

RETAPP

Rethinking All Plastic Packaging



ReTAPP

RE-THINK ALL
PLASTIC PACKAGING

RETAPP OBJECTIVES

The main objectives of the ReTAPP project are to demonstrate the production of fructose from wood-based feedstock and to prepare the whole value chain for the market introduction of PEF resin using this fructose. The processes will be optimised and demonstrated by the three consortium partners: SEKAB, a technology provider for the wood-to-sugars technology; Avantium, world leader in the production of PEF; and MetGen, which provides the enzymes to make the processes more economically and environmentally sustainable.

RETAPP CONSORTIUM



METGEN

METGEN OY (Coordinator) is an innovative Finnish SME which designs and markets novel MetZyme® enzymatic solutions for the most challenging of industrial conditions enabling novel applications and combinations with other enzymes to meet our customer specific need. MetGen has developed a very cost-effective and streamlined development and manufacturing process of industrial enzymes that can easily be adopted to any required changes and parameters in industrial production. In ReTAPP, MetGen will develop and provide other consortium partners tailored industrial enzymes and enzymatic solutions for their existing process, both for the recovery of reducing sugars from woody biomass by enzymatic hydrolysis and bioconversion of Glucose to Fructose. MetGen has a technology platform - ENZINE® (TRL 8) - in place to develop novel industrial enzymes and further tailored existing solutions for specific needs in fast, flexible and adaptable manner.

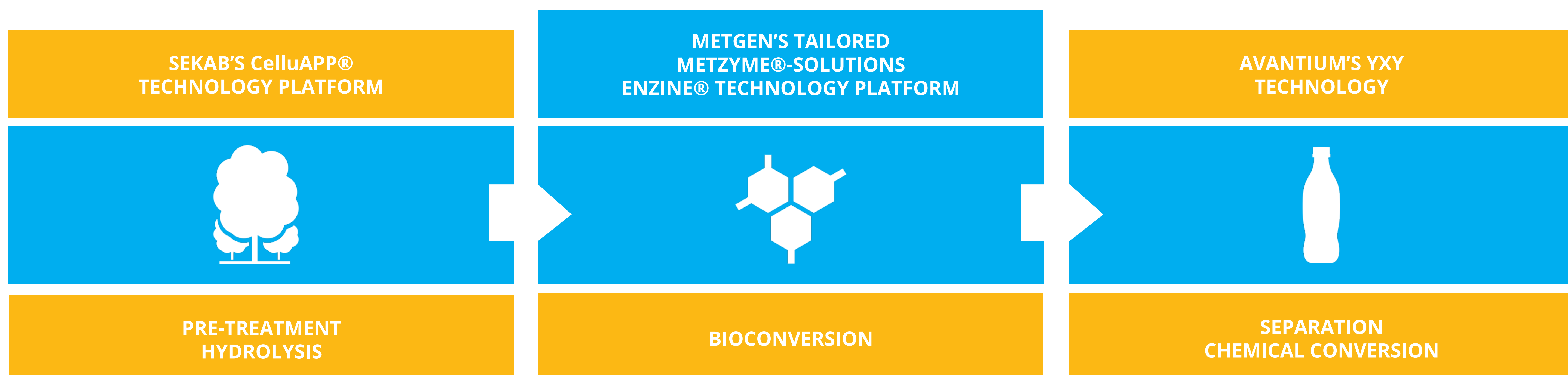


SEKAB E-TECHNOLOGY is one of Europe's leading ethanol manufacturers. We convert and refine ethanol to biofuels and chemicals and develop new cellulose based biorefinery technology. We believe that sustainability is about resources that last now and in the future. The company is a part of the SEKAB group and has the head quarter and main production in Örnsköldsvik at the Baltic Sea. SEKAB has long experience of advanced research regarding development and scale-up of process technology. SEKAB has over 10 years of experience of demo plant tests and operations running in 24/7. Experience and data from pre-engineering of softwood based ethanol plants in Sweden. In ReTAPP, SEKAB will offer its advanced pre-treatment and hydrolysis platform, CelluAPP® for an efficient and sustainable process to depolymerise cellulose materials, such as forest and agricultural residues, to sugars.



AVANTIUM CHEMICALS BV was founded in 2000 as a spin-off from Royal Dutch Shell, specialised in high-throughput research in the fields of catalyst testing development. This part of the company now focuses solely on catalysis research, providing expertise and high-tech equipment to the chemical industry. Since 2005 the company has been applying its advanced catalysis research expertise in the field of biomass conversion in order to develop building blocks for a biobased economy. The first of these projects has led to the development of the YXY process, which deals with the conversion of sugars into furanics. From these furanics polyethylene furanoate, a replacement for PET (polyethylene terephthalate) with considerably improved properties, can be produced. This process is now on its way to commercialisation due to the formation of Synvina, a joint venture together with BASF, in October 2016.. The success of the YXY process has spawned a number of new projects in the field of renewables, including ReTAPP, leading to processes for 2nd generation biomass conversion into sugars and other useful base chemicals. Avantium is continually exploring novel ideas for biobased replacements of current fossil-based products and processes, as well as the development of applications for side-streams generated by different biomass feedstocks.

RETAPP VALUE CHAIN



The ReTAPP project has received funding from the European Union Horizon 2020 Research and Innovation Programme under grant agreement no 691414.