




CIRC VET

CIRCULAR ECONOMY PRACTICAL TRAINING MATERIALS
FOR PLASTIC MANUFACTURING INDUSTRIES

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D4.1 - CIRC VET-Working with companies



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CIRC VET – Circular Economy Practical Training Materials
for Plastics Manufacturing Industries

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The present document constitutes Deliverable D4.1 “Company cases” in the framework of the WP4 of Connecting companies with education, and the T4.1 “Compiling of existing cases for different modules”. The objective of Task 4.1 was to collect feedback from industrials of polymers about their circular economy (CE) practices in a different stage of their transition. The gathered information will serve firstly as a basis for the definition of the modules training and on the other hand, some study cases will be selected for participation in presential workshops in order to work on how to align their experience with the material developed.

The partners involved in this task were:

- AIJU
- Polymeris
- LINPRA
- PROPLAST
- UNITRENTO
- HIT

1. Approach

To complete the task, our strategy was to target only industrials that have already implemented the circular economy model, for that, we have elaborated a questionnaire in order to evaluate and collect information about their experience with the circular economy model. The collected feedbacks will serve as a basis for the workshops planned in WP6.

The questionnaire has been elaborated by Polymeris in ‘google forms’ format, with specific questions in order to best analyze the experience of the actors¹ involved in the polymers industry, with the circular economy practices. Then, the questionnaire was sent to the six partners concerned by Task 4.1, and each one of them had to send it to its own network.

Despite the fact that the timeline was too short to disseminate and compile the survey’s result, **Figure 1** (only 1 month), we have received:

- 19 feedbacks from POLYMERIS
- 14 feedbacks from AIJU’s network
- 12 feedbacks from PROPLAST’s network
- 5 feedbacks from LINPRA’s network
- And one feedback from UNITRENTO’s and HIT’s network

¹ Manufacturers, research center, experts in innovation

Which organisation set you the survey?

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52 réponses

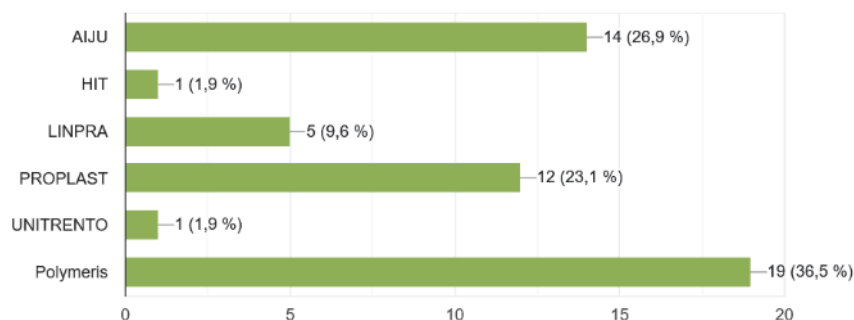


Figure 1. The respondents from the partners' network

2. Survey Results

The actors that have responded to the survey are mostly manufacturers of polymer components and packaging, polymers recyclers, and raw polymers suppliers (**Figure 2**).

Your activity sector

52 réponses

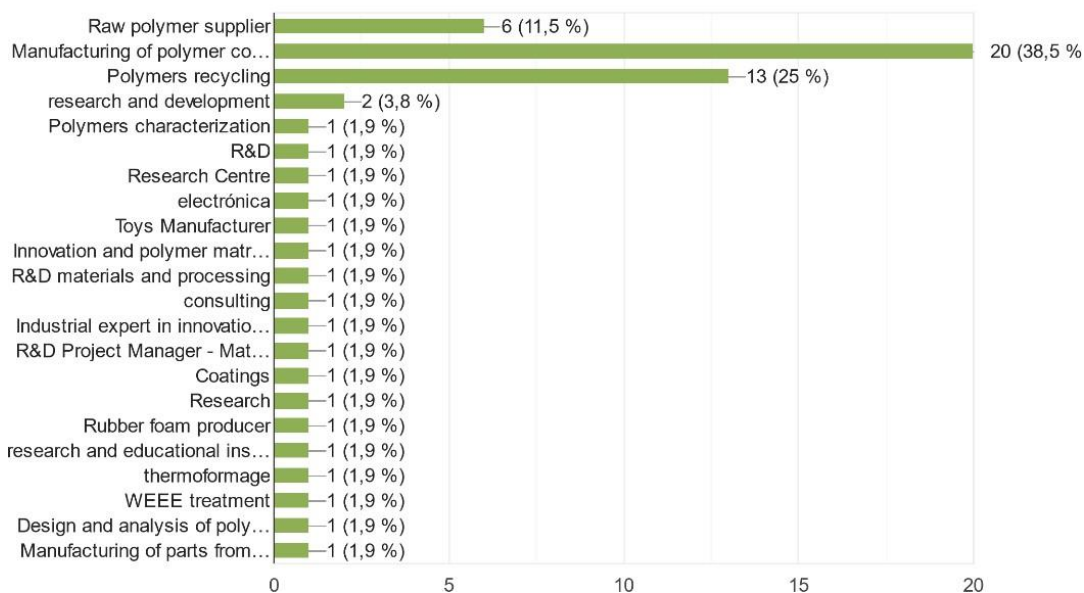


Figure 2. Profile of the respondents.

