

GlyRes - Tailored functional plant-based glycans from residues

Bio-based polymers from residues to substitute fossil-based functional ones

The Project

Environmental pollution from plastic waste increases regulatory and social pressure on companies to use more polymers made from renewable raw materials.

We offer a tailored functional product as a substitute for fossil-based polymers, which is produced from plant-based residues (about 12 million tons per year in Germany) from the food processing industry without affecting their processes.

Our target group includes companies from chemical industry that for example produce printing inks or cardboard coatings and want to increase the bio-based content of their products.

Our project integrates Fraunhofer technology by a patent application, which includes the extraction of our raw material from apple pomace and the cationic functionalization.

The Team

Location: Fraunhofer IWKS

Members: Gert Homm (Head Bioeconomy), Stefan Hanstein (Senior Scientist), Marius Wolf (Ph.D. Student Chemistry)

AHEAD Infos Batch: 12 & 2023 Phase: 1 Track: SDG Spin-off

The Business Model

Unique Selling Proposition: Molecular Design of Polysaccharides from plant-based residues

Unfair Advantage: Patent application, specific customer relations (raw materials, applications)

Revenue Model: Production and sales

Venture Readiness Level



Technology Readiness Level



The Side Facts

Customer Focus: B2B

Searching For: Customers, investors, mentors, corporates

Industry Tags: Chemicals, construction and materials, food and beverage, health care

Technology Tags: circular economy, new materials, zero waste, 3D printing