

Avantium R&D Solutions to provide adsorption testing units to Climeworks for the capture of carbon dioxide from air

AMSTERDAM, 11 February 2025, 07:00 hrs CET – Avantium N.V., a leader in renewable and circular polymer materials, announces that it has entered into an agreement with Climeworks AG, a pioneer in Direct Air Capture (DAC) technology. Under the agreement, Climeworks will acquire another advanced high-throughput adsorption testing unit from Avantium R&D Solutions. This strategic step aims to accelerate the large-scale deployment of DAC technology, a critical component in the fight against climate change by permanently removing carbon dioxide from the air.

With its DAC technology, Climeworks captures CO₂ directly from ambient air and stores it safely and permanently underground in Iceland with its storage partner Carbfix. Avantium R&D Solutions offers R&D solutions for high-quality testing of chemicals and materials. Together with Climeworks, Avantium has recently developed a custom-made, high-throughput adsorption testing unit for Climeworks' DAC application that enhances the efficiency and effectiveness of testing new materials for CO₂ adsorption, and which in turn is expected to lead to more cost-effective DAC systems.

Avantium's testing unit has already proved highly beneficial. Both the sample mass and the gas consumption were reduced by a factor of 25. This is a significant cost saving when it comes to gas consumption, and it bears an advantage for R&D teams which often produce smaller amounts of sample. The design of the breakthrough analyzer allows for better comparability between reactors, because all samples are measured on the same sensors sequentially. The unit has proven very reliable with an uptime of 98% throughout 2024, with only occasional downtimes being limited to everyday maintenance. Ultimately, this strengthens Climeworks in scaling up its DAC technology quality control, enabling faster development and implementation of solutions to capture CO₂ directly from the air.

"This agreement enables us to take a significant step forward in building out a testing environment of industrial quality and expanding our high-quality supplier ecosystem. Avantium's high-throughput adsorption testing unit will enhance our ability to develop and test new materials and accelerate the deployment of our DAC systems on a global scale," said Jan Wurzbacher, Co-CEO and co-founder of Climeworks.

Steven Olivier, Managing Director of Avantium R&D Solutions, commented: "We take pride in our collaboration with Climeworks, a company that mirrors our dedication to sustainability and relentless innovation. This partnership is a testament to our shared commitment to addressing the urgent need for scalable climate solutions. Together, we can make a significant impact on reducing significant atmospheric CO₂ levels."



Press release

About Climeworks

Climeworks is a leading high-quality carbon removal provider, combining decades of expertise in Direct Air Capture (DAC) technology with holistic carbon removal solutions.

Climeworks advises companies on their carbon removal strategies and provides tailored portfolios of nature-based and engineered approaches, offering end-to-end services to help achieve net-zero goals. The company runs the world's first two DAC plants in Iceland, demonstrating its core commitment to high-quality carbon removal that is backed by over 15 years of pioneering research, development, and deployment.

By advancing the most reliable solutions in the market, Climeworks accelerates the global transition to net zero, unlocking economic value for businesses, governments, and society.

About Avantium

Avantium is a pioneering commercial-stage company focused on renewable & circular polymer materials. Avantium develops and commercializes innovative technologies for the production of materials based on sustainable carbon feedstocks, i.e. carbon from biomass or carbon from the air (CO₂). 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 also provides R&D solutions in the field of sustainable chemistry and is the leading provider of advanced catalyst testing technology and services to accelerate catalyst R&D. 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.

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