



# FRAUNHOFER INSTITUT FÜR UMWELT-, SICHERHEITS- UND ENERGIETECHNIK (UMSICHT)

## Foundation

- 1990

## Total returns

- 31.5 million €

## Employees

- 237

## Branches

- Plastics processing industry
- Packaging industry
- Consumer goods and automotive industry

## Key materials

- Bio-based plastics and monomers
- Biodegradable plastics

## Key products/services

- Development of bio-based materials, products and their processing technologies
- Pilot and small scale production of bio-based plastics and compounds
- Certified testing of biodegradability
- Life Cycle Analysis (LCA)

## Contact

**Fraunhofer Institute for  
Environmental, Safety, and  
Energy Technology UMSICHT**  
Osterfelder Straße 3  
46047 Oberhausen  
Germany  
Phone: +49 (0) 208 8598 1122  
[www.umsicht.fraunhofer.de](http://www.umsicht.fraunhofer.de)

## Contact persons

**Dr. Stephan Kabasci**  
[stephan.kabasci@umsicht.fraunhofer.de](mailto:stephan.kabasci@umsicht.fraunhofer.de)

**Thomas Wodke**  
[thomas.wodke@umsicht.fraunhofer.de](mailto:thomas.wodke@umsicht.fraunhofer.de)

# Fraunhofer UMSICHT

## Institute

Fraunhofer UMSICHT is a pioneer of a sustainable energy and raw materials management, providing scientific results and transferring them to businesses, society and politics. The dedicated team researches and develops together with partners sustainable products, processes and services that inspire. We want our developments to be economically successful, socially equitable and sustainable.

Fraunhofer UMSICHT is your competent partner in all phases of development and market introduction of bio-based materials. Based on our long-term scientific experience we create innovations: from the first project idea over the joint discussion of product requirements, the production of material samples to practical application tests.

## Services

The department "Bio-based Plastics" is focused on polymer chemistry, material development, plastics processing, applications, and industrial scale-up of novel bioplastics. This topic comprises plastics derived from biomass as well as biodegradable plastics. Our equipment covers laboratory and testing facilities, kneaders and laboratory compounding extruders, and industrial plastics processing lines (e.g. compounding, extrusion, injection moulding). Additionally we assess products and value chains with respect to their sustainability.

## R&D Portfolio

- Development of new bio-based monomers and plastics
- Material and product development
- Plastics processing development
- Small scale and pilot series manufacturing of plastics compounds and products
- Polymer analyses and material testing
- Certified testing of biodegradability of substances, materials and residues
- Market and feasibility studies, technological assessments
- Life Cycle Analysis (LCA), Carbon Footprint

