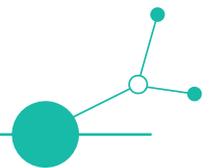


## D.2.5.2. MOOC training programs

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### A2.5 – Developing and implementing open knowledge training programs

Report on activity in progress





## Document Control Sheet

Work package Number	WP2
Work package Title	Transnational GREEN 4.0 Open Knowledge HUB for Digital transformation
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_R01	3.07.2025	Kacper Miodoński, Urszula Woźniak, Kinga Sepielak ( PP8)	KPT	Draft and structure of the document
_R02	14.07.2025		All PPs	Revision by all partners
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## A. Introduction

This document presents a progress overview of the activities carried out under Activity A2.5 "Developing and Implementing Open Knowledge Training Programs" as part of Work Package 2 (WP2) of the Transnational GREENE 4.0 Open Knowledge HUB for Digital Transformation. The focus is on Deliverable D.2.5.2, titled "MOOC Training Programs." The report outlines the process of designing, structuring, and implementing training modules, which were subsequently adapted into Massive Open Online Courses (MOOCs) using the open-source Moodle (Modular Object-Oriented Dynamic Learning Environment) platform.

It is important to note that the core content of the five training modules was previously delivered in Deliverable D.2.5.1, "Training Modules." That document provides the structured content of each of the five modules, designed to guide companies progressively through each section and support their learning objectives. Each module represents a key part of the overall training framework, enabling step-by-step development in digital transformation competencies.

## B. Open Knowledge training programs

### B.1 Open knowledge training programs as part of the B2GreenHub platform

The Open knowledge training programs constitute a key component of the Transnational Open Knowledge Box – a repository of instruments and resources designed to facilitate the distribution of expert knowledge on green and digital transformation of enterprises.

The B2GreenHub brand serves as an integrative umbrella to streamline communication and simplify outreach, ensuring that stakeholders engage with a coherent narrative rather than multiple independent projects. It is important to clarify that B2GreenHub is a brand name only; it does not represent a project with its own budget, activities, or invoices. Instead, it consolidates the resources, insights, and outcomes from the 7 EU-funded projects, presenting them as a unified whole to maximize impact and visibility. This consolidation aims to make the results more accessible and usable, particularly to stakeholders who might find value in a single point of reference for these interlinked initiatives.

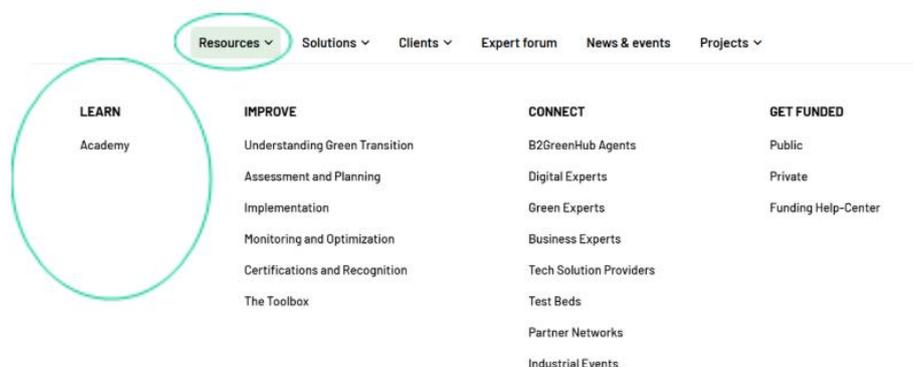


Figure1: Open Knowledge Training Programs as the "Learn" section under element "Resources" of the main menu of B2GreenHub platform



This toolkit aims to support the development of new value chains and promote the adoption of sustainable business models.

In addition to the training programs, the Transnational Open Knowledge Box integrates the following tools:

- Private Equity Investment Readiness Tool
- Open Innovation Map
- Open Innovation Tools (comprising: Expert Forum, the Toolbox, and Business Model Generator)

The joint implementation of these tools will support companies within the B2GreenHub ecosystem in adapting to a rapidly evolving economic landscape – in particular, the growing importance of digital technologies and environmentally conscious production methods. These challenges demand both specialized knowledge and a comprehensive understanding of modern technological solutions.

The Open Knowledge Training Programs will be made publicly available in the form of MOOCs, thus ensuring accessibility to a broad audience and facilitating knowledge dissemination.

