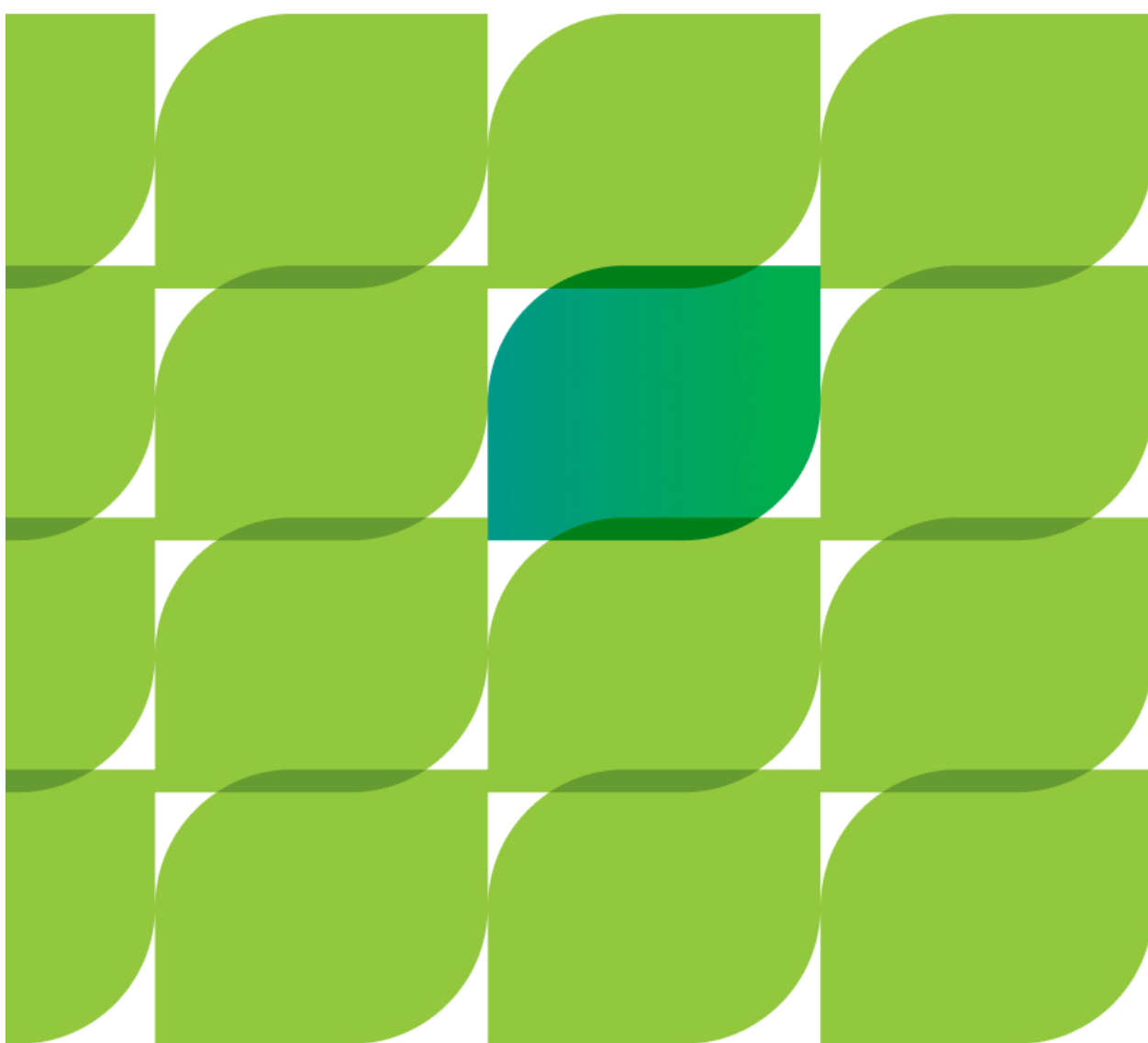


# D4.1 Learning programmes to address urgent Digital Sustainability skills needs



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# Document Control Information

Project	Digital4Sustainability
<b>Project number</b>	101140316
<b>Document Title</b>	D4.1 Learning programmes to address urgent Digital Sustainability skills needs
<b>Work Package Number</b>	WP4
<b>Deliverable Number</b>	D4.1
<b>Lead Beneficiary</b>	Stichting Hogeschool Utrecht
<b>Project Coordinator:</b>	European DIGITAL SME Alliance
<b>Dissemination Level</b>	Public - fully open
<b>Authors</b>	Irene Jonkers - Hogeschool Utrecht Natalie den Engelse - Hogeschool Utrecht Paul Aertsen - Eduserpro Lorraine Gorimani – National College of Ireland
<b>Reviewers</b>	Kristina Ferara Blaskovic – Profil Klett Enrico Frumento – Cefriel Serena Dell'Agli – European Digital SME Alliance Brian Cochrane – Cochrane Marketing (QA Manager) Giuseppe Ditaranto – Matrix Internet
<b>Description</b>	A total of 3 to 5 urgent training programmes will be organised and run in 4 countries. Course materials will be provided as outputs and published on the project website (incl. selected PPTs, reading lists, videos).
<b>Status</b>	Final for Submission
<b>Delivery Date</b>	31-07-2025
<b>Due date</b>	31-07-2025

