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RECYCLING OF WASTE ACRYLIC TEXTILES

D7.4: Final Report on dissemination and exploitation of results

Revision: v.1.0

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Abstract	The Final Report on Dissemination and Communication will outline of the final results for dissemination and communication activities in the second half and final period (M19-M40) of the project.
Keywords	Dissemination, Communication, Exploitation, Marketing, Circular Economy, Stakeholders Engagement

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** R: Document, report (excluding the periodic and final reports)*

DEM: Demonstrator, pilot, prototype, plan designs

DEC: Websites, patents filing, press & media actions, videos, etc.

Project co-funded by the European Commission in the H2020 Programme		
Nature of the deliverable:	R Document *	
Dissemination Level		
PU	Public, fully open, e.g. web	✓
CI	Classified, information as referred to in Commission Decision 2001/844/EC	
CO	Confidential to REACT project and Commission Services	

OTHER: Software, technical diagram, etc

EXECUTIVE SUMMARY

The REACT Work Package 7, WP7 (led by Martel), coordinated "Dissemination and communication" (and "Exploitation" under Task 7.2, led by Centrocot) aiming at defining and executing the appropriate mechanisms and tools to ensure broad visibility and impact of the project's work and results. The main objective was to promote the developed project's concepts and technologies, with the acrylic waste recycling process developed over the project's run being at the core.

This deliverable describes how REACT has followed, in the second half of its run, a comprehensive and effective approach to dissemination and promotion activities as per the strategy defined in D7.1 (Dissemination and exploitation strategy and plan). The project has been extended till M40 (September 2022) and the dissemination and communication activities have been timely stretched to be aligned with the project's work progress. Furthermore, the recommendations given by the reviewers during the 1st Review Meeting were taken into consideration to strengthen the effectiveness of the dissemination activities.

During the second half of the REACT project, the consortium has harvested fruitful results from a wide range of dissemination and promotion activities. The different communication channels and dissemination tools identified at the beginning of the project were used in order to promote the main news, activities and results obtained by the consortium.

The COVID-19 emergency obviously had a relevant impact on the project's original plans for its second half, such as the participation to and organisation of events: whenever possible REACT's partners contributed to online events (e.g., the "Innovative methods to remove hazardous substances and contaminants from secondary raw materials for the circular economy" EASME workshop), and aligned to relevant initiatives (such as EU Green Week) to increase the reach of REACT's own workshops re-shaped into online events. The partners subsequently timely prepared to resume attendance to in-person events – the participation to events in fact greatly increased in the project's second half – which allowed physical showcases for the prototypes generated by the consortium's work.

The key achievements are listed as follows:

- Since its kick-off, REACT has **participated to 19 relevant external events** and presented itself to relevant stakeholders.
- The second half of the project marked the **presentation of several physical prototypes** at leading sector events (such as Proposte Fair and the International Salone del Mobile).
- The consortium has worked toward a **patent** for the solutions developed over the course of the project.
- In its entire run, REACT has widely promoted its results and activities to **more than 300,000 stakeholders** (including subscribers to social media channels and website visitors).
- In the second half of the project, 4 new videos were published on REACT's YouTube channel and website, bringing the total to **8 videos**.

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ABBREVIATIONS

EASME	Executive Agency for SMEs – European Commission
WP	Work Package
KET	Key Enabling Technologies

INTRODUCTION

D7.4 is the Final Report on dissemination and exploitation of results. This document provides therefore detail on the dissemination and communication activities performed during the second half of the project, plus the two-month extension requested and granted after the first review. Due to the project's extension, this Deliverable, previously planned at M36 (May 2022) has been postponed to M40 (September 2022) to better reflect the entirety of the activities conducted. It also provides an outlook on the planned activities beyond the project's life, which includes further exploitation of the results achieved and patenting. Furthermore, this document addresses the suggestions provided during the Period 1 Review (in January 2021), such as availability of scientific publications related to the project and planning of certain activities – outlined in previous deliverables – which factually mostly started after the review. The grounding of the bulk of activities reported on was clearly defined and guided by the Description of Action (DoA), Deliverable (D) 7.1 – Dissemination and exploitation strategy and plan and (D) 7.2 - Intermediary report on dissemination and exploitation of results. The purpose of the current deliverable is therefore threefold:

1. Report on the REACT project's dissemination and communication activities held from month 19 to month 40 (December 2020 – September 2022); that is the final report covering the second half of the project and its extension.

2. Report on the REACT contribution to standardizations and the exploitation results in the second half of the project.

3. Assess the overall project's dissemination results through the project's lifetime; the lessons learned, and activities planned after the project's end.

The document is organised as follows:

- Section 1 focuses on activities conduced in the 2nd half of the project.
- Section 2 briefly presents the activities planned after the project ends.
- Section 3 focuses on the exploitation of results achieved.
- Section 4 focuses on the final assessment of results achieved.
- Section 5 briefly concludes the document.

1 COMMUNICATION AND DISSEMINATION ACTIVITIES

1.1 Objectives and Target Audience

The communication and dissemination activities were carried out following a set of defined and monitored objectives. A plethora of different stakeholders was involved, from researchers and innovators, industry players in relevant disciplines, related European research projects and initiatives, in order to intake multiple needs and interests and maximise the uptake of the concepts, technologies and outcomes fine-tuned by the project.

These activities were coordinated by Martel with active contributions from all REACT partners, following the objectives below:

1. Ensure broad visibility and raise awareness about REACT, spreading knowledge about the project and its results. The main idea is to establish a distinctive, recognizable and long-standing identity, which can work as a **bedrock for the product prototype** launch after project ending.
2. Reach, stimulate and engage a critical mass of **relevant stakeholders** to ensure that the **results** of the project are **well-known and taken up**, especially by recycling researchers and circular economy experts' communities across Europe.
3. **Facilitate exploitation of the project's outcomes by the industrial partners** and promote the development of innovative solutions based on the new technologies and testing methods introduced by REACT.
4. Collaborate with **relevant standardization bodies** as appropriate and relevant to planned exploitation plans and the project's outcomes.

In addition to the well-structured communication and dissemination plan outlined, REACT paid particular attention to the fast-changing technology and regulatory landscape, which directly impacts on the project's work.

1.2 Addressing Suggestions from 1st Review Report

Following the 1st Review Meeting, the consortium has discussed each suggestion brought forward and acted to address those related to dissemination and communication activities as detailed here below.

The recommendations about the activities of communication, and dissemination are the following:

- *A good and comprehensive plan for dissemination and exploitation was developed in D7.1; however not yet updated as most activities start in 2021. A few conference and fair participations are planned, but the Covid 19 infections might disturb heavily their dissemination activities. IPR was addressed and appropriate.*
  Unfortunately, as the pandemic-related restrictions carried on, quite a lot of the events lined up for attendance during the second half of the project were in fact cancelled. The consortium compensated by taking any feasible chance to participate and align to online events, ultimately counting 13 events attended out of the 17 originally planned (see D7.2, Section 2.2 for the original schedule).

- *For the time being there is no scientific publication available.*
  At the time of the review the research partners were still in the process of preparing papers related to the project for submission, and a list of 6 targeted journals and conferences had been presented (see D7.2, Section 2.3) – The research was indeed presented at some of the indicated venues (e.g., AUTEX Conference 2021), however, some of the research has been kept under wraps due to confidentiality agreements. Since then, the approved amendment has shifted the original scientific publication KPI from 3 to 1 publication only – justified by the addition of the previously unplanned patent (the final publication is to be added to REACT's website).

- *To spread the technology and enhance exploitation, it would make sense to translate all of the publications into English language.*
  The comment, believed to refer to the numerous features in Italian specialised press, has been kept into consideration whenever applicable, with any following press release on REACT's activities published exclusively in English ever since. Project partner Parà was a determining factor to reach the press, especially on the Italian ecosystem, where they're based: hence the large coverage in Italian. It should be noted that some of the publications reached through Parà have since also adopted double text for their articles (featuring English translation on the page – See ANNEX B).

1.3 Promotional materials

The REACT project supported impact creation activities through a number of dissemination channels and marketing materials. This section details the promotional materials developed during the second half of the project, which are all available for consultation and download on the REACT's website dedicated area.

1.3.1 Project Leaflet, Roll-up and Poster

In September 2021, WP7 produced an update to the overview leaflet previously published – in collaboration with the rest of the consortium – with the re-opening of in-person events following the first waves (and related restrictions) of the COVID-19 pandemic. The second version of the leaflet was first presented during the participation at Proposte Fair 2021 in Como (Italy): since then, around 200 copies have been distributed at events, and it has been made available online. The general difficulty in organization of physical event caused by the pandemic rendered creation of print material less relevant, as the consortium compensated with participation to and organization of virtual events, conducting promotion online and producing more video material than initially planned.