The B2GreenHub platform, which hosts these resources, represents a substantial upgrade of the Pro.Net platform. It is envisioned as the central hub of a transnational ecosystem co-created by domain experts and technology specialists, and strategically supported – both organizationally and conceptually – by several EU-funded projects, including Greene 4.0, CI-Hub, RISE, DanubeDNA (co-financed by Interreg Danube Programme), and REUSE (co-financed by Interreg SI-AT Programme).

## B.2 Summary of the development process

The development of the Open Knowledge Training Programs has followed four main stages, presented on the graphics below:

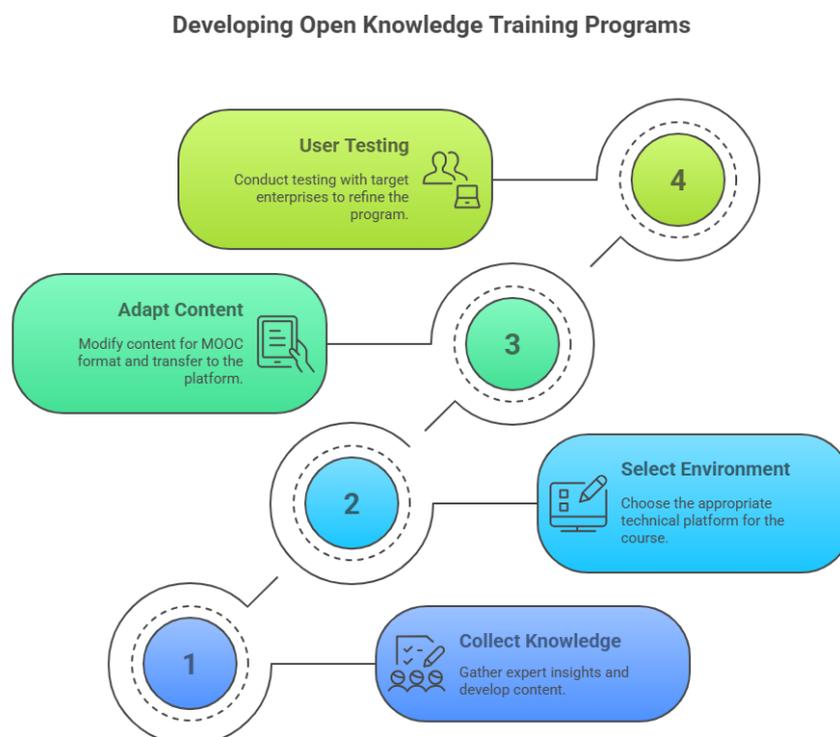


Figure 2. Development of the Open Knowledge Training Programs stages



## B.2.1 Development of training content and collection of expert knowledge

The coordination of content development for the Open Knowledge Training Programs was led by PP9 (MGFÜ), in close collaboration with LP (Pomurje Technology Park), PP3 (FH Kufstein), PP4 (University of Ljubljana), and PP5 (Jan Evangelista Purkyně University in Ústí nad Labem).

The training content was structured into five thematic modules:

- **Module 1: Beginners Program**, including: *Introduction to Sustainability, Digital Transformation, Basics of Green Technology, and Human-Centered Transformation*
- **Module 2: Smart Manufacturing and Open Innovation Toolkit Mastering**
- **Module 3: Digital Manufacturing and Open Business Generation and Operation**
- **Module 4: Green Industry Innovation and Sustainable Production Technologies**
- **Module 5: Funding Gaps – Reaching Private Capital by Performing Equity Investment Readiness – Supporting Tool**

During the development process, special attention was given to selecting appropriate visual and multimedia materials, as well as ensuring a clear and modular content structure. This approach was essential not only for ease of navigation but also for the future adaptation of content to the MOOC format and the overall learning experience.

Each module development team was additionally tasked with preparing verification quizzes to assess knowledge retention and learner engagement. Moreover, all contributors were requested—by the partner responsible for platform development, PP8 (Krakow Technology Park)—to collect and archive all graphical materials used in the courses and to provide proper source attributions.