## Disclaimer

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## Document History

	Date	Modified by	Comments
1	11.07.2025	Irene Jonkers - Hogeschool Utrecht Natalie den Engelse - Hogeschool Utrecht Paul Aertsen - Eduserpro Lorraine Gorimani – National College of Ireland	First draft
2	18.07.2025	Kristina Ferara Blaskovic – Profil Klett Enrico Frumento – Cefriel	Expert review
3	30.07.2025	Serena Dell'Agli – European Digital SME Alliance Brian Cochrane – Cochrane Marketing (QA Manager)	Final QA Review
4	30.07.2025	Anand Sheombar - Hogeschool Utrecht	Reviewers' comments integration
5	31.07.2025	Giuseppe Ditaranto – Matrix Internet	Final QC Review

## About the Digital4Sustainability Project

Digital4Sustainability is a pioneering initiative aimed at accelerating Europe's twin transition by equipping the workforce with the essential skills needed to drive sustainability-focused innovation. In response to the pressing need to achieve climate neutrality and meet the Sustainable Development Goals (SDGs), the project will develop a forward-thinking Digital Sustainability Skills Strategy as well as cutting-edge learning programmes. These efforts will address the urgent and emerging skills needs of the European industry, empowering the workforce to develop sustainable technologies that support Environmental, Social, and Governance (ESG) practices. By aligning closely with industry needs throughout the project, Digital4Sustainability will help European companies, particularly small and medium-sized enterprises (SMEs), achieve long-term competitiveness and growth through digital and sustainable transformation.

Funded by the Erasmus+ Programme of the European Union, this 4-year project unites 29 members of the Digital Large-Scale Partnership (Digital LSP) under the Pact for Skills, spanning 13 EU countries. The consortium includes digital and sustainability experts, business associations, universities, and Vocational Education and Training (VET) providers.

# The Digital4Sustainability Project Consortium

The Digital4Sustainability project consortium is an Erasmus+ Alliance for Sectoral Cooperation on Skills, bringing together 29 partners and Associated partners from 13 EU countries.

	Partners	Acronym	Country
1	Adecco Formazione Srl	Adecco Training	Italy
2	Adecco Italia Holding Spa	Adecco Holding	Italy
3	As Bcs Koolitus	BCS KOOLITUS	Estonia
4	Asociatia Cluj IT	CLUJ IT CLUSTER	Romania
5	Badgebox Srl	BadgeBox	Italy
6	CEFRIEL Societa Consortile A Responsabilita Limitata	CEFRIEL	Italy
7	Cooperatie Eduserpro U.A.	Eduserpro	Netherlands
8	Digital Technology Skills Limited	DTSL	Ireland
9	DIGITALEUROPE AISBL	DIGITALEUROPE	Belgium
10	European DIGITAL SME Alliance	DIGITAL SME	Belgium
11	Fast Lane Institute For Knowledge Transfer GmbH	FAST LANE	Germany
12	Gospodarska Zbornica Slovenije	GZS CCIS	Slovenia
13	Gospodarska Zbornica Slovenije Center Za Poslovno Usposabljanje	GZS CPU	Slovenia
14	IVSZ - Digitalis Vallalkozasok Szovetsege	IVSZ	Hungary
15	Matrix Internet Applications Limited	MATRIX INTERNET	Ireland
16	National College Of Ireland	NCI	Ireland
17	Profil Klett D.O.O.	PK	Croatia
18	Sdruzenie Bulgarska Asociacia Na Softuernite Kompanii - Basscom	BASSCOM	Bulgaria
19	Stichting Hogeschool Utrecht	HU	Netherlands
20	Tekenable Limited	TEKenable	Ireland
21	Universidad De Alcala	UNI ALCALA	Spain
22	Universidad Internacional De La Rioja SA	UNIR	Spain
23	Universität Koblenz	UNI KO	Germany
24	National University of Science and Technology Politehnica Bucharest	POLITEHNICA Bucharest	Romania

	Associated partners	Acronym	Country
1	Asociacija Infobalt	INFOBALT	Lithuania
2	SKILLNET IRELAND Company Limited By Guarantee	SKILLNET IRELAND	Ireland
3	The Council of European Professional Informatics Societies	CEPIS	Belgium
4	Universidad Complutense De Madrid	UCM	Spain

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# 1. Introduction

Between November 2024 and January 2025, a total of 12 urgent upskilling pilots were delivered by partners of the Digital4Sustainability project. These pilots were designed and implemented based on the collaborative work carried out in Task 3.1 (design of urgent upskilling curricula in year 1), Task 3.5 (development of urgent digital sustainability learning programmes in year 1), and Task 4.1 (implementation of urgent learning programmes in year 1). The pilots covered a wide range of topics aligned with Digital Sustainability, including AI for sustainability reporting, digital accessibility, cybersecurity and ESG, and digital twins for sustainable development. They were delivered across seven countries in five languages (English, Spanish, Italian, Slovenian, and Dutch), using a mix of online webinars and live sessions.

