



D9.3 Report on monitoring & evaluation of communication & dissemination activities (M48)

Document Information

Contractual Date of Delivery	M48
Actual Date of Delivery	M48
Author (s)	Laura Almar, Anaïs Atalaya, Francisco Tercero
Lead Participant	CSIC and KER
Contributing participants	All partners
Dissemination level (PU/CO/RES/CON/SEC)	PU
Nature (R/DEM/DEC/O/E/ORDP)	R

Project Information

Project Title	Integrated Catalytic Recycling of Plastic Residues into Added-Value Chemicals
Project Acronym	iCAREPLAST
Project Call	H2020-NMBP-SPIRE
Grant Number	820770
Project Duration	15.10.2018-14.04.2023 (54 months)



This project has received European Union's Horizon 2020 research and innovation funding under grant agreement N° 820770.



Executive Summary

In the present document it is compiled the M48 and final update of previously identified quantitative and qualitative success indicators to monitor and evaluate communication and dissemination (C&D) activities. This exercise will determine the degree to which the communication objectives have been reached, and the relationship between the outcomes and the efforts made to reach iCAREPLAST goals. This analysis will help to better understand facilitators and barriers of a successful communication and will serve to refine the communication activities accordingly. To address this study, the activities programmed in the Project Communication and Dissemination Plan (D9.1) have been assessed by following the indications of the TOOLKIT for the evaluation of the communication activities DIRECTORATE-GENERAL FOR COMMUNICATION – EU Commission.

According to the Grant Agreement (GA) this report will be updated and delivered half-yearly. This is the eighth and final delivery, including all communication activities executed up to month 48. During the previous periods, values of the most important metrics were established for the next 6-month period, following similar dissemination methods, since it was considered to be well established during the last periods as can be observed by the presented trends in the metrics. Also corrective actions were included implemented to improve the achievement of the objectives of the project communication strategy.

TABLE OF CONTENT

1. INTRODUCTION	3
1.1 SCOPE AND OBJECTIVE OF THIS DELIVERABLE	3
2. EVALUATION OF C&D ACTIVITIES.....	4
2.1 PROJECT VISUAL IDENTITY	4
2.2 WEBSITE	4
2.3 SOCIAL NETWORKS.....	5
2.4 COMMUNICATION MATERIAL 1: POSTER PRESENTATION, LEAFLET, ROLL-UP	8
2.5 COMMUNICATION MATERIAL 2: NEWSLETTER 5	8
2.7 PRESENTATIONS AT NATIONAL AND/OR INTERNATIONAL SCIENTIFIC CONFERENCES ORGANISATION OF WORKSHOPS AND PARTICIPATION AT EXHIBITIONS, FAIRS AND WORKSHOPS.	9
2.8 PRESS MEDIA	12
2.9 LEARNING RESOURCES AND TRAINING ACTIVITIES.....	12
3. CONCLUSIONS AND CORRECTIVE ACTIONS	14

1. Introduction

1.1 Scope and objective of this deliverable

The aim of deliverable D9.3 is to monitor and evaluate all the iCAREPLAST communication and dissemination activities carried out during the project lifetime. It is an extremely useful exercise to assess the communication scope and, if necessary, act to reach the desired audience. Indeed, this analysis will help the project to better understand facilitators and barriers of a successful communication and serve to refine the communication activities consequently.

According to the Grant Agreement (GA), this report will be updated and delivered half-yearly. In the present document, it will be analysed the communication and dissemination activities carried out up to **Month 48**, following the structure and indicators identified in the first delivery (month 6).

As in the previous reports, to accomplish the study, indications of the *TOOLKIT for the evaluation of the communication activities* *DIRECTORATE-GENERAL FOR COMMUNICATION – EU Commission* have been used to evaluate the activities programmed in the *Project Communication and Dissemination Plan (D9.1)* scheduled for this period, which includes:

- ↻ Project Visual Identity
- ↻ Website
- ↻ Social Networks
- ↻ Communication Material 1: Poster Presentation, Leaflet, Roll up
- ↻ Communication Material 2: Newsletter
- ↻ Publications in Scientific Journals
- ↻ Presentations at National and/or International Scientific Conferences
- ↻ Organisation of Workshops and Participation at Exhibitions, Fairs and Workshops
- ↻ Press Media
- ↻ Learning Resources and Training Activities
- ↻ Other Activities
- ↻ Project Videos

2. Evaluation of C&D activities

2.1 Project Visual Identity

Project visual identity was positively evaluated by project partners and external agents. During this period, it has been extensively employed in reports and presentations, in the creation of project content, etc., providing a professional, consistent and solid look.