## B.2.2 Selection of the learning environment

Following thorough internal consultations, PP8, in agreement with LP, decided to adopt the Moodle platform as the primary technical solution for hosting the training programs. This decision was based on the following criteria:

- high adaptability and customization for user needs
- continuous support from an active global community
- access to a wide range of instructional resources and documentation for course developers
- existing familiarity among potential users
- user-friendly interface and intuitive navigation
- open-source licensing, eliminating licensing fees
- availability of multiple themes enhancing the platform's aesthetic appeal
- previous experience of the PP8 team in working with Moodle-based environments

Simultaneously with course content development, internal consultations were conducted to define the visual identity of the course environment. To ensure consistency across the platform, the visual identity of the B2GreenHub initiative was incorporated. Course-related graphical materials were also adjusted accordingly.

As a result of the consultations, the Edwiser RemUI theme was selected as the most user-friendly and visually coherent option. This theme is fully compatible with the latest versions of Moodle. A prototype course page was prepared and initially reviewed by the Lead Partner (LP), who provided feedback and design suggestions to enhance both usability and visual clarity then .

Additionally, during the Transnational Design Thinking Camp and the Integration Seminar held in Kraków on the 26th and 27th of March, a dedicated Miro workshop took place on the second day. This session



was organized to collect feedback and comments from all project partners. Below, you will find selected photos and screenshots from Miro showcasing the key inputs and highlights gathered during the session.



Photo 1: Integration Seminar in Kraków

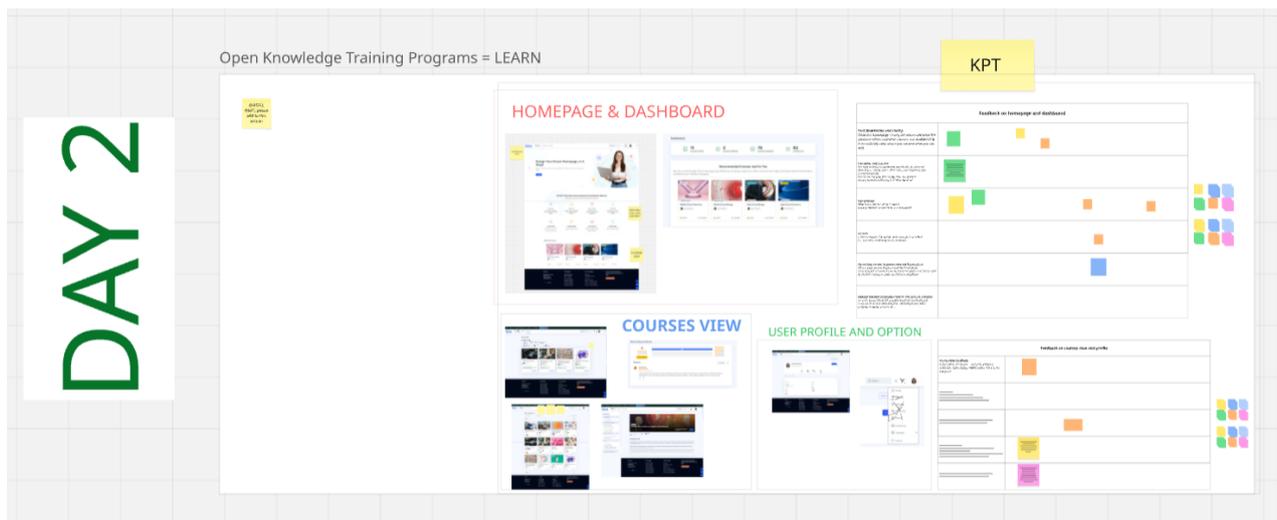


Figure 3: Screenshots of the Miro platform

The feedback received from the partners was treated as valuable guidance for the ongoing platform development process. While not all recommendations could be implemented – due to certain structural limitations of the Moodle environment – key design principles were identified and followed. These included **clarity**, **simplicity**, and **user-friendliness** as the core values shaping the user interface and navigation logic.

In line with the strategic ambition of the Greene 4.0 project, a collective decision was made to brand the training environment as **Green Path Academy**, creating a recognizable and purpose-driven identity for the learning space.



## B.2.3 Adaptation of the content to the MOOC format and its transfer to the platform

### B.2.3.1 User Login and registration

Access to the Green Path Academy is granted upon creating a personal user account on the platform. The registration process requires users to provide an email address, create a password, and confirm their account.

