



Co-Funded by the European Union's Horizon 2020 research and innovation programme

DELIVERABLE
N°1.3

Proj. Ref.: SOL-REC2 101003532

Page 1 of 19



INNOVATIVE DIGITAL WATERMARKS AND GREEN SOLVENTS FOR THE RECOVERY AND RECYCLING OF MULTI-LAYER MATERIALS

Funding scheme: European Union's Horizon 2020 Research and Innovation programme

Call identifier: H2020-SC5-2020-2

Theme: CE-SC5-24-2020: Improving the sorting, separation and recycling of composite and multi-layer materials

Grant Agreement: 101003532

Project start date: June 1st, 2021

Duration: 36 months

DELIVERABLE N°1.3

Workshops on multi-layer packaging waste

Due date of deliverable: 31.07.22	Actual submission date: 08/08/2022	Lead Beneficiary: iPM ²
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Table of Contents

1	Introduction	3
2	Webinars	4
3	Workshop.....	6
3.1	PRSE	6
4	Cluster workshops	10
4.1	Cluster Meeting on Plastics Strategy.....	10
4.2	Copenhagen EuroQCharm cluster meeting.....	18



1 Introduction

Task 1.3: Practical workshops. (Months 8-12; Lead: IPM2, Partners: TWI and AIM)

The Annex 1 of SOL-REC2 states that “taking into consideration the results of the consumer survey, the gaps and lack of knowledge of the public will be determined regarding plastic packaging usage and recycling. Information campaigns (practical workshops, events including presentations at schools, online workshops etc.) will be organized to present the current situation for multi-layer plastic waste generation, disposal, and environmental impacts. Workshops will be aimed at improving consumer attitudes and behaviours towards multi-layer packaging waste and recycling.”

In order to take into account the COVID-related difficulties still very alive end of 2021 and early 2022, especially at some partners' organizations still very strict about the travels and attendance of their staff abroad, we have decided to maximize the types of events and to take advantage of existing events to join them and present the position and goals of our project to several types of audience and public.



2 Webinars

Partner TWI, our Technical Chair in the project has organised and announced the first webinar in a series of several webinar sessions planned beyond the dates of this deliverable:

This is the announcement of the first one due in September:

Title: SOL-REC2: Multi-layer Material Recycling

TWI IN Webinar - Join us to find out more about multi-layer material recycling and SOL-REC2 project



Plastic is a versatile material that found application in a number of industries. In 2020, EU plastics production reached 55 million tonnes with 40% being used for packaging. The motivation to minimise the amount of plastics used in packaging has led to the development of multi-layer materials that utilise smaller quantities of materials while retaining the same barrier, strength, stability and storage properties. Multi-layer packaging generally consists of five to nine layers of different materials that are blow moulded or co-extruded to provide the desired properties. Each layer within the multi-layer structure provides a specific function and the overall laminated material provides a lightweight packaging option. Currently, multi-layer materials such as pharma blister pack or laminated pouch waste is not commonly recycled due to difficulties with separation of layers as well as collection and sorting challenges. Sustainable multi-layer waste management is crucial to enhance closed-loop material recycling and reduce plastic pollution.

To address this, TWI through its plastic recycling and sustainability theme is developing methods for better plastic waste management. TWI is the technical coordinator of the SOL-REC2 project, which targets the development, and implementation of strategies for better separation, sorting and recycling of multi-layer material waste consisting of layers of polymers and aluminium. SOL-REC2 project consortium consists of IPM2, Aimplas, FiliGrade, TWI, University of Leicester, Solvionic, Plastigram and Mikrolin.

The webinar will introduce a novel technique developed by the SOL-REC2 project partners for recycling multi-layer packaging. The talk will then discuss the trends in packaging industry, barriers to recycling and introduce Ionic liquids (ILs) and Deep Eutectic Solvents (DESS) as enabling technologies for the effective and efficient delamination of multi-layer packaging.

The presentation will finish with time for questions and discussion.

Who should attend?

This webinar is free to attend but pre-registration is required. The talk is particularly suited to packaging industry, recyclers and materials engineers.

