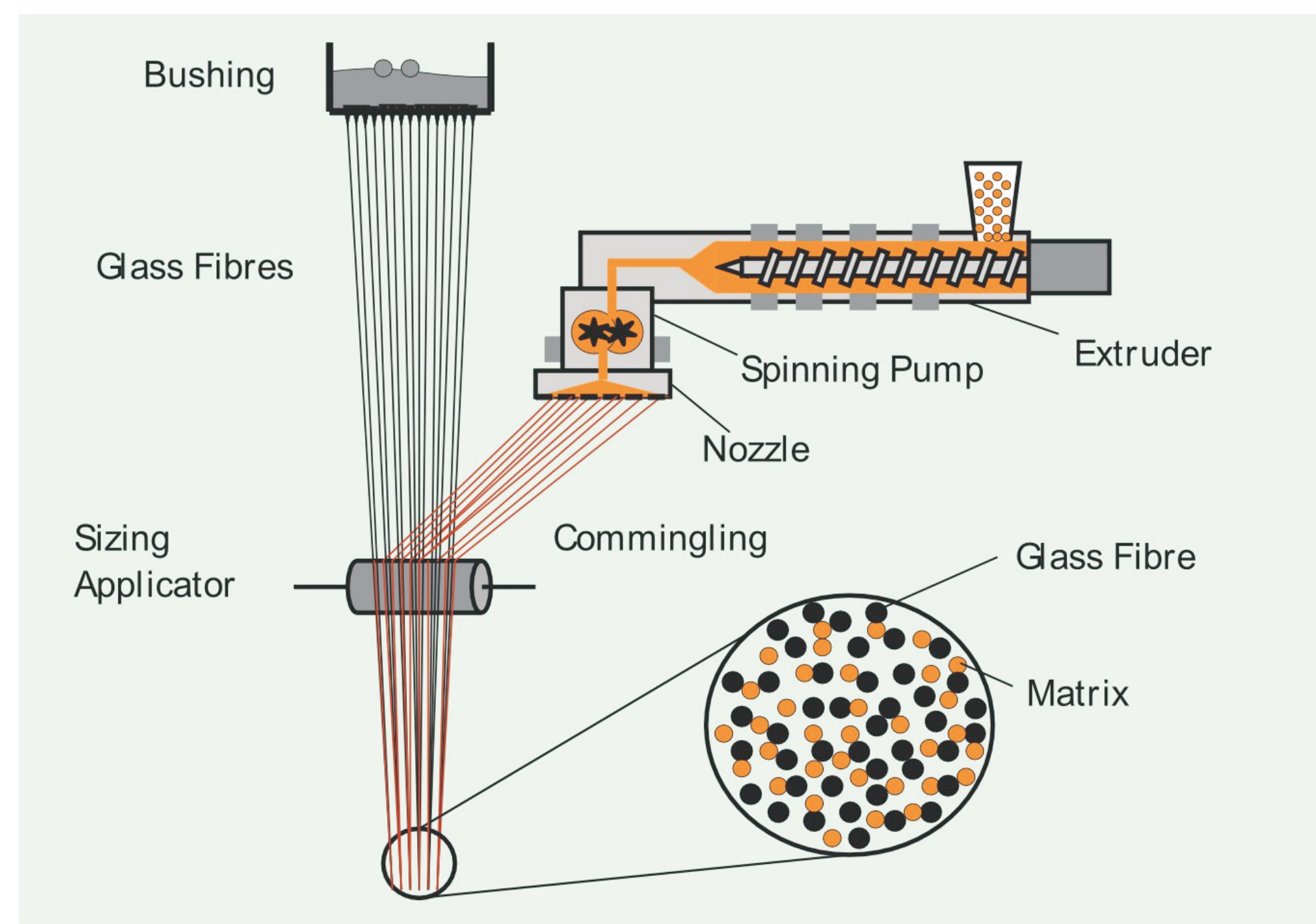


GLASS FIBRE SPINNING DEVICE AND INTERFACE DESIGN

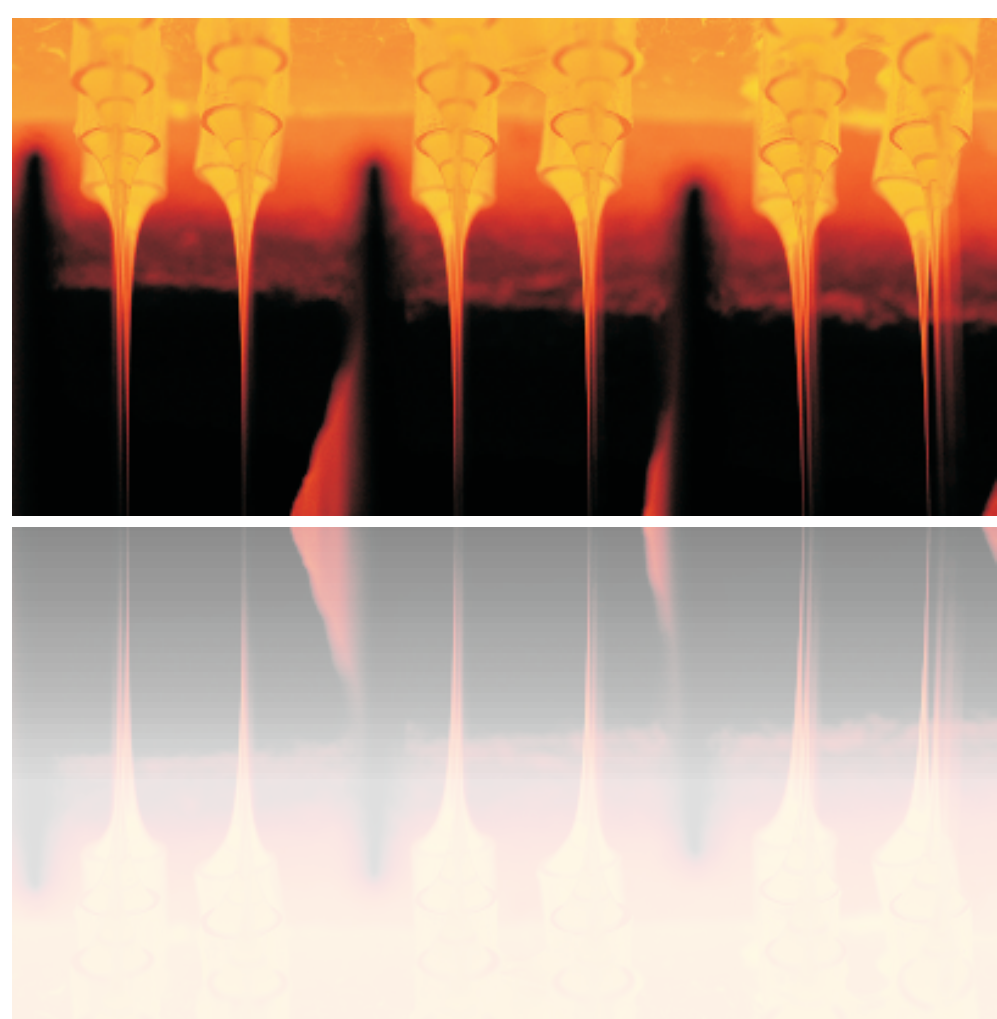
- Know-how from basic research is directly transferred to industry-oriented projects and into practise
- Customer-specific development of surface modified special-purpose glass fibres and fibre-reinforced composites with high proficiency level
- Tailored interface design and development of multifunctional interfaces by nanostructuring
- Online Hybrid Yarn Spinning for the effective manufacturing of filament-reinforced thermoplastics



