

ABSTRACT: INTERNATIONAL CONFERENCE ON ADDITIVE MANUFACTURING
OCTOBER 6, 2015; MILANO
PROF. WELF-GUNTRAM DROSSEL
Director Fraunhofer-Institute for Machine Tools and Forming Technology
Coordination Fraunhofer Additive Manufacturing Alliance

MATERIAL EFFICIENCY – POTENTIALS OF INNOVATIVE PRODUCTION METHODS

Additive Manufacturing methods are considered as key technologies regarding the demands of global trends like sustainable and individualized production processes. Increase of efficiency of individualized production processes can only be achieved by digitalizing the whole value chain. To this effect the German government promotes the computerization of production technologies under the term “Industry 4.0” within the scope of a new High-Tec Strategy. The goal: “Smart Factories”.

In this regard additive manufacturing methods and technologies can make a huge contribution towards efficient manufacturing of individualized products. The Fraunhofer Additive Manufacturing Alliance encompasses thirteen institutes which are located throughout Germany to form the entire additive manufacturing process chain, comprising the development, application and implementation of additive manufacturing methods and processes. Coordinated by the Fraunhofer-Institute for Machine Tools and Forming Technology the alliance is currently focusing on industrial solutions in five areas of application:

- Bio-medical engineering
- Micro-system engineering
- Automotive engineering & aerospace
- Tool making
- Handling and assembly

Innovative project examples highlighting the potentials and challenges that come with a digitalization of process chains within these business areas will be shown in the presentation.