




CIRC VET

CIRCULAR ECONOMY PRACTICAL TRAINING MATERIALS
FOR PLASTIC MANUFACTURING INDUSTRIES

 Ref. Ares(2025)6259734 - 31/07/2025

D 4.4: C-VET MOOCs



**Co-funded by
the European Union**

**CIRC VET - Circular Economy Practical Training Materials for
Plastics Manufacturing Industries**

Document status			
Version	Date	Author	Description
V0.1	15/07/2025	Carlos Agustí (P1 -AIJU)	Final
Reviewed	YES - NO		
Dissemination Level	<input checked="" type="checkbox"/> PU - Public <input type="checkbox"/> PP - Restricted to other programme participants (including Commission Services and project reviewers) <input type="checkbox"/> CO - Confidential, only for members of the consortium (including EACEA and Commission Services and project reviewers)		

Cite As:

If the Deliverable is Public, you retrieve it from CIRCVET Project website.

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1. Introduction

CIRCUNET project ("Circular Economy Practical Training Materials for Plastics Manufacturing Industries") aims to design and deliver a comprehensive, freely accessible, and needs-oriented training programme to foster the uptake of circular economy principles in the European plastics processing sector.

This sector is facing increasing regulatory and market pressures to reduce environmental impact, improve resource efficiency, and shift towards more sustainable production models. The European Strategy for Plastics in a Circular Economy, the Green Deal, and new Extended Producer Responsibility schemes across Member States all call for upskilling the current workforce and reskilling professionals to implement circular practices across the plastics value chain.

To address this need, the CIRCUNET project brings together a multidisciplinary consortium of 13 organizations from six EU Member States (Spain, Portugal, Italy, France, Germany, and Lithuania), including technology centres, training providers, universities, industry associations, and VET institutions. The consortium is committed to designing practical and context-relevant training tools that strengthen awareness, expertise, and applied skills in circular economy within the plastics industry.

This deliverable focuses on presenting the methodology, implementation, and outcomes of Task 4.4 "Making the content C-VET Ready," which ensures that the training modules developed throughout the project are properly adapted for Continuous Vocational Education and Training (C-VET). The primary target audience includes vocational training centres, professional schools, and universities, with a particular emphasis on upskilling and lifelong learning for current professionals. Although universities typically demand a higher level of content, the validation and deployment procedure followed under this task applies uniformly across both VET and higher education institutions.

2. Deliverable objectives

The primary objective of Deliverable D4.4 is to document and present the activities carried out during Task 4.4, "Making the content C-VET Ready."

Specifically, Task 4.4 involved adapting the educational content initially developed in Work Package 2 (WP2) and further refined throughout WP4 into a format optimized for online learning and suitable for deployment as Massive Open Online Courses (MOOCs) and Nano Open Online Courses (NOOCs). This content was integrated and made accessible on the e-learning platform developed during WP3.

The adapted materials primarily target industry professionals in the European plastics sector who seek to update, expand, or deepen their competencies regarding circular economy principles and practices.

3. Adaptation of the modules as MOOCs for C-VET Training

The adaptation of training modules into C-VET suitable MOOCs did not follow a singular, standardized methodology. Instead, an iterative approach was employed, leveraging feedback gathered during pilot activities conducted in WP6. This feedback-driven

refinement process ensured the content structure, depth, and teaching methods aligned precisely with the practical needs and learning contexts of adult industry professionals.

The adaptation process specifically included:

- Clear and explicit definition of learning objectives and outcomes.
- Modular structuring of content to support customized and flexible learning paths.
- Practical, application-focused exercises and relevant industry examples.
- Incorporation of sector-specific terminology and realistic, case-based scenarios.
- Consideration of adult learning principles, emphasizing interactive and engaging content delivery methods.

4. Minimum criteria for CircVET MOOCs

For the CIRCVET courses to qualify and be deployed effectively as MOOCs/NOOCs for C-VET, the following minimum criteria were established:

- **Accessibility:** Freely accessible online without restrictive barriers.
- **Modularity:** Organized in clearly defined, standalone modules to facilitate flexible and targeted learning.
- **Interactivity:** Inclusion of interactive elements such as quizzes, self-assessment tools, forums, and multimedia resources to enhance learner engagement.
- **Practical Relevance:** Directly applicable content with industry-specific case studies, exercises, and practical insights.
- **Assessment:** Integration of formative and summative assessment components to track learner progress and validate the achievement of learning outcomes.
- **Certification:** Issuance of completion certificates or badges upon successful course completion to formally recognize participants' newly acquired skills and knowledge.

5. Platform Deployment and Screenshots

The adapted modules have been successfully deployed on the CIRCVET e-learning platform, available at [<https://project-spaces.eu/circvet/index.php>]. The platform hosts each MOOC structured clearly according to the modular format described above, facilitating user navigation, engagement, and effective knowledge transfer.

