1 Pultrex Px 500/10 and Herzog braiding wheel.

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Machinery and equipment

Fraunhofer IGCV
"straight"-Pultrusion line #1
- Two alternating grippers
- Max. width of profiles 500 mm
- Max. pull-force 10 mt
- Optional addition: in-line braiding carousel (2 x 72 spools)
- Optional addition: caterpillar-puller

"straight"-Pultrusion line #2
- Two alternating grippers
- Max. width of profiles 750 mm
- Max. pull-force 8 mt

"straight"-Pultrusion line #3
- Double belt puller
- Max. width of profiles 100 mm
- Max. pull-force 2 mt

Fraunhofer ICT
"straight"-Pultrusion line #1
- Caterpillar-puller
- Max. profile envelope 200 x 80 mm
- Max. pull-force 8 mt

Fraunhofer IPT
"micro"-Pultrusion
- Rods and tubes from approx. Ø 0.5 mm to Ø 2.0 mm for medical applications

Fraunhofer IWU
"radius"-Pultrusion
- $R_{\text{min}} = 1.5 \text{ m}$, $R_{\text{max}} = \infty$ (straight)
- Max. profile-envelope 300 x 150 mm
- Max. pull-force 8 mt

Supporting

- Process planning and management
- Tooling design and engineering
- Tooling implementation, testing and optimization of process parameters
- Prototyping and small-series production runs
- Resin system development
- Training and on-site support

Combined and complementary expertise

- Six scientists and three technicians
- Strong synergies between different technologies such as automated fiber placement, thermoplastic processing and recycling

2 Example of fiber guidance to produce a "structural" profile.
3 Example of bolt-on injection-and-impregnation chamber for production of PUR-CF65 (spar-caps).