SUSTAINABLE
CIRCULAR ECONOMY
OF PLASTICS:
WE ALL WIN.

CIRCVET

CIRCULAR ECONOMY PRACTICAL TRAINING MATERIALS
FOR PLASTICS MANUFACTURING INDUSTRIES

PROJECT OBJECTIVES

CIRCVET project aims at developing the **most extensive, free, and tailor-made training course** in CE for plastics at the European level, according to companies needs and problems.

CIRCVET project is an alliance of knowledge and training resources and materials of 12 partners from all over Europe among trainers coming from Universities and VET centres, research centres, clusters, and SMEs representatives, etc., developing, testing, and providing the Courses.

Green skills are the focus of CIRCVET project, improving knowledge, abilities, values and attitudes needed to live in, develop and support a **sustainable and resource-efficient society,** with the focus in the **plastic industrial sector**.

- Develop TRAINING MATERIALS according to COMPANY'S NEEDS, covering the whole value chain of plastics in 7 EU LANGUAGES

- Adapt them to be used in I-VET-HE (initial vocational education and training for students from universities), I-VET-VET (initial vocational education and training for VET students) and C-VET (continuing vocational education and training for workers)

- Produce MOOCs available and accredited through micro-credentials

- Develop an E-LEARNING PLATFORM

- Build strong LINKS between ACADEMIA/VET CENTRES/COMPANIES

- Pilot and validate the material created with around 80 companies and 200 students of the sector

TARGET GROUPS

VET CENTRES STUDENTS

I-VET-VET level (initial vocational education and training for VET students).

Synchronous mode, total hours: 25.

UNIVERSITIES STUDENTS

I-VET-HE level (initial vocational education and training for students from universities).

Synchronous mode, total hours: 18,75.

COMPANIES' WORKERS

C-VET level (continuing vocational education and training for workers).

Asynchronous mode, total hours: 25.

TRAINING COURSE

1. NEEDS EVALUATION PROCEDURE

Target groups take a test to determine their specific needs.

2. PERSONALIZED COURSE DEFINITION

Following the results of the needs evaluation a Course has been defined for each target, combining the elaborated info and training modules.

4. CERTIFICATION

Participants, who successfully complete each module, will receive an official and recognized certificate with CFU indications.

3. COURSE APPLICATION

The modules, as MOOC, transfer the knowledge to the applicants, and, at the end of the course, they will be evaluated.

MODULES AND TOPICS

1 GENERAL CIRCULAR ECONOMY UNDERSTANDING - SYSTEMIC STRATEGIES

- Presentation and definition of concepts related to the Circular Economy
- Circular Economy implementation strategies
- Regulatory Framework and Circular Economy business models

2 ECO-DESIGN AND LCA

- General aspects of eco-design: application to the plastic sector
- Design guidelines of plastic packaging for minimum waste and efficient sorting
- Life Cycle Sustainability Assessment principles and methods (LCA, SLCA, LCC)
- Training with LCA software
- Redesign based on LCA results
- Environmental product declaration, ecoindicators and certification
- End of life scenarios

3 DIGITAL SKILLS

- Blockchain applied to the traceability of materials
- Digital manufacturing (DM)
- Simulation / motorization
- LANS
- Robotics / artificial intelligence
- The cloud
- Internet of Things
- Big Data analysis
- Cyber security
- Augmented reality

4 RECYCLING - DOWNCYCLING – UPCYCLING

- Current situation in Europe and waste management in different industrial sector
- Recycling technologies

5 MANUFACTURING PROCESSES

- Manufacturing processes in the context of Circular Economy
- Recycled materials and composites to manufacturing processes
- Bio-based and/or biodegradable materials to manufacturing processes

6 USERS AND USAGES

- Introduction to ecolabels
- Ecolabels in practice
- General aspects related to understanding consumer needs with respect to sustainable products
- Consumer awareness
- Consumer willingness to pay for sustainable products
- Communicating products' sustainability

7 RECOVERY

- Presentation and definition of concepts related to materials recovery and added values
- Introduction - Definition of concepts
- Identifying Rs business opportunities
- Strategies of eco-design and spare parts, design for disassembly and recyclability
- Reverse logistics concept

8 ENTREPRENEURSHIP

- Presentation and definition of concepts related to entrepreneurship and innovation
- New business development
- Technology transfer and intellectual property rights

E-LEARNING PLATFORM

The training course is tested by students and companies' workers in order to evaluate the modules and courses created for different target groups.

The **e-learning platform** is a project facility useful for the piloting and validation process. It is online, and students and workers can access to the material, complete the exercises, and finish the modules.

The e-learning platform offers synchronous and asynchronous learning possibilities:

SYNCHRONOUS
It includes features like webinars, live chats, and video conferencing for real-time interaction and discussion (for I-VET-VET and I-VET-HE)

ASYNCHRONOUS
It offers pre-recorded lectures, downloadable materials, discussion forums, and self-paced activities for flexible learning (for C-VET).

PILOTING AND VALIDATION PROCESS

The piloting process is the moment of the project in which the students can test and evaluate the materials of the training course. In some cases, the students review the material during the lessons followed by the tutors (I-VET-VET and I-VET-HE). In other cases, for instance the companies' workers test the material in a self-learning way having the possibility to follow and complete the modules in their free time (C-VET).

The piloting phase covers the period from January 2024 to September 2024.

After the piloting process, different questionnaires have been prepared by the partners to ask the participants' opinion regarding contents, learning material, tutors, and platform.

Based on the feedback received from participants, the partners will evaluate the upgrading for the following validation phase.

In January 2025, a validation phase of the complete and defined contents will start.

The participants of the modules will receive a certification of participation with the CFU obtained based on the level.

PARTNERS

at-media.it

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