(SOL-REC2 has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101003532.)



Speakers



Dr George Theodosopoulos
Senior Project Leader at TWI Ltd

Presentation: Introduction to the SOL-REC2 project and objectives

George Theodosopoulos is a Senior Project Leader at TWI's Polymer & Composite Technologies Group, and the plastics recycling and sustainability theme leader.

Holding a B.Sc. in Chemistry, a M.Sc. in Polymer Science and Applications and a Ph.D. in Macromolecular Chemistry, George has a strong background in polymer synthesis, applications and processing techniques. George's research interests include polymer recycling, promotion of circular economic pathways and sustainable management of plastics.



Dr Ana Antelava
Project Leader at TWI Ltd

Presentation: Current trends in multi-layer packaging and challenges with recycling

Ana Antelava is a Project Leader in the Novel Polymer Technology (NPT) section of TWI's Polymer and Composite Technology (PCT) group. She is a member of TWI's plastics recycling and sustainability theme, developing novel approaches to end-of-life plastics recycling and adopting circular economy business models via better plastic management practices. Ana has several publications on thermochemical treatment of plastic solid waste (PSW), life cycle assessment and sustainable management of PSW.



Professor Andy Abbott
Physical Chemistry at the University of Leicester

Presentation: Introduction to Ionic liquids and deep eutectic solvents for recycling

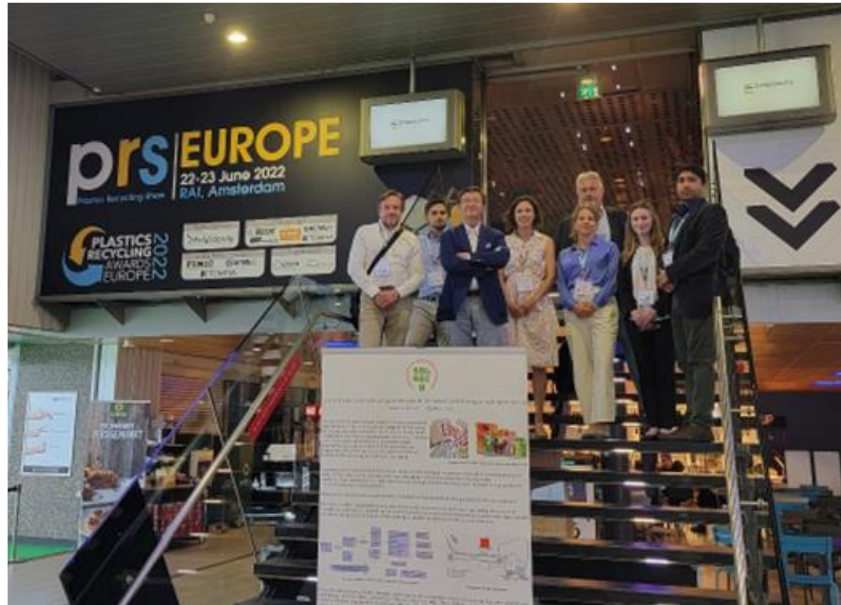
Andy Abbott is Professor at Physical Chemistry at the University of Leicester. He devised the idea of DESs in 1999 and had published > 120 article on the topic. His group have been active in many areas including physical properties, electroplating, electropolishing, metal extraction, metal recycling, natural product extraction, pharmaceutical DESs and biopolymer modification. The Leicester group have scaled up 10 processes to >50 kg scale and 3 to > 1 tonne scale.