Of the 12 pilots, 10 were offered as a webinar, and two as a live event. In total, ten different programmes were developed, with 2 of the programmes being delivered twice for different audiences (See Table 1). We exceeded the project team's forecast of up to 5 training programmes. Six of the pilots were held in English, 2 in Spanish, 2 in Italian, 1 in Slovenian, and 1 in Dutch. The organising partners are based in Ireland, Slovenia, Germany, Spain, Italy, the Netherlands, and Belgium. Combined these pilots reached 468 European learners, which was more than double the 200 learners expected.

This report presents and reflects on the urgent upskilling pilots. The main goal of this exercise is to extract key lessons learned, which will inform the next phase of pilot implementation. These insights were collected during an evaluation workshop with the piloting partners on 13 February 2025.

We begin with an overview of the urgent upskilling pilots in Section 2. Section 3 outlines the main evaluation outcomes—from both participant and trainer perspectives. Section 4 provides a reflection on the process of organising and delivering the urgent upskilling pilots.

Drawing on these inputs, we conclude with a synthesis of the key lessons learned. The final section explores three perspectives: (i) learnings on the desired outcomes of future training programmes, (ii) insights into the development of new materials, and (iii) core lessons related to the pilot implementation process.

Indicator	MS7 target	Actual result
No. of training programmes	Up to 5	10 (2 delivered twice)
No. of countries involved	4 to 7	7
No. of learners reached	~200	468
Delivery format	Not defined	10 webinars, 2 live
Languages	Not defined	EN, ES, IT, SL, NL

Table 1 Progress overview - MS7 KPIs vs Actual Results

## 2. Overview of the Urgent Upskilling Pilots

Between November 2024 and January 2025, twelve urgent upskilling pilots were implemented by partners across Europe, offering short-format training on topics directly linked to the digital and green transitions. Each pilot was designed and delivered by a consortium member, leveraging on their own expertise, networks, and training capacity. Table 2 summarises the twelve urgent upskilling pilots delivered.

Title and link to materials	Organising Partner	Form	Date	Language	Participants
<a href="#"><u>Introduction to Digital Twins as a Tool to Promote Sustainability</u></a>	UNIR	Webinar	November 14 <sup>th</sup> , 2024	Spanish	10
<a href="#"><u>Introduction to the Topic of the Twin Transition, with a Focus on the Role of the Marketeer</u></a>	Hogeschool Utrecht	Live seminar	January 16 <sup>th</sup> , 2025	Dutch	12
<a href="#"><u>Digital and sustainability – Train the Trainers</u></a>	Adecco/ Badgeboxx	Webinar	January 22 <sup>nd</sup> ,	Italian	83
<a href="#"><u>Digital Accessibility for Everyone</u></a>	UAH	Webinar	January 23 <sup>rd</sup> , 2025	Spanish	34
<a href="#"><u>AI for Improved Sustainable Reporting</u></a>	NCI	Webinar	January 23 <sup>rd</sup> , 2025	English	15
<a href="#"><u>Smart Data Analytics</u></a>	Uni Koblenz	Student Lecture	January 24 <sup>th</sup> , 2025	English	15
<a href="#"><u>How Data can Drive Sustainability in Organisations</u></a>	BCS Koolitus	Webinar	January 24 <sup>th</sup> , 2025	English	49
<a href="#"><u>CSRD-Ready with Digital Best Practices</u></a>	Digital SME	Webinar	January 24 <sup>th</sup> , 2025	English	66
<a href="#"><u>AI for Improved Sustainable Reporting</u></a>	Fastlane	Webinar	January 28 <sup>th</sup> , 2025	English	11
<a href="#"><u>Cybersecurity and ESG</u></a>	CEFRIEL	Webinar	January 28 <sup>th</sup> , 2025	Italian	122
<a href="#"><u>CSRD-Ready with Digital Best Practices</u></a>	TEKENABLE	Webinar	January 28 <sup>th</sup> , 2025	English	26
<a href="#"><u>Digital Technologies for Sustainable Reporting</u></a>	GZS CPU	Webinar	January 29 <sup>th</sup> , 2025	Slovenian	25



**(CSRD+ESG)**

<b>Total: 12 pilots</b>	12 partners	10 webinars & 2 Live	5 languages	468 participants
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**Table 2 - Overview pilot programmes**

The initial plan foresaw the development of educational profiles, including learning outcomes, prior to the implementation of the urgent upskilling programmes, which would have been based on these profiles. However, given the limited timeframe until the projected deadline and limited available resources, this approach was not feasible. Consequently, a more pragmatic approach was adopted, as detailed in Section 4.

The conclusions from the needs analysis on urgently needed skills in the D2.1 Roles and Skills Needs Analysis Report were mapped against both the capabilities and the possibilities of the partners to implement the urgent upskilling pilots. Hence, the approach was chosen for the piloting partners to develop their own materials in line with their specific expertise and targeting their respective networks. This resulted in 10 different programmes, two of which were offered twice, making 12 pilots in total.