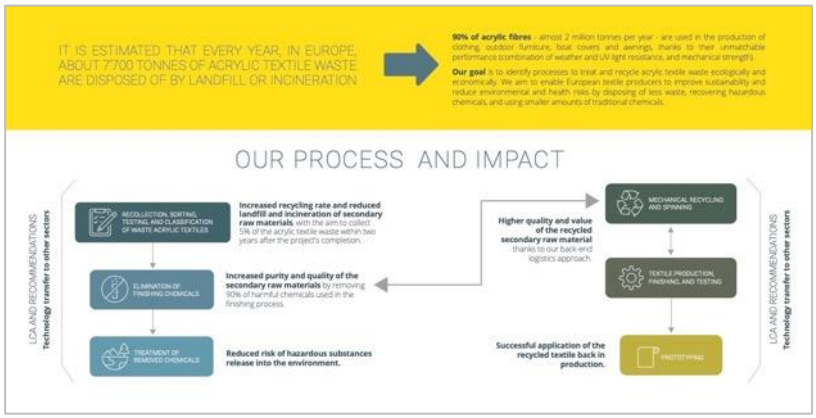

Figure 1: REACT Project Overview Leaflet update (Front and back views)

There was no update to the 2 roll-ups which have been continuously deployed at several events within the second half of the project.

Figure 2: REACT Roll-ups 1 and 2

Figure 3: REACT Poster

1.3.2 Videos

In the second reporting period REACT released 4 additional videos which have been uploaded to the REACT YouTube channel and mirrored on REACT's website. They are available to all the partners to be used at presentations and events. So far, the REACT YouTube Channel reached a total of **8 videos** and **673 views**.

- "REACT Webinar: Removing Harmful Chemicals from Textile Waste" is a recording of the second webinar organised by the project. This initiative was hosted in the context of the EU Green Week 2021 on the 4th of June 2021. The video features the presentations of the invited speakers from several circular-oriented European projects presenting new and safer approaches to the recycling of textile materials. More details about the event are provided in Section 1.5.1.

Figure 4: Screenshot from the video "REACT Webinar: Removing Harmful Chemicals from Textile Waste"

- The video “The REACT prototype at Proposte Fair 2021” shows REACT’s first prototype, an armchair featuring recycled textile obtained from acrylic textile waste through the process developed by our consortium, presented by Barbara Ferrari (Parà's Research and Development). The video was shot in September 2021 at the renowned textile fair Proposte, held in Cernobbio, Como, Italy.

Figure 5: Screenshot from the video “The REACT prototype at Proposte Fair 2021”

- The video “REACT returns to Proposte Fair with new prototypes” features an interview to REACT’s partner Barbara Ferrari (Parà's Research and Development) who explains the features and qualities of the revealed new project’s prototypes, guiding the viewer through the process' phases: from the collection and categorisation of production waste to prototype. The interview was shot in April at the 2022 edition of the world-renowned Italian furnishing textile exhibition in Villa Erba (Como, Italy).

Figure 6: Screenshot from the video “REACT returns to Proposte Fair with new prototypes”

- In the video “REACT at Salone del Mobile 2022”, Barbara Ferrari (Parà's Research and Development) reveals another prototype created using recycled acrylic textile obtained through REACT's process. The interview was shot in June 2022, on the occasion of Salone del Mobile in Milan.

Figure 7: Screenshot from the video "REACT at Salone del Mobile 2022"

1.4 Online Dissemination

1.4.1 Website

REACT's official website (https://www.react-project.net/) was set up at the beginning of the project (M1). The website contents have been constantly updated with the projects' news (reaching 54 total), events, publications and new promotional resources made timely available online. Until today (end of September 2022), the website has yielded **5,440 Unique visitors, who generated 12,165 Page views**. The average of page view per user is approximately 1.86 (pages). Regarding specific pages on the website, **the most popular one** (except the homepage) **is the "About the Project" page, with 1,442 views** (1,074 unique page views).

The figures below provide the details: Figure 8 (Traffic Overview), Figure 8 (Visit Duration), Figure 10 (Top Visited Pages) and Figure 11 (Visits per Country).

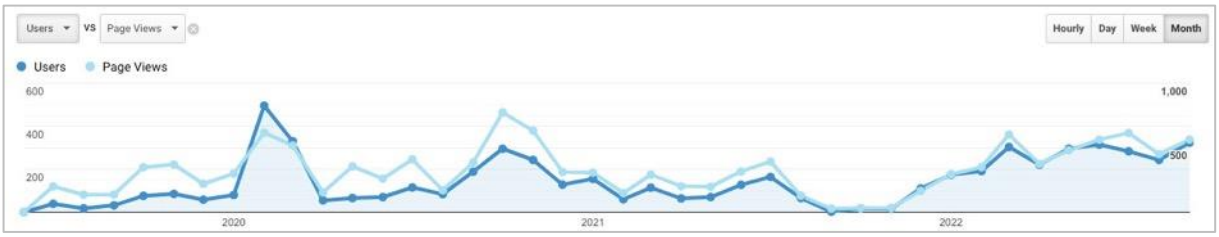

Figure 8: Website Statistics Traffic Overview

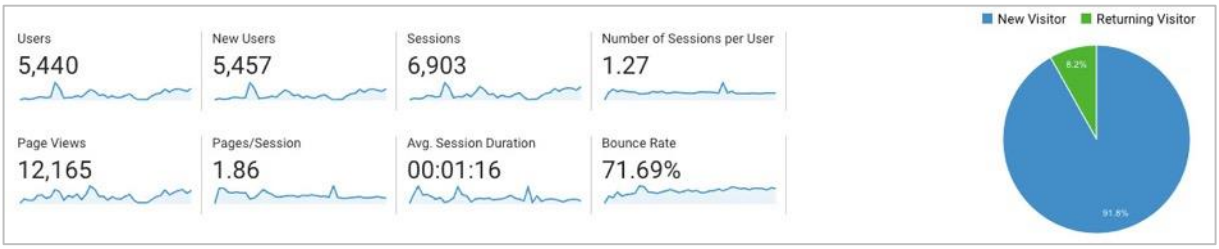

Figure 9: Website Statistics Visit Duration

Page	Page Views	Unique Page Views	Avg. Time on Page	Entrances	Bounce Rate	% Exit
1. /	2,324 (18.14%)	1,880 (17.62%)	00:01:15	1,727 (25.02%)	52.81%	47.93%
2. /about/the-project/	1,442 (11.26%)	1,074 (10.07%)	00:01:26	701 (10.16%)	55.78%	46.19%
3. /news/	867 (6.77%)	532 (4.99%)	00:00:40	162 (2.35%)	36.42%	20.42%
4. /privacy-policy/	840 (6.56%)	751 (7.04%)	00:01:45	749 (10.85%)	87.72%	87.02%
5. /2021/04/26/introduction-to-open-end-spinning-technologies/	829 (6.47%)	769 (7.21%)	00:04:46	756 (10.95%)	91.67%	89.75%
6. /about/consortium/	538 (4.20%)	449 (4.21%)	00:02:13	128 (1.85%)	64.06%	47.03%
7. /events/	387 (3.02%)	290 (2.72%)	00:00:49	50 (0.72%)	56.00%	20.16%
8. /resources/deliverables/	306 (2.39%)	271 (2.54%)	00:01:37	103 (1.49%)	82.52%	49.35%
9. /about/objectives/	280 (2.19%)	229 (2.15%)	00:01:18	33 (0.48%)	63.64%	28.57%

Figure 10: Website Statistics Top Visited pages

Country	Users	% Users
1. United States	901	16.47%
2. India	693	12.67%
3. Italy	686	12.54%
4. France	301	5.50%
5. Germany	218	3.99%
6. Belgium	199	3.64%
7. Switzerland	177	3.24%
8. Spain	145	2.65%
9. United Kingdom	138	2.52%
10. Netherlands	117	2.14%

Figure 11: Website Statistics - Top 10 on visits from different countries

1.4.2 Social Media

The social media activity has been concentrated on Twitter (@project_react) and LinkedIn (https://www.linkedin.com/company/14786120). These social media channels proved to be effective to disseminate the most relevant information about the project, reaching specific audiences.

Twitter

So far, REACT's Twitter account **has attracted 173 followers** (including project partners, similar projects, interested stakeholders, etc.) and around 480 Tweets have been posted. REACT also follows 100 accounts, mostly initiatives and organizations in similar fields or of approximate nature where partners have been involved. The figure here below shows the current homepage of the REACT Twitter account.

During the communication campaign to promote the first prototype of the project, the Twitter account reacted a total of 3.5 thousand views with an average of 1.5% engagement.

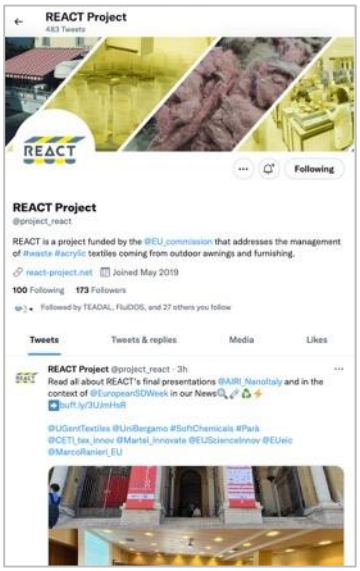

Figure 12: Screenshot of the REACT Twitter Account

LinkedIn

LinkedIn has been active since the beginning of the project and has gathered **290 followers**. It is mostly used to share the latest progress of REACT, echoing key promotional messages from the Project website and sharing relevant news from the project's partners, relevant projects and the European Commission. It has posted over 150 discussions.

