Press release

# Avantium awarded €0.76 million EU funding for its participation in the Rebiolution project

**AMSTERDAM, 16 August 2023, 06:30 hrs CEST – Avantium N.V., a leading technology provider in renewable chemistry, announces that it has been awarded a €0.76 million grant by the EU Horizon Europe programme for its participation in the research and development programme Rebiolution[1]. This programme aims to design and synthetize biobased and biodegradable polyester blends based on FDCA (furandicarboxylic acid) and other biobased monomers, to be used as plastic coating for food packaging and for mulch films for agricultural applications. The €0.76 million grant will be paid out in tranches to Avantium over a period of three years, starting in June 2023.**

Avantium has developed the YXY® Technology that converts plant-based sugars into FDCA, which can be polymerized together with plant-based mono-ethylene glycol (MEG) into the sustainable plastic PEF (polyethylene furanoate). As a monomer, FDCA brings the opportunity to create a variety of polymers, from polyesters, polyamides and polyurethanes, to coating resins, plasticisers and other chemical products. Avantium is currently constructing the world's first commercial FDCA facility in Delfzijl (the Netherlands), with a capacity of 5,000 tonnes per annum and set to open in 2024.

Under the Rebiolution programme, Avantium will provide several hundreds of kilogrammes of FDCA for the development and production of a biodegradable and compostable polyester blend. The intention is to use the resulting *Rebiolution* bioplastic as plastic coating for food packaging (paper/plastics composites), as an alternative for fossil-based polyethylene (PE). Another intended application for the *Rebiolution* bioplastic is to use it as mulch films for agricultural applications. As such, this new polyester could be a fully biobased alternative for the widely used PBAT (butylene-adipate-co-terephthalate), which is partly fossil-based.

Kai Siegenthaler, coordinator of the Rebiolution project and responsible for biopolymers research at BASF, comments: "FDCA is a key element in the Rebiolution strategy. The potential of FDCA is based on its plant-based origin and on its structural similarity to the largest-volume commodity chemical PTA (purified terephthalic acid). By reacting FDCA with other biobased monomers, we intend to produce a 100% biobased and biodegradable polyester which also fulfils requirements regarding processing, lifetime, performance and cost effectiveness. We strongly believe that the resulting bioplastic can help to achieve the challenging circularity goals which the EU sets itself."

"We are delighted to supply FDCA for the Rebiolution project. FDCA was listed in 2004 by the US Department of Energy as the number two in the top 12 priority chemicals for establishing the green chemistry industry of the future. Avantium's polymerization-quality FDCA is not only the key building block for the plant-based plastic material PEF, but has many other potential applications in various markets, as shown by this project," said Bas Blom, director of Avantium Renewable Polymers.

## About Rebiolution

The Rebiolution project, which has received a € 4.9 million EU Horizon Europe grant in total, is expected to be executed over three years. The Rebiolution consortium is composed of nine partners from seven different countries: BASF SE (Germany), ORGANIC WASTE SYSTEMS NV (Belgium), HYDRA MARINE SCIENCES GMBH (Germany), CONTACTICA S.L (Spain), AVANTIUM RENEWABLE POLYMERS BV (Netherlands), TAMPEREEN KORKEAKOULUSAATIO SR (Finland), STORA ENSO OYJ

1 Rebiolution stands for 'Novel biodegradable, REcyclable, BIO-based and safe plastic polymers with enhanced circuLar properties for food packaging and agricUltural applicaTIONs'

(Finland), CENTRE TECHNIQUE DE L INDUSTRIE DESPAPIERS CARTONS ET CELLULOSES (France), EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH (Switzerland).

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**About Avantium**

Avantium is a leading technology development company and a frontrunner in renewable chemistry. 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 ($CO_2$).The most advanced technology is the YXY® 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 for FDCA 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): plantMEG™ and plantMPG™. Avantium is scaling up its Ray Technology™ and the demonstration plant in Delfzijl, the Netherlands opened in November 2019. Avantium's Volta Technology uses electrochemistry to convert $CO_2$ into high-value chemical building blocks and sustainable plastic materials, including PLGA (polylactic-co-glycolic acid). 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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