To assure alignment of the pilots with the project's objectives, as well as the quality of the learning materials developed, a quality assurance process was implemented. In this evaluation, specific attention was paid to the following aspects:

1. **Assessing Course Content:** evaluating the accuracy, relevance, and completeness of the information and its alignment with the project's learning objectives.
2. **Assessing Learning Objectives:** examining the clarity and focus of the content in relation to skills identified in the Needs Analysis, particularly those relevant to the digital and green transitions.
3. **Ensuring Instructional Design Quality:** checking that the presentation/course followed the Digital4Sustainability communication guidelines and that the methods were engaging and interactive.
4. **Reviewing Accessibility and Design:** verifying that materials met accessibility standards and were formatted for immediate use.
5. **Gathering Additional Comments:** collecting open-ended suggestions for improvement from reviewers.

The draft materials were all evaluated in this way, and the feedback was shared with the piloting partners in time to be implemented in the materials before the pilot. This ensured that all materials met minimum quality standards before delivery. The form used for evaluation is added to this report as Appendix 1.

### 3. Evaluation of Urgent Upskilling Pilots

To ensure that the Digital4Sustainability programmes are effective and aligned with the needs of the target audience, a structured evaluation was conducted among both participants and trainers of the urgent upskilling pilots. The primary objective was to assess the current pilot programmes and identify areas for improvement in future iterations. The evaluation was designed to be concise, ensuring that participants could complete it quickly and easily while still providing valuable insights. Participants were asked about their demographic background (education, country, work/study), the relevance of the training, newly acquired knowledge, key takeaways, additional learning needs, and preferences for future offerings. Trainers provided feedback on participant engagement, the types of questions raised, the use of their own materials/provided materials, recommendations for other trainers using the same materials, and suggestions for improving the training materials.

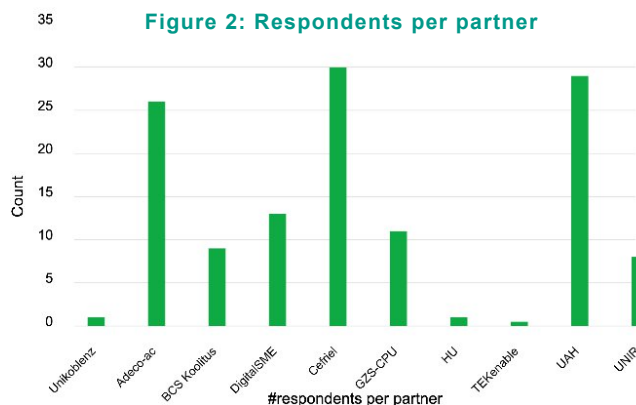
To streamline the evaluation process, trainers were asked to complete their feedback survey after delivering their pilot. Participants were encouraged to complete the evaluation survey at the end of the sessions via a QR code or direct link. Additionally, a follow-up mail was sent within 24 hours to thank them for their participation and to encourage survey completion, with a final reminder sent one week later. Out of a total of 468 participants, 135 completed the evaluation survey, yielding a response rate of 29%. The majority of respondents were highly educated, employed, and working for large organisations. 93% of respondents were working professionals, and 85.9% held at least a bachelor's degree, with 46% having a master's and 10.2% a doctorate. In terms of organisational affiliation, 10.9% worked for micro-organisations (fewer than 10 employees), 1% for small organisations (fewer than 50 employees), 46% for large organisations (more than 250 employees) (figures 1 & 2).

These findings show that **the program primarily included professionals with advanced educational backgrounds and experience in sizeable organisations.**

