PELREC





D3.4– Report on the content and conclusions of the online conference





Document status				
Version	Date	Author	Description	
V1.0	03/30/2023	Daniela Adelhelm (WFG)	Draft	
V1.1	03/31/2023	Tânia Mendes	Final version	
Reviewed	YE S □ NO			
Dissemina tion Level	SEN – Sen. Agreemen	PU – Public (fully open) SEN – Sensitive (limited under the conditions of the Grant Agreement) CO – Confidential (EU classified under decision)		

Cite As:

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







Table of Contents

1.	POLREC Consortium Partners	
2.	Introduction	4
	The POLREC Project	
3.1.	Objectives and Results	5
4.	Online Conference	6
4.1.	Background and Preparation	6
4.2.	Conference procedures and implementation	12
5.	Conclusion and further steps	23
Anne	x 1 – POLREC Presentation	26



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 European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.









1. POLREC Consortium Partners

Table 1 − List of partners

POL (FR)	Polymeris POLREC Lead Partner	
CEN (PT)	Centro Tecnológico da Indústria de Moldes, Ferramentas Especiais e Plásticos POLREC Partner	
MAV (ES)	Clúster de Materials Avançats de Catalunya POLREC Partner	
PDC (DK)	Plast Center Danmark POLREC Partner	
WFG (DE)	Wirtschaftsförderung Raum Heilbronn GmbH POLREC Partner	

2. Introduction

This document has been written for the Deliverable 3.4 POLREC project Supporting a green and resilient Europe through POLymer RECycling funded by the European Commission Joint Cluster initiatives for Europe's recovery (Euroclusters) under the Single Market Programme (SMP COSME) grant agreement number 101074434.

This report is based on the findings about the knowledge, services, products and especially the interests and objectives, of the identified SME members of plastics and materials value chains that could be exchanged within and across sectors.

In the POLREC project, various and numerous industrial sectors are concerned and targeted: Transport and Mobility, Construction, Renewable energy, Digital and Electronics, Health, Consumer, and Industrial & Food Packaging. Due to their high performance, polymers (thermoplastics, thermosets, elastomers, and rubbers) are mostly and particularly used in these different sectors. In the current situation of the search for energy efficiency, to face the problem of materials availability and to reduce European geostrategic and economic dependence, the development of polymers must be highly sustainable, and strive for full recyclability.

The consortium partners (see Table 1) have come together to explore how an intensified cluster and business network collaboration across borders and sectors can meet this challenge and exploit the international business opportunities related to the topic by co-organizing a conference on these themes.









3. The POLREC Project

3.1. Objectives and Results

The objective of the POLREC project is to enhance the polymer industry's capacity to reduce the environmental impact of its products while increasing the European strategic autonomy in its supply of raw materials for polymer production.

To achieve those objectives, POLREC will help the industry to switch practices from polymer waste landfilling and burning towards polymer recycling (mechanical or chemical) into raw materials (monomer polymer and additives).

The consortium partners will support SMEs in the appropriation of polymer recycling methods through the implementation of a support scheme to third parties and by building on their network to facilitate the identification of common interests, recycling technologies and recyclers that can facilitate this process.

The POLREC project will build a pan-European cross-sectoral network of SMEs (Eurocluster) whose main activities will be to support SMEs in the following:

- ✓ Help SMEs in finding viable economic models that could foster the adoption of polymer recycling,
- ✓ Establishing a partnership to exchange polymer material through recycling,
- ✓ Accessing innovations in mechanical and chemical recycling,
- Accessing digital innovations for recycled material quality monitoring and tracking
- ✓ Finding innovative and viable business models based on recycled polymers,
- ✓ Identify the best practices,
- ✓ Analyse information to identify the waste fractions that could be recycled to lead to material exchange within and across value chains.

