

FAIRMAT raises 8.6 million euros to put technology at the service of high-tech material recycling

Benjamin Saada, the co-founder of Expliseat, is launching his new start-up, a pioneer in the development of disruptive technologies for the recycling of high-tech materials. It aims to create one of the first circular industries with a negative carbon footprint for large-scale applications and deliver high-environmental impact.

Paris, 28th of September 2021 – Benjamin Saada, the co-founder of Expliseat, is launching FAIRMAT, a deeptech company aiming for "zero waste" and a final stop of composite materials' landfills by creating a recycled and negative carbon footprint material that manufacturers can use in a vast array of products. This ambition will revolutionize the high-tech materials industry, which uses are constantly increasing whilst there are paradoxically very few ecological solutions adapted to their end-of-life.

FAIRMAT announces an €8.6 million fundraising to industrialize its proprietary technology of recycling carbon fiber composite (CFC). Singular led this first-round funding alongside business angels, including tech entrepreneurs and captains of industry, who will accompany FAIRMAT in this first stage of its development.

A disruptive technology suited for a fast-growing market

FAIRMAT wants to revolutionize the composite materials industry with a disruptive technology that will create a light and strong high-tech material designed to be used in almost all industries. This material is produced from carbon fiber production waste coming from many sectors - wind energy, aviation, automotive - and will avoid their landfilling or incineration, as it is still the case most of the time. Although fully aware of this issue, industries using carbon fiber composites are still struggling to find solutions. Indeed, the volume of carbon fiber composite waste is constantly increasing. It is estimated at nearly 62,000 tons¹ worldwide each year, excluding the tons from the dismantling at the application's end-of-life. FAIRMAT aims to recycle these high-added-value waste materials that are neither sorted nor recovered but sent to landfills. FAIRMAT thus creates the first high-tech and recycled material with a negative carbon footprint.

Thanks to its proprietary technology, FAIRMAT is disrupting the industry by expanding the applications of this high value-added material by creating an authentic fair-trade material, saving 41 kilos of CO2 emissions per kilo of recycled material. FAIRMAT thus proposes an ecological alternative to all production materials and responds to the environmental and sustainable development challenges which manufacturers are facing. The CFC market alone represented 160,000 metric tons produced in 2020². Carbon fiber composite is a material that provides immense and indispensable services to the planet, for example, by allowing the storage of hydrogen in cars or to manufacture wind turbines.

Deeptech for a more sustainable industry

FAIRMAT has developed a technological process that contributes to carbon fiber-based composites production sustainability, thus giving a high value-added material a second life. Until now, most of the end-of-life composites were incinerated or buried.

FAIRMAT will rely on numerous technologies (artificial intelligence, robotics, algorithms, computer vision, etc.) to bring this solution to reality, significantly reduce its production cost, and offer new applications which will benefit the planet to many stakeholders in industries such as design, mobility, electronics, construction, transport, and logistics.

¹ According to a study done by Sankar Karuppanan Gopalraj and Timo Kärki published in "SN Applied Sciences" in February 2020

² According to the research done by A.K. Bledzki, K. Goracy and M. Urbaniak and published in the scientific review "Polymer" in January 2021

Production launch planned for 2022

This first round of financing will increase the level of maturity of the technologies developed by FAIRMAT in recycling composite materials. FAIRMAT plans to launch the production of its high value-added recycled material in 2022. In this perspective, the deeptech has already signed its first recycling contracts in France. Thus, FAIRMAT is aiming for a capacity of 5,000 tons of recycled material annually in its first production site.

"When I took a closer look at the recycling of this material, I realized that it was not at all recycled ecologically. I wanted to work on a technology that would meet the sustainability goals required to transform industries. In 2021, we will finally be able to make this high value-added material circular in a much more virtuous way, thanks to new technologies. We have a major challenge ahead of us: to recycle a huge market that will continue to grow in the coming years. Thanks to the trust of Singular and our investors, we will quickly make our environmentally friendly material available to our industrial customers," said Benjamin Saada, founder of FAIRMAT.

Raffi Kamber, Singular's co-founder, said: *"Benjamin Saada is a well-known figure in the world of industrial innovation. After revolutionizing the aeronautics industry with the world's lightest airplane seat, he is now tackling the valorization of a strategic material for the planet with the creation of FAIRMAT. The ambition of the FAIRMAT team immediately attracted us, and we are thrilled to be able to support the first steps of this future major player of the deeptech in Europe and the world."*

About FAIRMAT

Founded in 2020 by Benjamin Saada, FAIRMAT is a French deeptech aiming to revolutionize the recycling of carbon fiber-based composites. FAIRMAT creates a more sustainable future for composites and long-term industrialization through a virtuous recycling process thanks to its disruptive technology.

More information on: www.fairmat.tech

About Singular

Singular is a European venture firm partnering with remarkable founders building transformative companies. We take a highly collaborative approach and are committed to bringing them tangible value, from their earliest moments through all stages of their growth. We help the most innovative entrepreneurs fulfil their potential, working side by side to create the conditions for global success."

About Carbon Fiber Composites

Carbon fiber composite is one of the most common forms of composite used today. Carbon fibers are produced by polymerization at extremely high temperatures in an oven under an inert atmosphere.

The resulting fibers are then spun and/or woven into sheets and mixed with curing resins to form the various components required. A composite material combines two or more materials with different chemical and physical properties. When these materials are combined, they create better material. In general, it consists of reinforcement (in this case, carbon fiber) and a matrix (in this case, a cured resin).

Composites are used in various markets and applications such as industry, railroads, renewable energy, or aerospace. Composites are also used for new applications such as hydrogen cars, drones, bicycles, boats, etc.

Compared with traditional materials such as steel, aluminum, iron, or titanium, composites have not yet reached maturity and are only recently becoming better understood by design and manufacturing engineers. However, the physical properties of composites make them undeniably attractive. High strength and low weight remain the winning combination that propels composite materials to new heights. In fact, carbon fiber composites are a sustainable way to reduce CO2 emissions: airplanes, H₂ cars, electric mobility, wind turbines, etc., consume much less since they have incorporated this material in their compositions.

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