Among the CE practices most widely applied in the polymers industry is the recovery of the production waste followed by the integration of the RRM² in the elaboration process (**Figure 3**).

² Recycled raw material

Which kind of Circular Economy Practices have you implemented?

50 réponses

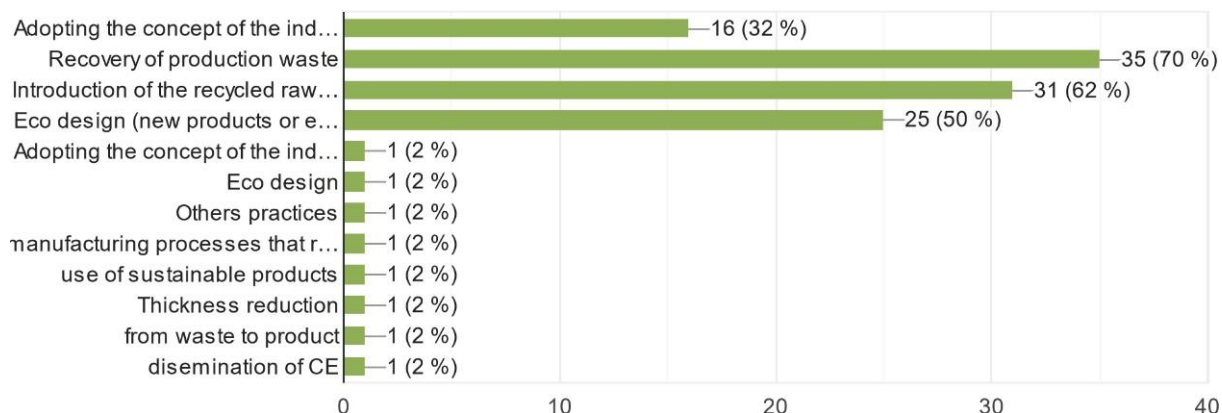


Figure 3. CE practices.

50% of actors concerned by the CE practice the eco-design approach in the elaboration of their new and exciting products. Some key points have been raised for an effective implementation of the eco-design approach in industry. The Eco design is about rethinking the production model by taking into the count:

1. The choice of the material product:
 - a. reducing overperformance (choosing the right polymer for the right application).
 - b. renewable raw material.
2. Optimize the product's design:
 - a. Mono-material if possible.
 - b. Reducing as much as possible the quantity of material used (less material= thickness reduction, weight reduction).
3. The resources used in the product's elaboration:
 - a. Be awareness about the energy and water consumed during the process of elaboration.
4. The end of life of the product:
 - a. Always thinking, at the design stage, about the recycling solutions of the product at the end of its service life.

Another CE practice that can be more common to many activity sectors is the industrial ecology concept. IE can be practiced with collaboration with different structures in the same territory and leading to a real impact on resource conservation. The actors involved in this approach affirmed have already implemented waste management and a joint procurement system (**Figure 4**).

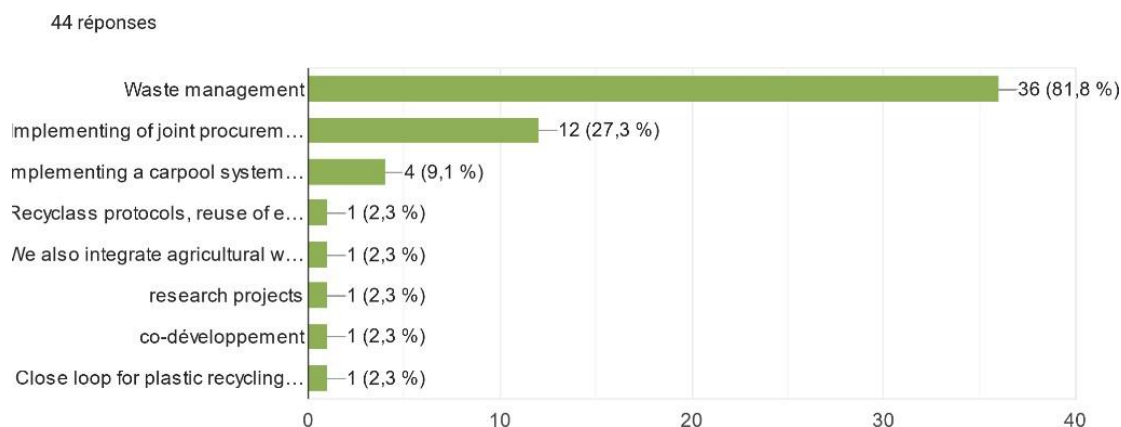


Figure 4. Industrial ecology practices.