Figure 13: Screenshot of the REACT LinkedIn Account

1.4.3 Newsletter

In the second half of the project, **5 Newsletters** have been edited and distributed to stakeholders through REACT's mailing lists as well as made available on the project website. So far, **118 stakeholders have subscribed** to receive REACT's Newsletters. In terms of further analysis on the efficiency of the communication:

- The 5th newsletter (February 2021) was sent to 97 subscribers / 47% opens / 18% clicks
- The 6th newsletter (June 2021) was sent to 100 subscribers / 50% opens / 22% clicks
- The 7th newsletter (October 2021) was sent out to 116 subscribers / 46% opens / 17% clicks
- The 8th newsletter (March 2022) was sent out to 115 subscribers / 44% opens / 11% clicks
- The 9th newsletter (June 2022) was sent out to 117 subscribers / 38% opens / 13% clicks

1) Newsletter 5 (February 2021)

The 5th newsletter of REACT, published in February 2021, headlined REACT's feature on renowned news outlet Euronews' programme Business Planet; the newsletter also offered a collection of articles on the EU circular economy landscape (EU strategy for sustainable textiles and introduction of the

ELIIT project), and highlighted REACT's presence on specialised publications/outlets such as Unitex Journal and Sustainability-lab.

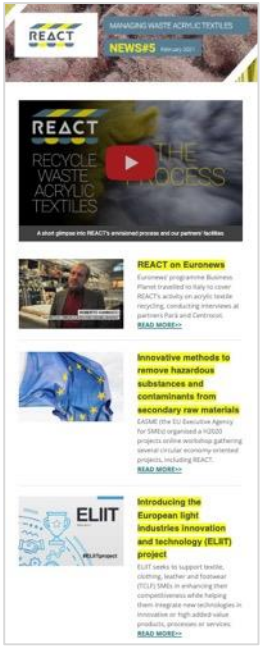

Figure 14: Screenshot of REACT's 5th Newsletter

2) Newsletter 6 (June 2021)

The 6th newsletter of REACT, published in June 2021, gathered a series of articles that provided insights on REACT's innovation process, especially a brief overview of the ring spinning process, the chemometrics tool and the open-end spinning process introduced by the partners. The newsletter also included recordings, presentations and highlights of the fourth episode of Veltha's LOOPS webinars featuring REACT and the webinar "Removing Harmful Chemicals from Textile Waste" organised by the consortium within the 2021 EU Green Week.

Figure 15: Screenshot of REACT's 6th Newsletter

3) Newsletter 7 (October 2021)

The 7th newsletter, published in October 2021, headlined REACT's first textile prototype presented at Proposte Fair 2021 in September. The newsletter also provided the latest updates on the REACT innovation process such as the fine-tuning of water waste management system and the application of the designed chemical reactions at industrial level. The participation to partner events and upcoming conferences was also promoted.

Figure 16: Screenshot of REACT's 7th Newsletter

4) Newsletter 8 (March 2022)

The 8th newsletter, published in March 2022, promoted the upcoming participation of REACT to major events such as Dornbirn Global Fiber Congress (14-16 September, Austria) and the launch of key European initiatives such as the 2022 EU Green Week and the EU Chemicals Strategy for Sustainability.

Figure 17: Screenshot of REACT's 8th Newsletter

5) Newsletter 9 (June 2022)

The 9th newsletter, published in June 2022, featured the return of REACT to Proposte Fair with new prototypes. The newsletter also included the participation of project partners to future events such as Techtextil in Frankfurt (DE) and Salone del Mobile in Milan (IT) in June.

Figure 18: Screenshot of REACT's 9th Newsletter

1.5 Events

1.5.1 REACT Workshops

During the second half of the project REACT organized its **Intermediary Workshop** – MS10 planned for M24 and slightly postponed to M25 (June 2021) to be featured in the context of the EU Green Week initiative - which was conducted as an online Webinar entitled **"Removing Harmful Chemicals from Textile Waste"**, considering the obvious COVID-19-related challenges.

The webinar, which took place on the 4th of June 2021, has been promoted through REACT's social media and several relevant LinkedIn groups. The topic addressed circularity challenges in the textile sector, focusing on innovative methods to recycle textile materials.

The introduction and moderation of the event was managed by REACT Project Coordinator Roberto Vannucci (CENTROCOT). Several contributions populated the programme, with presentations on making polyester circular (Alessandro Sanzone, DEMETO project) and increasing closed loop post-consumer textile recycling (Jens Oelerich, Saxion University of Applied Sciences). Valentina Trovato (University of Bergamo) concluded the work presenting REACT's removing process from post-consumer outdoor textile.

The online event counted around 40 participants prevalently coming from industry and the textile research field. The recording and featured presentations were subsequently made available on REACT's website.

Figure 19: The panelists for REACT's Workshop/Webinar "Removing Harmful Chemicals from Textile Waste"

Moreover, in the following month the project consortium contributed to the organisation of a joint workshop with a series of Horizon 2020 projects focusing on plastics recycling (NONTOX, PLAST2bCLEANED, CREAToR, CIRCULAR FLOORING**): "Recycling of plastics. Towards a more sustainable plastic treatment in 2030"**, a virtual event, taking place on the 1st of July 2021, during which REACT Project Coordinator Roberto Vannucci (CENTROCOT) presented the project's activities and recent developments.

REACT's planned **Final Workshop** (MS11 – originally planned at M36 and moved to M40 with the amendment) was re-framed as **a threefold diffused event**, upon mutual decision within the consortium: this consisted in a series of participations to renowned international sector events – all within September 2022, the last month of the project's run – with the aim of leveraging on the inherent reach and promotion of such events (and the return to an in-presence formula) to maximise the dissemination (and impact) of the of the project's final results. Here below, a brief description of the three events is offered, including details on attendance and contents conveyed.

Dornbirn GFC (Global Fiber Congress) | https://www.dornbirn-gfc.com/en/

On 16 September 2022, CENTROCOT's Multisectoral and Innovation Researcher Daniele Piga held a spot in the presentation sessions of the renowned Austrian-based congress, which features every year international guests from the textile industry and the related research fields, alongside an extensive exhibition floor. Mr. Piga's presentation, entitled "REACT, a tool for impurities problems in outdoor sector recycling", showcased the project's result to an audience of about 50 participants, offering a comprehensive overview on REACT's achievements (more details on the event can be found in Section 3.2).

Figure 20: The Dornbirn GFC stage ready for REACT's presentation

NanoInnovation 2022 | https://www.nanoinnovation2022.eu/home/

On 22 September 2022, REACT then took the stage of this year's edition of NanoInnovation – an event based in Rome, aimed at researchers, institutions, investors and companies, as well as economic operators, government institutions, and media – which was created with the purpose to become the reference national event for the wide and multidisciplinary community involved in the study and development of micro and nanotechnologies and in their integration with other enabling technologies (KETs) in all application fields.

Valentina Trovato, from REACT's collaborator University of Bergamo, represented the project during the "New products or manufacturing process development" hybrid session – which had an overall audience of 20 people in attendance – and in which she presented the activities carried out by the project, within the specific topic of chemical finishing removal from acrylic fibers - the presentation slides are available on REACT's website.

Figure 21: The entrance to the Civil and Industrial Engineering Faculty, Sapienza University, Rome – the venue hosting NanoInnovation 2022

"The Circular Economy in the Textile Clothing Fashion sector. Actions and opportunities" Conference | Link to the event page on REACT's website

This closing event in the series took place on 23 September 2022 – with an audience of over 80 participants - hosted at CENTROCOT's Multi-Lab facility located in the MalpensaFiere complex (Busto Arsizio, Italy), which also acted as co-organiser alongside the Varese province industry sector's union (UNIVA). Although held in Italian – as the presented initiatives (RE4TES – REGIONAL RECYLING PROCESS FOR TEXTILE, Retex.green, ZDHC, ITS COSMO, beside REACT) connect with local actors – the event was designed to align with the European Sustainable Development Week 2022 with the aim of offering a showcase for significant endeavours on the topic of Circular Economy in the European textile sector, offering an in-depth look on the results and opportunities generated by such research, support and connected training actions. Co-organisation duties aside, REACT partners were a central part of the presentation block of the event, with project partners Barbara Ferrari (Parà Research & Development) and Andrea Cataldi (Soft Chemicals Srl) conveying the project's results from the industry perspective, followed by an overview on the environmental impact of the prototypes created, provided by CENTROCOT's Michela Secchi.

Figure 22: Speakers and audience for the "The Circular Economy in the Textile Clothing Fashion sector. Actions and opportunities" Conference

By employing such layout as final event, REACT managed to tell the project's whole story by encompassing and representing the standpoint of the diverse actors involved, with a wider attendance reach than a standalone event (meeting the envisioned objectives) and covering more European territories through networking-oriented in-person events.

1.5.2 Events Attended

REACT's partners have attended or participated to a total of **12 events in the second half of the project**, giving keynote presentations, promoting the projects achievements. Table 1 below summarises the events attended. These events' participation has been reported in the News and Events sections of the project's website and promoted through the social media channels.

Key events, in terms of synergies with similar projects and connection to the European circular economy ecosystem at large, was the participation to the EASME-organised webinar "Innovative methods to remove hazardous substances and contaminants from secondary raw materials for the circular economy" in January 2021 (counting over 160 participants), as well as the aforementioned "Recycling of plastics. Towards a more sustainable plastic treatment in 2030" joint workshop.