The POLREC partner consortium aims to support SMEs in the adoption of polymer recycling methods through the implementation of the following actions:

- Establishing a pan-European network of SMEs involved in polymer recycling and promoting value chain linkages between SMEs willing to recycle their plastic waste and SMEs willing to source recycled material and produce raw materials from recycled polymers.
- ✓ Promote innovative solutions for mechanical and chemical recycling of plastic waste and digital monitoring of recycling processes.
- Encourage the adoption of innovative and viable business models by SMEs that promote the use of recycled materials.
- ✓ Train the workforce in polymer recycling technologies and digital solutions for quality monitoring and traceability of recycled material.

POLREC partners will coordinate networking and matchmaking activities throughout the project's lifetime and beyond.









4. Online Conference

4.1. Background and Preparation

To achieve the above-mentioned goals, the consortium has set up various work packages. The online conference is part of work package 3. This work package includes the following components and objectives:

- a) Promote collaboration between clusters (C2C).
- b) Promote collaboration from SME to SME (B2B).
- c) Identify materials that are recycled and between value chains.

The organization of this conference mainly includes the following:

- ✓ WFG will decide on the online conference tool such as Zoom, Meetyoo, Hopin, among others.
- ✓ WFG, POL, CEN, MAV and PCD will structure the conference topics around the materials that can be shared between value chains, within and across sectors.
- ✓ WFG will organize the collection of information about the interests, expertise, products and services of all participants prior to the conference.
- ✓ During the conference, WFG will coordinate the organization of speed-dating-type networking meetings for all interested members.
- ✓ WFG will coordinate the organization of online surveys during and after the conference to ensure that the POLREC Consortium has a clear picture of the materials on which to focus the project.

After the conference, all relevant data will be shared, especially on materials, company information, and common interests. All of this material will be incorporated into the development of a preparedness and resilience plan under the direction of the WFG.

Using, among other things, the results of Task 3.3 (the online survey), a half-day online conference will be organized with all relevant stakeholders (cluster management, member companies, member RTOs, and possibly other interested entities) with the goal of identifying, in particular, materials that could be recycled and/or exchanged between companies, as well as mutual interests between companies in the clusters.

The basis for a targeted work is first of all the inquiry of the needs and competences of the companies to be supported. For the content planning of the conference, among other things, the results of the survey that we conducted in advance among the member companies of the POLREC partners were included.

The goal of the online conference was to bring together relevant stakeholders (cluster managements, member companies, member RTOs and possibly other interested entities) and present POLREC specific topics.

During the preparatory discussions for the online congress, one of the project partners (Polymeris) was also organizing an already established full-day congress, which thematically







perfectly fitted with POLREC topics: The S3 Congress 2023 on Eco-Plasturgy and sustainable, intelligent and safe plastic materials.

Since the congress almost overlapped with the date we had targeted, we decided not to organize the POLREC congress separately, but to co-organize the S3 congress once the content would be very similar. This resulted in the following advantages:

- ✓ Potential participants did not have to decide between 2 different events.
- ✓ A broader attention to the POLREC topics could be achieved due to the wider coverage.

WFG's task was to decide on a suitable tool for the online conference. In the run-up to the congress, various tools were examined, including Zoom. With the idea of organizing the POLREC congress together with the organizers of the S3 congress, their previously used tool was also examined more closely – b2match software. In fact, after looking at this software, it turned out that this tool offers a lot of advantages and is perfect for the required application possibilities in the preparation and the realization of the congress.

b2match allows each participant to create and individualize their own personal agenda. With one click, the respective agenda item can be accessed and one can join in accordingly. Among other things, b2match offers an integrated video conferencing tool, the possibility to meet with one or more participants in the b2b sessions in a private video conference and to exchange ideas there.

Gathering information about the interests, expertise, products and services of all participants in advance of the conference is also possible via b2match. Each participant creates his profile with information around his organization, interests, offers and knowledge when registering. Since the report is publicly viewable, a profile of a POLREC consortium member was chosen as an example -this was done to protect the privacy of the other participants.