Even though the respondents seem to be very awareness and involved at different level of CE, they have evaluated the setting of the CE model as a difficult step (**Figure 5**).

How do you rate the difficulty to implement the CE model ?

49 réponses

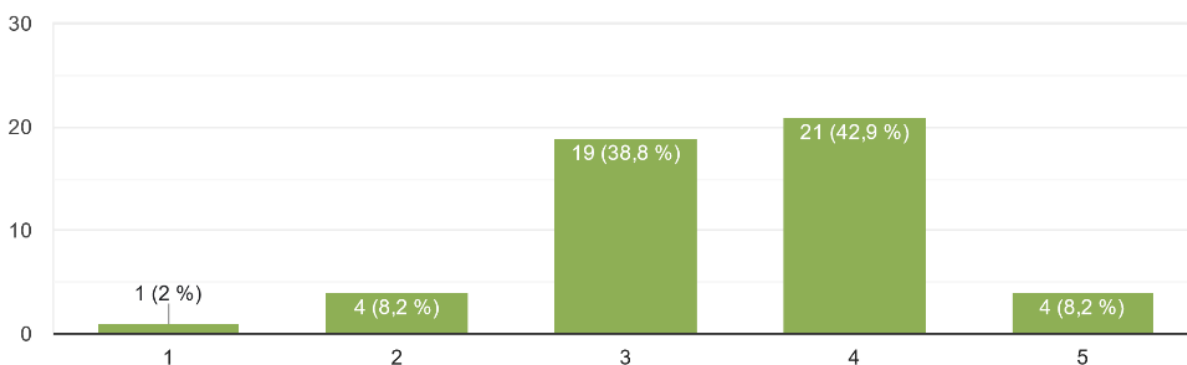


Figure 5. Rating the difficulty of the implementation of CE model.

65% of them declared have needed the training to develop their skills during the setting of the CE model (**Figure 6**).

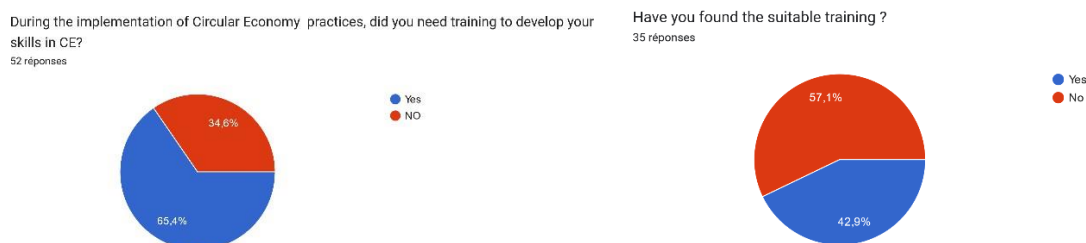


Figure 6. Needs for training.

Once the CE model has been established, it is important to assess the impact of the different practices on the economic benefits of the structure and on the environment.

75% of the respondents stated have realized economic benefits for their company from the CE practices. Most of these advantages concerned savings on the raw material and/or energy, and an increasing in products sales by the improvement of their brand image (**Figure 7**).



Figure 7. Assessment of the economic benefits.

25% of the respondents did not accomplish any economic benefits for their company; some of the barriers pointed to effective implementation of the CE model are:

- the lack of time,
- the financial investment to be made for the implementation of the CE model,
- the lack of information and practice,
- the regulations are still unclear.

In terms of environmental benefits, few of the respondents declared data about the volume of the waste avoided by their CE practices. Although there is a lack of information about the environmental benefits quantification, especially about the assessment of the footprint of the products, this means that LCA³ is stilled not enough applied.

The survey ended with a question about the future participation of the respondents in workshops. 73% of the respondents are interested in taking in part in CIRCNET project workshops (**Figure 8**).

Are you interesting in taking part in workshops and training sessions to develop your knowledge or share your experience about CE good practices ?
49 réponses

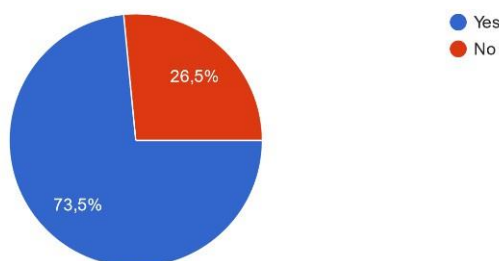


Figure 8. Participation in workshops.

³ LCA : life cycle assessment

3. Glossary of terms, abbreviations, and acronyms

Partner shortname	
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 – Gemeinnützige KIMW-Quaifizierungs 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 INŽINERINIS PRAMONĖS ASOCIACIJA LINPRA (Lithuania)
P7-ULPGC	Partner 7 – Universidad de las Palmas de Gran Canaria (Spain)
P8-IDL	Partner 8 – Infinitivity Design Lab (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)

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