2.2 Website

iCAREPLAST project website has been updated and maintained by IPT, CSIC and KER, whereas the rest of partners have contributed providing contents mainly in the *Documents*, and *News & Events* sections. Table 1 compiles the information of main indicators collected by Google Analytics at **M6, M12, M18, M24, M30, M36, M42 and M48**. As depicted in Table 1, almost of the metrics have been raised during this period and most of the goals set for M48 has been achieved, specially mention the high number of unique visitors compared to the previous period. Page views and bouncing rate have remained almost the same.

Table 1. iCAREPLAST website relevant metrics collected by Google Analytics.

Metric	Explanation	Total M1-M6	Total M6-M12	Total M12- M18	Total M18- M24	Total M24- M30	Total M30- M36	Total M37- M42	Total M42- M48	Goals M48
		02/04/2019	01/10/2019	03/04/2020	03/10/2020	08/04/2021	12/10/2021	12/04/2022	14/10/2022	
Unique visitors	The number of users requesting pages from the website during a given period, regardless of how often they visit.	146	959	1,959	1,597	2,137	3,004	3,961	5,556	>4,000
Visits	The number of visits (or sessions) to a website.	419	1,898	2,322	1,997	3,483	4,636	1,200	1,837	>4,500
Page views	Number of pages loaded (also called Page Impressions)	1,561	4,939	3,949	3,916	5,267	2,316	2,474	1,971	>5,000
Return Visit Rate	The Return Visit Rate is calculated as the number of visits from returning visitors divided by the total number of visits to the site.	20.2%	15.5%	7.16%	8.90%	26.9%	27.61%	10.5%	12.8%	-
Time spent per visit	The average amount of time spent per visit.	4' 30"	2' 35"	1' 14"	1' 19"	55"	1' 52"	1' 42"	1' 36"	-
Page views per visit	The average number of pages viewed per visit	3.73	2.60	1.70	1.96	1.51	2.01	2.06	2.00	-
Bounce rate	Bounce rate is defined as the percentage of visits that only has one page view before exit.	56.3%	63.4%	76.23%	58.49%	83.89%	63.31%	67.83%	68.39%	<50%
Page more visited		Home	Home	Home	Home	Home	Home	Home	Home	-

With respect to the audience location, Table 2 shows that visits from most of the countries remained quite stable. In the particular case of visits in Spain, they have increased and reached a level of 19% of users. Besides, visitors from the United States and China have noticeable increased compared to previous periods.

Table 2. iCAREPLAST website visitors distributed by countries.

Country	% Visits M1-M6	% Visits M6-M12	% Visits M12-M18	% Visits M18-24	% Visits M24-30	% Visits M30-36	% Visits M37-42	% Visits M42-48
Spain	67%	30%	9%	11%	13%	28%	17%	19%
Germany	8%	10%	8%	8%	8%	8%	18%	11%
Portugal	6%	3%	-	-	-	-	1%	1%
United States	6%	12%	39%	25%	7%	7%	13%	22%
Austria	2%	<1%	-	-	-	-	<1%	<1%
Australia	2%	<1%	-	-	-	-	<1%	<1%
Belgium	2%	2%	-	3%	-	4%	2%	<1%
Bulgaria	2%	<1%	-	-	-	-	<1%	<1%
France	2%	3%	2%	2%	4%	8%	5%	4%
Netherlands	2%	3%	7%	3%	2%	8%	6%	4%
China	-	6%	3%	11%	13%	3%	5%	11%
Japan	-	4%	2%	4%	2%	-	<1%	1
United Kingdom	-	3%	2%	3%	3%	4%	2%	2%
Italy	-	-	2%	3%	2%	3%	3%	2%
Brazil	-	-	11%	-	-	-	<1%	<1%
India	-	-	-	-	3%	-	3%	3%
Norway	-	-	-	-	-	5%	<1%	1%
Finland	-	-	-	-	-	-	6%	1%
South Korea	-	-	-	-	-	-	2%	2%
Canada	-	-	-	-	-	-	1%	2%

Regarding the **private area**, the platform created in Microsoft Office Teams is working adequately, enabling a successful Consortium communication for the document exchange and repository.

