

## Avantium grants Kebony rights to use its patented technologies on humins for wood modification

---

AMSTERDAM, 23 September 2020, 07:00 CEST – Avantium N.V, a leading technology company in renewable chemistry, announces that its subsidiary Avantium Renewable Polymers has granted leading wood modification company Kebony the right to use its patented technologies related to humins, as well as the right to file additional patents in the application area. Humins are a valuable side stream from Avantium’s process to produce FDCA (furandicarboxylic acid), the key building block for the novel polyester PEF (polyethylene furanoate).

With these license rights, Kebony has the potential to successfully commercialise wood modified with a mix of humins and furfuryl alcohol. This may pave the way for a further collaboration between Avantium and Kebony and the commercialisation of humins from Avantium’s FDCA flagship plant which is planned to start up in 2023.

---

Humins are a novel plant-based raw material with a unique polymeric structure similar to caramelised sugar, and a range of diverse chemical functionalities. One such functionality involves mixing humins with bio-based furfuryl alcohol to modify soft woods in order to considerably increase their durability. Avantium was granted a patent on a resin that is a mix of humins and furfuryl alcohol in 2015. Kebony successfully tested this resin and joined the PEFerence consortium as a partner to further develop applications of humins for wood modification. PEFerence is a consortium of organisations under the Horizon 2020 EU subsidy program aiming to replace a significant share of fossil-based polyesters with PEF. Avantium has now agreed to grant Kebony a license to its humin related patents.

Bart Langius, Commercial Director of Avantium Renewable Polymers, comments: “We are pleased with our collaboration with Kebony on humins, which we consider a valuable side stream from our PEF process. With Kebony, we share a common goal to replace fossil-based chemicals and materials with renewable alternatives.”

Norman Willemsen, CEO of Kebony, says: “We are thrilled that Avantium have granted us a license for the patented humin compositions and related manufacturing process. We believe that humins have potential as a valuable feedstock for wood modification. We look forward to continuing and expanding our partnership with Avantium in the coming years.”

---

The PEFerence project has received funding from the Bio Based Industries Joint Undertaking under the European Union’s Horizon 2020 research and innovation programme under grant agreement No 744409.

**About Kebony**

Kebony's mission is, through active innovation, quality thinking and understanding of commercial possibilities; give the world beautiful, long lasting and environmentally friendly wood products. Underpinned by proven timber modification technologies, it produces an enhanced wood of a superior quality that is both environmentally friendly and cost-effective. The company has received numerous awards for its environmentally friendly technology and innovation, including its naming as a World Economic Forum Technology Pioneer. The Kebony® technology permanently transforms sustainable wood species such as pine into Kebony wood with features that are comparable, and in some cases superior, to those of precious tropical hardwoods. This unique environmentally friendly process is also a superior alternative to traditional wood treatment based on impregnation with biocides (wood preservatives). The company's patent-protected production processes yield products that deliver major improvements in durability and dimensional stability, at the same time as being highly attractive. The Kebony products are suitable for a multitude of applications and designs – encompassing both indoor and outdoor applications.

**About Avantium**

Avantium is a leading technology development company and a forerunner in renewable chemistry. Avantium develops novel technologies based on renewable carbon sources as an alternative to fossil-based 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 a wide range of chemicals and plastics, such as PEF (polyethylene furanoate). Avantium has successfully demonstrated the YXY Technology® at its pilot plant in Geleen, the Netherlands. The second technology is the Dawn Technology™ that converts non-food biomass into industrial sugars and lignin in order to transition the chemicals and materials industries to non-fossil resources. In 2018, Avantium opened the Dawn Technology™ pilot biorefinery in Delfzijl, the Netherlands. The third technology is called Ray Technology™ and catalytically converts industrial sugars to plant-based MEG (mono-ethylene glycol). Avantium is scaling up its Ray Technology™ and the demonstration plant in Delfzijl, the Netherlands opened on November 7, 2019. Next to developing and commercialising renewable chemistry technologies, the company also provides advanced catalysis R&D services and systems to customers in the refinery and chemical industries. Avantium works in partnership with likeminded 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 included 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, Avantium  
+31-20-5860110 / +31-613400179,  
[caroline.vanreedt-dortland@avantium.com](mailto:caroline.vanreedt-dortland@avantium.com)

---