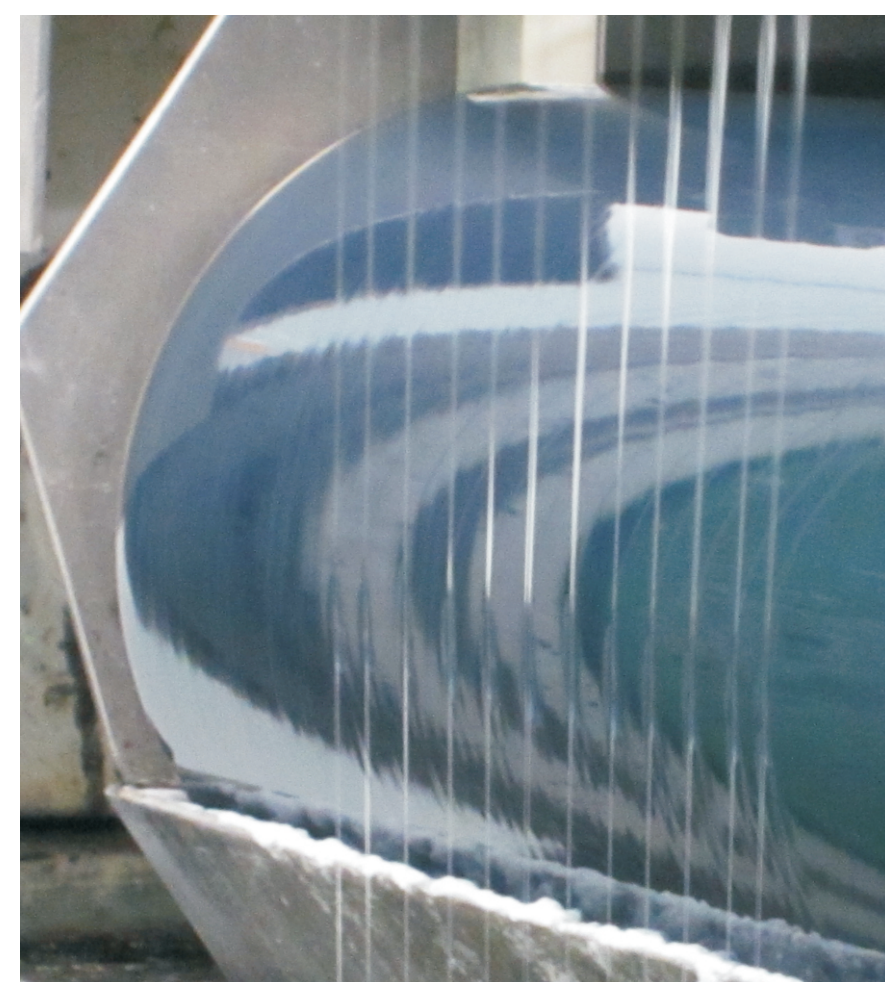
Principle of Hybrid Yarn Spinning



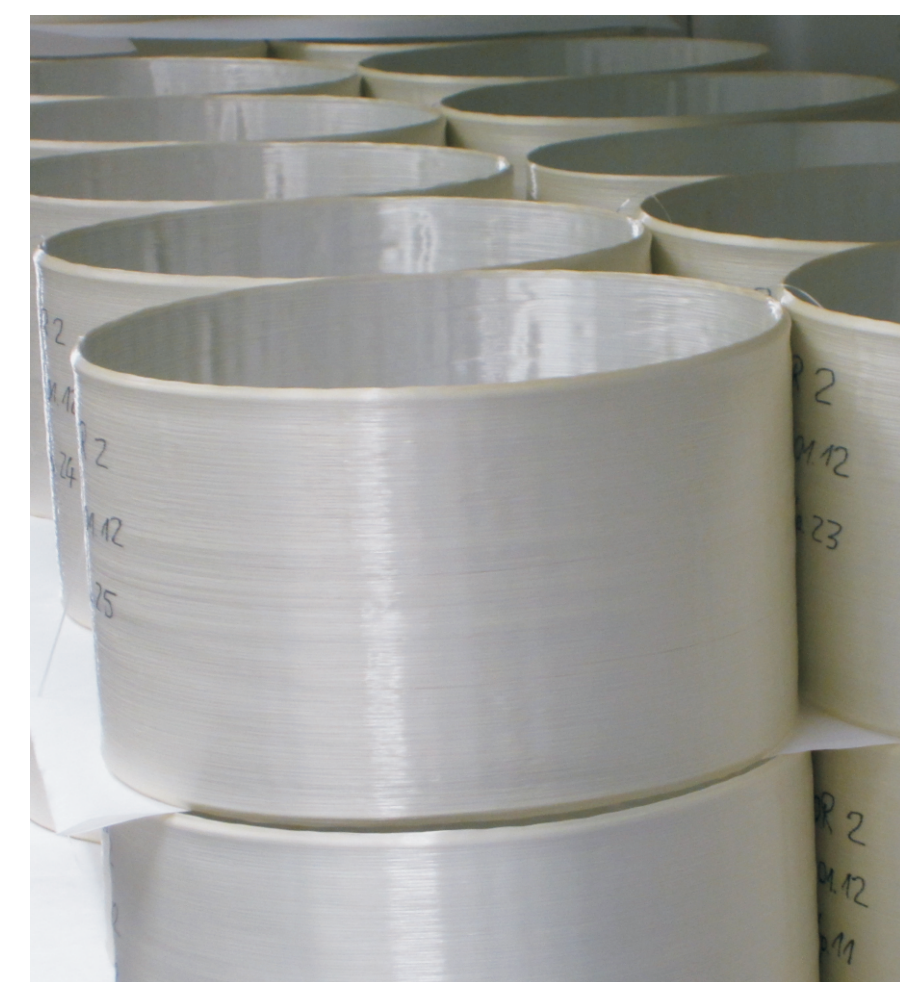
From the fibre to the component



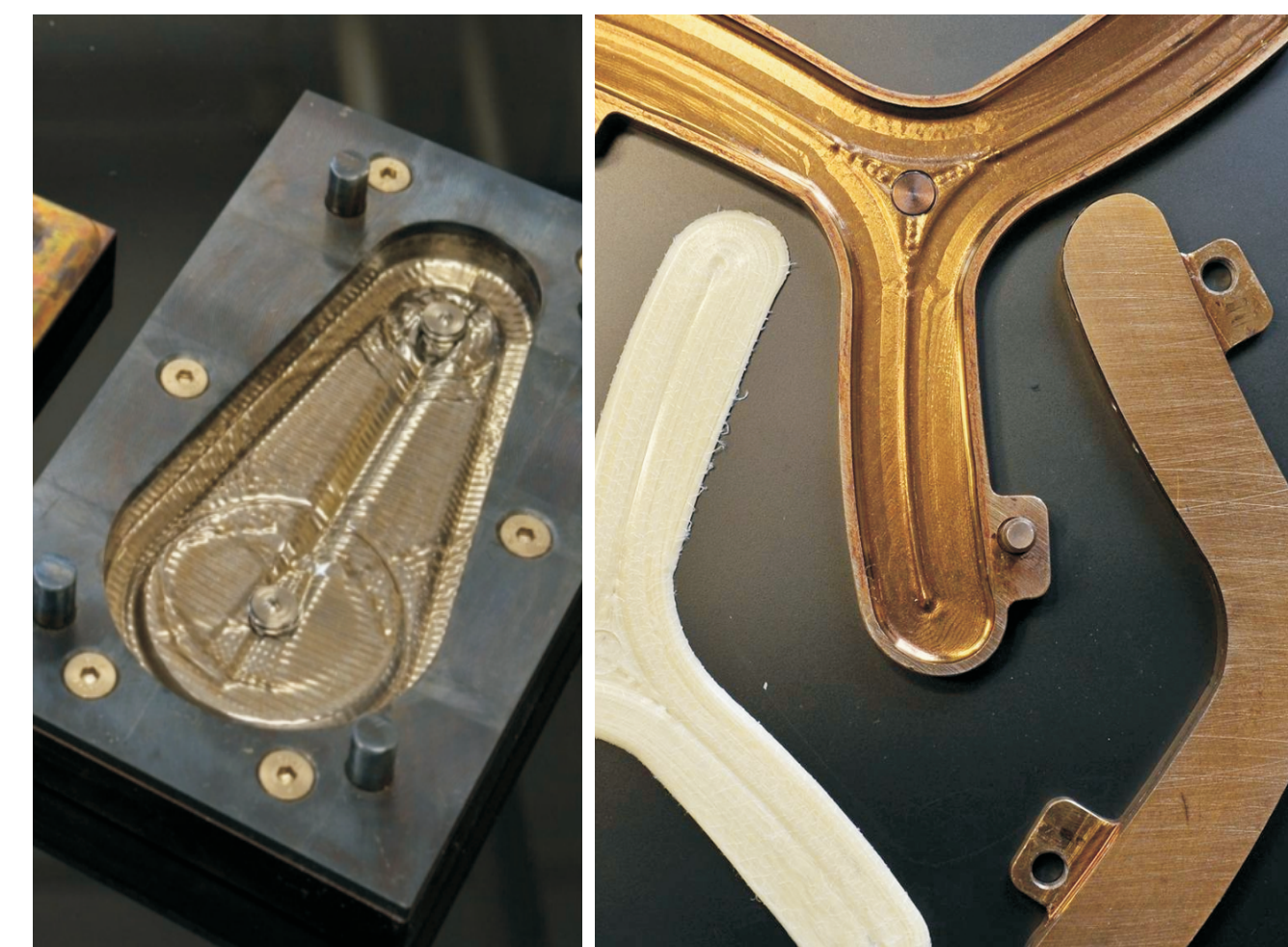
Glass fibre spinning
E-Glass, alkali resistant glass, of bioglass, new development special-purpose glass



In-situ nanostructuring by adapted sizing, fitting to polymer matrices



Glass filament yarns, Hybrid yarns (GF/PP, GF/PA, GF/PLA, GF/PBT) for production of fibre-reinforced thermoplastics



Methods of composite production

- Compounding, injection molding
- Tailored Fibre Placement (TFP)
- Vacuum assisted process
- Hot press

Hybrid Yarn Spinning with detail enlargements (top down):

- Bushing
- Sizing application
- Commingling of glass & polymer filaments, glass fibre vertical

Range of Services

- Access to our unique industry-oriented glass fibre spinning devices as well as to hybrid yarn spinning devices
- In-situ surface modification of glass fibres
- Nanostructuring as well as coating of reinforcement fibres for multifunctional interfaces
- Micromechanical characterization of fibre matrix adhesion strength
- Extensive material analysis as well as project-related material and process development
- Master/Doctorate-thesis

Contact

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