Event Name	Date, Location	Target Group	Estimated N. of Attendees	Dissemination Activity	Partner Attending
Salone del Mobile	7-12 September 2022, Milano (IT)	Industry	370.000	Booth, prototype showcase	Parà
Techtextil	23 June 2022, Frankfurt (D)	Industry, Researchers	60	Keynote presentation	Centrocot
The Fiber Society 2022 Spring Conference	June 1, 2022, Leuven (BE)	Researchers, Industry	>50	Paper presentation	Ghent University
EU Green Week 2022	31 May-5 June 2022, online	Researchers, Industry, Policy Makers	30	Panel presentation	Martel
Proposte Fair 2022	26-28 April 2022, Cernobbio (IT)	Industry	2.700	Booth, prototype showcase	Parà
A+A 2021	26-29 October 2021, Düsseldorf (D)	Industry	25,000	Booths	CETI, Centrocot
NanoInnovation Workshop	September 23, 2021, Rome (IT) & online	Researchers, Industry	>3,800	Paper presentation	Ghent University
Proposte Fair 2021	7-9 September 2021, Cernobbio (IT)	Industry	2.700	Booth, prototype showcase	Parà, Martel
Autex 2021 Conference	5-9 September 2021, online	Researchers, Industry, Policy Makers	>100	Paper presentation	Ghent University
"Recycling of plastics. Towards a more sustainable plastic treatment in 2030" webinar	1 July 2021, online	Researchers, Policy Makers	124	Webinar, panel presentation	Centrocot
"Innovative methods to remove hazardous substances and contaminants	29 January 2021, online	Researchers, Policy Makers	> 160	Workshop, presentation	Centrocot

from secondary raw materials for the circular economy" EASME workshop					
LOOPS, Veltha webinar series	15 April 2021, online	Industry, Researchers	150	Webinar, presentation	Centrocot

Table 1: Events attended by REACT in the second half of the project

1.6 Journals and Conference Publications

The project's original target of 3 scientific publications was shifted to 1 through the amendment (as the consortium decided to direct its effort to the patent instead, adding a new objective and achievement to what planned). The details of the single publication can be found here below – Please note that the information in the table refers to a first version of such publication, which is now back to editing and review phases and will be released at the end of the patenting process, due to its tight connection with the patent itself. The abstract of this first version is available in the dedicated section of REACT's website.

Publication title/topic	Submitted to	Leading Partner
"Removal of hazardous finishes to enable mechanical recycling of waste acrylic fabrics"	AUTEX 2021	Ghent University, University of Bergamo

Table 2: REACT publications in the second half of the project

1.7 REACT in the Press

REACT distributed **1 additional press releases** in the second half of the project, promoting the Intermediary Workshop (available in Annex A of the current document). Through the involvement of the partners, **REACT received coverage on 15 publications,** including a feature on the EU-funded projects-specialised magazine EU Researcher and the broad local coverage for the "The Circular Economy in the Textile Clothing Fashion sector. Actions and opportunities" event; the following table lists such outlets.

Publication	Newspaper / Magazine	Publication URL	Leading Partner
Settimana dello Sviluppo Sostenibile: tre appuntamenti con la Camera di Commercio di Varese	Varesenoi.it (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/022-09-27-15_39_58.pdf	Centrocot
Settimana dello Sviluppo Sostenibile: tre appuntamenti con la	L'Inform@zione Online (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/ca	Centrocot

Camera di Commercio di Varese		mera-di-commercio-di-varese-html-2022.pdf	
Camera di Commercio di Varese punta sulla sostenibilità anche nella moda	Malpensa24 (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/screencapture-malpensa24-it-camera-di-commercio-di-varese-punta-sulla-sostenibilita-anche-nella-moda-2022-09-27-15_37_02.pdf	Centrocot
Il futuro è investire sia in tecnologie innovative, sia in competenze sostenibili	L'Inform@zione Online (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/2022-09-27-15_39_11.pdf	Centrocot
Il futuro è investire sia in tecnologie innovative, sia in competenze sostenibili	Varesenoi.it (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/varesenoi-it-2022-09-24-leggi-notizia-argomenti-economia-13-articolo-il-futuro-e-investire-sia-in-tecnologie-innovative-sia-in-competenze-sostenibili-html-2022-09-27-15_37_57_pdf.pdf	Centrocot
Settimana Europea per lo Sviluppo Sostenibile: il contributo del Tessile-Abbigliamento-Moda	Varese News.it (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/screencapture-varesenews-it-2022-09-settimana-europea-lo-sviluppo-sostenibile-contributo-del-tessile-abbigliamento-moda-1501524-2022-09-27-15_38_30.pdf	Centrocot
Settimana Sviluppo Sostenibile: tessile, enti locali e alimentazione	Varese News.it (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/09/screencapture-varesenews-it-2022-09-settimana-sviluppo-sostenibile-tessile-enti-locali-alimentazione-1500766-2022-09-27-15_41_12.pdf	Centrocot
Fabrics for the circular economy	EU Research (UK)	https://issuu.com/euresearcher/docs/react_eur31_h_res	Centrocot, Martel
Speciale tende da sole e innovazione	Corriere della Sera (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/05/speciale-tende-e-innovazione-	Parà

		resized_Corriere_della_Sera_March_2022.pdf	
Style and functionality: that's what innovation is all about	Casa Stile (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2022/01/Articolo-Para%CC%80_CASA_STILEJan-2022.pdf	Parà
Textiles and The Circular Economy	Quaderno Tessile (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2021/12/Quaderno-Tessile_REACT_December_2021.pdf	Parà
Parà & REACT	Outdoor (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2021/02/pp-38_Outdoor-5_Feb_2020.pdf	
Parà: qualità e stile garantiti da tre generazioni –	Casa Stile (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2021/02/Casa-Stile-Dicembre-Gennaio-Articolo-Para.pdf	Parà
Il progetto REACT: un'iniziativa che vede Parà protagonista	TESS – Tende e Schermature Solari (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2021/01/Pagine-Para%CC%80-di-TESS_FINALE_n4_december_2020.pdf	Parà
Progetto REACT: percorsi di sostenibilità	Quaderno Tessile (IT)	https://www.react-project.net/wp-content/uploads/sites/41/2020/12/Quaderno-Tessile-REACT_december-2020.pdf	Parà

Table 3: REACT in the Press in the second half of the project

Please see Annex B for a press clipping selection – The entire press clipping archive is available in the "Press Clipping" section of REACT's website.

2 PLAN OF ACTIVITIES AFTER PROJECT'S END

The REACT project's communication and dissemination activities will not stop at M40. In fact, as mentioned before, REACT partners will:

- The **REACT web domain https://www.react-project.net/ will remain active for two years** after the project end so that REACT results can be available to other research initiatives and or industry, SMEs, etc. so that parties interested in the technology can benefit from the results achieved. Martel will be available to update the website when needed and keep the social media channels active accordingly.
- Being still active after the project's end, REACT's online outlets remain the prime jump-off point to inform stakeholders on the developments concerning the patent (more details in the following Section) and the connected scientific publication.

3 EXPLOITATION

3.1 Exploitation activities (Overall approach)

REACT aims to improve and maximise access to and re-use of scientific data generated by the project.

Open access to the scientific information of the project can bring benefits in terms of:

- acceleration of the research and discovery process, leading to increased returns on R&D investment;
- avoidance of the duplication of research efforts, leading to savings in R&D expenditure;
- enhanced opportunities for multi-disciplinary research, as well as inter-institutional and inter-sectorial collaborations;
- broader and faster opportunities for the adoption and commercialization of research findings, generating increased returns on public investment in R&D and the potential for the emergence of new industries based on scientific information;
- open access can also increase openness and transparency, thereby contributing to better policy-making, and ultimately benefit society and citizens.

The work on outreach follows the overall communication strategy as worked out in *D7.1 - "Dissemination and Exploitation strategy and Plan"*, in which the communication and dissemination efforts have been divided into two different phases. The first phase reported the activities carried out in the period (M1-M18) in the deliverable *D7.2 – "Intermediary report on dissemination and exploitation of results"*, while the communication and final dissemination activities highlight the technical maturity of the solutions obtained from the project are reported in the deliverable *D7.5 – "Roadmap for exploitation after REACT"*.

In this context, this deliverable reports the operational activities carried out in the final period (M19-M40) which led to the definition of exploitation strategies.

3.2 Exploitation Achievements

The work carried out in this project action was set to make the project public and visible. The purpose of the communication/dissemination and exploitation actions was to create an interest among the subjects that treat and manage textile waste, with specific focus on acrylic textiles from awnings and outdoor furniture. A key element is the analysis and removal of finishing substances (fluorocarbons, melamine and acrylic resins, anti-mold agents) that affect the purity of the secondary raw material and their management.

In this framework, the project objectives were achieved by following three main "*Lines of Action*:"

- Network between Projects and PCM Initiative
- Scientific conference
- Patent

In regards to the analysis and removal of finishing substances in order to obtain second-life fibers and fabrics, the three Lines of Action had as their main objective the management of waste acrylic fabrics from awnings and furniture to define and support a Roadmap for the exploitation of project results and policy recommendations.

