Sächsisches Textilforschungsinstitut e.V.

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Robo3DTex – Robot-guided multifunctional 3D printing on textile substrates

Problem / Motivation

- 3D printing on textiles has mainly been done on planar surfaces
- Partial finishing or printing on finished, three-dimensional, draped or near-net-shape textiles is very limited
- More complex printed structures can only be achieved with the help of elaborate support structures
- The aim is the adaptation of the print head to a robot system for more degrees of freedom in the movement of the print head

Solution

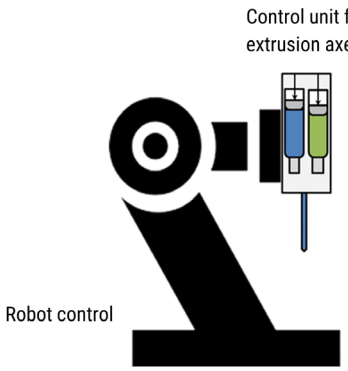
- Adaptation of printing materials to the process focusing on paste-like materials based on biobased raw materials (LAM process)
- Use of a 2-component print head to combine two print materials with variable mixing ratios
- Control technology implementation of the 2K print head on a 6-axis industrial robot system for applying the developed formulations to non-planar components
- Partial functionalisation of textile substrates close to the final contour

Project Start

07/2024

Project Partner

currently none,
open for enquiries



Schematic representation of a 2K print head mounted on a robotic system

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