

## Avantium and Kirin collaborate to explore the use of Avantium's PEF for packaging of the Kirin product portfolio

AMSTERDAM, 12 November 2024, 07:00 hrs CET – Avantium N.V., a leading company in renewable and circular polymer materials, announces the collaboration with Kirin Holdings, the Japanese beer, beverage, and wine company known for brands such as Kirin Ichiban (beer), Nama Cha, Gogo no Kōcha (teas), and Bon Rouge (wine). This partnership focuses on R&D activities to explore the application of Avantium's 100% plant-based and recyclable material PEF, known under the brand name Releaf®, to the bottles and other packages of Kirin's product portfolio.

---

PEF has been known to Kirin's R&D team for over a decade. Recognizing its superior barrier properties, higher mechanical strength, and lower processing temperature, Kirin began working with Avantium in 2020 to explore the potential of PEF for its product portfolio. Over the past three years, Avantium and Kirin have engaged in a productive collaboration, working on PEF/PET multilayer applications, PET/PEF blending, and PEF monolayer evaluation. These efforts have been directed towards verifying the recyclability, barrier properties, and formability of PEF. The results have been promising. Kirin has therefore now decided to intensify the collaboration with Avantium by broadening PEF evaluation to various type of containers for Kirin group's products.

Kirin is furthermore providing support to Avantium in their effort to integrate PEF recycling within the current PET stream in Japan, as part of the application process to the Japanese Council for PET Bottle Recycling (CPBR). Avantium has already secured such allowance for PEF in the PET recycling stream in Europe, recognized by the European PET Bottle Platform (EPBP), and in the USA, acknowledged by the Association of Plastic Recyclers (APR).

The collaboration between Avantium and Kirin is a testament to both companies' commitment to sustainability and innovation. Kirin's decision for this partnership underlines the shared vision of a circular economy and the use of sustainable resources. Masaki Nakaya, Unit General Manager of the Institute for Package Innovation at Kirin's Research & Development Division, comments: "Avantium's application to CPBR will add a new environmentally favourable package alternative to Japan's beverage industry. Kirin has been a leading company in Japan in sustainable practices, for example by developing sustainable containers and packaging that employ recycled materials and biobased feedstocks. This collaboration aligns perfectly with Kirin's Environmental Vision 2050, which seeks to create a positive impact on nature and people: it will not only enhance the sustainability of Kirin's packaging but also contribute to a circular economy of our society."

Yuzhong Chen, Avantium's Business Development Manager Asia, says: "We are deeply grateful for Kirin's support of Avantium's application to the CPBR for PEF recycling within the PET stream in Japan. Working alongside Kirin Group, a company that exemplifies a commitment to sustainability and innovation, is an honour. The consideration of our plant-based, recyclable PEF into Kirin's packaging is a significant step towards a sustainable future for all. We believe that every consumer has the right to enjoy their favourite products, knowing that the packaging is not only safe and high-quality, but also kind to our planet."

#### About Kirin Group

Kirin Holdings Company, Limited is an international company that operates in the Food & Beverages domain (Food & Beverages businesses), Pharmaceuticals domain (Pharmaceuticals businesses), and Health Science domain (Health Science business), both in Japan and across the globe.

Kirin Holdings can trace its roots to Japan Brewery which was established in 1885. Japan Brewery became Kirin Brewery in 1907. Since then, the company expanded its business with fermentation and biotechnology as its core technologies, and entered the pharmaceutical business in the 1980s, all of which continue to be global growth centers. In 2007, Kirin Holdings was established as a pure holding company and is currently focusing on boosting its Health Science domain.

For more information, visit <https://www.kirinholdings.com/en/>

#### About Avantium

Avantium is a pioneering commercial-stage company focused on renewable & circular polymer materials. Avantium develops and commercialises innovative technologies for the production of materials based on sustainable carbon feedstocks, i.e. carbon from biomass or carbon from the air (CO<sub>2</sub>). The most advanced technology is the YXY® Technology that catalytically converts plant-based sugars into FDCA (furanicarboxylic acid), the key building block for the sustainable plastic PEF (polyethylene furanoate). PEF is known under the brand name Releaf®, an EU registered trademark of Avantium. Avantium has successfully demonstrated the YXY® Technology at its pilot plant in Geleen, the Netherlands, and is in the process of starting the world's first commercial plant for FDCA in Delfzijl, the Netherlands. Avantium works in partnership with like-minded companies around the globe to create revolutionary renewable chemistry solutions from invention to commercial scale.

Avantium's shares are listed on Euronext Amsterdam and Euronext Brussels (symbol: AVTX). Avantium is incorporated in the Euronext Amsterdam SmallCap Index (AScX). Its offices and headquarters are in Amsterdam, the Netherlands.

---

For more information:

Caroline van Reedt Dortland, Director Communications  
+31-20-5860110 / +31-613400179  
[mediarelations@avantium.com](mailto:mediarelations@avantium.com)

Aarne Luten, Head of Investor Relations  
+31-625687714  
[ir@avantium.com](mailto:ir@avantium.com)