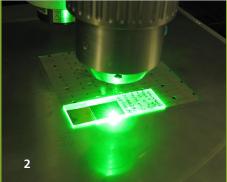


FRAUNHOFER INSTITUTE FOR MACHINE TOOLS AND FORMING TECHNOLOGY IWU







- 1 Adding material via printing
- 2 Material removal via laser
- 3 Aluminum component functionalized by LEDs and conductor tracks

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DIGITAL FUNCTIONALIZATION OF 3D COMPONENTS

Challenge

Future production processes must serve the current trends of functional integration and the increasing variety of product variants. In order to meet this challenge, highly flexible and cost-efficient production technologies are required, which – at the same time – make it possible to increase the functional density in components.

Innovation

By using template free digital manufacturing processes, functions such as conductive tracks, operating elements and sensors can be printed directly onto 3D components.

Application examples

- Printing of cables and wiring harnesses onto components
- Application of sensors onto components with multiple curves

Advantages

Digital functionalization enables:

- Quantity-independent productivity
- Increase in the functional density without increasing the number of components
- Saving of cable fabrication and assembly steps
- Reduction of the required number of components
- Simplified logistics
- Weight reduction
- Free placement of sensors

Our range of services

- Feasibility studies
- Prototype construction
- Adaptation of process technology to customer-specific applications