2.3 Social Networks

During this last period, activities on Twitter and LinkedIn have continued and the partners have done great effort in sharing the iCAREPLAST contents in their own social networks. These social networks are day-to-day revised and apart from our own content, all the information relevant for the project from EC, SPIRE, projects from the same call and/or connected topics and Consortium members is retweeted and shared by the partners. As in the previous report, main evaluation metrics of each social network have been extracted from each social network monitoring tool.

Twitter

Table 4 compiles the relevant metrics obtained from Twitter Analytics at **M6, M12, M18, M24, M30, M36, M42 and M48** as well as the established goals for the current period. As shown in Table 4, Followers, Tweets and the Engagement Rate have increased compared to the previous period. We consider that during the last 6 months of the project an appropriate level of communication in Twitter

has been reached due to improvement and more focused activities that has been carried out in the past months.

Table 4. iCAREPLAST Twitter profile relevant metrics collected by Twitter Analytics.

Metric	Explanation	Total M1-M6	Total M6-M12	Total M12-M18	Total M18-M24	Total M24-M30	Total M30-M36	Total M37-M42	Total M42-M48	Goals M48
Followers	Number of Twitter users following the account	62	147	197	231	269	288	299	304	>300
Tweets	Number of Tweets posted	32	50	133	159	203	220	221	225	>250
Retweets	Total number of times tweets has been retweeted by other users.	48	224	80	28	145	45	0	10	-
Likes	Total number of times tweets has been marked as a favourite by other users.	140	356	135	63	306	83	2	18	-
Impressions	Number of times a tweet was loaded onto a device's screen.	12.5K	59.1K	30.5K	13.1 K	36.2 K	15.2 K	2.3 K	1.3 K	>50K
Engagement Rate	Any actions (including retweets and favourites) taken on a tweet, divided by the number of impressions this tweet received.	3.1%	0.9%	0.8%	1.7%	1.8%	1.2%	0.4%	1.9%	-

LinkedIn

Table 6 displays the key indicators obtained using the LinkedIn analytics tool at **M6, M12, M18, M24, M30, M36, M42 and M48** and goals set for this period. As it can be seen in Table 6, followers have increased for LinkedIn iCAREPLAST social network compared to the previous period, although the goals set for M48 have not been achieved.

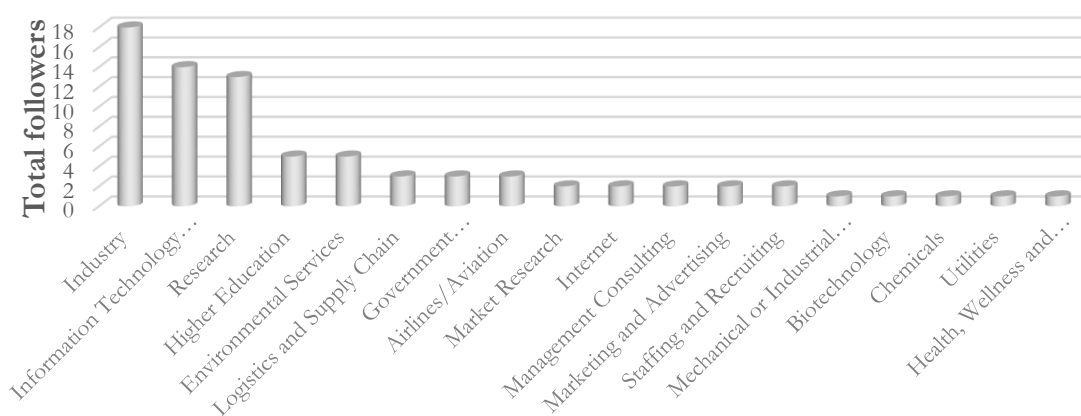
Table 6. iCAREPLAST LinkedIn profile relevant metrics collected by LinkedIn Analytics.