Since the B2GreenHub platform is still under development, the Green Path Academy is currently accessible online at: <https://academy.b2greenhub.eu/>. In the next implementation phase, upon the full integration of the Green Path Academy with the main B2GreenHub platform, users already logged into B2GreenHub will be automatically authenticated for the Green Path Academy without needing to complete a separate registration. This single sign-on (SSO) solution will significantly improve accessibility and streamline user experience across both systems.

### B.2.3.2 Homepage overview

From the Green Path Academy homepage, users are provided with direct access to key navigation sections:

- Categories – allowing users to browse courses divided into two thematic domains: green and digital. The current courses fall under the digital category, with the possibility to expand the offering to other categories in future development phases of the B2GreenHub platform.
- Home – redirects to the Academy's landing page.
- My Courses – displays a personalized list of all courses a user has enrolled in, with the option to view courses by category: All, In progress, Future, Past, Starred, and Removed from view, enabling easier navigation and course management.

Courses are presented in two distinct sections on the homepage (visual reference) and are accompanied by general information about the Greene 4.0 project and a dedicated button linking directly to the B2GreenHub homepage:



### Welcome to Green Path Academy!

This course is part of the **Greene 4.0 Project** (Interreg Central Europe Programme) and serves as a quick-start guide for leaders and employees of small and medium-sized enterprises (SMEs). It provides essential knowledge and tools to help understand and implement **digital and green transformation** effectively.

Figure 4: Overview of Green Path Academy homepage



Take a deep dive into 5 action-packed, practical modules that will fast-track your mastery of key skills!

- Beginners Program
- Smart Manufacturing and Open Innovation Toolkit Mastering
- Digital Manufacturing and Open Business Generation & Operation
- Green Industry Innovation and Sustainable Production Technologies
- Funding Gaps – Equity Investment Readiness & Private Capital Access

Figure 5: Courses on homepage

### Available courses

Beginner	Beginner	Beginner	Beginner
Digital	Digital	Digital	Digital
Beginners Program	Smart Manufacturing and Open Innovation Toolkit Mastering	Digital Manufacturing and Open Business Generation & Operation	Green Industry Innovation and Sustainable Production Technologies
Module 1: Beginners program	Module 2: Smart manufacturing and open innovation toolkit mastering	Module 3: Digital manufacturing and open business generation and operation	Module 4: Green industry innovation and sustainable production technologies

< >

Figure 6: Tiles linking to courses



## About Greene 4.0 Project

Greene 4.0 is an innovative initiative designed to empower individuals and businesses to thrive in the era of green and digital transformation. Our mission is to support sustainable growth by equipping learners with the knowledge, tools, and strategies needed to align with Industry 4.0 and environmental best practices.

Through engaging online content, hands-on resources, and expert-led modules, Greene 4.0 bridges the gap between sustainability and technology. Whether you're a student, entrepreneur, or industry professional, our platform helps you gain the skills to future-proof your career or business while contributing to a greener planet.

We believe in learning that drives real change. Join us on the path to a smarter, more sustainable future.

More

## Community & Collaboration

Join the discussion forums, share your ideas, and connect with fellow learners.

Join

Figure 7: Info about Greene 4.0

### B.2.3.3 Course enrolment and course overview

Participation in a course is possible after selecting a course tile and completing a simple enrolment step. Enrolment is self-managed by the learners.

Upon joining a course, users gain access to the following information:

- a collapsible table of contents listing all learning units
- number of total units/lessons
- language of instruction
- course difficulty level
- names and affiliations of course authors



The screenshot shows a course landing page for 'Module 1: Beginners program'. The page is divided into two main sections: 'Course Content' on the left and a summary sidebar on the right.