Time and date for the webinar
29 September at 10:00



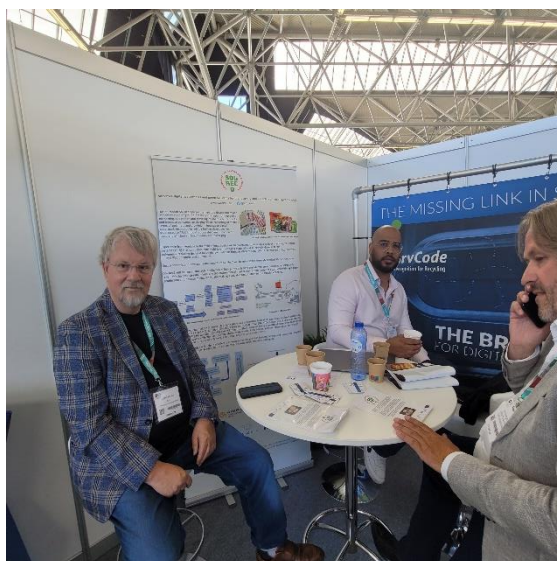
3 Workshop

3.1 PRSE



Another opportunity arose during the Plastic Recycling Show (PRSE) held in Amsterdam RAI exhibition Center last June 22-23, 2022 where:

1. Partner FILIGRADE (NL) had a booth where they presented their specific « Digital Watermark » technology used in SOL-REC2 as well as the posters and kakemono of the project.





2. Partner AIMPLAS (Spain) also had a booth presenting their sorting for recycling technologies and of course also the SOL-REC2 project material and posters



3. IPM² had organised with FILIGRADE to book a meeting room on site to hold :
 - a. The first « physical » meeting after all those monthly Zoom meeting, where all partners attended in person and were able for most of them to meet up for the first time. (a dinner with the partners had preceeded this meeting in a restaurant downtown Amsterdam)





b. A workshop to which have been invited several relevant companies met during the PRSE exhibition and who showed interest in our project: contacts were initiated with :

- Hélène Legrand – VALORPLAST, Paris (France) who was visiting PRSE
- Matthias Blöchl – SENSOR INSTRUMENTS, Thurmansbang (Germany) who had a stand
- Bankey Goenka – PASHUPATI GROUP, Uttarakhand (India), with a stand next to Aimplas
- Markus Huemer – NGR, Feldkirchen (Austria)
- Ivo Besselsen – VINYL RECYCLING, Lelystad (Netherland)
- Robert Hhuizenga – VAN MEEUWEN (Functional Additives), Weesp (Netherlands)
- Emer Kermath – NOVELPLAST, Gibbstown (Ireland)
- Daniel Fetzer, COPERION (compounding & extrusion; materials handling; service), Stuttgart (Germany)
- Dr Marina Leed, Global Sustainability Manager -Plastic additives, BASF (Germany)
- Pieter van Gool, Business development manager, Südpack medica (Switzerland)
- S. Tugrul Karasarioglu, R&D Coordinator and Gorkem Yildiz, Project Manager, FLOTEKS (TR)
- N.Kizildag, Sabanci University, Istanbul (TR)

During the workshop, the following exchanges were fruitful, mostly with those 3 contacts each one representing one of the areas of work of SOL-REC2:





1. BASF

A know chemical giant, is currently active in plastics recycling providing products that remove adhesives during the washing stage of the recycling process and additives (sold under the trademark IrgaCycle) helps normalise the properties of the recycle/reclaimed polymer since due to the different grades being recycled the very often a variance in properties such as MFI.

2. Sudapack Medica

Represented by the company's business development manager, Sudapack Medica is a medical packaging company with interests and vested technologies in circular solutions, biopolymers and advance recycling options for the medical industry. The showed particular interest in our project since it combines the full technological spectra of plastics recycling including inventory management, mechanical recycling/sorting and physical/chemical recycling.

3. Floteks

A plastics manufacturer and recycler. Floteks has been recently introduced in the recycling industry and specifically physicochemical recycling. Their plant, currently operating at pilot level, employs a proprietary solution that selectively dissolves PP and through a specially designed filtration system, it removes chemicals and additives.

