MODULAR MANUFACTURING PLATFORM

“From Lab to Fab”

In a modular production line, various examples of digital and mask-based printing technologies, including pre-treatment and post-treatment steps, are integrated into the process using a robot. The automated and modular operation provides the opportunity to flexibly combine and integrate additive printing processes, and to scale and qualify efficient manufacturing processes up to the pilot series level. The following modules are currently installed:

- Industrial screen printer can also be set up for 3D screen printing
- Industrial inkjet system with different printing heads
- Programmable three-axis CNC machining platform for various dispensing and jet technologies, onto flat or 3D components
- Robot-supported component fixation and feeding, alignment, intermediate storage, thermal treatment

Applications

The modular production line provides customers with the opportunity to evaluate the advantages of digital printing processes and their potential for integration into their manufacturing processes. It is particularly well suited for:

- Flexible combination of various printing technologies for multilayer structures and functionalization of components
- Product and process development in near-industrial conditions
- R&D for reproducibility, scalability, and automation of processes

Portfolio

Fraunhofer IFAM provides studies on the production line, focusing on combination and process integration in customer-specific production environments, as well as the implementation of functionally integrated components, from the feasibility stage to pilot series level.