Network between projects and PCM (Plastics Circularity Multiplier) Initiative

Purpose of the exploitation activity: to create points of connection between researchers and policy - makers involved at international level in European projects to carry out moments of exchange and favor strategic choices also through the implementation of new multidisciplinary scientific-methodological approaches.

The activities had the objective of building a stable network (at national and European level) of stakeholders to consolidate the exploitation activities.

Therefore, the identified stakeholders will be able to collaborate and interact with the purchasing activities, planned by the project, to take advantage of the results of the REACT.

The "non-technological" obstacles highlighted during the life of the project have been taken into consideration, because they could prevent the results of the research activity from being used after the end of the European funding and, possibly, the chance to reach the market for new products and services. These obstacles have been overcome thanks to the creation of networks to support the project such as:

- Plastic Circularity Multiplier initiative
- Call for Innovation of processes and organization of production and service chains and industrial productive and economic ecosystems in Lombardy, Italy (Bando Innovazione dei processi e dell'organizzazione delle filiere produttive e di servizi e degli ecosistemi industriali produttivi ed economici in Lombardia)
-

Plastics Circularity Multiplier Initiative

To broaden the scope of REACT's efforts, the consortium is pursuing and ensuring close coordination with other ongoing Horizon 2020 projects, such as: DEMETO project and Plastics Circularity Multiplier Initiative (the initiative seeks to improve value chain collaboration and create cross cooperation between EU Projects) and other initiatives in closely related programs, such as the SPIRE, LIFE and COST initiatives.

During the development phases of the REACT project, the results obtained were examined and compared - at European level - with four other projects (NONTOX, Circular Flooring, CREATOR, PLAST2bCLEANED) which focused on recycling and eco-design from a Circular Economy perspective.

The five European projects (including REACT) have joined forces to increase the benefits of implementing the circularity principles through research and innovation and to start building efficient recycling models aimed at closing the loop and going to reuse raw materials.

In this context, the REACT Final Policy report, supported by the Horizon Results Booster, is an opportunity to show how REACT (together with the other projects) is making important contributions to the priority policies of the European Community in terms of reducing the environmental footprint of products related to plastics and other waste products, thus increasing the use of more sustainable materials.

Figure 23: Synergies of circular economy-focused EU-funded projects

Call for Innovation of processes and organization of production and service chains and industrial productive and economic ecosystems in Lombardy

The Italian partners have their operational headquarters in the Lombardy region and, following the end of the project, a participation is under consideration for a tender aimed at establishing an (Italian) production chain to support and strengthen the interconnections between companies in support of process innovation and of the organization, also through digitization interventions, in favor of sustainability and for the updating and requalification of the workforce.

This activity will lead to a supply chain capable of collecting/storing, treating and recycling textile materials in order to give new life to awnings.

Scientific conference

Purpose of the exploitation activity: create connection points with different researchers and the university world to consolidate the results of the REACT project and discuss possible new developments.

As mentioned in Section 1.5.1, the REACT Project took the stage of the renowned Global Fiber Congress in Dornbirn, Austria.

Dornbirn GFC, an international event gathering over 500 visitors in its 2021 online edition – and international brands such as Microsoft, Continental, Nike and Adidas – returned as an in-person event in September 2022, at the Kulturhaus in Dornbirn, Austria. The event featured an exhibition area with 25 booths in combination with an online format featuring 96 presentations.

REACT participated to the event's program with the aforementioned presentation on the project's work, entitled "REACT, a tool for impurities problems in outdoor sector recycling".

Patent

Purpose of the exploitation activity: create connection points between project partners, researchers, companies to strengthen the European scientific and technological base, promote social well-being and obtain a more effective exploitation of the economic and industrial potential of innovation, research and technological development policies.

With the patenting activity, the partnership has:

- decided to protect the invention and give the partnership the right to exploit it, on an exclusive basis, for a specified period;
- promote and enhance interaction with industry, in terms of contacts, synergistic interaction, development;
- lay the foundations for the production of additional income, deriving from the activity of technology transfer of patented process in other applications/fibre sectors.

Through the patent, REACT can contribute to develop, in acrylic fiber industry, new methodologies to fulfill the consumption step (reduction of raw material), collection (high reduction of waste disposal), recycling (new acrylic fiber from waste very similar to virgin one), remanufacturing (new goods in the same sector or other sectors) and residual waste management (wastewater treatment). In this context, the project applies a circular and regenerative model through the reduction and/or enhancement of processing waste: a waste management that uses the levers of reuse and recycling and the implementation of production processes that require a limited use of virgin materials.

At the end of the exploitation activities, included in WP7 - Task 7.2, it is emphasized that the three lines of action have contributed to defining the policy brief and the Roadmap with the aim of maximizing the replicability effects of the results of the research activity.

4 ASSESSMENT OF RESULTS AT PROJECT'S END

4.1 KPIs, Deliverables and Milestones

The consortium has kept a close eye on the KPIs set at the beginning of the project, to monitor the Dissemination & Communication Results. The tables below offer details on the results achieved on planned KPI's Deliverables and Milestones.

KPI	Measure	Performance Indicator	Target	Means of verification	At M18
KPI 7.1	Numbers relevant contacts reached among the primary target: industry, researchers and secondary target: policy makers and general public	Total Reach of dissemination & communication activities (online & offline)	7,000	Website analytic Social media reach Events participation and organization Publications audience	± 300,000
KPI 7.2	Number of publications in scientific and industrial magazines	No. of peer-reviewed publications in journals, conferences workshop	≥ 3	Articles and papers presented and published in high quality venues	1 (WIP: full release will follow the patenting process)
		No. of publications on vertical industry magazines	≥ 3	Articles and papers presented and published in high quality venues	40
KPI 7.3	Number of events organized and attended	No. of events (trade fairs / conferences / exhibitions) attended	2 x year	Liaise with relevant stakeholders, present REACT results	19
		No. of workshops organized	3 by the project end with >50 participants	Inviting community stakeholders for events related to the project	3

KPI 7.4	Flyers Posters/Roll-ups	No. of flyers (by the end of the project)	≥ 5	Distribution via participation to and organisation of dedicated events and electronic distribution	2
		No. of posters (by the end of the project)	≥ 5		1 Poster + 2 Roll-ups
KPI 7.5	Project website	No. of unique visitors to the website (per year)	≥ 2500	News, Publications, Videos, Newsletters, Deliverables	Online since June 2019, ± 5,440 visitors altogether 54 News published in total
KPI 7.6	Social media	No. of followers Twitter (new per year)	≥ 100	Keeping REACT profiles on such networks active via regular posting and monitoring	173 Twitter followers
		No. of followers YouTube (new per year)	≥ 80		290 LinkedIn followers + YouTube channel total views so far: 673
KPI 7.7	e-Newsletter (published every 4 months)	No. of subscribers (by the project end)	≥ 200	Recording of subscribers to the electronic newsletter	118 Subscribers
KPI 7.8	Press releases	No. of press releases	≥ 3 by the end of the project	Recording of Press Releases published	4 (issued by Parà and Martel)
KPI 7.9	Videos	No. of videos published on the REACT YouTube channel-average number of views	2 videos x year 80 views per video at least	Introduction, informative and educational videos to support awareness creation	8 videos 673 views in total

Table 4 : REACT Dissemination and Communication KPIs

Deliverables and Milestones	Title	Due Date	Achievements
D7.1	Dissemination and exploitation strategy and plan	M3	Submitted in September 2019
D7.2	Intermediary report on dissemination and exploitation of results	M18	Submitted in December 2020
D7.3	Mid-Term policy report	M18	Submitted in February 2021
D7.5	Final report on dissemination and exploitation of results	M40	Current document
D7.5	Roadmap for exploitation after REACT	M40	Scheduled for September 2022
D7.6	Final policy report	M40	Scheduled for September 2022
MS8	Project website and social media accounts online	M2	Done by M1
MS9	Engagement Workshop	M12	Initially planned for M12 - Achieved in M17 (October 2020) due to COVID-19 restrictions
MS10	Intermediary Workshop	M24	Initially planned for M24 – Achieved in M25 (June 2021) due to COVID-19 restrictions and for EU Green Week co-location
MS11	Final Workshop	M40	Achieved in September 2022

Table 5 : REACT Deliverable and Milestones

5 CONCLUSIONS AND LESSONS LEARNED

This document describes the communication, dissemination and exploitation activities conducted in the last reporting period by the whole consortium in order to guarantee a broad visibility and maximise the uptake of REACT's work in a long-term view beyond its conclusion, benefiting targeted stakeholders and the public at large.

The level of engagement across the project communication channels shows that in this reporting period REACT has consolidated a broad and receptive audience. This was made possible thanks to a savvy use of diversified communication platforms, targeted messages and content. Leveraging - among the many - multimedia content, participation to major events and coverage on European and national press, REACT ensured the widespread of project's results to the wide public, policy makers, industry and academic community. The cooperation with similar projects and relevant initiatives (especially within the Plastics Circularity Multiplier group) in the organization of events, conferences and workshops also proved to be a successful mean of outreach and dissemination.

Approaching the conclusion of the project, the consortium is satisfied with the performance of the communication and dissemination KPIs, despite a challenging situation caused by various pandemic-related restrictions. The activities performed within WP7 have led to a solid base for the sustainability of the project, capitalizing on the lessons learned and best practices.

