

3DGranuTex – Partial thermoplastic textile coatings using 3D melt-granulate-manufacturing

Problem / Motivation

- Functionalization of textile substrates using Fused Granulate Fabrication (FGF)
- Resource-efficient manufacturing through the direct processing of thermoplastic pellets, resulting in significant cost savings compared to the fused deposition modeling process
- Establishing additive manufacturing processes as a driver of new, innovative products in the textile industry
- Focus on TPU-based materials (granules + textiles) for the formation of single-component composite systems

Solution

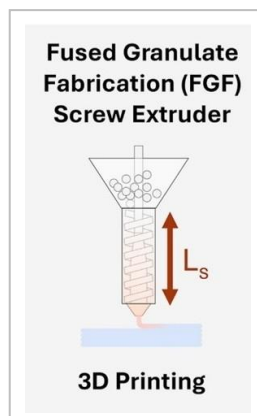
- Development of suitable materials for partial thermoplastic textile coatings using 3D melt-granulate manufacturing
- Control-system implementation of the FGF process into a 3D material application system
- Application trials
- Textile physical tests and functional tests)

Project Launch

04/2026

Project Partner

Available for
inquiries



Schematic representation of the FGF process („Screw extrusion fused granulate Fabrication: Trends, materials, extruder classification and future development,” ScienceDirect, ISSN: 0032-3861, 2025) left; Twin-screw compounder for the production of functionalized pellets (Photo: ©STFI/Dirk Hanus) right

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