**Figure 1: Distribution working professionals and students**

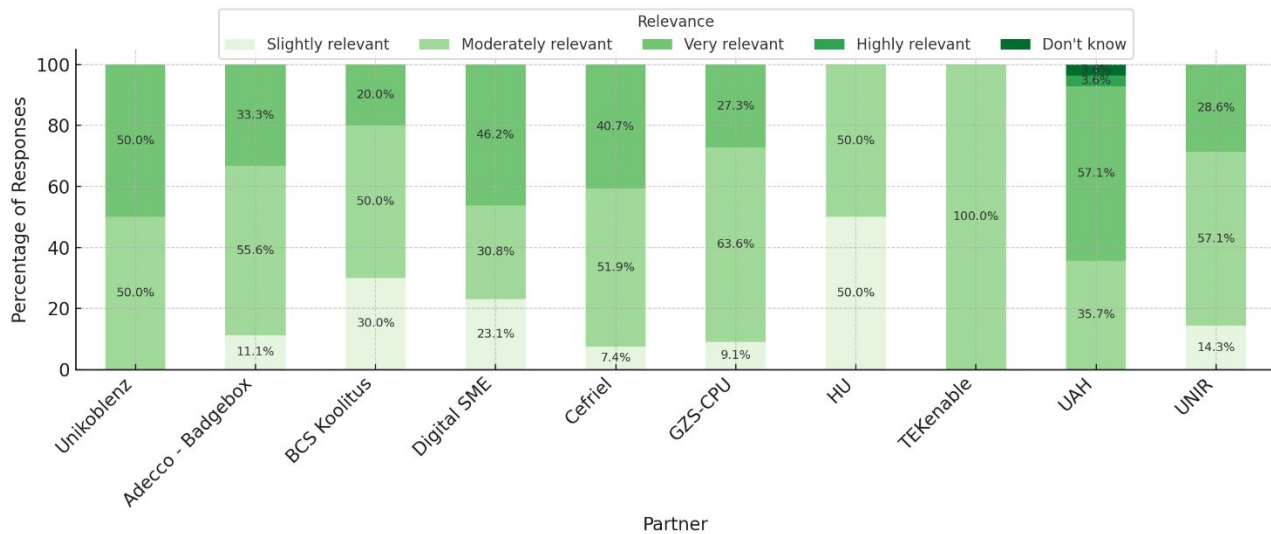


**Figure 2: Respondents per partner**



The evaluation of the perceived relevance of the pilot sessions revealed strong positive feedback, with a significant majority of participants considering the programme highly relevant. Among the 135 respondents, 45.6% rated the content as "Very relevant," and 36% deemed it "Highly relevant." These responses indicate that a combined 81.6% of participants found the sessions to be highly valuable. Only a small percentage of respondents rated the programme as "Moderately relevant" (9.5%) or "Slightly relevant" (8.1%), highlighting that the majority found the content closely aligned with their needs.

These findings suggest that **the programme resonated strongly with professionals**, as reflected in the results presented in Figure 3.



**Figure 3: Results perceived relevance pilot programmes**

The evaluation of the knowledge acquisition during the pilot sessions also showed strong positive feedback, with a significant portion of participants reporting substantial learning. Among the 135 respondents, 47.4% indicated that they had acquired knowledge "To a large extent," while 20% felt they had gained knowledge "To a great extent." Combined, these results show that 67.4% of participants experienced a significant increase in their knowledge. Only a small percentage rated their knowledge acquisition as "To a moderate extent" (23.7%) or "To a small extent" (7.4%), underlining that most respondents found the program not only relevant but also informative. These findings, as reflected in Table 3, reinforce **the programme's effectiveness in delivering valuable content aligned with participants' needs.**

**Table 3: Results perceived acquired knowledge**

Partner	To a small extent	To a moderate extent	To a large extent	To a great extent	Don't know	Total
<b>Unikoblenz</b>	0 (0,0%)	2 (100,0%)	0 (0,0%)	0 (0,0%)	0 (0,0%)	2
<b>Adecco-Badgebox</b>	0 (0,0%)	6 (22,2%)	15 (55,6%)	6 (22,2%)	0 (0,0%)	27
<b>BCS Koolitus</b>	0 (0,0%)	3 (30,0%)	6 (60,0%)	0 (0,0%)	1 (10,0%)	10
<b>Digital SME</b>	2 (15,4%)	4 (30,7%)	4 (30,7%)	2 (15,4%)	1 (7,7%)	13
<b>CEFRIEL</b>	5 (16,1%)	9 (29,0%)	14 (45,1%)	3 (9,7%)	0 (0,0%)	31
<b>GZS-CPU</b>	2 (16,7%)	2 (16,7%)	5 (41,7%)	3 (25,0%)	0 (0,0%)	12
<b>HU</b>	0 (00,0%)	2 (100,0%)	0 (0,0%)	0 (0,0%)	0 (0,0%)	2
<b>TEKENABLE</b>	1 (3,3%)	3 (10,0%)	17 (56,7%)	9 (30,0%)	0 (0,0%)	1
<b>UAH</b>	1 (3,3%)	3 (10,0%)	17 (56,7%)	9 (30,0%)	0 (0,0%)	30
<b>UNIR</b>	0 (0,0%)	0 (0,0%)	2 (28,6%)	4 (57,1%)	0 (0,0%)	7
<b>Total</b>	10 (7,4%)	32 (23,7%)	64 (47,4%)	27 (20,0%)	2 (1,5%)	135

As presented in Table 4, the evaluation of session format indicates a **preference for online, interactive sessions with a focus on practical content**. Respondents highlighted the flexibility of online sessions, with comments such as "Webinars" and "online workshops allow for great flexibility." There were also requests for **increased interactivity and practical examples**, with suggestions including the use of tools like Kahoot or incorporating hands-on exercises. Additionally, participants expressed a **preference for shorter, more focused sessions**, with feedback like, "Less dense slides and more practical content," suggesting a need for less theory and more engaging learning experiences. While most respondents favoured online formats, a portion showed interest in in-person sessions for workshops and live demonstrations.

**Table 4: Results evaluation session format**

Preferences	Frequency	Example quotes
<b>Online sessions</b>	6	Webinars   online workshops allow for great flexibility   virtual class format through Blackboard   This same format is fine   I find the format appropriate
<b>Interactive &amp; Practical</b>	8	More interactive with Kahoot or similar   practical examples   Practical workshops   practical cases with the most commonly used applications'   Live demos on video with real-world goals   Less talk, more interaction   Hands-on exercises
<b>Short &amp; Focused</b>	4	Webinar max 2 hours   Less dense slides and more practical content   Insert a small break
<b>Aesthetics &amp; Accessibility</b>	4	Provide links or third-party documents   Use more images   Guide official documentation for public administration
<b>In-person format</b>	3	Practical workshops or in-person seminars   Expository sessions and other practical ones   In-person sessions would be helpful   workshops   live demo on video with real-world goals

Participants also provided **suggestions for content**, many of which aligned closely with the topics covered in the pilot sessions. The results of these suggestions are presented in MERGEFO Table 5 and highlight key areas where participants expressed interest in further exploration and refinement.

