Subscribe to the LIFE PlasPLUS newsletter!

This first newsletter was sent to you by one of the project partners. LIFE PLasPLUS is an EU LIFE project bringing together one university, one research center and three industrial operators. Focusing on the recycling of high-quality secondary thermoplastics and critical raw materials coming from mixed WEEE and EoL vehicles municipal waste collection. With the objective to close the loop for two very valuable material streams, thermoplastics and antimony, three specific R&D activities will be performed:

- *Step 1: Production of high purity thermoplastics;*
- *Step 2: Automated multi-class sensor-based sorting and separation of Flame Retardant Plastics (FRP);*
- *Step 3: Recycling of by-product antimony (Sb) through catalytic conversion and hydrometallurgy.*

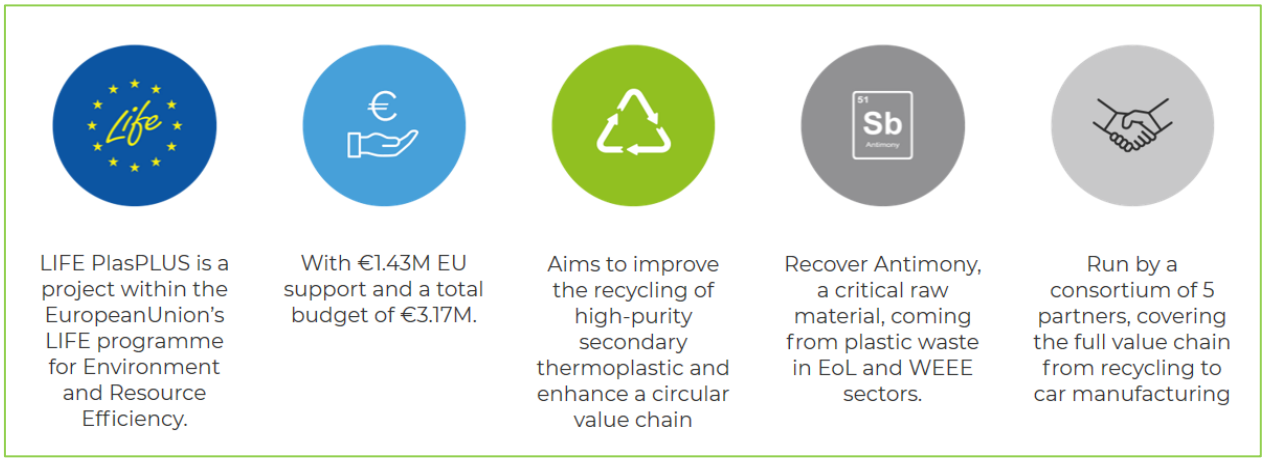
If you wish to be informed of the project's upcoming news, make sure to subscribe to our distribution list.

LIFE PlasPLUS Welcome address

Welcome to our first LIFE PLasPLUS Newsletter. The LIFE PlasPLUS project provides solutions for 2 major societal issues: waste recycling and citizen mobility. We are proud to confront this challenge and will devote a significant part of our time and energy to provide the best possible solutions within the project's scope.

What is the project about?

LIFE PlasPLUS revisits the concept of recycling with its holistic approach to simultaneously close the loop for two traditionally siloed material value chains, plastics and minerals, by producing high purity recycled thermoplastics and antimony, two materials in high demand, notably for the emerging electric mobility sector requiring the increased use of lightweight materials and flame retardants to, respectively, lower energy consumption and increase fire safety.



Why is the project important?

- Heterogeneous plastic waste is mostly still either landfilled or incinerated and less than 30% is collected for recycling.
- As a result, significantly small number of recycled products are re-entering the European market and Critical Raw Materials such as Antimony (Sb), are permanently lost.
- Similarly, high-value thermoplastics (PE, PP, ABS, PS) originating from the automotive and Electrical and Electronic Equipment sectors are currently being lost, or in the best cases, downcycled.
- The traditional state-of-the-art recycling processes fail to properly separate thermoplastics streams from non-recyclable elements in the plastic waste.

How is the project different?

- LIFE PlasPLUS redefines the current concept of recycling as provides a holistic approach to simultaneously close the loop for 2 traditionally siloed material value chains, plastics and minerals.

- By replacing virgin plastic with high purity recycled thermoplastics and antimony, the fast-growing electric mobility industry will lower water and energy consumption, increase fire safety, and at the same time reduce landfilling of waste in Europe.

- With a strong focus on R&D activities, the project has a high-economic added-value by using a heterogeneous mixed plastic feedstock (EoL vehicles,WEEE) as feed material.

- The innovative approach will transform previously downcycled or landfilled/incinerated waste will be transformed through three successive steps:
    - Step 1: Production of high purity thermoplastics;
    - Step 2: Automated multi-class sensor-based sorting and separation of FR Plastics (FRP);
    - Step 3: Recycling of by-product Sb through catalytic conversion and hydrometallurgy.