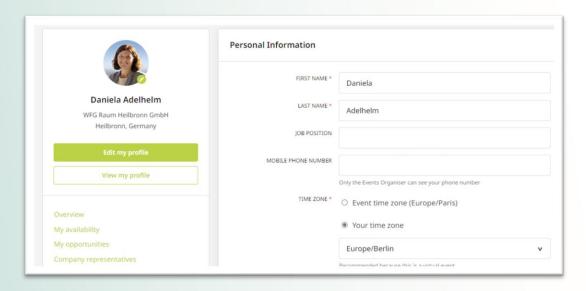


Figure 1 - Personal information









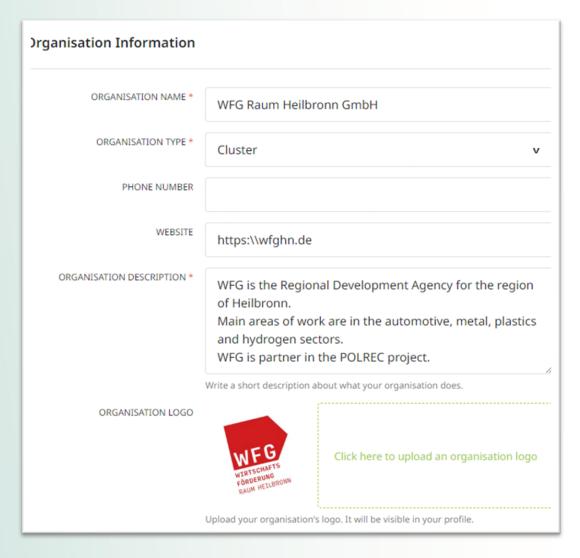


Figure 2 – Organization Information







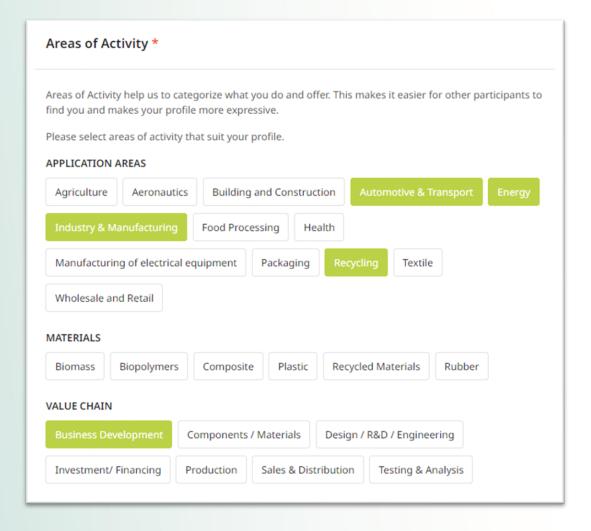


Figure 3 – Areas of activity

These details are added to the personal profile. All registered participants now have the opportunity to find suitable matches based on this information. This is easily possible via a free keyword search or via the predefined keywords:









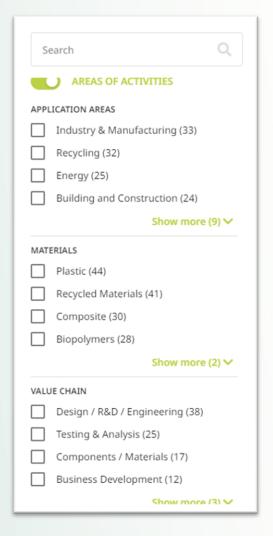


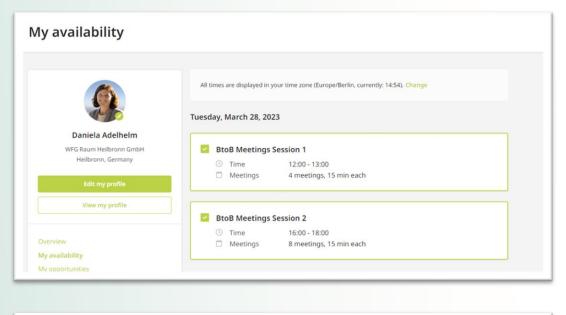
Figure 4 – Keyword search

This tool is especially important for organizing the networking meetings/speed dating sessions scheduled during the conference for all interested members. For this purpose, the two time slots provided in the program were used for the b2b meetings. Here, POLREC Consortium members had the opportunity to arrange meetings as well as the participants had the opportunity to meet with each other. Time slots of 15 minutes each were predefined for the 1:1 meetings. The meetings could be arranged before the congress as well as during the congress.