ANNEX A – REACT PRESS RELEASE

REACT project, funded under the Horizon 2020 programme, will host its 2nd online **webinar "Removing Harmful Chemicals from Textile Waste"** on **June 4, 2021** (10am – 12pm).

The initiative is organized as a partner event of the **European Green Week 2021.**

Recycling is a common word used more and more but is still not tackled appropriately in the EU, while landfill and incineration rates remain high. One of the major problems is to have secondary raw material that is as much as possible "equal" to the virgin one, because of contamination, treatments and deterioration that lower the product performance. REACT aims to develop a method that removes undesirable substances (fluorocarbons, melamine and acrylic resins, anti-mold agents) from waste of acrylic fabrics through an environment-friendly process, enhance their recycling, improve sustainability and reduce environmental and health risks.

This webinar will gather speakers from the research and industry sectors to cover 3 main topics:

- Presentation of the preliminary results of the activity carried out by the REACT project.
- Presentation of certifications for recycled textile products.
- New engagement approach with circular economy-oriented projects to develop a new textile material with carbon dioxide reductions.

The participation to the webinar is open and free. We invite you to register to this link: https://www.react-project.net/event/react-online-webinar-removing-harmful-chemicals-from-textile-waste/?instance_id=44

More information about REACT: https://www.react-project.net/

A quick look inside REACT's process:
https://www.youtube.com/watch?v=LT1PKnKynmE

Note to editors

REACT project, funded under the Horizon 2020 programme, addresses the management of waste acrylic textiles coming from outdoor awnings and furnishing. The final goal is to perform a new process for hazardous chemicals removal from finished acrylic textiles, with innovative investigation and processing techniques and to obtain a fully compatible recycled acrylic textile for reuse.

The consortium is made up of 7 partners from 4 different European countries and Switzerland, including:

REACT project funded by the EU's Horizon2020 programme under agreement n° 820869

- 3 research centers: Centrocot (Italy), Ghent University (Belgium), European Centre for Innovative Textiles - CETI (France)
- 3 companies from the industrial sector: Parà/Tempotest (Italy), Soft Chemicals (Italy), Ják Spinning (Hungary)
- 1 SME: Martel Innovate (Switzerland)

Social media card

REACT project funded by the EU's Horizon2020 programme under agreement n° 820869

Press release for REACT's Intermediary Workshop/Webinar (June 2021)

ANNEX B – SELECTION OF PRESS CLIPPING

Fabrics for the circular economy

It is difficult to remove the chemicals and finishing substances commonly used to enhance sun protection in awnings and outdoor furnishings, which represents a major hurdle in terms of recycling acrylic waste from these products. Researchers in the REACT project are developing a chemical treatment process to enable the re-use of acrylic textile waste, as **Daniele Piga** explains.

A lot of attention in research is focused on developing methods to recover and re-use resources, as European industry seeks to move towards a more sustainable model. With awnings and outdoor furnishings, one major challenge is in removing the chemicals and finishing substances from acrylic textiles that were previously added. "A coating may have been added within the fabric to improve its weather resistance performance. This kind of impurity can be difficult to remove," explains Daniele Piga, a researcher at Centrocot in Italy, a partner in the REACT project. A consortium bringing together seven partners from five countries, the project aims to develop a system of chemical treatments that will enable the re-use of these resources. "The project is focused on a call for the recovery and reuse of secondary raw materials. We are developing a system to remove these finishing substances in order to remove the impurity and get at the secondary raw material," outlines Piga.

REACT prototype

Chemical treatment

The project's agenda encompasses research into various different stages of the recycling process, from the classification of waste textiles through to the production of textiles and their eventual use in new products. Based himself at Centrocot, a textile research and testing centre, Piga's focus is on helping to develop the chemical treatment system. "We are investigating a different kind of process, involving two consecutive stages of treatment in water. The first stage involves a wetting agent and a sequestering agent, and in the second detergent is used," he says. The aim is to remove 90 percent of chemicals added in the finishing process through this system, opening up the possibility of re-using these resources in textile production. "There is a lot of potential in this respect, because the removal rate is very high. The fibre is relatively undamaged and the recycled fibre is still very strong," continues Piga.

An entirely recycled fibre does not yet have the mechanical performance characteristics required for fabrics used in awnings and outdoor furnishings, so researchers have reduced the quantity of recycled material and added virgin acrylic. This still represents a significant step towards a circular economy however, where resources are not simply disposed of but rather applied again in production, so reducing waste. "The aim is to re-spin these waste materials and use them to produce new fabric," outlines Piga. A significant degree of progress has been made in this respect, with researchers having already made a chair out of recycled fabric, and a lot of work is going into prototyping as the project nears its conclusion. "The Technology Readiness Level (TRL) of the project's work is already very high," says Piga.

The treatment process could also potentially be applied on a wider range of fibres, a possibility that Piga and his colleagues in the project are keen to explore. The idea would be to use the same treatment on other fabrics, widening the impact of the project's research. "It's possible to apply this treatment more widely For example, we are looking into using the treatment process on polyester, which is a different kind of fibre," explains Piga. With less than 1 percent of all textile waste currently recycled, this research could have a significant impact in terms of reducing waste, which is a major motivating factor behind the project's work. "We have developed different prototypes of fabric for different applications," says Piga.

The project is focused on a call for secondary raw materials. We are developing a system to remove this finishing substance in order to remove the impurity and get at the secondary raw material.

REACT
MANAGING THE WASTE ACRYLIC TEXTILES

@ 2019-2022 REACT
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Daniele Piga is a researcher in the multi-sectoral R&I department at Centrocot.He holds aPhD in Chemical, Geological and Environmental Sciences, and has extensive experience in the plastics sector.

Roberto Vannucci is REACT's Project Coordinator and Projects Department Manager at Centrocot. He is responsible for R & D projects and providing services for the development and support of companies.

REACT in EU Rresearcher(June 2021)

Corriere della Sera **Mercoledì 30 Marzo 2022**

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Speciale **Tende da sole e innovazione**

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La prima collezione ecosostenibile per la protezione solare

SI TRATTA DI UNA RIVOLUZIONARIA LINEA DI TESSUTI IN PET RICICLATO PREMIATA ALL'R+T DI STOCCARDA

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LA COLLEZIONE

Tempotest® Starlight blue è, infatti, la prima collezione di tessuti in PET riciclato e certificata GRS (Global Recycled Standard) per un minore impatto ambientale in termini di risparmio di acqua, energia e CO2. Si tratta di una collezione composta da 16 tessuti per tende da sole dal design moderno e dalla qualità unica, realizzati attraverso un processo sostenibile che permette un risparmio energetico del 60%, il 45% di emissioni in meno di CO2 e una riduzione del consumo d'acqua del 90%.

La linea è stata perfezionata per essere presentata sul mercato durante la fiera R+T 2021, il più importante palcoscenico internazionale per il settore dei tessuti tecnici.

A causa degli slittamenti fieristici dovuti alla pandemia, la linea è stata introdotta al mercato durante la R+T Digital. In questa occasione ha vinto l'ambito premio "Sostenibilità sia per il materiale utilizzato ma anche per le tecniche di tessitura che coniugano altissime performance alla sostenibilità unica del prodotto. Il riconoscimento è stato presentato il 22 febbraio 2021, a seguito delle valutazioni finali e della cerimonia ufficiale di consegna. Hanno partecipato al premio 38 aziende appartenenti a 10 Paesi. I prodotti nominati sono stati valutati da una giuria di figure autorevoli del settore. Il riconoscimento premia i futuri obiettivi produttivi di Parà -Tempotest®. La rivoluzione è già iniziata con questo innovativo prodotto che inaugura l'era dei tessuti sostenibili nel mondo delle tende da sole, in cui funzionalità ed estetica abbracciano l'imperativo ambientale e uno dei mantra che guida la transizione ecologica: "Non abbiamo un pianeta B". Tempotest® Starlight blue, in questo senso, è solo la prima della serie di collezioni sostenibili che saranno targate Parà, sposando le direttrici di sviluppo contenute nel progetto aziendale "Fabrics for Future", partito più di due anni fa.

Impatti ridotti
Risparmio energetico ma anche riduzione di emissioni e meno sprechi di acqua

Ecosostenibilità Riciclando 328 bottiglie di plastica si realizzano 21 mq di tessuto

2021
La linea è stata premiata All'R+T 2021 di Stoccarda

IL RICICLO

Come funziona la produzione tessile? A livello di quantitativi basti pensare che da 328 bottiglie di plastica (ad esempio 112 da 1,5 lt e 216 da 0,5 lt) si ottengono 21 metri quadrati di tessuto. Da un filo in PET riciclato e certificato GRS nasce quindi un tessuto che si caratterizza per il recupero elastico e per la migliore resistenza alle trazioni e alle sollecitazioni che lo rendono particolarmente adatto a strutture di grandi dimensioni. La protezione dai raggi UV è garantita dal fattore di protezione UPF 50+. In questo modo, il ciclo di vita del prodotto ha una durata molto più lunga. Non finisce qui perché lo step finale del finissaggio (Teflon™ Extreme by Parà), rende i tessuti idro e olio repellenti, impu-trescibili e anti macchia.