Suggestions focused on expanding sustainability and ESG-related topics, with requests for a more detailed breakdown of ESG dimensions and deeper dives into social and environmental sustainability. This aligns with sessions on CSRD, ESG and sustainable reporting, suggesting that participants found the topics relevant and seek additional depth.

Another recurring theme was accessibility, particularly in digital environments. Participants indicated a need for more guidance on structuring documents and websites for accessibility, conducting accessibility reviews, and ensuring compliance with accessibility standards. This aligns with the 'Digital Accessibility for Everyone' pilot, reinforcing the relevance of the topic while highlighting the need for more technical and hands-on content.

AI and digital technologies also emerged as an area of interest, with requests for insights into AI tools, digital twins and industry 5.0. A strong emphasis was placed on change management and communication, with participants request for sessions on effective communication, leadership, coaching, and dealing with resistance to change. These topics, while relevant to digital and sustainability transitions, were not a core focus of the pilot programmes, suggesting an opportunity to integrate these aspects into future training. Other recurring themes included data and reporting, cybersecurity, and regulations and compliance. The suggestions provided by the participants indicate that they valued these topics and are additionally looking for more practical applications.

Overall, the responses indicate that **the core themes of the pilot sessions resonated with participants and that there is a demand for deeper, more specialised content and increased focus on practical applications, hands-on exercises and sector-specific cases studies and examples**.

Table 5: Suggestions for content

Topic	Frequency	Example quotes
<b>Sustainability &amp; ESG (5)</b>	5	Webinars   online workshops allow for great flexibility   virtual class format through Blackboard   This same format is fine   I find the format appropriate
<b>Accessibility (10)</b>	10	More interactive with Kahoot or similar   practical examples   Practical workshops   practical cases with the most commonly used applications'   Live demos on video with real-world goals   Less talk, more interaction   Hands-on exercises
<b>AI &amp; Digital Technologies (4)</b>	4	Webinar max 2 hours   Less dense slides and more practical content   Insert a small break
<b>Change Management (11)</b>	11	Provide links or third-party documents   Use more images   Guide official documentation for public administration
<b>Workshops &amp; Practical Examples</b>	3	Practical workshops or in-person seminars   Expository sessions and other practical ones   In-person sessions would be helpful   workshops   live demo on video with real-world goals
<b>Data &amp; Reporting</b>	9	Digital technologies for reporting   the more specific ESG reporting to put together   what data points to track   calculation behind emission numbers   how data we collect is calculated to see where we are in sustainability goals
<b>Cybersecurity &amp; IT</b>	9	Cybersecurity   Practical examples of how attacks have been managed and best practices   Security   Security, software architecture   Technical requirements   Sustainability in software engineering   web-programming   topics related to IT field
<b>SME Context</b>	4	More support for SMEs   More Digital Tools for micro and small business   Use in SME   & non-big-tech tools

Table 5 (continued)

Topic	Frequency	Example quotes
<b>Tools &amp; Frameworks</b>	5	AI Tools   Research methods   Optimisation functions   how tools are available to help businesses   the 'library'; was very interesting and would like to see more of that
<b>Regulations &amp; Compliance</b>	4	CDRD and CSRD, but especially the new CRA regulation   Evolution of legislation in Spain on this topic and how it has adapted to European directives   how Spanish legislation already included accessibility before the European Union directives and how the legislation on this topic has evolved over the years   regulations connected with CSRD and ESG

In addition to gathering feedback from participants, trainers were also asked to evaluate the pilot sessions and provide suggestions for improvement. All trainers worked with their own materials, allowing flexibility in content delivery while maintaining alignment with the program's objectives. As presented in Table 65, the feedback of the trainers focused on both technical and content-related aspects.

There was the suggestion to **conduct a test run before each webinar** to anticipate and resolve potential technical issues. Trainers also emphasised the importance of **adapting use cases and examples to better reflect country-specific and industry-specific contexts**, making the content more applicable to diverse audiences. In addition, also include examples to illustrate the concept of the twin transition across different industries.

To enhance participant engagement, trainers proposed incorporating **interactive methods and real-world examples**. Trainers highlighted the value of pre-session preparation by providing **reading materials beforehand** to support a deeper understanding of the topics.

Other suggestions included ensuring the use of the latest templates, integrating the project logo and broadening the perspective to include consumer behaviour. The material of the pilots primarily focused on companies. Adding guidance on how businesses can support employees in adopting more sustainable practices was highlighted as an area for further development.