D3.4 – Report on the content and conclusions of the online conference





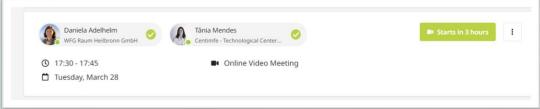


Figure 5 – Personal availability and agenda of the meetings







4.2. Conference procedures and implementation

The conference was held in virtual format on March 28. It started at 9 am (CET) and ended at 6 pm (CET) after the match-making sessions. A description of the congress and the program with all participating partners was presented on the homepage as follows:

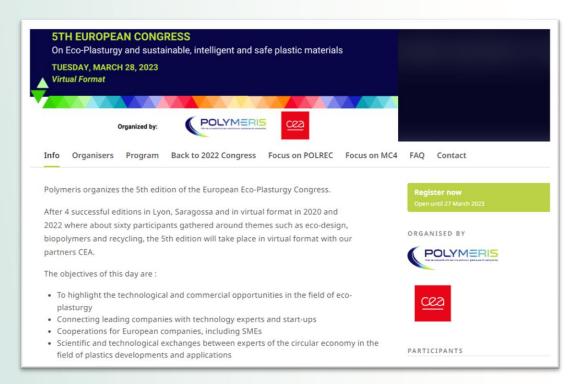


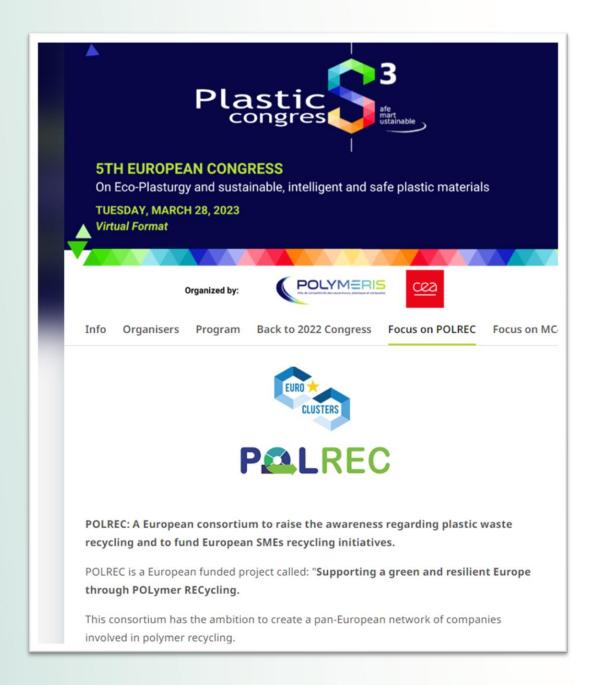
Figure 6 – Conference landing page

















To achieve this goal, POLREC will help the industry to switch practices from polymers waste landfilling and burning towards polymer recycling (mechanical or chemical) into raw materials (monomer polymer and additive). It will promote innovative solutions for the mechanical and chemical recycling of polymer waste and encourage the adoption of innovative and viable business models that promote the use of recycled material.

POLREC has been granted a budget with which the project's partner will support through cascade-funding opportunities the polymer SMEs in testing innovative recycling solutions, access to training on recycling and foster European & international collaboration. POLREC will launch eight funding calls during the 3-years project period.

The project involves five European partners:

- Polymeris, competitiveness cluster for rubber, plastics and composites (France)
- **CENTIMFE**, Technological Center for the Mouldmaking, Special Tooling and Plastic Industries (Portugal)
- MAV, Advanced Materials Cluster of Catalonia (Spain)
- WFG, regional agency for the economic development of the Heilbronn Region (Germany)
- PCD, facilitator of the Danish Materials Network

To find more about the polymer industries' needs and challenges in the recycling of their waste, the partners conducted a joint survey so that they can tailor their cascade-funding open calls to the interests and needs of industrial SMEs.

