Non-planar printing system with fast automated nozzle change

FreeD Printing

Fraunhofer IPA

AHEAD

We put FREE in 3D – Degree of freedom even in nozzle change

The Project

Problem:	Anisotropy of 3D prints conventionally produced with 2D slicing and print speed of robotic systems
Solution:	Manipulating anisotropy using 3D slicing, a robotic system and a nozzle change system
	Automated nozzle change for the exact material throughput → improving mechanical properties, print speed and surface quality
Market:	Production systems for lightweight industry, medical engineering, service providers, etc.
Fraunhofer:	Fast and automated nozzle change system, online print monitoring and process characterisation

The Team

Location: Fraunhofer IPA, Stuttgart

Members: Jonas Fischer (project manager), Patrick Springer (group leader)

AHEAD Infos

Batch: 2022(23 **Phase:** 1 **Track:** Spin-off

The Business Model

Unique Selling Proposition: Fast, accurate and more automated 3D prints

Unfair Advantage: Utilisation of different nozzles with various diameters for flow and quality optimisatiion and material change

Revenue Model: Production, consulting, service

Venture Readiness Level

Technology Readiness Level

The Side Facts

Customer Focus: B2B

Searching For: PoC partner, (pilot) customers, technology partners, investors, mentors

Industry Tags: automobiles & parts, health care, industrial goods & service, software & services, technology hardware & equipment

Technology Tags: 3D printing, customization, medical devices, new materials, robotics