All representatives agreed in and highlighted the points below:

- Because of pharmaceutical contact all primary waste are managed as hazardous waste. There is a need for change in legislation, to allow for the recycling of certain blister and pharmaceutical packs.
- Industry will move towards reducing PVC use, even in pharma blister packaging. This is following a current trend that is shifting slowly towards polypropylene. This transition will not only reduce packaging cost but also eliminate issues when trying to reclaim feedstock material through pyrolysis and other thermochemical recycling methods.
- The biggest challenge when recycling in existing recycling processes is polymer stabilization and overall additive content at material/product end of life. When reaching its end of life very often stabilization levels are low due to the depletion or reaction of additive content. This will be a challenge that SolRec2 will need to



address especially when separating PP layers in a multi-layer system. There is a need for recyclers to monitor and establish additive content to prevent the degradation. As a potential solution over stabilizing the material in conjunction with additive reloading after recycling could help prevent the degradation phenomena and prolong the durability and life of the polymer.

- Production process is also very important to consider when recycling since this could be an indication of additive content. This could subsequently lead to either the limitation or expansion of market use of the reclaimed product.
- As a principle resin manufacturers aim to add the smallest amount of additive content to keep selling price low. Guarantees need only be provided for the shelf and operation life of the plastic packaging. Thus, after its end of life and the period until it reaches recyclers is paramount. Storage conditions and time frames need to be defined to avoid degradation phenomena from occurring.

4 Cluster workshops

As per the request of several Project Officers in charge of the follow-up of projects on similar topics, a “Cluster on projects contributing to the EU Plastics Strategy” has been created and has generated some contacts between the relevant projects.

4.1 Cluster Meeting on Plastics Strategy

A first workshop was organised on-line and gathered several projects part of this cluster; SOL-REC2 attended and was represented by Pr. Martin Goosey, member of IPM², the project coordinator.

First Cluster meeting on projects contributing to the EU Plastics Strategy, 30 September 2021

REA Unit B.3 “Biodiversity, Circular Economy and Environment” organised a “Cluster meeting on projects contributing to the EU Plastics Strategy” to maximise synergies among Horizon 2020 (H2020) projects in the area of plastics and the circular economy and promote a dialogue with EC policy-makers.

Eleven H2020 R&I projects which were kick-started in the spring of 2021 presented their objectives, activities, expected impacts and policy relevance. These projects include:



Project funded under CE-SC5-25-2020 - Understanding the transition to a circular economy and its implications on the environment, economy and society:

- **JUST2CE**: A just transition to the circular economy.

Project funded under CE-SC5-29-2020 - A common European framework to harmonise procedures for plastics pollution monitoring and assessments:

- **EUROqCHARM**: EUROpean quality Controlled Harmonization Assuring Reproducible Monitoring and assessment of plastic pollution.

Project funded under CE-SC5-30-2020 – Plastics in the environment: understanding the sources, transport, distribution and impacts of plastics pollution.

- **LABPLAS**: Land-Based Solutions for Plastics in the Sea.

Projects funded under SFS-21-2020 - Emerging challenges for soil management:

- **PAPILLONS**: Plastic in Agricultural Production: Impacts, Lifecycles and LONG-term Sustainability
- **MINAGRIS**: Micro- and NANO-plastics in AGRicultural Soils: sources, environmental fate and impacts on ecosystem services and overall sustainability.

Projects funded under CE-SC5-24-2020 - Improving the sorting, separation and recycling of composite and multi-layer materials:

- **MERLIN**: Increasing the quality and rate of MultilayER packaging recycLING waste
- **CIMPA**: A Circular Multilayer Plastic Approach for value retention of end-of-life multilayer films
- **SOL-REC2**: Innovative digital watermarks and green solvents for the recovery and recycling of multi-layer materials
- **CIRCULAR FoodPack**: Circular Packaging for Direct Food Contact Applications

Projects funded under CE-SC5-28-2020 - Develop and pilot circular systems in plastics, textiles and furniture sectors:

- **SCIRT**: System Circularity and Innovative Recycling of Textiles
- **CISUFLO**: Circular SUSTainable FLOOR coverings



The presented projects contribute to the EU Plastics Strategy and EU Action Plan for Circular Economy from different angles: from improving the sorting, separation and recycling of multilayers materials, understanding plastics in the environment, monitoring plastics pollution to tackling plastics in agriculture.

Additionally, eight other on-going H2020 projects which activities are closely related to the subject matter of this meeting attended and contributed to the discussions.