The following section provides screenshots illustrating key features and the interface of the MOOCs hosted on the platform.

5.1. Course Homepage Screenshot

Dive Into Circular Economy

Start your journey towards excellence in environmentally-friendly manufacturing

Dive into the world of Circular Economy, where learning about sustainable plastics manufacturing and circular economy principles becomes an exciting, interactive experience. Learning material is crafted to vividly illustrate the dynamic and multifaceted world of plastic production and recycling, offering a unique mix of educational content, offering an extensive array of learning materials. These encompass General Circular Economy Understanding to establish foundational concepts; Digital Skills highlighting essential modern manufacturing technologies; Eco-Design & Novel Manufacturing Processing for innovative, low-impact production methods; detailed explorations of Manufacturing Processes; comprehensive insights into Recycling, Downcycling, and Upcycling; Users and Usage which delves into consumer behaviour and sustainable product lifecycles; Recovery strategies for efficient material use and waste management; and Entrepreneurship to foster innovation and sustainable business practices within the plastics sector. This holistic educational approach caters to a broad spectrum of learners, from industry newcomers to seasoned professionals, providing an in-depth and practical understanding of the circular economy in plastics manufacturing.



Figure 1: Landing page of the CIRCJET e-learning platform, showing access to the different MOOCs and user- friendly navigation structure

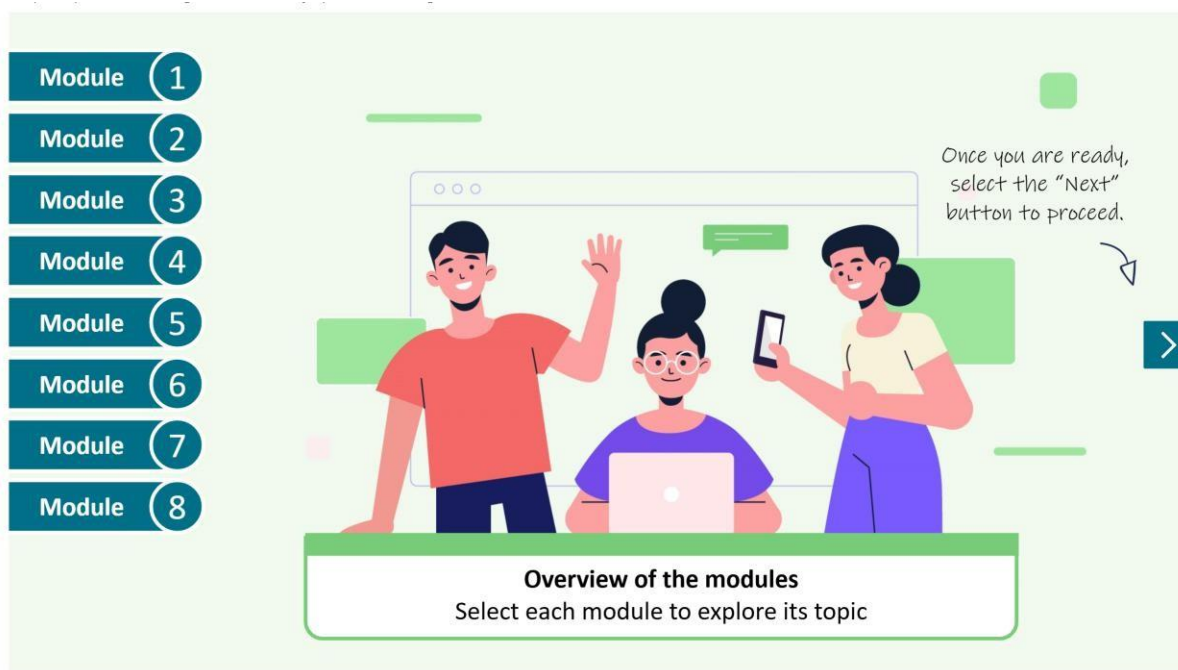


Figure 2: Interactive introduction tool that guides learners through the course structure and learning path.

5.2. Example Module Introduction and Learning Objectives.

Module 1: General CE Understanding and Strategies

Learning objectives of the module:

- Understanding the concept of Circular Economy.
- Getting to know the limits of Circular practices tackling environmental, social, and economic problems
- Having a general view of how Circular Economy is applied around Europe.
- Knowing the way Circular Economy is being Transferred into regulation.

Description

Menu

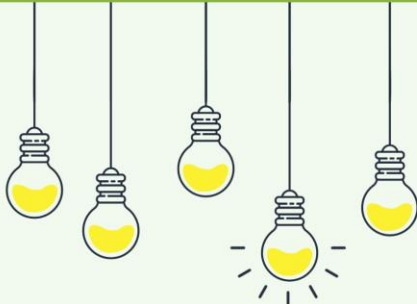


Figure 3: Example of a module introduction page, clearly outlining the learning objectives and expected outcomes for participants

5.3. Interactive Quiz Example.

General Circular Economy understanding - Systemic strategies Module 1 - C-VET - Quiz (EN)

Continue the last preview

Attempts allowed: 3

Grading method: Highest grade

Grade to pass: 5.00 out of 10.00

Attempts: 11

Summary of your previous attempts

Attempt	State	Review
Preview	In progress	

Figure 4: Homepage of Module 1 quiz.

