

Avantium and Henkel sign offtake agreement on FDCA for adhesives to be used in electronics applications

AMSTERDAM, 24 January 2023, 07:00 hrs CEST – Avantium N.V., a leading technology company in renewable chemistry, and Henkel, a global leader of adhesives, sealants and functional coatings, and leading manufacturer of well-known consumer brands, have signed an offtake agreement for five years, under which Avantium will supply Henkel with FDCA (furandicarboxylic acid) produced in Avantium's FDCA Flagship Plant, currently under construction in Delfzijl, the Netherlands. Avantium expects to start production at this world's first commercial facility for the production of FDCA from plant-based sugars in 2024.

Henkel will purchase FDCA to launch innovative, high performance polyurethane adhesives in electronics applications, enabling their customers to realize their sustainability goals.

Henkel and Avantium have been partners since 2019, when Henkel joined the PEFerence consortium¹. This consortium of partners, coordinated by Avantium, aims to establish an innovative supply chain for FDCA and PEF (polyethylene furanoate). As part of the PEFerence project, Henkel has tested and positively evaluated the feasibility of FDCA for the use of polyurethane adhesives. Now Henkel has decided to proceed and bring those adhesives to the market for the use in electronics applications, such as consumer devices.

For many years, Henkel has been committed to sustainable business practices. As a market leader for adhesives, sealants and functional coatings, Henkel is making an important contribution to climate protection by embracing innovative solutions that facilitate recycling and enable CO_2 savings across the value chain. "Henkel is constantly innovating high-quality and sustainable adhesives to support our customers and ecosystem partners in their implementation of a circular economy. Avantium's 100% plant-based FDCA enhances our strategy to incorporate renewable carbon into our technology roadmap while offering improved performance in our products. We look forward to continue working with Avantium in the years to come. For us, this is just the start as we see high potential for FDCA in application areas beyond electronics, such as packaging, wood construction or textile lamination", says Adrian Brandt, Head of Bio-Renewable materials team at Henkel Adhesive Technologies.

Bineke Posthumus, Director Business Development of Avantium Renewable Polymers, comments: "We are very pleased that yet another partner of the PEFerence consortium has decided to sign an offtake agreement with Avantium. One of the benefits working with such diverse group of reputable companies within the PEFerence consortium is that it enables us to create new applications for FDCA and PEF. The decision of Henkel to use FDCA for polyurethane adhesives for use in electronics applications is a great example of the possibility to use our high-quality, plant-based chemical building block FDCA in various markets and applications."

¹ The PEFerence consortium is supported with a "PEFerence" Horizon 2020 grant awarded by Bio-based Industries Joint Undertaking (BBI JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 744409





About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2021, Henkel reported sales of more than 20 billion euros and an adjusted operating profit of about 2.7 billion euros. The company employs more than 52,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose, and shared values. As a recognizedg leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

About Avantium

Avantium is a leading technology development company and a frontrunner in renewable chemistry. Avantium develops novel technologies based on renewable carbon sources as an alternative to fossilbased chemicals and plastics. The company currently has three technologies at pilot and demonstration phase. The most advanced technology is the YXY® plant-to-plastics-technology that catalytically converts plant-based sugars into FDCA (furandicarboxylic acid), the key building block for the sustainable plastic PEF (polyethylene furanoate). Avantium has successfully demonstrated the YXY® Technology at its pilot plant in Geleen, the Netherlands, and has started construction of the world's first commercial plant in 2022, with planned large-scale production of PEF in 2024. The second technology is Ray Technology™ and catalytically converts industrial sugars to plant-based MEG (mono-ethylene glycol) and plant-based MPG (mono-propylene glycol): plant $MEG^{\text{\tiny{TM}}}$ and plantMPG[™]. Avantium is scaling up its Ray Technology[™] and the demonstration plant in Delfzijl, the Netherlands opened in November 2019. The third technology is called the Dawn Technology™ that converts non-food biomass into industrial sugars and lignin in order to help transition the chemicals and materials industries to non-fossil resources. In 2018, Avantium opened the Dawn Technology™ pilot biorefinery 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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