The objectives of this cluster meeting were:

- to raise awareness about the projects' objectives and expected results among policy DGs and Agencies;
- to identify and discuss relevant plastics-related activities and their contribution to policy developments in the areas of circular economy, chemicals, products, and tackling pollution;
- to identify concrete collaboration opportunities among projects, strengthen synergies and optimize impacts.

Around 80 participants gathered online, including projects' coordinators, policy officers from the Directorate Generals (DGs) of the European Commission, project officers from REA, representatives from EIT Manufacturing and EIT Climate.

From the policy DGs, the meeting was attended by Silvia MALTAGLIATI (DG RTD), Petros MAMALIS (DG RTD), Hans-Christian EBERL (DG RTD), Werner BOSMANS (DG ENV), David BUHE (DG ENV), Maja DESGREES du LOU (DG ENV), Chiel BERENDS (DG ENV), Luis CARRETERO SANCHEZ (DG ENV), Silvija AILE (DG ENV), Valentina BERTATO (DG ENV), Caterina SAVELLI (DG ENV), Marta IGLESIAS (DG AGRI), Magdalena MACH (DG AGRI) and Maila PUOLAMAA (DG GROW).

In the welcome message, Paul WEBB, Head of Department Green Europe in REA, stressed the importance of addressing the plastics challenge. About 60 million tonnes of plastics are produced in Europe every year while only 30% of it is recycled. Of all the plastic waste ever generated, 79% has ended up in landfill or as litter in the natural environment, damaging marine ecosystems, biodiversity and potentially human health.

Paul Webb further recalled that the EU has already acted proactively in addressing these challenges. In January 2018, the Commission adopted EU's plastics strategy. It is part of the EU's circular economy action plan, and builds on existing measures to reduce plastic waste. The plastics strategy is a key element of Europe's transition towards a carbon neutral and circular economy. It will contribute to reaching the 2030 Sustainable Development Goals, the Paris



Climate Agreement objectives and the EU's Green Deal and industrial policy objectives. It is also directly linked to other important policy initiatives and strategies in the area of zero pollution, chemicals, circular economy and biodiversity. But more needs to be done, especially in terms of advancing research and innovation activities in these areas.

The event continued with five interactive sessions including presentations of the projects and discussions involving policy-makers and EU funded projects' representatives. All sessions were moderated by Cristina PADUCEA and Keti MEDAROVA-BERGSTROM from REA Unit B.3.

Session 1. Transition to the circular economy: the case of plastics (JUST2CE)

JUST2CE project challenges the current Circular Economy paradigm as being primarily technology-driven while perpetuating continued economic growth and unfair social conditions (gender, labour, geopolitics etc.). One of the key aims of the project is to develop a framework to design and evaluate "new Circular Economy" practices based on sustainability, social and economic indicators but also on the principles of Responsible Research and Innovation (RRI), civic participation and participatory governance.

Session 2: Tackling the plastic pollution (EUROqCHARM and LABPLAS)

EUROqCHARM highlighted that currently there are several concepts and methods for plastics pollution monitoring and assessment but there is a lack of standardization and harmonization of these methods and tools to be used as benchmark. The project is addressing this knowledge gap. LABPLAS aims at creating capacities to evaluate rapidly and precisely the interactions between plastics and the environmental compartments and natural cycles leading to the development of effective mitigation and elimination measures, as well as, proposing pertinent management decisions.

The Q&A session focused on the challenges for the promotion of truly biodegradable and nontoxic plastics. Within LABPLAS, a life cycle assessment of biopolymer vs conventional plastics including biodegradability in actual environmental scenarios (not compost) and eco-toxicity of additives is planned.

Session 3: Plastics in agriculture (PAPILLONS and MINAGRIS)

PAPILLONS aims to elucidate ecological and socioeconomic sustainability of agricultural plastics (APs) in relation to the release and impacts of micro- and nanoplastics (MNPs) in European soils. The project's goal is to deliver the first digital European atlas of agricultural plastics use, management and waste production to estimate sources of MNP in agricultural soils.



