



Welcome to REPOXYBLE

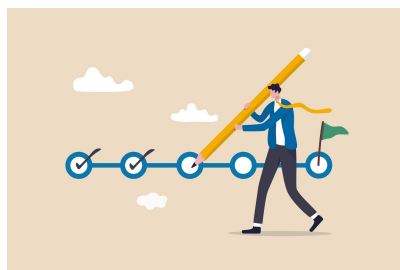
Dear [nome] [cognome],

a warm welcome to the newsletter of the REPOXYBLE project, developing sustainable epoxy composites. We are a team of sixteen partners, ranging from large companies to SMEs to universities and more, **with expertise from material development to product manufacturing and use, Safe-and-Sustainable-By-Design (SSbD), and open science.**

Our overall goal in REPOXYBLE is to develop cost and energy effective, recyclable and sustainable biobased epoxy composites, while maintaining their high performance and functional properties during their use phase. Our methodology encompasses the overall material value chain and life cycle, including testing of several SSbD aspects, and **deployment of our solutions in two demanding use cases:** a part of the wing of a near-future hypersonic plane, the monocoque and other components of an innovative, lightweight, zero emission vehicle.

We're now at the mid-stage of our three-and-a-half-year project. Ahead of us an important step: our first Open Innovation Workshop to discuss our findings on recycling and recovery of high-value composites. We appreciate your interest in REPOXYBLE. Please, pass on this newsletter to those who you think would like to join this growing community. We are looking forward to the journey ahead.

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Where are we now?

We developed all the building blocks and we're now optimizing both the resins formulations and the recycling process, while working on the IR-based curing process of our composite. We're developing and testing the materials and techniques to provide multifunctional properties to our solutions, including electrical conductivity, thermal dissipation, and structural self-monitoring

Next steps will be the full characterization and testing, and the development of the first prototypes. Amongst the many challenges we are facing, we know being able to **successfully recycle the epoxy**

system into valuable primary and secondary materials could be the most significant achievement of REPOXYBLE.

In the meanwhile, we started [collaborations](#) with other initiatives and projects to strengthen our impact.



Processes and methods for recycling, reuse, and recovery of advanced composite materials in the transport sector

7th June 2024 (9:30-13:00), Brussels and online

Fiber-reinforced composites are amongst the enabling materials for the green and digital transitions in the transport sector. However, there are still open issues concerning safety and sustainability impacts, mainly related to manufacturing and the end-of-life.

The REPOXYBLE workshop aims to **share insights from ongoing research with experts in chemical systems and novel technologies and production techniques**, toward recycling and recovery of high-value composite constituents.

The focus will be on automotive, aerospace, marine and infrastructures.

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Our case studies: automotive & aerospace

The transport sector is looking for more energy-efficient structures, and lightweighting as strategies to reduce use of resources and emissions. Advanced materials and epoxies can play a significant role to obtain lightweight, multifunctional, and recyclable materials, but there are still some criticalities.

REPOXYBLE aims to develop prototypes of new bio-based, lightweight, sustainable, and multifunctional epoxy-based composites, that will be used as **structural and functional parts for a hypersonic business jet HYPLANE and a fuel-cell low-weight car Rasa.**

[Discover more](#)

«Reliability, performance, overall life cycle footprint, market acceptability and supply and costs are significant challenges we must address if we want to develop bio-based solutions that could really compete with fossil-based products on the market. REPOXYBLE is paving the way».

Elvira Villaro, Avanzare Innovacion Tecnologica and REPOXYBLE coordinator

REPOXYBLE brings together 16 partners, including 7 SMEs and a large company, 5 universities, one RTD, and two clusters, from 8 countries: Spain, United Kingdom, Italy, Switzerland, Austria, Grece, Slovenia, and Portugal.

Together, we cover the entire value chain of the material lifecycle, and includes experts in safety, sustainability assessment, data management, and dissemination, communication and exploitation.



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You are receiving this email because we think you're interested in REPOXYBLE themes, and/or because you have been in contact with one of the partners of the REPOXYBLE project

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