This survey is still on-going and SME are invited to answer if so that POLREC partners can develop suitable offers! Please take about 10 minutes to answer the survey by clicking here.

The POLREC project will be presented during the Recycling and End-of-Life session of conferences of S3 for Smart, Sustainable and Safe Plastic Congress.











Figure 7 – POLREC reference and presentation

As can be seen from the program below, the congress was composed of 3 sections:

- ✓ Materials and Biobased Session
- ✓ Products- End of Life Session
- ✓ Recycling -End of Life Session

Due to the broadly diversified content of the presentations, the participants were able to take away important impulses and thus also obtain information for the later discussion on the further course of the POLREC project.









Info Organisers **Program** Back to 2022 Congress Focus on POLREC Focus o

Program

9:00 AM OPENING

9:05 - 9:15 AM Introduction by POLYMERIS

9:15 - 9:30 AM CEA Liten presentation of biosourced polymers and recycling activities

9:30 - 11:10 AM MATERIALS AND BIOBASED SESSION

9:30 - 9:50 AM Formulation and rheological modeling of PLA/clay nanocomposites to customize the induced microstructure and thermomechanical properties of printed materials - **Reims Champagne-Ardenne University**

9:50 - 10:10 AM Design of thermally performant bio-sourced PU resins as PVC window frame replacement and their vitrimerization recycling within the SURPASS project - **INDRESMAT and CEA**

10:10 - 10:30 AM Which perspectives for Polylactide (PLA) recycling? Technological, environmental and socio-economical aspects - **INSA**







10:30 - 10:50 AM Reduced carbon-footprint thermoset composites - from their synthesis to their functional characterization - **ICMPE/ Paris-Est University**

10:50 - 11:10 AM From processing to recycling of PHA - IPC

11:20 - 12:00 AM PRODUCTS - END OF LIFE SESSION

11:20 - 11:40 AM Safe-and-Sustainable-by-Design: Co-creating towards impact-driven innovations in plastics - RIVM: National Institute for Public Health and the Environment

11:40 - 12:00 AM A circular multilayer plastic approach for value retention of end-life multilayer films - **AIMPLAS**

12:00 - 1:00 PM BtoB MEETINGS SESSION

1:00 - 2:00 AM Lunch

2:00 - 4:00 PM RECYCLING - END OF LIFE SESSION

2:00 - 2:20 PM RubberGreen, a recycled rubber specialist and enabler of circular rubber solutions - **RubberGreen**

2:20 - 2:40 PM Plastics' second life beyond mechanical recycling: closing the loop with PLASTICE project - CIRCE







BREAK

3:00 - 3:20 PM POLREC: How can a European project support SMEs in their polymer recycling activities? - **Economic Development Agency of Heilbronn region**

3:20 - 3:40 PM PLA, a polymer considered as bio-renewable - Futerro

3:40 - 4:00 PM Support for circular materials research from analytical research / infrastructures - **ESRF, The European Synchrotron**

4:00 -6:00 PM BtoB MEETINGS SESSION

6:00 PM END OF S3 CONGRESS

Figure 8 – S3 Congress program

In this report, we cannot go into detail about the content of each presentation. However, we do extract individual aspects from the presentations that are of particular relevance. For example, the following aspects, among others, were highlighted: Circular Economy Action Plan and EU Plastics Strategy and Circular Plastics Alliance.

With this topic, the content of the presentation met a need for information that was also evident from the results of the POLREC survey. Here we had asked about the level of knowledge of the companies with regard to the "EU plastic strategy". In general, this strategy has the objective to transform the way goods and products — which are made out of plastic — are produced, designed, used, and recycled within the European nations.

With this topic, the content of the presentation met a need for information that was also evident from the results of the POLREC survey. Here we had asked about the level of knowledge of the companies with regard to the "EU plastic strategy". In general, this strategy has the











objective to transform the way goods and products – which are made of plastic – are produced, designed, used, and recycled within the European nations.