Using innovative applications of analytical chemistry, the project will advance the analysis down to the nanoscale range and develop novel radiolabelled nanoplastics for accurately tracking behaviour and transport in soil and their uptake by biota and crops.

MINAGRIS aims to contribute to healthy soils in Europe by providing a deeper understanding and tools to assess the impact of macroplastics (MPs) and nanoplastics (NPs) on agricultural soil health. To create an overview on the actual situation across Europe, the project will assess the use of different plastic polymers in agricultural systems in 11 case study across Europe and identify the resulting types and concentrations of MPs and NPs. Concentrations of other stressors in soils such as pesticides and veterinary drugs will be additionally assessed.

Some synergies have been already identified between PAPILLONS and MINAGRIS. The two projects are considering joint activities including policy briefs/recommendations.

The Q&A session focused mainly on the biodegradability of bioplastics. Valentina Bertato from DG ENV asked whether the two projects will look at biodegradable or natural polymers alternatives for coating of fertilisers and plant protection products and if such alternatives biodegrade both in soil and in water. Violette Geissen, coordinator of MINAGRIS project pointed out that what is very important is not only that the bioplastics are biodegradable but also what kind of additives and chemicals the industry is using in the production of such plastics in order to be able to study how these substances affect soil and water. Luca Nizzetto, coordinator of PAPILLONS added that it is costly and complex to do reverse engineering when information on chemical composition of agricultural plastics is in the hand of the industry. Therefore, the two coordinators stressed the need for industry to make the information on used additives and chemicals available for research study. Exchanges on this matter will continue between the two projects and DG ENV.

Referring to the EU Strategy Farm to Fork, Marta Iglesias from DG ENV inquired if the projects are also looking at how farmers are using and recycling bioplastics. And if the research covers how plants (and then food) can uptake the microplastics from the soil. Violette Geissen, coordinator of MINAGRIS highlighted that it is important to build and ensure the sustainability of the biodegradability of bioplastics.

Werner Bosmans from DG ENV pointed at the upcoming EU Communication on the biodegradability of plastics planned early 2022 for which the projects could contribute by sending inputs, based on their project results. Evie Achilleos from REA encouraged the coordinators to consider an "early " joint policy brief with the issues raised at the meeting in order to feed in the upcoming 2022 communication.



Session 4: Improving the sorting, separation and recycling of composite and multi-layer materials (MERLIN, CIMPA, Sol-Rec2, CIRCULAR FoodPack)

MERLIN will offer innovative solutions for increasing the quality and rate of recycled plastic materials coming from multi-layer packaging waste including: (i) SORTING (combining optical sensors, Artificial Intelligence (A.I.) and robotics), (ii) DELAMINATION (optimizing depolymerisation and using solvent-based processes), (iii) RECYLING (techniques for repolymerization and upcycling of polymers) and (iv) VALIDATION (developing rigid and flexible packaging solutions and demonstrating circularity of the processes).

CIMPA aims to develop a recycling value chain for post-industrial and post-consumer multilayer films (from food and agricultural applications) to retain up to 72% of their value yield based on a synergetic approach combining (i) innovative compositional sorting (NIR- and digital watermarking sorting), (ii) mechanical and physical (dissolution) recycling, (iii) decontamination process and (iv) upgrading (advanced scCO₂-based decontamination, properties tuning) solutions.

Sol-Rec2 project targets the development and implementation of ground-breaking strategies for improving the sorting, separation and recycling of pharma blister packs and laminate consumer packaging waste consisting of multiple layers of polymers and aluminium.

CIRCULAR FoodPack aims to facilitate the circular use of plastic packaging addressing the most sensitive product category: Food packaging. This sector contains 87% of all European flexible plastic-plastic multilayer composites (MLC) due to the high requirements for food preservation and safety. However, these MLC laminates cannot be recycled by state of the art processes and thus counteract the circular use of food packaging. The project will be using Sensor-Based-Specification or Tracer-Based-Sorting (TBS, SBS), deinking and thermally assisted deodorization as well as solvent-based or mechanical recycling processes. Innovative designs for recyclable and food-safe mono-material laminates will enable their re-use in highvalue film applications, with upcoming food packaging marking with deinkable tracers.