**Course Content Section:**

- Module 1: Beginners program**
- Category: Digital
- Course Content**
- Introduction (with an expand/collapse arrow)
- Unit 1: Introduction to sustainability (with a collapse arrow)
- Unit 2: Digital transformation (with a collapse arrow)
- Unit 3: Basics of green technology (with a collapse arrow)
- Unit 4: Human-centered transformation (with a collapse arrow)
- Feedback (with a collapse arrow)

**Summary Sidebar Section:**

- Enrol Now** button
- Updated: 15 May 2025
- Lessons: 6
- Language: English (en)
- Skill Level: Beginner
- Author(s): Alice Reissová, Olivér Schiffer, Selina-Maria Schiller, Maja Sušec

Figure 8: Course enrolment page

Each course landing page follows a unified and consistent structure, which includes:

- a short introductory text presenting the module's scope
- a summary of learning units with expected knowledge outcomes upon completion
- estimated study time required to complete the module
- navigation buttons directing users to each learning unit



## Introduction

### Welcome to Module 1!

In today's fast-changing world, successful transformation goes beyond technology — it starts with people. This module introduces the idea of human-centered change, where leadership, workplace culture, and employee involvement are key to making digital and green transitions truly effective. Here, you'll explore essential concepts, definitions, and real-life examples, gaining the knowledge needed to support and drive sustainable transformation. Get ready to discover practical insights that connect people, purpose, and progress.

### Learning objectives:

#### Unit 1:

- understand the fundamental concept and importance of sustainability
- differentiate between the three pillars of sustainability
- identify global challenges and solutions related to sustainable development

#### Unit 2:

- understand the core principles and strategic importance of digital transformation in SMEs
- identify key digital technologies and their practical impact on business efficiency and innovation
- analyze real-world examples and apply digital transformation strategies within SME contexts

#### Unit 3:

- understand the history, development, and current understanding of green technologies.
- identify the environmental impacts of human activity.
- apply green technologies in specific areas.

#### Unit 4:

- understand the principles of human-centered transformation in the context of digital and green transitions
- recognize the key principles of a human-centered approach (empathy, skills development, inclusive decision-making, and responsible technology use)
- apply best practices for engaging employees in digital and sustainability efforts

**Estimated time for completion:** 120 minutes

**Unit 1:**  
Introduction to  
sustainability

**Unit 2: Digital  
transformation**

**Unit 3: Basics of  
green  
technology**

Figures 9: Sample course landing page and tiles linking to individual learning units

### B.2.3.4 Sample Learning Unit

The core element of each learning unit is a structured textual explanation of the covered topic. To enhance learner engagement and support multimodal learning, most units are supplemented with visual content (e.g., infographics) and embedded videos. Each content element is accompanied by a source attribution.

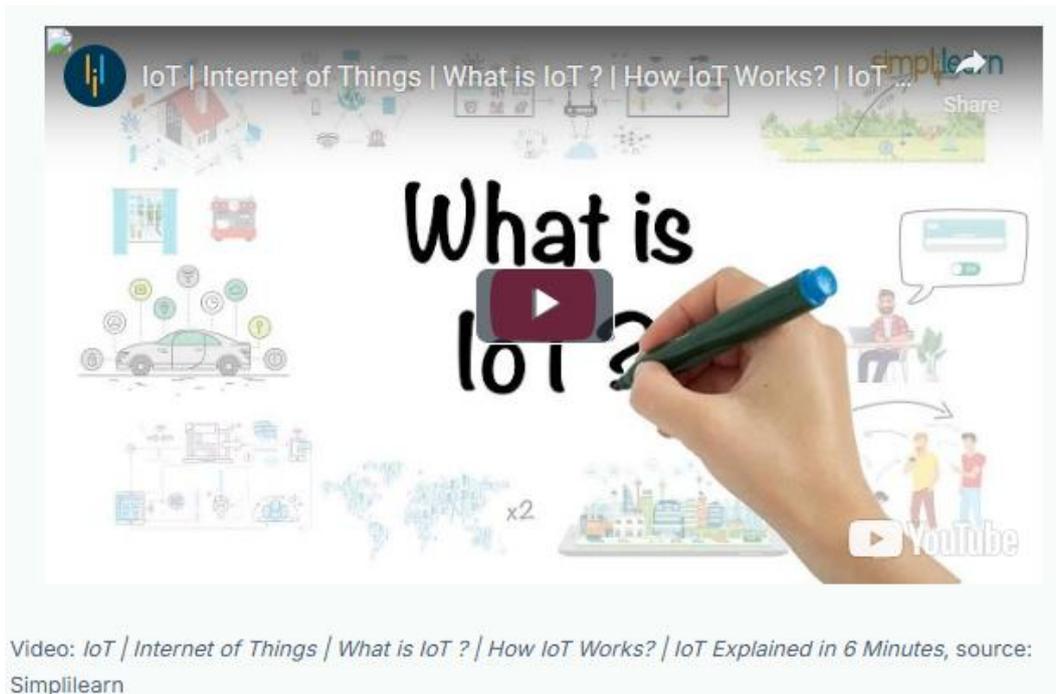


Figure 10: An example of a video that is part of the course

To improve navigation and orientation, a collapsible left-side menu allows users to move between units seamlessly.