Metric	Explanation	Total M1-M6	Total M6-M12	Total M12-M18	Total M18-M24	Total M24-M30	Total M30-M36	Total M37-M42	Total M42-M48	Goals M48
Impressions	How often has your post been seen	1.8K	7.9K	7.3K	1.9K	28.1K	6.3K	535	920	>35K
Reactions	The number of times people have applied a Like, Celebrate, Love, Insightful, or Curious in response to your update	69	285	187	46	714	179	10	24	-

Updates	Number of posts published	15	27	36	14	32	17	2	5	>35
Engagement Rate	This percentage shows the number of interactions plus the number of clicks and followers acquired, divided by the number of impressions.	8.5%	5.2%	7.3%	7.28%	9.87%	7.40%	2.75%	6.48%	-
Number of Followers	Total number of followers	42	79	115	155	309	355	367	382	>450

LinkedIn also tracks the job function (professional niche), location (city and country), seniority (employment rank within a given company), industry (business field) and company size (number of employees in the page visitor's organization) of the followers. Figure 3 shows the main business fields of iCAREPLAST LinkedIn stakeholders, highlighting Industry, Information Technology, Research, *High Education, Environmental Services, Logistics and Supply Chain and Government Administration* which meet project scopes as in the previous semester. This short analysis confirms that the focus of our communication activity is well-addressed.

Figure 3. Total followers by Business fields of iCAREPLAST LinkedIn profile (Date: 12/10/2022).



Youtube

A Youtube channel named iCAREPLAST H2020 was created to share visual information about the project. Six videos have been published up to M42, highlighting the Presentation Video of the project, whose links can be found in the D9.2. For the Presentation Video the number of views incremented from 1096 (M42) to 1135 views (M48). The number of subscribers is still low (16 subscribers, 3 more than M42).

Furthermore, publication of training resources took place in M43 as a series of short videos, being carried out by the academic partners. All details regarding this activity were published in the deliverable D9.4. The 6 videos were disseminated in the website of the project reaching around 700 views in total (M48).

2.4 Communication Material 1: Poster Presentation, Leaflet, Roll-up

All the communication material created is shown and/or linked in Deliverable 9.2. The partners have been actively used this material to show the project scope and progress. More than 2,000 leaflets were printed and distributed among the partners and have been distributed in the different workshops, fairs and/or congresses that partners attended. The “iCAREPLAST in one slide” summary is being a tool widely employed by partners to introduce the project in different on-topic forums. A Roll-up was designed and printed to promote the project visualization in stands of fairs, exhibitions and/or workshops. During this last period (M42) a poster to present the project was prepared for a H2020 event.

2.5 Communication Material 2: Newsletter 5

The link to all newsletters are available in Deliverable 9.2 and at the website (Documents section). We consider that this kind of dissemination activities have low impact nowadays due to the low feedback received after its publication and null increased number of subscribers.

2.6 Publications in Scientific Journals

To date, there are three scientific journals published:

- *Comparative LCA of Municipal Solid Waste Collection and Sorting Schemes Considering Regional Variability*, Selin Erkisi-Arici, Johanna Hagen, Felipe Cerdas, Christoph Herrmann, Procedia CIRP 98 (2021) 235–240, DOI 10.1016/j.procir.2021.01.036
- *Framework for the Life Cycle Assessment of semi-permanent process units in volatile chemical recycling process chains*, Johanna Hagen, Selin Erkisi-Arici, Patrick de Wit, Felipe Cerdas, Christoph Herrmann. Procedia CIRP 98 (2021) 55–60, DOI 10.1016/j.procir.2021.01.005
- *Validation of the Application of the Pyrolysis Process for the Treatment and Transformation of Municipal Plastic Wastes*, P. Costa, F. Pinto, R. Mata, P. Marques, F. Paradela, L. Costa, Chemical Engineering Transactions 86 (2021) 859-864, DOI: 10.3303/CET2186144

2.7 Presentations at National and/or International Scientific Conferences | Organisation of Workshops and Participation at Exhibitions, Fairs and Workshops.

The project has been presented in the following events:

Communication of iCAREPLAST project:

