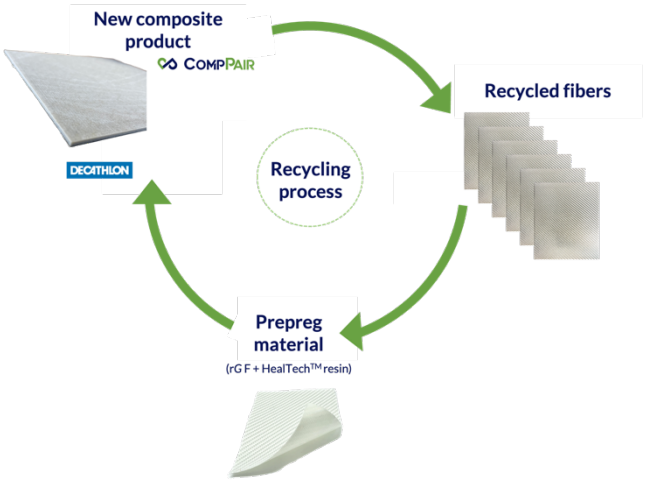
Press Release

Lausanne, April 2022

CompPair and Decathlon successfully complete a composite recycling project, the manufacture of a shoe sole with recovered fabric, and are now seeking additional recycling partners.

CompPair Technologies Ltd. and Decathlon SAS are proud to announce the completion of their joint fiber reinforced plastic (FRP) recycling project. This project is an industrial proof-of-concept (POC) of what is possible with HealTech™: making FRP recycling more environmentally and, ultimately, economically viable.

CompPair's HealTech™ is a ground-breaking innovation in the field of self-healing composites, a new prepreg enabling the production of composite structures that can heal damage on-site in 1 minute and be recycled more efficiently. The goal of this POC was to close HealTech™'s recycling loop on a 3-dimensional monolithic product, representative of many sporting goods and relevant to both companies' activities. Specifically, the companies achieved their goals by producing a bicycle shoe sole with virgin HealTech™ glass prepregs, recycling the fabric ply by ply, and producing the same sole with 87% of recycled pre-cut fibers!



Through this work, CompPair's recycling process demonstrated the reclaim of continuous fibers with more than 80% of their original flexural strength (a measure of the part's mechanical properties, following ASTM standards), compared to only 32% with microwave pyrolysis[1]. In addition, the life cycle analysis showed the benefits of shifting from a conventional incineration disposal method to a recycling one, potentially reducing mineral resource use by 72% and CO_2 emissions by 13%. The impacts were evaluated for a functional unit of 1kg of glass fibre-reinforced healable CompPair composite, considering raw materials, production, transports, repairs, and end-of-life. Scenarios were modeled based on the ecoinvent 3.7 database and the results calculated with the Impact World+ method in version 9.2 of the SimaPro software. CompPair and Decathlon are now seeking industrial partners to refine the recycling channels and upscale the recycling process.

[1] Microwave pyrolysis as a method of recycling glass fibre from used blades of wind turbines, Dan Akesson et al (2012)

Both companies are in line with each other's visions, CompPair can contribute to Decathlon's aim to significantly reduce its environmental impact with new solutions across the whole lifecycle of its composite products: from reducing production footprint to providing efficient end-of-life solution while increasing product durability. CompPair is delighted to take on this challenge and continue working with Decathlon across its wide product range.

This project originates from a collaboration between the Laboratory for Processing of Advanced Composites (LPAC) and CompPair. We would like to thank all the entities who have supported this project: the Switzerland Innovation Tech4Impact funding Initiative, powered by E4S Tech4Impact, the Swiss Federal Institute of Technology Lausanne (EPFL) and the LPAC who hosted the project as well as the Decathlon Composites industrial division and the Van Rysel brand.

CompPair is seeking industrial partners to perfect the recycling of composites and fulfill its vision of bringing full circularity to the composites industry.

About CompPair Technologies Ltd.

CompPair Technologies Ltd. is a cutting-edge Swiss company in the field of self-healing composites materials helping clients build better products, that last longer, and produce less waste. Founded in 2020, the company is part of the European Space Agency Incubator and has won multiples awards including the JEC Startup booster. The team shares strong values of innovation, commitment and reliability and its vision is to bring full circularity to the composites industry by enabling lifetime extension and efficient recycling solution.

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