

PRESS RELEASE



Carbios doubles its number of granted patents in two years for its proprietary enzymatic technologies

- At end 2022, Carbios has 336 titles worldwide divided into 53 patent families for its innovation in enzymatic recycling of PET plastics and fibers, and its PLA biodegradation technology
- Carbios' team of Intellectual Property experts is dedicated to protecting its innovations

Clermont-Ferrand, France, 1 March 2023 (6.45am CET). Carbios (Euronext Growth Paris: ALCRB), a pioneer in the development and industrialization of biological technologies to reinvent the life cycle of plastics and textiles, has doubled its number of issued patents since the last review published at the end of 2020¹.

Protection of Carbios' processes

Carbios (and its subsidiary Carbiolice) currently holds 336 titles worldwide divided into 53 patent families. In 2022, several titles protecting the proprietary PET-degrading enzymes were granted in countries of interest such as the United States and also in Asian countries including Indonesia, South Korea, China, Japan and India. Carbios has also obtained grants within its patent families protecting the biodegradable plastics production process, notably the masterbatch containing the enzyme or its production process.

"Over the past two years, we have mainly focused on strengthening the protection of our PET biorecycling process and its proprietary enzymes," commented **Lise LUCCHESI, Director of Intellectual Property at Carbios**. *"For the coming years, we will continue to consolidate the protection of this process, and that of our PLA biodegradation process, by filing new patent applications. We will also actively follow up on our filed patent applications in order to obtain granted patents."*

"Since the beginning of Carbios, the R&D and Intellectual Property departments have worked hand in hand to ensure maximum protection of our enzymes and processes," commented **Alain Marty, Chief Scientific Officer at Carbios**. *"These continued efforts to obtain extensive international protection are crucial to safeguard our innovations and ensure the industrial deployment of our technologies."*

¹ Cf. [press release dated 14 January 2021](#)

Worldwide protection

Carbios is expanding its intellectual property portfolio in regions and countries where there is strong demand for its disruptive technologies (see Fig. 1), notably :

- **in Europe:** 40 European titles, which could be granted in the 39 member states of the European Patent Organization
- **in North America:** 41 titles in the United States and 23 in Canada
- **in Asia:** 152 titles, including 37 in China, 27 in Japan and 24 in India

Carbios also has 14 patent applications that may be extended to other countries or regions of the world in the coming years.



Fig 1. Carbios patent titles by geographic region

"We are convinced that biological recycling is the most efficient and circular solution to degrade plastics," stated **Emmanuel LADENT, CEO of Carbios**. "The protection of our enzymes and processes is at the heart of our work, and we have a dedicated Intellectual Property team within Carbios. From 2023, we will also focus our efforts on protecting innovation related to enzymatic degradation of other polymers."

A dedicated Intellectual Property team



The Intellectual Property team at Carbios includes a Director (who is also a member of the Executive Committee) and two patent engineers specialized in the fields of biotechnology and polymer chemistry, one of whom is a representative before the European Patent Office. The team is supported by two external Intellectual Property consulting firms (Becker & Associés and Franck Tetaz Intellectual Property). Finally, an Intellectual Property Committee reports regularly to Carbios' Board of Directors.

Fig 2. The Carbios Intellectual Property team in front of granted patents (l. to r. : Georges ZAKHIA, Lise LUCCHESI (Director) and Jade FESANCIEUX)

About Carbios

Established in 2011 by Truffle Capital, Carbios is a green biotech company, developing biological and innovative processes. Through its unique approach of combining enzymes and plastics, Carbios aims to address new consumer expectations and the challenges of a broad ecological transition by taking up a major challenge of our time: plastic and textile pollution. Carbios deconstructs any type of PET (the dominant polymer in bottles, trays, textiles made of polyester) into its basic components which can then be reused to produce new PET plastics with equivalent quality to virgin ones. This PET innovation, the first of its kind in the world, was recently recognized in a scientific paper published in front cover of the prestigious journal Nature. Carbios successfully started up its demonstration plant in Clermont-Ferrand in 2021. It has now taken another key step towards the industrialization of its process with the construction of a first-of-a-kind unit in partnership with Indorama Ventures.

In 2017, Carbios and L'Oréal co-founded a consortium to contribute to the industrialization of its proprietary recycling technology. Committed to developing innovative solutions for sustainable development, Nestlé Waters, PepsiCo and Suntory Beverage & Food Europe joined this consortium in April 2019. In 2022, Carbios signed an agreement with On, Patagonia, PUMA, and Salomon, to develop solutions promoting the recyclability and circularity of their products. PVH Corp. joined this consortium in January 2023.

The Company has also developed an enzymatic biodegradation technology for PLA-based (a bio sourced polymer) single-use plastics. This technology can create a new generation of plastics that are 100% compostable at ambient temperatures, even in domestic conditions, integrating enzymes at the heart of the plastic product.

For more information, please visit carbios.com / Twitter: [Carbios](#) / LinkedIn: [Carbios](#) / Instagram: [insidecarbios](#)



Carbios (ISIN FR0011648716/ALCRB) is eligible for the PEA-PME, a government program allowing French residents investing in SMEs to benefit from income tax rebates.

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