45%
Le emissioni di CO2 risparmiate sono pari al 45%

60%
Il risparmio energetico è pari al 60%

IL PROCESSO

Rivoluzionario nella metodologia di lavoro come nel risultato, il processo per la produzione di tessuto in PET riciclato è unico nel suo genere. La prima fase è quella della raccolta delle semplici bottiglie in PET che vengono inviate ai siti di recupero dove vengono pressate in balle compatte, riducendo, parallelamente, il volume delle bottiglie stesse e le emissioni di anidride carbonica legate al trasporto. In un secondo momento, le bottiglie vengono smistate e sottoposte a un accurato processo di lavaggio. La plastica viene quindi fusa e poi tagliata in chips tramite apposite taglierine, quindi tinta in maniera uniforme.

Il polimero fuso viene lavorato fino ad arrivare alle singole fibre, avvolte su bobine. Da questo filato nasce Tempotest® Starlight.

La lavorazione del tessuto procede con gli altri step di trattamento fino al finissaggio che rende il prodotto protetto da macchie di acqua, olio e quindi decisamente durevole.

Il tessuto è così pronto a diventare una tenda da sole, caratterizzata da un significativo recupero elastico e da un'importante resistenza alle trazioni e alle sollecitazioni, fondamentali per le strutture di grandi dimensioni.

FORMAZIONE ONLINE

Anche nel caso dell'esperienza di acquisto a regnare è l'innovazione.

Oltre all'app Tempotest® Visualizer, Parà ha creato una piattaforma di e-learning per rivenditori e per utenti finali.

Caratteristiche dei tessuti, garanzia e assistenza: l'azienda crede che la formazione sia cruciale per migliorare i servizi offerti dai rivenditori ma anche l'esperienza del cliente finale.

TEMPOTEST®

Brand inserito nel registro dei marchi storici

Sono passati 58 anni da quando il colosso chimico Montecatini cedette a Parà il marchio Tempotest®. Di recente, l'azienda ha avuto la soddisfazione di ricevere dall'Ufficio Italiano Brevetti e Marchi, la notifica di avvenuta iscrizione del brand al registro dei marchi storici di interesse nazionale istituito dal Ministero dello Sviluppo Economico. Un traguardo che si aggiunge ai tanti raggiunti dalla Family Company che da tre generazioni produce articoli d'eccellenza esportati nei mercati più diversi e che ha festeggiato l'anno scorso il centenario dalla fondazione. Motivo del successo sono l'ascolto accurato del mercato e la ricerca della qualità.

MARCHIO STORICO

L'IMPEGNO GREEN | L'azienda ha realizzato impianti di cogenerazione e depurazione delle acque

La sostenibilità? È nel dna dell'azienda

IL GRUPPO PARÀ LAVORA PER RIDURRE GLI IMPATTI DELLA PRODUZIONE E SCOMMETTE SULL'ECONOMIA CIRCOLARE

La questione ambientale è la sfida per eccellenza del presente e del prossimo futuro. Il cambio di paradigma è urgente e deve tradursi in azioni concrete lontane dai gesti e dalle iniziative poco strategiche intraprese più per un ritorno di immagine che per impattare positivamente in termini di risultati sostenibili. Lo sa bene Parà che negli anni ha ridisegnato la sua fisionomia produttiva plasmandola su obiettivi ambientali sempre più ambiziosi. In questo scenario, con una produzione che coniuga efficienza e bassi impatti ambientali grazie all'adozione di soluzioni rinnovabili, il Gruppo brianzolo ha messo al centro della strategia dei prossimi anni l'economia circolare.

L'ENERGIA

Si parte, infatti, dalla consapevolezza della propria impronta ambientale per rimodularne la portata. Dal 2000, per fronteggiare i grandi quantitativi di energia elettrica e termica richiesti dagli impianti, l'azienda ha investito in un sistema di cogenerazione alimentato a gas metano, capace di produrre circa 4Mw di energia. Un'implementazione che permette alla realtà produttiva di essere completamente autonoma a livello energetico, con benefici in termini di risparmi e di aumento della competitività. L'impianto di cogenerazione è stato recentemente sostituito da un sistema di nuova concezione, in modo da garantire prestazioni di ultima generazione.

Parà ha anche realizzato un impianto di depurazione delle acque di scarico in grado di trattare oltre 3mila metri cubi di acqua al giorno. Sul fronte delle energie rinnovabili, l'impresa della Brianza ha installato sui tetti degli stabilimenti produttivi di Pontirolo Nuovo (BG) e della sede di Sovico (MB), più di 20mila mq di pannelli solari fotovoltaici.

I MACCHINARI

Tra gli asset strategici del Gruppo un ruolo cruciale lo svolge il capitolo ambientale che determina l'impostazione della stategia aziendale. In questo senso non mancano investimenti costanti nel rinnovamento del parco macchine implementando soluzioni ad alta efficienza e processi all'avanguardia che permettono di ridurre gli impatti ambientali e gli sprechi ottimizzando anche le performance.

Economia circolare
Il Gruppo partecipa al progetto europeo per la gestione dei tessuti acrilici delle tende

Fotovoltaico Pannelli solari installati nella sede di Sovico

20K
Il numero di pannelli presenti tra Pontirolo Nuovo e l'Headquarter di Sovico

IL PROGETTO REACT

In ottica futura, il concetto di economia circolare diventerà determinante per tutti i contesti industriali che vogliono rimanere protagonisti di un mercato con consumatori esigenti anche in termini di bilancio ambientale. La sfida è già stata colta da Parà che sta studiando processi di riciclo di scarti di lavorazioni o di tessuti dismessi per dar vita a nuovi prodotti ecologici. L'azienda ha preso parte al progetto "React", un'iniziativa che rientra nel programma europeo Horizon 2020, ora ampliata con nuovi finanziamenti e volta a promuovere la gestione dei rifiuti di tessuti acrilici provenienti da tende e arredi outdoor. Il percorso è iniziato quasi 3 anni fa, con l'obiettivo di ottenere tessuti riciclati, con lo smaltimento sostenibile delle sostanze depositate. Lo scopo della progettualità promossa dall'Unione Europea è quello di ridurre l'impatto ambientale dei tessuti acrilici provenienti dai settori della protezione solare e dell'arredamento outdoor, riducendone i volumi. Cruciale il ruolo di Parà che sta curando diverse fasi del progetto, come la classificazione dei cascami lavorabili, la messa a punto di un sistema di recupero e la lavorazione degli stessi.

La filosofia
Il rispetto dell'ambiente è uno dei criteri cruciali per la strategia aziendale

REACT in Corriere della Sera (March 2022)

L'innovazione di prodotto procede di pari passo con l'innovazione dei processi. La ricerca di fibre e modalità di produzione sempre più rispettose del pianeta rappresentano i "must" da perseguire da parte di aziende lungimiranti, capaci di ascoltare le necessità del mercato e del pianeta. Rientra in tale contesto l'ambizioso progetto Fabrics for Future di **Parà.** A spiegarci i dettagli è **Marco Parravicini**, ceo dell'azienda: «Iniziato più di due anni fa, ha portato quest'anno al lancio di **Tempotest® Starlight blue**, la prima collezione di tessuti per tende da sole in PET riciclato e certificata GRS. L'obiettivo è quello di sviluppare nei prossimi anni ulteriori collezioni sostenibili. Strettamente collegata ai sopra citati temi di innovazione è la nostra partecipazione al progetto REACT. Tale progetto, finanziato dal programma Horizon 2020 della Commissione Europea, si focalizza sul trattamento dei residui acrilici tessili risultanti dalla produzione di tessuti per la protezione solare e per l'arredamento da esterno. Un percorso che sta portando all'ottenimento di un tessuto riciclato dove tutte le sostanze precedentemente depositate, come finissaggi o sporco dovuto all'esposizione, vengono eliminate in modo del tutto sostenibile». L'azienda investe in ricerca e sviluppo e lavora assiduamente affinché si realizzi un connubio perfetto tra materiali e stile: «Non parliamo solo di protezione solare come anticipato sopra con i progetti Starlight blue e REACT - continua il ceo di Parà - ma anche di arredamento indoor & outdoor dove abbiamo il coraggio di sperimentare soluzioni innovative a livello di materiali che poi prendono vita con fantasie frutto del cuore pulsante della nostra azienda, il nostro Ufficio Stile». Innovazione dunque che si lega indissolubilmente al tema della sostenibilità, tematica che in Parà è diventata realmente centrale. La ricerca di prodotti sostenibili rappresenta una carta vincente anche nel settore del tessile tecnico: il mercato è sempre più attento alle tematiche ambientali e premia le aziende che dimostrano di essere attive in questo campo. Parà investe costantemente per avere un parco macchinari di ultima generazione e quindi processi produttivi sempre più all'avanguardia in termini di efficienza e di impatto ambientale. Lo sguardo è infatti sempre rivolto al futuro per raggiungere l'eccellenza in fatto di qualità del prodotto e del servizio reso, al fine di ottenere la massima soddisfazione per il cliente e per l'utilizzatore finale.