Communication of iCAREPLAST project - PROJECT PROMOTION					
Name of the Event	Date	Place	Author(s)	Partner	Type of Presentation relevant for iCAREPLAST
M1-M6					
M6-M12					
Going Green - CARE INNOVATION 2018	28-29/11/18	Vienna, Austria	Andreas Schiffleitner	IPT	iCAREPLAST project Presentation.
IFEMA - ChemPlast Expo	7-9/05/19	Madrid, Spain	Julio García Fayos	CSIC	iCAREPLAST project Presentation.
Sustainability & Naturals in Cosmetics 2019	14-15/05/19	Berlin, Germany	Niels J. Schenk	BBTX	iCAREPLAST in one slide project introduction in the talk "Sustainable Building Blocks for Cosmetic and Packaging".
12 th International Conference on Bio-Based Materials	15-16/05/19	Cologne, Germany	Pieter Imhof	BBTX	iCAREPLAST in one slide project introduction in the talk "Full Circularity Enabled: Sustainable, Cost Competitive Production of Platform Chemicals"
International Plastics Processing & Recycling	19-20/09/19	Berlin, Germany	Marcelo Domine	CSIC	iCAREPLAST project Presentation.
ISWA World Congress 2019	7-9/10/19	Bilbao, Spain	Ignacio Sanz Madroño	URB	iCAREPLAST in one slide project introduction in the talk "The future of plastics. Plastic to..."
4 th Chemelot InSciTe Annual Meeting	8-9/10/19	Horst, The Netherlands	Pieter Imhof	BBTX	iCAREPLAST in one slide project introduction in the talk "Full circularity in chemicals and plastics enabled"
M12-M18					
Project CLIL & Science. Plastics a real challenge for today	22/10/19	Valencia, Spain	Laura Almar	CSIC	iCAREPLAST project Presentation as part of the Talk "Rethinking the future of plastics: moving towards a circular economy"
23rd Ecomondo. The Green Technology Expo	5-8/11/19	Rimini, Italy	Laura Almar	CSIC	iCAREPLAST project Presentation.
Biorizon Annual Event	28/11/19	Antwerp, Belgium	Pieter Imhof	BBTX	iCAREPLAST Project promotion as part of the Talk "Circularity with aromatics enabled".
SusPlast Annual Conference	31/04/20	Online	Julio García Fayos	CSIC	iCAREPLAST project Presentation.
Soluciones tecnológicas nuevas oportunidades de mercado	12/12/19	Valencia, Spain	Jose M. Serra	CSIC	iCAREPLAST project Stand.
M18-M24					
Plastics Circularity Multiplier Online Conference	14/10/20	Online	Jose Manuel Serra	CSIC	Progress of iCAREPLAST project.
M30-M36					
EU Green Deal - Research and Innovation as a driver towards Climate Neutrality	3-4/10/21	Dubai, UAE	Jose Manuel Serra and Laura Almar	CSIC	iCAREPLAST project promotion at Networking Village.
M36-M42					

BlackCycle 1st Workshop	22/11/21	Cebazat, France / Online	Laura Almar	CSIC	iCAREPLAST project Presentation.
I Ciclo de Seminarios del IUNAN de Energía y Medioambiente	16/3/22	Córdoba, Spain	J. M. Serra	CSIC	iCAREPLAST project promotion
11 Conferencia del Programa Marco de Investigación e Innovación de la Unión Europea en España - Horizonte Europa - El nuevo Horizonte para Europa	06/04/22	Valencia, Spain	María Siurana, Laura Almar	CSIC	iCAREPLAST poster presentation.
M42-M48					
Mix-up Friends	-	Online	J. M. Serra and L. Almar	CSIC	Scientific community network https://www.mix-up.eu/friends
Pint of Science	23/5/22	Valencia, Spain	M. Laqdiem	CSIC	iCAREPLAST project promotion – Oxycombustion activities
UT & ITQ internal workshop	01/9/22	Valencia, Spain	J. M. Serra	CSIC, UT	iCAREPLAST project promotion
Asamblea General SusChem-España	27/09/22	Madrid, Spain	Cristian A. Severi	URB	iCAREPLAST project promotion
INNOTRANFER - symposium with a talk on the “Electrification and decarbonization of the processes industry”.	5/10/22	Valencia, Spain	J. M. Serra	CSIC	iCAREPLAST project promotion
Environmental Solutions and Ecologic Transition, ecoFIRA	4-6/10/22	Valencia, Spain	J. M. Serra	CSIC	iCAREPLAST project promotion (flyers and ITQ-CSIC stand)

Dissemination of iCAREPLAST project results:

Dissemination of iCAREPLAST Project Results					
Name of the Event	Date	Place	Author(s)	Partner	Type of Presentation (Poster/Oral) and Title
M1-M6					
M6-M12					
XXXVII Reunión Bial de la Real Sociedad Española de Química	6-30/05/19	San Sebastián, Spain	Julio García Fayos	CSIC	Poster Presentation "Ceramic membranes for O ₂ production and their applications in catalytic industrial processes".
22nd International Conference on Solid State Ionics	16-21/06/19	PyeongChang, Korea	Jose M. Serra	CSIC	Poster Presentation "Catalytic Membrane Reactors for Power Generation via Energetic Valorisation of Waste Plastic Recycling By-products Streams".
3rd International Congress of Chemical Engineering	19-21/06/19	Santander, Spain	Laura Navarrete	CSIC	Poster Presentation "Energetic Valorisation of Pyrolysis Gases from Plastic Recycling with Catalytic Membrane Reactors".
M12-M18					
7th International Conference on Organic Solvent Nanofiltration	28-30/10/19	Enschede, The Netherlands	Patrick de Wit	UT	Oral Presentation "Organic solvent nanofiltration for catalytic recycling of plastic residues (iCAREPLAST)"
2nd ITQ Winter Meeting	19/12/19	Valencia, Spain	Sara Escorihuela	CSIC	Oral Presentation "In-situ water removal from CO ₂ methanation process with a polymeric thin film composite membrane".
2nd ITQ Winter Meeting	19/12/19	Valencia, Spain	Marwan Laqdiem Marin	CSIC	Poster Presentation "Best Poster Award": "Energetic Valorisation of Pyrolysis Gases from Plastic Recycling with Catalytic Membrane Reactors".

Sustainable Energy Futures Annual Conference - ICL	13/09/19	London, UK	Nana Owusu Nyantekyi	IC	Poster Presentation "An Analysis of the Valorisation of Waste Plastics to Produce Fuels and Petrochemicals"
M18-M24					
M24-M30					
CIRP LCE 2021 Conference	10/03/21	online	Selin Erkisi Arici	TUBS	Oral Presentation "Comparative LCA of Municipal Solid Waste Collection and Sorting Schemes Considering Regional Variability".
CIRP LCE 2021 Conference	10/03/21	online	Johanna Hagen	TUBS	Oral Presentation "Framework for the Life Cycle Assessment of semi-permanent process units in volatile chemical recycling process chains".
M30-M36					
ICHEAP15, 15th International Conference on Chemical and Process Engineering	23-26/05/21	online	Paula Costa	LNEG	Oral Presentation
16th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES)	10-15/10/21	online	Paula Costa	LNEG	Oral Presentation
M36-M42					
Euromembrane	28/11-02/12/2022	Copenhagen, DE	P. de Wit , R. van Lin ,T. Visser,	UT	Invited Talk "Organic Solvent Nanofiltration for Catalytic Recycling of Plastic Residues (iCAREPLAST)"
Sino-UK Workshop on Biomass Conversion and Utilisation	10/12/21	Liverpool, UK	Xiangyi Long	IC	Oral Presentation and iCAREPLAST project promotion as part of the Talk "Thermal pyrolysis of plastic to added-value chemicals".
M42-M48					
20th International Zeolite Conference (IZC-2022)	3-8/7/22	Valencia, Spain	P. Frigols-Arroyo, M. Parreño-Romero, L. Almar, J. M. Serra, M. E. Domine	CSIC	"Desilicated Mordenite-type zeolites as efficient catalysts for the alkylation of aromatics with olefins present in plastic's pyrolysis liquids"
20th International Zeolite Conference (IZC-2022)	3-8/7/22	Valencia, Spain	P. Frigols-Arroyo, M. Parreño-Romero, L. Almar, J. M. Serra, M. E. Domine	CSIC	"Ga- and Zn-ZSM-5 zeolites as efficient catalysts for the aromatization of paraffins and olefins present in plastic's pyrolysis liquids"
INNOVATION FORUM 4PLASTICS	13/10/22	Mallorca, Spain	Cristian A. Severi	URB	Oral Presentation

Workshop 1: Plastic waste chemical recycling technology. iCAREPLAST sustainable solution towards a circular economy

This workshop focused on the communication and dissemination of the project scope, current status and further direction to close the plastic loop by recycling all kind of plastic wastes in a cost efficient way. The iCAREPLAST Consortium extended the invitation to:

- Industrial end users.
- Chemical recycling policy makers.
- Technicians.
- Investors.

A specific Workshop Organization Committee was formed by KER, CSIC, URB, IC and TUBS. A flyer was designed and disseminated through social networks. The first Workshop of the project was public and online (via MS Teams) and took place on May 6th 2021 from 9:00 to 12:40. Specialized target audiences participated at the webinar, reaching the large number of 168 registered persons.