EU PLASTICS STRATEGY

Directive 2018/852 on **packaging and packaging waste** 31/12/2025: recycling of plastics in packaging waste ≥ 50 % 31/12/2030: recycling of plastics in packaging waste ≥ 55 % Tougher requirements: recyclability and recycled content

European Strategy for Plastics in a Circular Economy: all plastic packaging on the EU market will be recyclable by 2030

Join forces with the **Circular Plastic Alliance**, a collaboration platform that endorses the ambitious target that by 2025 at least 10 million tonnes of recycled plastics should find their way into products in Europe each year.

Figure 9 – EU Plastics Strategy

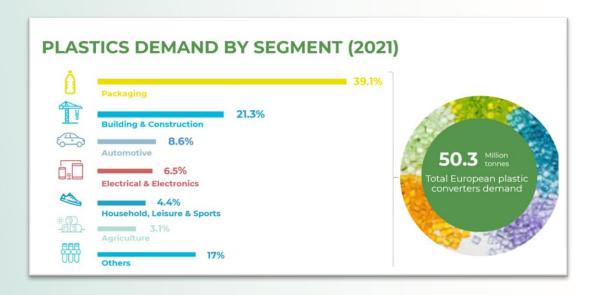


Figure 10 – Plastics demand by segment (2021)

Furthermore, this strategy represents a key element of Europe's transition towards a circular and carbon neutral economy, which will also contribute to reach the 2030 Sustainable Development Goals, to fulfil the Paris Climate Agreement objectives and the industrial policy objectives of the European Union¹. According to the results of the survey, almost 35% of the respondents have knowledge about this strategy, whereas more than 25% do not. A major part







¹ Plastics strategy (europa.eu)



of the companies stated that they need further information about the "EU plastic strategy" and have no deeper insight information about this topic.

After all presentations had been held, the afternoon ended with a 2-hour matchmaking session. The opportunity to exchange ideas directly in this way was actively used by the participants.

At this point, we will also highlight the main points that were mentioned during the POLREC presentation. Patrick Dufour, the managing director of the WFG Raum Heilbronn, once again explains the background and focus of POLREC in his presentation. He described the results and conclusions that have emerged from the survey and, in this context, also asks for further participation in the survey from those participants who have not yet responded.











Findings from the POLREC survey Please let us know: Does this also meet your needs? Which materials are relevant for you in terms of recycling?

Figure 11 -Findings from the POLREC survey

The survey will remain open for the time being. After the presentation of the results, he asked the participants to comment on the presented results. Here it turned out that these reflect the needs well. He now goes into the following slides, on the services that will be developed and offered to the companies during and after the POLREC term.

POLREC Services for SME

- > Foster the adoption of innovative chemical and mechanical recycling processes within the Eurocluster's value chains
- Foster the adoption of digital solutions for recycled material quality monitoring and traceability within the Eurocluster's identified value chains in each industrial ecosystem
- SMEs able to test new innovative recycling processes for their polymer waste (Support Scheme)















POLREC Services for SME

- Employees from SMEs can benefit from training on recycling technologies and on digital solutions as well as on digital marketplaces solutions
- > SMEs able to test digital solutions for recycled polymer quality monitoring and tracking (Support Scheme).
- New-to-firm recycling services on digital innovations for monitoring the material quality and tracking





Figure 12 - POLREC services for SME

At this point, a slide is now highlighted that was of great interest to the participants. This shows an overview of the possible financial support to the companies. With the help of these, the services already mentioned are to be supported monetarily.

The support is based on three pillars: Innovation, Training, Networking. In the area of "Innovation" the following projects can be supported: Access to mechanical and chemical recycling, Access to digital tools. The "Training" pillar: Training on adopting innovative recycling methods, Training on adopting digital processes and Training on specific technical profiles related to polymer recycling. The third pillar "Networking" offers support in the field of internationalization and support for trade fair and conference participation.



D3.4 – Report on the content and conclusions of the online conference





Figure 13 – POLREC financial support to third parties

The complete presentation is attached to the document as an appendix.