**Table 6: Overview trainer suggestions for improvement**

Suggestions	
<ul style="list-style-type: none"> <li>• A quick test run before the webinar starts, just in case there are technical issues.</li> <li>• Change use cases and examples based on country and companies</li> <li>• Provide examples in which the twin transition is illustrated in a sector</li> <li>• Engage participants through interactive methods and real-world examples.</li> <li>• Preparation beforehand (i.e. read articles before using materials)</li> <li>• Obtain the latest templates</li> <li>• Use project logo</li> <li>• Add consumer's perspective. Current materials focused on companies.</li> <li>• Add examples and suggestions for companies to help their employees become more sustainable.</li> </ul>	

Category	Suggestion	Purpose / Rationale
Technical Preparation	Conduct a short test run before each webinar	Prevent potential technical issues
Content Localisation	Adapt use cases and examples to reflect national and sector-specific contexts	Increase relevance and resonance with target audiences
Illustration of Key Concepts	Include practical examples of the twin transition in various sectors	Clarify complex ideas through contextualised cases
Engagement & Interactivity	Incorporate interactive methods (e.g. real-world examples, tools)	Enhance learner involvement and retention
Pre-session Preparation	Share reading materials in advance	Support deeper understanding and engagement
Branding & Consistency	Use the latest templates and ensure inclusion of the project logo	Maintain visual identity and consistency across sessions
Expanded Perspectives	Add content reflecting the consumer's role and behaviour	Broaden the scope beyond company-centred examples
Practical Workplace Impact	Provide examples and suggestions on how companies can support sustainable behaviour among employees	Strengthen applicability and post-training implementation



## 4. Process of Urgent Upskilling Pilots

The element of urgent upskilling pilots was added to the project to impact practice within the first year of the Digital4Sustainability project. While being an admirable objective, the execution according to the planning was a challenge for the consortium. With the needs analysis being finished only in October 2024 and the Skills Strategy still in development, it was not feasible to develop targeted and tailor-made upskilling programmes cooperatively. Translating the goals in the Grant Agreement to specific learning programmes is a complex task for a group of partners still developing their ways of working. In addition, the holiday season from late December 2024 to early January 2025 coincided with the pilot implementation period, limiting available time to implement a new training programme, prepare partners' trainers to deliver the content, and attract learners to attend the sessions.

It became clear that the preferred option of piloting collaboratively developed programmes was not feasible around October 2024. To meet the shared ambition to reach the European (future) professionals within year 1, the consortium opted to organise events in an autonomous way by the piloting partners. These events were based on available expertise, materials, and trainers. The events were organised through platforms familiar to the partners, and were they led the event promotion and handled the registrations individually. This strategy was the only feasible one to deliver the programmes by the required deadline.

Through bi-weekly consortium meetings, alignment was sought between the partners. The different pilots were monitored and numbers of participants realised were tracked to assure that the combined efforts met the KPIs associated with MS7. Several coordination issues were tackled as they arose while maintaining standards. Through close collaboration with Work Package 3 (WP3) and Work Package 4 (WP4), alignment in the programmes was sought as much as possible, for instance, the inclusion of the Digital4Sustainability brand and application of shared terminology. An evaluation procedure was set-up using the EU-survey tool to capture feedback in a uniform way. The partners of Work Package 6 (WP6), that deals with the long-term sustainability strategy and scale up of this project, were also involved regularly to create external exposure for the efforts through the Linked-In channel and on the Digital4Sustainability website.

Through the combined efforts of all contributing partners, the consortium has been **able to reach the deadline and number of learners for this milestone on upskilling pilots within the given timeframe**. As described above, learners attending the **pilots evaluated the urgent upskilling events in a positive way**. In total, 79 participants in the surveys indicated that they want to be informed about future events and follow the Digital4Sustainability newsletter, increasing the potential **outreach for the next range of pilots**. In addition, the organisation of the urgent upskilling pilots forced the partners to perform under pressure in an orchestrated way. The **establishment of shared ways of working** early on in the project and the **building of social capital** could well serve as important assets in future stages of the project and they provide a solid foundation for successful outcomes.

## 5. Lessons Learned

In this final section, we distil the most important lesson we learned during the urgent upskilling phase of the project. These insights are primarily based on the input gathered during an evaluation meeting with the involved partners, which was held on 13 February 2025. A summary of the Mural input from that session can be found in Appendix 2 of this document.

### 5.1 Learning outcomes for future programmes & profiles

The approach taken for the urgent upskilling pilots resulted in relevant programmes, but also in programmes that were not yet tailored to, for example, specific roles. For instance, programmes were not specifically adapted to roles such as sustainability managers, data analysts, or digital transformation leads.

The evaluation with the partners indicated that this was actually missed, which underlines **the importance of educational profiles including learning outcomes** based on Digital4Sustainability role profiles. In the context of WP3, these role profiles and related educational profiles will be developed. These will be the foundation for designing curricula that are guaranteed to be in line with the outcomes of the needs analysis and the skills strategy.

Moreover, partners highlighted the value of linking learning outcomes not only to job titles but also to organisational maturity levels in digital and sustainability transformation (e.g. beginner, intermediate, advanced).

Another point that was raised is **the certification of professionals** that achieved learning outcomes. This was not feasible to implement for the urgent upskilling programmes, but certifications will be designed in WP3 and will be implemented during the regular pilots.

It was also suggested that learners should be empowered to act as change agents within their organisations—meaning that, alongside technical knowledge, transversal skills such as leadership, communication, and strategic thinking should be incorporated into learning outcomes wherever relevant.

