



CONTACT

Fraunhofer Institute for Chemical Technology
 Kevin Moser
 Joseph-von-Fraunhofer Str. 7
 76327 Pfinztal (Berghausen), Germany
 Phone: +49 721 4640 533
 kevin.moser@ict.fraunhofer.de

www.phb2market.eu

100 % RENEWABLE HIGH-VALUE PHB-BASED COMPOSITE MATERIALS

The ERA-NET project PHB2Market will develop 100 % renewable, high-value composite materials made of sustainable industrial by-products or biomasses using eco-efficient industrial biotechnology and chemical processes.

We combine bio-polymer polyhydroxybutyrate (PHB), cellulose nanofibers (CNF) and bio-based, multifunctional plasticizers (BMP) and end up in a fully bio-based composite material with enhanced properties. The PHB2Market composites will be an alternative to conventional petrol-based polymers in various applications.



CONSORTIUM



TURNING INDUSTRIAL BY-PRODUCTS INTO ADDED-VALUE PRODUCTS

THIS PROJECT IS SPONSORED BY THE FOLLOWING INSTITUTIONS

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STEP 1

Biotechnological processes will be optimised to enable the cost-effective conversion of industrial by-products and biomass into added-value products.

STEP 2

The raw materials will be combined to create high-value bio-composite material by compounding and subsequent conversion using injection molding and 3D-printing.

STEP 3

The newly-developed composites will be transformed into two demonstrator parts: a frisbee (consumer products) and gear-wheel (spare part applications).