During the Q&A session, Ricardo Beiras, coordinator of LABPLAS commented that the project will deliver a standard protocol to conduct a priori ecological risk assessment of novel plastics in terrestrial and aquatic environments which could be useful for the four projects presented in this session in developing multi-layer recycled materials.

Evie Achilleos (REA) added that, on standardization, it is very important that the projects liaise with their national representatives in the ISO working groups on standardization and inform them on the results of the projects on this issue.



Session 5: Circular systems in plastics, textiles and furniture sectors (SCIRT and CISUFLO)

SCIRT aims to provide a vision and a roadmap towards a circular fashion system (including on the issue of micro-plastics from textiles) and will actively contribute to the Circular Economy Action Plan and to the EU Strategy on sustainable textiles.

CISUFLO aims to set up a systemic framework for circular and sustainable floor coverings (carpets, resilient floor coverings and laminates) and minimise the sector's total environmental impact. It focused on the main flooring material streams: wood (laminates), PA (carpets) and PVC (resilient).

During the Q&A session, Hans-Christian Eberl from DG RTD asked whether the SCIRT project provided input to the ongoing DG GROW study on the technical, regulatory, economic and environmental effectiveness of textile fibres' recycling. Evelien Dils, coordinator of SCIRT confirmed that her organisation, VITO is contributing to the DG GROW study and that they are currently finalising their inputs even though they are not based on the SCIRT project, as it has only now started.

Key points raised during the cluster meeting:

- Policy officers and project participants welcomed this clustering meeting and expressed their expectation that the collaboration between projects will result in impactful feedback to policy.
- EC provided information about upcoming policy initiatives and invited the projects for follow up exchanges to ensure that results can contribute to these policy initiatives in a timely manner. During the meeting, the EC policy officers made reference to - The ongoing DG GROW study on the technical, regulatory, economic and environmental effectiveness of textile fibres' recycling;
- The EU Communication on the biodegradability of plastics (planned early 2022).

Additionally, input from projects can also be very welcome in terms of communicating remaining R&I gaps that could be addressed in future calls for proposals in Horizon Europe Work Programme 2023-2024.

- There was a clear message to EC on the issue of access to information on additives in agricultural plastics from industry. But what more can be done in terms of policy measures or possibly collaborative projects with industry under the next WP for Horizon Europe?

Next steps:

- Projects are expected to contribute to the EU Plastics Strategy by participating in joint activities such as clustering of projects, participation in workshops, common exploitation and dissemination activities, joint policy briefs. Concretely:



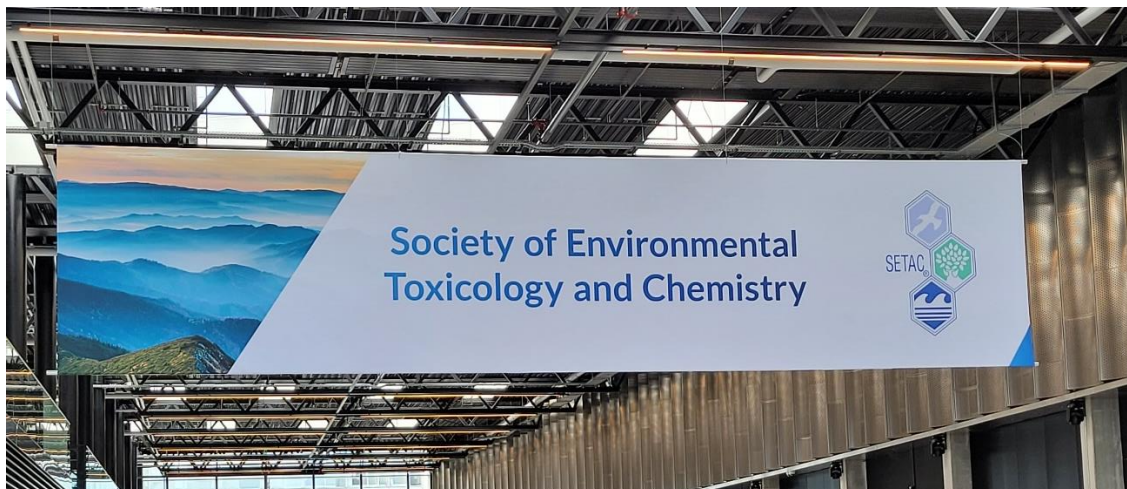
- Projects are invited to explore and identify specific opportunities for joint activities and collaboration.
- Projects should report back to REA plans for joint activities and collaborations with other projects by informing their respective project officer and keeping Ketii MEDAROVA-BERGSTROM and Cristina PADUCEA in copy.
- Projects are also required to report formally on these activities in their periodic reporting.
- During the meeting, several already on-going clustering and networking activities by other H2020 projects were mentioned, such as the Plastic Circularity Multiplier Initiative and the Innovation Forum, with a next meeting planned for the 30 November 2021 (contact person for both initiatives: Rocco Lagioia, ITRB, r.lagioia@itrb.net). Projects are invited to ensure that links to these on-going initiatives are established from the start of the project and projects participate and contribute proactively to these activities.
- In terms of contribution to policy development and implementation, projects are of top priority for EU policy-making and there is high interest in project activities in intermediary results.

Therefore:

- Projects are invited to communicate to REA and the relevant policy officers in DGs (check the list of participants for the contact details) about important and relevant project results.
- Projects are expected to engage with and communicate to policy actors at multiple levels (local/national/EU) through stakeholders / co-creation events, living labs, policy workshops and clustering events.
- Projects are invited to contribute to forthcoming EU policy development initiatives through consultations, working groups, standardization committees, etc. and communicate key findings and disseminate project deliverables of policy relevance.
- The European Investment Bank (EIB) is interested in projects on circular economy and plastics and offers financial advisory services to improve the bankability and investment-readiness of R&I projects (check: InnovFin Advisory at eib). DG R&I and REA will provide additional information so future contacts can be established between the EIB and the projects.



4.2 Copenhagen EuroQCharm cluster meeting



We had an informal EU 'cluster' meeting for those present at the SETAC meeting in Copenhagen'. This 'satellite' meeting was held on Tuesday May 17. (<https://europe2022.setac.org/satellite-meetings/>).

The partners in the projects which are attending the SETAC meeting had the opportunity to discuss potential collaboration and exchange of information.

The program is given below, and chaired by:

Bert van Bavel, Professor and Chief Scientist, Norwegian Institute for Water Research, and Coordinator of





EU Projects Cluster Meeting for Measurement of Plastic Litter (EUROqCHARM) Tuesday, 17 May 2022

Agenda of the morning:

Project title

Presenter

EUROpean Quality Controlled Harmonization Assuring Reproducible Monitoring and assessment of plastic pollution ([EUROqCHARM](#))

Bert van Bavel

Innovative digital watermarks and green solvents for the recovery and recycling of multi-layers materials ([SOL-REC2](#))

Pascal Négre

LAnd Based solutions for PLastics in the Sea ([LABPLAS](#))

Begoña Espiña and
Soledad Muniategui

Discuss shared interests amongst all projects

The purpose of this meeting was to provide an opportunity for all projects under the umbrella of plastic litter to connect.

With this aim, there was an opportunity for those that wish to present their project to do so.

As a tentative agenda for this meeting, the organisers were hoping to:

1. Briefly introduce EUROqCHARM
2. Open the floor for other EU Projects to present
3. Discuss shared interests amongst all projects

SOL-REC2 was presented by Pascal Négre, IPM², coordinator of the project, including the video clip summarizing the objectives and targets of the project, followed by a series of question by the audience.

Of course a follow-up of EuroQCharm activities will be kept alive and all members of the Cluster remain available for further discussions and new workshops when the first results will be obtained and also for exchanges on their own technologies to save time (and money!) when similar issues are encountered and therefore fruitfully addressed.