Figure 4. Chemical Recycling of Plastics Workshop Flyer.

2.8 Press Media

During the last period no press media was produced. The last press media activity was produced by RETEMA, a Spanish technical environmental magazine, published an article on the iCAREPLAST project, emphasizing the circular economy proposal for the recovery of non-recyclable plastics (link in D9.2).

2.9 Learning Resources and Training Activities

Learning resources were developed by the academic partners until M42 as a series of training pills oriented to students and more general public. With this objective, partners developed short videos addressing the following topics (presented in deliverable D9.4):

- iCAREPLAST: Innovative plastic waste treatment (developed by partners from CSIC);
- Pyrolysis of plastic wastes (developed by partners from IC);

- Organic solvent nanofiltration (developed by partners from UT);
- Oxycombustion with O₂ extracted from air using membrane technologies and CO₂ capture (developed by partners from CSIC);
- Energy, material and resource efficiency, and holistic life cycle management applied to industrial process and recycling technologies (developed by partners from TUBS);
- Digital twins and surrogate models applied to recycling technology and processes (developed by partners from UPV).

Additionally, Laura Almar (CSIC) and María Siurana (CSIC) gave an Open Lesson on 11th February 2022 for the International Day of Women and Girls in Science: "Women and Science at School". The ITQ (CSIC-UPV) organised a series of talks in different primary, secondary and high schools, in which both researchers talked to students about the role of women in science, as well as their own personal experience, with the aim of offering models with which girls and young women who wish to pursue a scientific career can identify. The concept of circular economy and main objectives of iCAREPLAST were explained during the talks.

Laura Almar (CSIC) gave the Open Lesson and talked about iCAREPLAST goals in the workshop dedicated to high school teachers "Project CLIL & Science. Plastics a real challenge for today" to raise awareness about the importance of plastic recycling and circular economy, organised by Cefire (<http://cefire.edu.gva.es>) on 22nd October 2019.

During the third period from M37 to M48, the following student thesis are developing / defended their work in the framework of iCAREPLAST:

- Bachelor thesis titled "Life Cycle Assessment der CO₂-Abscheidung bei der Verbrennung von Pyrolysegasen im Rahmen des chemischen Kunststoffrecyclings" ("Life cycle assessment of CO₂ capture during pyrolysis gas combustion in the context of chemical plastics recycling") presented by the student 22.08.2022. It was oriented by Johanna Haupt (TUBS).
- Master thesis titled "Techno-economic analysis of converting polyethylene to linear alkylbenzene" by Clara Sybord was completed at Imperial College under the supervision of Drs Xiangyi Long and Marcos Millan (IC).
- Master thesis titled "Modeling, simulation and control of an alkylation reactor for the production of alkyl-aromatics using compounds from thermal pyrolysis". Presented by the student Jose Camilo Narvaez (Chemical Eng. MSc.). Supervised by Javier Sanchis (UPV). Under development.

3. CONCLUSIONS AND CORRECTIVE ACTIONS

In the last period, communication activities concentrated in the preparation of videos as training material to be presented in D9.4 and re-started the promotion of the project in face-to-face or hybrid events. Lower number of posts in social networks were created but efforts will be devoted in the next period to promote the educational Pecha Kucha videos to further motivate the project followers and students. Thus, we expect a positive evolution of the metrics involving engagement and traffic during the upcoming months. During the next period, efforts will continue to be focused in the dissemination of project results (i.e. ongoing scientific publications of project results and participation in conferences). Table 8 identifies C&D issues and proposes corrective actions.

Table 8. C&D issues and corrective actions.

Issue	Corrective Actions (ongoing)
Low Interest in Blog Participation (LinkedIn) and Newsletter	<ul style="list-style-type: none"> • A new schedule of post contributions have been stopped due to the low impact of these activities. • Motivate the participation of partners with more specific technical content (e.g. key achieved milestones or scientific publications).
Participation in events, conferences	<ul style="list-style-type: none"> • Re-start the organisation and participation of face-to-face and/or hybrid events. • Motivate the participation of all partners (face-face if possible to re-activate more lively discussions).
Scientific publications	<ul style="list-style-type: none"> • Motivate the preparation of scientific publications. • Publication goals have been set (confidential list) to follow-up the work of the partners.