



Scaled-up production of next-generation carbohydrate-derived building blocks to enhance the competitiveness of a sustainable European chemicals industry



The focus of BIONEER is on the utilization of low-cost, sustainably sourced, lignocellulosic biomass as feedstock to produce novel platform chemicals for the difficult to decarbonize industrial sectors, such as liquid plastics used in personal care and coatings. The project moves beyond first-generation carbohydrate-derived chemicals, leveraging the (biotechnology, biochemistry, and chemistry) expertise of the consortium to scale-up the production of a novel range of monomeric and polymeric building blocks that allow for important additional functionalities to be conferred to biobased chemicals. In particular, BIONEER builds on the exceptional results of the EnXylaScope (Grant Agreement N° 101000831) and PERFECOAT (Grant Agreement N° 101022370) RIA projects, still ongoing at BIONEER project start. The consortium sees BIONEER as the timely next step to rapidly lift key results from these projects to the next level of industrial demonstration in the frame of our overall commercially-focused exploitation strategy that will ultimately culminate in widespread deployment of the biobased innovations in the targeted mass-markets.

BIONEER Building Blocks (BBB) made from sustainably sourced biomass using bio and chemo-catalytic approaches will replace toxic and non-environmentally friendly fossil-based building blocks. The targeted fossil-based building blocks to be replaced are bisphenol A and its derivatives (for the UV-curable coatings market), as well as alkyl acrylates, vinyl pyrrolidone, vinyl acetate, and siloxanes (for the personal care market). Process residues will be considered for packaging applications.

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