«ABBIAMO IL CORAGGIO DI SPERIMENTARE SOLUZIONI INNOVATIVE A LIVELLO DI MATERIALI CHE PRENDONO VITA CON FANTASIE FRUTTO DEL NOSTRO UFFICIO STILE» MARCO PARRAVICINI, PARÀ

Increasingly environmentally friendly research into fibres and production techniques are a must for companies with a long-term view who are sensitive to the needs of the market and the planet. This context includes the ambitious Fabrics for Future project by Parà. Marco Parravicini, ceo went through the details with us: «It started more than two years ago, and led to the launch of **Tempotest® Starlight blue**, the first collection of fabrics for awnings made of GRS-certified recycled PET. The aim is to develop additional sustainable collections over the coming years. Our participation in the REACT project is also closely linked to the topic of innovation. Financed by the European Commission's Horizon 2020 programme, the project focuses on the treatment of acrylic textile residue from textile production for outdoor sun protection and furnishing. This project will culminate in the production of a recycled fabric after all the previously deposited substances, such as finishes and dirt, have been eliminated entirely sustainably». The company invests heavily in research and development and works hard to come up with the perfect blend of materials and style: «We're not just talking about sun protection, as seen with the Starlight blue and REACT projects - continues the ceo of Parà - but also indoor & outdoor furnishing for which we were brave enough to experiment with innovative ideas in terms of materials which are then developed by the heart of our company, our Design Department». However, we can't talk about innovation without mentioning sustainability, this issue is dear to the company's heart. Research into sustainable products is a winning card in the technical textiles industry too: the market is increasingly aware of environmental issues and rewards companies who take an active stance. Parà constantly invests so that its machinery is cutting-edge and its production processes are more and more advanced in terms of efficiency and impact on the environment. In fact, they are always looking forward, striving for excellence in their products and services, so as to fully satisfy both the client and end consumer.

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REACT in Casa Stile (January 2022)

QUADERNO TESSILE
MATERIALI

L'eccesso di produzione e la bassa percentuale di riciclo hanno reso i comparti del tessile e della moda due settori con un elevato impatto ambientale. Ci sono però aziende innovative che stanno sviluppando soluzioni all'avanguardia

di/by **Elena Corti**

PUNTARE ALL'ECONOMIA CIRCOLARE

Il tema della sostenibilità è sempre più al centro dell'attenzione e anche i comparti del tessile e della moda si stanno attivando nell'ottica della circular economy. Nel corso del webinar "Opportunità di riciclo nel settore tessile: modelli circolari e best practice", organizzato da **Sistema Moda**

Over-production and scarce recycling means that the textile sector have the highest impact on the environment. Iqnnovative companies are working on the development of state-of-the-art solutions to the problem

TEXTILES AND THE CIRCULAR ECONOMY

The topic of sustainability is increasingly the focus of attention and the textile and fashion industries are making moves towards a circular economy. During the webinar called "Recycling opportunities within the textiles sector: circular models and best practice", organised by Sistema Moda

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Tempotest Starlight Blue, una collezione di tessuti per tende da sole in PET riciclato

Tempotest Starlight Blue, a collection of recycled PET awning fabrics

Barbara Ferrari, responsabile R&D di Parà

Barbara Ferrari, R&D Manager at Parà

Filippo Corsini, ricercatore dell'Istituto di Management della Scuola Superiore Sant'Anna di Pisa

Filippo Corsini, researcher at the Istituto di Management della Scuola Superiore Sant'Anna in Pisa

Italia, sono state presentate interessanti innovazioni. **Filippo Corsini**, ricercatore dell'**Istituto di Management della Scuola Superiore Sant'Anna di Pisa**, ha evidenziato come attualmente meno dell'1% dei materiali tessili venga riciclato: se a questo si aggiunge che la produzione è in continua crescita, si comprende l'entità dell'impatto ambientale. Corsini ha illustrato alcuni modelli di business che possono aiutare le imprese a diventare più sostenibili. Uno consiste nell'implementazione di una«catena di approvvigionamento circolare», basata su risorse rinnovabili, materiali bio-based rinnovabili ecc. Un esempio in questo senso è Piñatex, un materiale realizzato con fibra di foglie di ananas che può essere usato nell'industria della moda e dell'arredamento. Un altro business model è focalizzato sull'estensione della vita utile del prodotto. Comprende una serie di attività dalla riparazione alla rivendita e un esempio concreto è il caso di Patagonia che, grazie alla collaborazione con l'azienda iFixit fornisce una guida online per la riparazione dei prodotti, mentre il kit di riparazione è acquistabile. Corsini ha poi illustrato il modello Resource Recovery che si concentra sul recupero di materiali e risorse da prodotti a fine vita. Nell'ambito del tessile, Fili Pari e Limonta trasformano i sottoprodotti industriali dei distretti della pietra italiani italiani (come la polvere di marmo) in nuovi tessuti per l'abbigliamento. Si

Italia, some interesting examples of innovation were presented. Filippo Corsini, researcher at the Istituto di Management at Scuola Superiore Sant'Anna in Pisa, highlighted that at present, less than 1% of textile materials are recycled: if we add to this that production is constantly growing, then we can begin to understand the scale of the impact on the environment. Corsini illustrated certain business models which could help companies be more sustainable. One consists of implementing a "circular supply chain", based on renewable resources, bio-based renewable materials. One such example is Piñatex, a material obtained from banana-leaf fibres which can be used in the fashion industry and for furnishings. Another business model focuses on extending the life cycle of products so that it takes as long as possible for it to become waste. It also includes a series of activities ranging from mending to reselling. Then, Corsini illustrated the Resource Recovery model which concentrates on recycling materials and resources at the end of a product's life cycle. Within the textiles environment, Fili Pari and Limonta SpA transform industrial by-products from Italian stone production into new fabrics for clothing. Additional possible circular business models include the creation of sharing platforms and "products as services", offering people

Danielle Arzaga, Sustainability Manager di Candiani Denim/Blue Collars

Danielle Arzaga, Sustainability Manager at Candiani Denim/Blue Collars

Gamma tessuti Tempotest Starlight Blue

Range of Tempotest starlight blue fabrics

tratta di un esempio di simbiosi industriale: il rifiuto di un'azienda diventa materia prima per un'altra. Ulteriori possibili business model circolari sono la creazione di piattaforme di condivisione e il "prodotto come servizio", proponendo il noleggio invece che la vendita di un bene e favorendone la restituzione.

Il tema del riciclo è stato affrontato in particolare da **Parà**, azienda che produce tessuti tecnici per protezione solare, arredamento indoor/outdoor e nautica. **Barbara Ferrari, responsabile R&D** della società, ha spiegato che Parà utilizza principalmente due tipi di fibre per l'outdoor: poliestere e fibra acrilica. In entrambi i casi ha avviato progetti di riciclo.

Per quanto riguarda il primo materiale, è già in commercio Tempotest Starlight Blue, una collezione di tessuti per tende da sole in PET riciclato, certificata GRS (Global Recycled Standard). Con Tempotest Starlight Blue, Parà ha diminuito notevolmente il suo impatto ambientale rispetto all'utilizzo di poliestere vergine: il consumo energetico è stato infatti ridotto del 60%, le emissioni di CO_2 del 45% e il consumo di acqua è calato del 90%.

Per quanto riguarda invece la fibra acrilica, avendo una particolare attenzione alla sostenibilità dei processi, Parà sta mettendo a punto un sistema di riciclo che prevede un particolare trattamento dei cascami acrilici applicato per eliminare le sostanze chimiche presenti e quindi poter inserire il materiale riciclato in un ciclo produttivo più sostenibile. Grazie al programma Horizon 2020, Parà ha avuto l'opportunità di avviare una collaborazione con importanti università europee e altri partner in Europa con cui sta sviluppando il progetto REACT (REcycling ACrylic Textiles), iniziato due anni fa. I primi risultati sono molto incoraggianti e l'azienda si appresta a presentare dei prototipi di tessuto. Attualmente Parà è entrata nell'ultimo anno del progetto ed è pronta a testare nuovi campioni di fibra riciclata per dare quindi inizio a un nuovo processo produttivo. □

the chance to rent a product instead of buying it and promoting the return of products so they can be recycled.

The topic of recycling is given particular attention by Parà, a company producing technical materials for protection from the sun, indoor/outdoor furnishings and sailing products.

Barbara Ferrari, the company's head of R&D, explained how Parà mainly uses two types of fibres for outdoor products: polyester and acrylic fibre. In both cases they have introduced recycling projects.

As far as the first material is concerned, Tempotest Starlight blue is already on the market, it is a collection of fabrics for awnings made of recycled PET and is GRS certified (Global Recycled Standard).

With Tempotest Starlight blue, Parà has significantly reduced its impact on the environment compared to using virgin polyester: in fact 60% less energy is used, CO_2 emissions are 45% less and water consumption has dropped by 90%. As for acrylic fibre, unlike PET there weren't any examples before recycling to refer to. Thanks to the Horizon 2020 programme, Parà has had the opportunity to collaborate with important European universities and other partners in Europe in developing the REACT project (REcycling ACrylic Textiles), which started two years ago. According to Barbara Ferrari, the first results are very encouraging and the company is getting ready to present prototypes of fabric. At the moment Parà is in its first year of the project and is ready to test new recycled fibre samples and so to launch a new production process.

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REACT in Quaderno Tessile (December 2021)