5. Conclusion and further steps

The goal of the online conference was to bring together relevant stakeholders (cluster managements, member companies, member RTOs and possibly other interested entities) and present POLREC specific topics. 57 participants from 8 countries attended the conference:

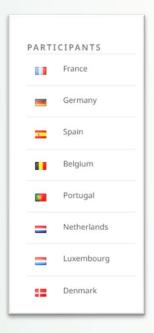


Figure 14 – POLREC financial support to third parties

The b2b match sessions, especially in the afternoon from 4-6 p.m., were used for a closer look at the needs of the individual participants in smaller discussion groups. It was possible to establish contacts between SMEs as well as contacts between SMEs and the speakers.

For example, in some of the follow-up discussions it was emphasized that the insights given during the presentations into the various topics were stimulating for the participants' own work and gave them an insight into other materials as well as into other countries. For example, a contact with Futerro was initiated with regard to the consideration of PLA.

Furthermore, the presentations gave rise to approaches for the online network meetings also planned as part of the POLREC project and content-related topics regarding the materials on which POLREC would like to focus.

Here, the identification of materials that could be recycled and/or exchanged between companies was addressed again, and mutual interests were exchanged between companies of the individual clusters.

Especially the area of FSTP calls was interesting for the companies. It can be seen that especially for SMEs, which already have a strained personnel situation, the increasing documentation and verification requirements become a challenge. In this context,







the support in the area of software and digitization that is possible via POLREC is perceived as important. In this context, this service in particular was highlighted as important:

✓ Foster the adoption of digital solutions for recycled material quality monitoring and traceability within the Eurocluster's identified value chains in each industrial ecosystem.

Some companies interested in the project were unable to attend the conference for various reasons. Individual discussions were held with them either in the run-up to the congress, and some discussions will take place in the course of April. The results from these discussions, which were held independently of the congress, will also be incorporated into the further content planning for the POLREC project.

Looking at the conversations before and during the congress with the interested companies, the findings obtained through the survey are confirmed. At this point, the findings from the survey are summarized along with the insights gained from the conference (plus the individual discussions):

- ✓ Most of the companies mentioned that they work in the field (or use) of "Thermoplastics".
- ✓ When asked which non-European country represents the greatest potential for possible cooperation, the majority of respondents named the USA.
- Most recyclers source their materials locally. Most of the material they process comes from industrial production. Household/post-consumer waste is in second place. When recycled polymers are used, they normally come from industrial waste.
- Among recyclers, the greatest interest is in mechanical recycling. The interest in chemical recycling is still somewhat restrained, but this is due to the little knowledge available so far regarding chemical recycling. We will start at this point and try to raise awareness of this technology among the partners involved, for example in our network meetings and corresponding individual discussions.

If we look into the area of the support possibilities of the project for the SMEs, we can see that the interest is wide-ranging. The greatest interest is shown in the area of networking and knowledge exchange with other companies, among others. Alongside "mechanical recycling opportunities", digitization is one of the fields that has aroused the most interest.

Hereby, the results show that most of the participants are interested in terms of mechanical recycling opportunities followed by circular economy related topics as well as chemical recycling opportunities and how to interact with other companies in familiar business field. In addition to that, some companies also added that further support by POLREC could be done in the toxicological risk assessment of substances in recycled materials.

The conduction of the online conference was another important building block for contacting companies and illuminating the broad range of topics relating to the sustainable consideration of plastics.

In particular, the discussions during the b2b match sessions provided even deeper insights into the needs of the companies. In the online survey, the desire for direct personal discussions was given a high priority with 40% of the responses, which is why we increasingly pursued this. It has been shown time and again that companies initially prefer to talk on a smaller scale. The







willingness to work and exchange ideas in larger groups increases after such bilateral discussions. Which is why we continue to attach importance to this method of communication.

The video of the presentation of POLREC project by Patrick Dufour is now <u>available online</u>. The partners will keep on communicating and sharing this video through their own communication channels so that SMEs that could not attend the S3 congress can still have access to the project presentation.









