

Frankfurt Research Center

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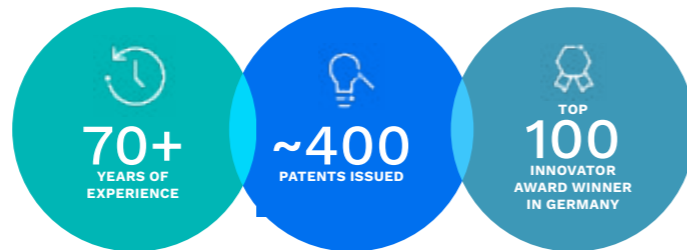
TECHNIP
ENERGIES



Technip Energies Frankfurt Research Center

Technip Energies Frankfurt Research Center is the key innovation driver for Zimmer® Polymer Technologies and primarily focuses on R&D for polymerization and recycling processes of polyesters and polyamides.

With its abilities to optimize existing technologies and develop new ones, our research center in Frankfurt, Germany, is a uniquely positioned partner for a wide range of R&D services.



Open innovation to commercialization

Experienced researchers and engineers with access to cutting-edge laboratories, including pilot and demo plants and advanced analytical facilities, are working on all phases of product development from idea generation, testing and sample production to commercialization.

With our Open Innovation Approach, we support our clients to commercialize their polymer products with a multitude of services:

- Techno-economic assessments
- Testing and optimizing of polymer recipes
- Small- (kg) and mid-scale (tons) sample production
- Process development and product commercialization



State-of-the-art equipment

Our laboratory has all the required equipment to safely scale up and design polymer plants:

- Large demo plant for polymerization (tons scale)
- Large demo plant for depolymerization (tons scale)
- Two-stage batch pilot plant for polymerization (kg scale)
- Solid state polymerization (SSP) lab plant (grams scale)
- Small-scale test units for sample evaluation
- Fully equipped analytical lab including:
 - UV/VIS spectrometer, colorimeter
 - Viscosimeter, titrator, coulometer, polarograph
 - GC, HPLC, DSC
- Real-time reaction monitoring (online analytics)

Complete third-party services

- Techno-economic assessments of novel polymer products
- R&D of proprietary processes, equipment and polymer recipe development
- Sample production/evaluation, process validation and commercialization
- Feedstock and polymer analytics according to international standards (ISO, DIN, EN, ASTM)
- Support for scaleup to industrial size

Recent projects

- Development of rPET technology, including construction of recycling demo plant and feedstock evaluation.
- Advancement and commercialization of biobased and biodegradable polymers.
- Recipe optimization and technology definition of customers.
- Qualification of biobased monomers for on-spec polymer production.



Zimmer[®]
Polymer Technologies

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