### 5.2 Material development

The evaluation process yielded the following valuable insights and recommendations for future material development for the Digital4 Sustainability project.

#### Standardisation and Branding:

Future materials should prioritise uniformity in language, style, and structure to ensure a consistent and engaging learning experience. Adopting the Digital4Sustainability layout for all materials will create a cohesive look and brand identity. A good way to ensure this is to inform partners early on and encourage them to use the templates provided.

#### Format and Delivery:

Various studies state that the average adult internet user's attention span is 8.25 seconds, influenced by the increasing distractions on the internet, social media, and the environment. Therefore, short online sessions with a maximum of 2 hours are preferred to accommodate busy professionals. From the surveys provided, we could connect the dots between the two, ensuring a maximum of 2 hours with breaks in between. Moreover, E-learning modules should be explored to provide flexibility and self-paced learning options. For example, the piloting programmes were recorded and uploaded on the project website, allowing users the flexibility to access the programmes.

Partners also suggested exploring the development of a self-paced MOOC (Massive Open Online Course) as a long-term format to extend the reach and re-usability of the training.



## Content Enhancement:

While the content was well-received, there is an apparent demand for more practical examples and case studies. The connection between theory and real-life examples is a critical aspect of enhancing learning, a shift towards "learning by doing" is recommended. With interactive exercises and activities, participants can apply the knowledge directly in a way that applies to them and their business. Although some of these points may be challenging to be incorporated in 'short sessions', the focus can be placed on more participatory approaches

This also requires training materials to be modular and flexible enough to allow adaptation by trainers across sectors.

## Focus on Digital Sustainability:

Examples and case studies should explicitly demonstrate the intersection of digitalisation and sustainability, showcasing the synergies and interdependencies between the two. Moreover, it is crucial that materials explicitly link content to the skills and roles identified in the Needs analysis report.

## Contextualisation and Localisation:

It is important to understand that this project has a European focus and involves different countries and cultures. Therefore, to enhance relevance and engagement, examples should be tailored to specific sectors and localised for different countries, considering cultural nuances and regional priorities.

By implementing these recommendations, we ensure that future Digital4Sustainability material development efforts result in high-quality, engaging, and high impact learning experiences that effectively equip participants with the knowledge and skills to drive digital sustainability.

## 5.3 Piloting process

It is clear that for the next stage of piloting, a **more orchestrated and planned approach** is desirable. **Having sufficient time** between the availability of the learning programmes to be piloted and the deadline for the pilots to be held is a prerequisite for this. When tailor-made programmes are being piloted by multiple partners, it should be taken into account that **trainers need to be trained** as well. A "train-the-trainer" component should therefore be integrated into the piloting preparation phase to ensure consistent delivery across countries and sectors.

The partners expressed a desire to also develop **a shared marketing approach** for all the pilots, rather than the approach of every partner being responsible for their own communication towards potential learners. Early collaboration with the WP6 partners is necessary to achieve this, just as expanding the outreach on the available communication channels. This also includes the (further) development of **a platform** where all materials are made accessible to enhance the impact of the project and gather feedback from parties working with the materials.

Partners also emphasised the need for a unified visual identity and templates for event promotion, as well as more active and coordinated use of social media, especially LinkedIn.

In the urgent upskilling piloting stage, the vast majority of the pilots were organised in the second part of January, very near the deadline of the piloting stage. If in the scheduled pilots the numbers associated with MS7 were not reached, there would have been no possibility to organise additional pilots. The planning for the next range of pilots should include 'spare time' to organise additional events if needed. Including a time buffer in the timeline is critical to ensure flexibility in case adjustments or additional pilots are needed.

In terms of the questions, a suggestion was made **to reformulate the question** about the topics learners wish to know more about, to a question about the challenges they face in their organisation in relation to the Digital Sustainability, also referred to as Twin Transition. This may give more hands-on input for the project to develop new content.

## 6. Appendices

### 6.1 Appendix 1: Criteria form for review of pilot materials

1. Course Content	Evaluation	Comments
Content aligns with learning objectives Clear Emphasis on Data in Sustainability		
Topics are comprehensive and well-organised and addresses Training Needs		
Content is appropriate for target audience		
Course includes practical examples		
2. Learning Objectives	Evaluation	Comments
Focus on Key Roles and Skills		
Highlighting Relevant Regulations Objectives align with industry standards		
3. Instructional Design	Evaluation	Comments
Does Presentation/Course follow Digital4Sustainability Format		
Methods used are interactive and engaging		
Presentation structure is logical and easy to follow		
4. Accessibility and Delivery	Evaluation	Comments

Course materials are easy to access "Ready to Use" for others		
Course is compatible with various devices/software		
<b>5. Evaluation and Feedback</b>	<b>Evaluati on</b>	<b>Comments</b>
What can be Improved /General Comments		
<b>Overall Assessment</b>	<b>Evaluati on</b>	<b>Comments</b>
Does the course meet the required quality standards? (Yes/No):		
Approval		
Reviewer Name:		
Signature:		
Date:		



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Project: 101140316 — D4Sustainability — ERASMUS-EDU-2023-PI-ALL-INNO  
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