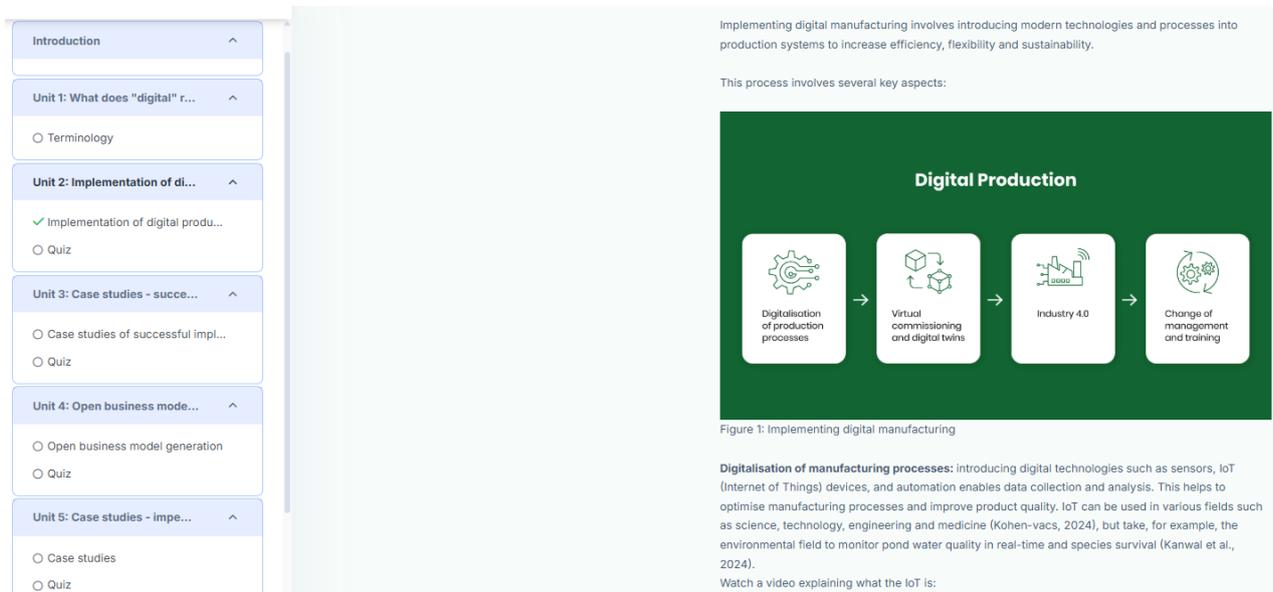


Figure 11: Excerpt from learning unit and side menu



An integral part of each unit is the **References** section, where all utilized or cited sources are listed in a structured format.

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Figure 12: References

### B.2.3.5 Quizzes

Each learning unit is supplemented with a dedicated quiz, allowing participants to verify their comprehension of the course content. Quizzes consist of several questions – primarily single-choice and multiple-choice formats. Some questions are designed as true/false statements to be evaluated by the learner. Upon completion, the quiz module provides users with immediate feedback and a summary of their results, including metrics such as time taken, total score, and question-by-question performance.



 **Quiz**

Quiz   Question bank

[Back](#)

**Question 1**  
Answer saved  
Marked out of 1.00  
 Flag question  
v2 (latest)

What are the benefits of digitalisation in manufacturing?

- a. Increased bureaucracy and slower innovation cycles
- b. Standardised products with limited personalisation
- c. More manual processes and increased labour intensity
- d. Greater flexibility, reduced costs, improved quality, innovation, and sustainability

[Clear my choice](#)

[Next page](#)

Figure 13: Sample quiz question

Status	Finished
Started	Wednesday, 18 June 2025, 10:11 AM
Completed	Wednesday, 18 June 2025, 10:11 AM
Duration	48 secs
Marks	3.00/3.00
Grade	10.00 out of 10.00 (100%)

**Question 1**  
Correct  
Mark 1.00 out of 1.00  
 Flag question  
v2 (latest)

What are the benefits of digitalisation in manufacturing?