Annex 1 – POLREC Presentation





PROJECT INFO

Grant Agreement	Project 101074434 — POLREC	
Programme	Single Market Programme (SMP COSME)	
Call	SMP-COSME-2021-CLUSTER	
Topic	SMP-COSME-2021-CLUSTER-01	
Type of action	SMP Grants for Financial Support	
Project Title	Supporting a green and resilient Europe through POLymer RECycling	
Project starting date	1 st September 2022	
Project end date	31st August 2025	
Project duration	36 months	























D3.6 – Content and conclusions of the online conference









4











Consortium set-up



















Introduction of the POLREC Project

- Sustainable transition of the industry
- Encourage companies from the polymer industry to decrease the environmental impact of their products while increasing the European strategic autonomy on raw materials for polymer production
- Matchmaking: Promote opportunities to link the recycling of a polymer at one point of the value chain to the use of the recycled materials in another value chain, within and across several industrial sectors.









Introduction of the POLREC Project

- Build intensified cluster and business network collaboration across borders and across sectors to meet this challenge and exploit the international business opportunities related to the recycling of polymers.
- Foster SME's digital transition and their disruptive development.

















Findings from the POLREC survey

- Approx. 90 companies participated at the survey.
- When recycled polymers are used they normally come from industrial waste
- Nearly 75% of the companies use recycled material. More than 30% of the companies reuse their own plastic waste in their own company, and more than 35% of the companies sell the material to recyclers. Almost 35% dispose their waste material.









Findings from the POLREC survey

- Non-European country with the greatest potential for possible cooperation: USA.
- Among recyclers, the greatest interest is in mechanical recycling. The interest in chemical recycling is still somewhat restrained, but this is due to the little knowledge available so far with regard to chemical recycling.





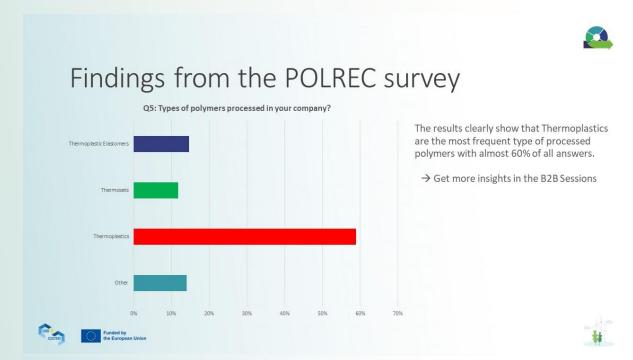












Findings from the POLREC survey

- Please let us know:
- Does this also meet your needs?
- Which materials are relevant for you in terms of recycling?

















POLREC Services for SME

- Foster the adoption of innovative chemical and mechanical recycling processes within the Eurocluster's value chains
- Foster the adoption of digital solutions for recycled material quality monitoring and traceability within the Eurocluster's identified value chains in each industrial ecosystem
- SMEs able to test new innovative recycling processes for their polymer waste
 (Support Scheme)









POLREC Services for SME

- Employees from SMEs can benefit from training on recycling technologies and on digital solutions as well as on digital marketplaces solutions
- SMEs able to test digital solutions for recycled polymer quality monitoring and tracking (Support Scheme).
- New-to-firm recycling services on digital innovations for monitoring the material quality and tracking



















Further procedure POLREC Project

- We will organize short online networking events for all interested companies structured in the following way:
 - Provision of general information about POLREC (Seminars and funding opportunities)
 - Provision of some industry or material's related insight
 - Networking

























PROJECT INFORMATION

Grant Agreement	Project 101074434 — POLREC	
Programme	Single Market Programme (SMP COSME)	
Call	SMP-COSME-2021-CLUSTER	
Topic	SMP-COSME-2021-CLUSTER-01	
Type of action	SMP Grants for Financial Support	
Project Title	Supporting a green and resilient Europe through POLymer RECycling	
Project starting date	1 st September 2022	
Project end date	31 st August 2025	
Project duration	36 months	

PROJECT CONSORTIUM

















PROJECT

PALREC





Daniela Adelhelm adelhelm@wfgheilbronn.de



