

# Certificate of Participation

Course

“Circular Economy Expert in Sustainable Plastic Product”

RAQUEL ORTEGA GARCÍA

has successfully completed Module 1: General Circular Economy level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

Date

Responsible of the entity  
Entity

Signed by Circvet partners



# MODULE 1: GENERAL CIRCULAR ECONOMY

## CONTENT

1. Presentation and definition of concepts related to the circular economy.
2. Circular Economy implementation strategies
3. Regulatory Framework and Circular Economy business models





**CIRCVET**

CIRCULAR ECONOMY PRACTICAL TRAINING MATERIALS  
FOR PLASTIC MANUFACTURING INDUSTRIES

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Course

“Circular Economy Expert in Sustainable Plastic Product”

**RAQUEL ORTEGA GARCÍA**

has successfully completed Module 2: Eco-design and LCA level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

Date

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Entity

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Co-funded by the  
Erasmus+ Programme  
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# MODULE 2: ECO-DESIGN AND LCA

## CONTENT

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



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RAQUEL ORTEGA GARCÍA

has successfully completed Module 3: Digital Skills level I-VET Higher  
Education with a duration of 0.75 ECTS (18.75 hours)

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# MODULE 3: DIGITAL SKILLS

## CONTENT

1. Blockchain applied to the traceability of materials
2. Digital manufacturing (DM)
3. Simulation/Motorization
4. LANS
5. Robotics/artificial intelligence
6. The Cloud
7. Internet of Things
8. Big Data Analysis
9. Cyber security
10. Augmented reality



# Certificate of Participation

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RAQUEL ORTEGA GARCÍA

has successfully completed Module 4: Recycling, Downcycling, Upcycling level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

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# MODULE 4: RECYCLING, DOWNCYCLING, UPCYCLING

## CONTENT

1. Current situation in Europe and waste management in different industrial sector
2. Recycling technologies





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RAQUEL ORTEGA GARCÍA

has successfully completed Module 5: Manufacturing processes level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

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# MODULE 5: MANUFACTURING PROCESSES

## CONTENT

1. Manufacturing processes in the context of circular economy.
2. Recycled materials and composites to manufacturing processes.
3. Bio-based and/or biodegradable materials to manufacturing processes.



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RAQUEL ORTEGA GARCÍA

has successfully completed Module 6: Users and Usages level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

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# MODULE 6: USERS AND USAGES

## CONTENT

1. Introduction to ecolabels
2. Ecolabels in practice
3. General aspects related to understanding consumer needs with respect to sustainable products.
4. Consumer awareness
5. Consumer willingness to pay for sustainable products.
6. Communicating products' sustainability



# Certificate of Participation

Course

“Circular Economy Expert in Sustainable Plastic Product”

RAQUEL ORTEGA GARCÍA

has successfully completed Module 7: Recovery level I-VET Higher  
Education with a duration of 0.75 ECTS (18.75 hours)

Date

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Entity

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# MODULE 7: RECOVERY

## CONTENT

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



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“Circular Economy Expert in Sustainable Plastic Product”

RAQUEL ORTEGA GARCÍA

has successfully completed Module 8: Entrepreneurship level I-VET Higher Education with a duration of 0.75 ECTS (18.75 hours)

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# MODULE 8: ENTREPRENEURSHIP

## CONTENT

1. Presentation and definition of concepts related to entrepreneurship and innovation.
2. New business development
3. Technology transfer and intellectual property rights