Home > My courses > General Circular Economy > C-VET (English) > Module 1 - C-VET - Quiz (EN) > Preview

General Circular Economy understanding - Systemic strategies

Module 1 - C-VET - Quiz (EN)

Back

Question 1

Not yet answered

Marked out of 1.00

Flag question

Edit question

What it's the different aspect between Circular Economy and Linear Economy?

- ☐ a. The value hill.
- ☐ b. Economic profits.
- ☐ c. The pressure over the natural resources.
- ☐ d. The loop of sending.

Question 2

Not yet answered

Marked out of 1.00

Flag question

Edit question

How industrial revolution produced the change of behaviour in the system?

- ☐ a. Cost of the products increased.
- ☐ b. Shortened products life.
- ☐ c. Less waste generation.
- ☐ d. Consumption was decreased.

* Quiz navigation

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20							

Finish attempt ...

Start a new preview

Figure 5: The quizzes included in each module allow participants to test their knowledge progressively.

5.4. Free Challenges for Students

Home > My courses > General Circular Economy > Challenges for students

Challenges for students



FILE
Challenges for students (EN)

Mark as done

← Main course page

Figure 6: Example of a practical challenge proposed to learners to promote real-world application of circular economy principles in the plastics sector.

5.5. Certificate of Completion Example

Home > My courses > General Circular Economy > Badges > Manage badges > Module 1 Completion Badge

General Circular Economy understanding - Systemic strategies

[Back](#)
[Edit details](#)

Module 1 Completion Badge

This badge is currently available to users. Disable access to make any changes. [?](#) [Disable access](#)

▼ Badge details


Name	Module 1 Completion Badge
Version ?	0.1
Language ?	English
Description	Certification of Completion for CircVET Module 1.
Current image	

Figure 7: Template of the digital certificate (badge) awarded to participants upon successful completion of a CircVET MOOC module.

6. Conclusion and Next Steps

This deliverable has summarized the methodology and outcomes of Task 4.4, demonstrating the effective adaptation and deployment of CIRCNET project content as MOOCs/NOOCs tailored for the Continuous Vocational Education and Training sector. Moving forward, the effectiveness of these MOOCs will continue to be monitored through user feedback and platform analytics, providing valuable insights to inform continuous improvement and future expansions of the training offerings.

7. Glossary of terms, abbreviations, and acronyms

Short Name of Partners	
P1-AIJU	Partner 1 - ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA DEL JUGUETE CONEXAS Y AFINES (Spain)
P2-CENTIMFE	Partner 2 - CENTRO TECNOLÓGICO DA INDÚSTRIA DE MOLDES, FERRAMENTAS ESPECIAIS E PLÁSTICOS - CENTIMFE (Portugal)
P3-KIMW-Q	Partner 3 - Non-profit organisation KIMW-Qualifizierungs GmbH (Germany)
P4-POLYMERIS	Partner 4 - POLYMERIS (France)
P5-PROPLAST	Partner 5 - Consorzio per la promozione della cultura plastica - PROPLAST (Italy)
P6-LINPRA	Partner 6 - LIETUVOS INŽINERINĖS PRAMONĖS ASOCIACIJA LINPRA (Lithuania)
P7-ULPGC	Partner 7 - Universidad de las Palmas de Gran Canaria (Spain)
P8-IDL	Partner 8 - Infinitivity Design Labs (France)
P9-APRC	Partner 9 - ALYTAUS PROFESINIO RENGIMO CENTRAS (Lithuania)
P10-UNITR	Partner 10 - Università degli Studi di Trento (Italy)
P11-HIT	Partner 11 - HUB INNOVAZIONE TRENTO - Fondazione (Italy)
P12-VPM	Partner 12 - VISAGINO TECHNOLOGIJOS IR VERSLO PROFESINIO MOKYMO CENTRAS (Lithuania)
P13-KIMW	Partner 13 - Kunststoff-Institut Lüdenscheid (Germany)

PROJECT INFO

Grant Agreement	Project: 101055916 - CIRCNET - ERASMUS-EDU-2021-PI-ALL-INNO
Programmes	Erasmus+
Key Action	EACEA.A - Erasmus+, EU Solidarity Corps A.2 - Skills and Innovation
Action Type	ERASMUS Lump Sum Grants
Project Title	CIRCNET - Circular Economy Practical Training Materials for Plastics Manufacturing Industries
Project starting date	01-09-2022
Project end date	31-08-2025
Project duration	3 years

This project has received funding from the European Union

PROJECT CONSORTIUM



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



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