Consortium

COMET TRAITEMENTS: LIFE PlasPLUS project is run under the coordination of Comet Traitements - a Belgian innovative high-growth company processing and recycling shredder residues, the by-product of the shredding of metallic wastes. Since its creation in 2002, they have developed and industrialized more than 8 post-shredder separation and recycling processes for the recovery of non-ferrous metals, minerals, iron oxides, synthetic fuel, plastics, etc. The success of these technologies has helped COMET Group to build up in Belgium sustainable supply chains of secondary raw materials, meet EU targets on recovery rates and secure its reputation as an industry leader. Find out more: https://www.cometgroup.be



CRF: CRF develops research and innovation along the three principal axes of sustainability: Environmental Sustainability, which encompasses all aspects relating to energy efficiency as well as to the reduction of the impact on the environment over the entire lifecycle of the vehicle; Social Sustainability, focusing on the safety of transportation systems through the development of active, passive, preventive and cooperative solutions while addressing the mobility of all users irrespective of their specific needs; Economically sustainable competitiveness, oriented towards viable innovation, i.e., improving the performance and functionality of new vehicles in a cost-effective manner. Find out more: https://www.crf.it



Université de Liège: The University of Liege was founded in 1817 and counts more than 25.000 students from almost 130 nationalities. The GeMMe, a Research Unit specialized in georesources, mineral engineering and extractive metallurgy, derives its know-how from a long research tradition in primary ores mining and processing. It actively contributes to the development of innovative processes for the efficient management of mineral and metallic resources while providing unparalleled upscaling experience in urban ore characterization and processing. Find out more: https://www.uliege.be



SERI PLAST: SERI PLAST is an innovative and flexible company that deals with the production of thermoplastic compounds mainly based on polypropylene and polyethylene (recovered from industrial scraps and virgin raw materials). The need to compete on the global market constantly encourage SERI PLAST to reach the highest standards, taking care and improving costs and efficiency of its production processes. Find our more: https://www.seriplastsrl.it


CAMPINE: Campine Specialty chemicals is active in the additive market for plastics, as a supplier of flame retardant masterbatches, and antimony trioxide (flame retardant synergist, but also used as catalyst in PET or as a pigment). Campine recycling is active in the supply of lead alloys for the battery industry but also for (radioactive) shielding, electric cable protection. Find our more: https://www.campine.com



News

LIFE 18 projects launch in Brussels, Belgium

The LIFE PlasPLUS's management team took part in the Welcome Meeting for ENV and GIE LIFE18 projects organized by the EC's Executive Agency for Small and Medium-sized Enterprises (EASME) on 7 and 8 November 2019 in Brussels. The aim of the meeting was to provide all LIFE18 projects with an overview of relevant policy topics, LIFE programme rules, as well as to discuss potential financial and technical issues.

The LPP project team, led by the coordinating beneficiary Comet, took the opportunity to also use the session as a networking platform among the participating projects sharing common priority areas as well as engaging with EASME representatives.

LIFE PlasPLUS kicks off Obourg, Belgium

The LIFE PlasPLUS consortium gathered together for the very first time in Obourg on 20 January 2020 on the Comet industrial site for a 2-day kick-off meeting to officially mark the launch of the project.
During the first day of the meeting, Hervé Demoulin, the project leader for Comet, provided several successive presentations on Comet Traitements, the LIFE PLasPLUS project as well as specific project Preparatory Actions.

Administrative aspects of project management as well as issues relating to compliance with EU LIFE regulations were also covered. The finalization of the LPP Partnership Agreement was notably achieved on this occasion. The day was highlighted by a visit of Comet's site demonstrating the industrialization of eight post-shredder processes for the recovery of non-ferrous metals, plastics (PP, PE, ABS & PS), minerals, iron oxides and precious metals. Outreaching EC directives 2000/53 and 2002/96 for recycling and valorisation compliance targets, Comet achieved a certified recovery rate of 95.4% shredder input and a certified overall valorisation rate of 97.9% (shredder input 2015).

On the following day, a meeting was organized to discuss specific operational issues between Comet and Centro Ricerche Fiat ("CRF"). CRF provided a presentation of the Fiat CRF Group Materials Labs specifically targeting plastics. The Partners notably aligned their actions to supply one of the early stage deliverables titled "Quality Monitoring protocols".

The next LPP meeting had been planned to be held in Naples, Italy. Recent COVID-19 developments will however most likely disrupt this schedule.

What is next in the project?

Industrial testing of froth flotation and tribo-electricity is currently in progress at Comet Traitements. In parallel, tests to separate the ternary plastic mix

(FPP/ABS/PS) are being implemented bypassing the froth flotation step in order to simplify the process and limit water consumption when recycling the targeted plastic fractions: Filled PP (FPP), PS and ABS. Pilot tests have demonstrated the feasibility of separating ternary mixtures even with a high FPP content exceeding 25%.

The engineering of the triboelectricity demonstrating unit is almost complete. Deliveries have been delayed due to the COVID-19 crisis and the first machines will arrive on site by August 2020. Equipment installation is planned for the months of September and October.

The so called "Drainaplus" fraction of Comet Treatments containing plastics with brominated flame retardants and Antimony (FR) is being characterized with an X Ray gun to isolate FR-bearing fragments. These fragments will be sent to the University of Liège as control samples for the PICKIT pilot.

Upcoming events

- **Plastics Recycling Technology** | 16-17 September 2020, Vienna, Austria
- **Fakuma – International trade fair for plastics processing** | 13-17 October 2020 | Friedrichshafen, Germany

- **Plastics Recycling Show** | 27-28 October 2020 | Amsterdam, Netherlands
- **Kunststoffen 2020** | 2-3 December 2020 | Veldhoven, Netherlands

Hope to see you there!