

## **New Materials for the Future of Mobility | Composites ate S.L. announces its participation in a €2.8 Million Eurostar initiative for the development of sustainable composites to propel the future of mobility**

Composites ate S.L. is delighted to announce its involvement in a €2.8 M Eurostar program secured by a consortium comprised of Spanish, Italian and Swiss companies to accelerate the transition to green mobility. The consortium has received the interest of several OEMs in the automotive, aeronautical, rail and marine industries.

The project built by the consortium is called NERTHUS and is dedicated to achieving two primary objectives: the development and industrialization of a new generation of environmentally friendly composites, and the subsequent demonstration of their feasibility through targeted case studies defined by participating original equipment manufacturers (OEMs). The development and formulation of new materials include enhancing the properties of natural fibres and developing bio-based resins, self-healing resins and fire-resistant resins. By reaching targeted markets, the Nerthus project aims to showcase the feasibility and inherent benefits of these advanced materials, providing concrete evidence of their transformative potential in the ever-evolving realm of mobility. The project's contents are strategically aligned with the European Commission's NextGen goals, aspiring to position Europe as the global benchmark in sustainable technologies.

The project was launched in response to the pressing needs of the transportation sector, recognizing the imperative for eco-designed materials and sustainable practices in the development of lightweight structures. The actors of the consortium consist of: (i) Composites ATE SL, a Spanish part manufacturer focused on medium to high production series; (ii) Bcomp Ltd., a Swiss provider of natural fibre-based reinforcement technologies; (iii) CompPair Technologies Ltd., a Swiss materials provider of self-healing composites; (iv) Advanced materials testing and consulting SL (AMTEC), a Spanish engineering and testing company; and (v) Angeloni Group srl, an Italian provider and producer of dry and prepreg reinforcements for composite materials. The mission is rooted in a comprehensive approach that seeks to address various facets of sustainability. This includes the incorporation of bio-based resins and natural fibers. The emphasis on developing fast-curing resin systems, particularly those bio-based and suitable for press-curing, aligns with the project's commitment to substantial energy savings, plastic auxiliary material reductions, and a significant reduction in lead times. Through these concerted efforts, the Nerthus project envisions a future where vehicles benefit from more sustainable materials and processing technologies, contributing to a greener and locally sourced mobility landscape.

Ultimately, the Nerthus project aims to make a substantial impact by facilitating the development of lightweight structures with composites, thereby improving range, and reducing consumption. Central to this mission is the application of bio-based resins and natural fibers. This approach presents a proven and feasible alternative for constructing vehicle structures using natural or partially natural materials. Additionally, the project focuses on the creation of fast-curing bio-based resins, optimized for press-curing processes, offering remarkable energy savings, and significantly shorter lead times compared to traditional autoclave methods. Finally, the development of self-healing bio-based materials, capable of restoring structural integrity with a simple application of heat, not only offers a cost-effective and efficient repair solution but also contributes significantly to reducing CO<sub>2</sub> footprints through decreased maintenance costs and extended parts lifetime.

Composites ate's participation as Project Leader and Developer of use-cases in the Eurostars program marks a significant stride toward the realization of sustainable composites. By introducing innovative materials and

addressing long-standing industry concerns, Nerthus emerges as a catalyst for change, promising a paradigm shift towards eco-designed, sustainable, and locally sourced materials for the vehicles of tomorrow.

The consortium would like to acknowledge the funding bodies. Eurostars is part of the European Partnership on Innovative SMEs. The partnership is co-funded by the European Union through Horizon Europe. From Spain, this international program is supported by CDTI, the Centre for the Development of Industrial Technology belonging to the Ministry of Science, Innovation and Universities.



This project has received funding from the Eurostars-2 joint programme with co-funding from the European Union Horizon 2020 research and innovation programme



### About Composites ate S.L.

**Composites ate S.L. (Spain):** the company capabilities in product development cover from initial concept to serial production. ATE is offering composites' solutions to the industry for almost 30 years mastering several manufacturing technologies for structural and aesthetic applications. ATE delivered more than 300.000 homologated pieces made of carbon fibre with fast curing resins to the European automotive industry in the period 2021-2023, being also IATF16949 certified. The company is expanding to other sectors like Railway, Marine, Aerospace or Sport Goods.

### About the partners

**AMTEC, Advanced Materials Testing and Consulting S.L. (Spain)** is a company that emerged from the research activity of the AMADE research group at Universitat de Girona. It is a reference in Europe in complex composite structures simulations as well as in material characterization, holding all required approvals for aerospace testing among others.

**Angeloni Group S.R.L (Italy):** for more than 40 years Angeloni has been focused on innovation, continuously developing and offering new materials and solutions into the advanced composite market. With capabilities covering resin formulation, fabric weaving and prepregging of reinforcements, the company is in a position to become the supplier of greener semi-finished (prepregs) composite materials.

**Bcomp Ltd. (Switzerland):** Bcomp™ is a Swiss cleantech company and ESG-enabler that develops and sells sustainable lightweighting solutions. Its proprietary natural fibre-based reinforcement technologies ampliTex™ and powerRibs™ reduce environmental impact in a wide range of high-performance applications, from automotive interiors to the highest levels of motorsports, from luxury yachting to sports, infrastructure, aerospace and even space. Bcomp is already well integrated in the mobility market and has many projects with OEM, and thus full understanding of the requirements of the market.

**CompPair Technologies Ltd. (Switzerland)** is a world-class composite expert, providing the first healable and sustainable composite material, a ground-breaking innovation in the field of self-healing composites. Made with CompPair's technology, HealTech™, composite structures can heal damage on site in 1 minute. CompPair provides manufacturers with cutting-edge materials compatible with standard production processes. HealTech™'s value proposition is a 99% repair time reduction and significantly lower CO<sub>2</sub> emissions. CompPair tackles composite limitations and leads a paradigm change for the industry.

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