- a. Increased bureaucracy and slower innovation cycles
- b. Standardised products with limited personalisation
- c. More manual processes and increased labour intensity
- d. Greater flexibility, reduced costs, improved quality, innovation, and sustainability ✓

Your answer is correct.  
The correct answer is: Greater flexibility, reduced costs, improved quality, innovation, and sustainability



Grading method: Highest grade

**Highest grade: 10.00 / 10.00.**

### Your attempts

Attempt 1	
Status	Finished
Started	Wednesday, 18 June 2025, 10:11 AM
Completed	Wednesday, 18 June 2025, 10:11 AM
Duration	48 secs
Marks	3.00/3.00
Grade	<b>10.00</b> out of 10.00 <b>(100%)</b>
<a href="#">Review</a>	

Figures 14: Post-quiz feedback and performance summary interface

### B.2.3.6 Feedback

Each of the five training modules includes an additional, standalone Feedback Unit, placed at the end of the module. This unit is specifically designed for pilot participants involved in the testing phase of the Green Path Academy.

Participants are asked to respond to a 19-question survey, sharing their reflections on the respective training module. The feedback covers aspects such as relevance of the content to their daily professional activities, clarity and delivery format of the materials, alignment with learners' expectations and learning goals. In addition, participants are asked to provide demographic and contextual information, such as their sector of activity, years of experience in the company, and current job position.

The Feedback section plays a key role in the content evaluation process. Based on the survey responses collected, PP4 will prepare a comprehensive report (Deliverable D2.5.3) summarizing the analysis and outlining key findings from the targeted companies participating in the pilot training. The conclusions drawn from this analysis will directly inform improvements to the Green Path Academy and serve as input for enhancing future versions of the training program.

It is important to note that the Feedback Unit is temporary – it will be removed after the testing phase and before the official launch of the B2GreenHub platform.



## Feedback

Mode: User's name will be logged and shown with answers

1. Approximately how long did the Module take you to complete?



2. On a scale from 0 to 10, how much do you agree with the statement: "The title of the Module accurately described its content"



0  1  2  3  4  5  6  7  8  9  
 10

3. On a scale from 0 to 10, how much do you agree with the statement: "The length of the Module was appropriate."



0  1  2  3  4  5  6  7  8  9  
 10

4. On a scale from 0 to 10, how much do you agree with the statement: "I am satisfied with how the content was organized and presented."



0  1  2  3  4  5  6  7  8  9  
 10

Figure 15: Sample excerpt from the feedback survey



## C. Summary and next steps

The implementation of Activity A2.5 – Developing and Implementing Open Knowledge Training Programs – marks a significant milestone in the development of the Transnational GREENE 4.0 Open Knowledge HUB. The resulting educational offer, branded as Green Path Academy, constitutes a vital element of the B2GreenHub platform, contributing to the broader mission of enabling green and digital transformation across European manufacturing SMEs.

Through a carefully coordinated and collaborative effort involving multiple project partners, a set of five comprehensive training modules was developed. These modules were transformed into accessible and engaging Massive Open Online Courses (MOOCs), hosted on the open-source Moodle platform. Their structure reflects both content expertise and pedagogical rigor, reinforced by multimedia integration, interactive quizzes, and feedback mechanisms.

The training program was designed to address key aspects of sustainability, innovation, and digitalisation – delivered through an intuitive and user-friendly platform. The learning environment benefits from strong technical foundations, consistent visual identity aligned with B2GreenHub, and thoughtful UX design, ensuring smooth learner engagement and scalability.

The next phase in the development of the Green Path Academy involves close collaboration between all relevant partners — LP, PP2, PP3, PP6, PP7, PP8, and PP9 — to ensure the delivery of e-learning training to at least 120 companies. In parallel, pilot training sessions will be conducted in a physical format for a group of 50 enterprises, organized by project partners. The effectiveness and quality of these programs will be assessed through a dedicated evaluation survey developed by PP4, which will be integrated into the Green Path Academy as a feedback module. These activities will be documented and analyzed in the upcoming deliverable D.2.5.3 “*Training Impact Assessment.*”