»Additive Manufacturing: A rising production paradigm«

THIRD ROUND

Call for Partners: Consortium Study

KEX. Knowledge Exchange®

Our Expert Network:

Fraunhofer IPT

Fraunhofer ILT

PEM Chair of Production Engineering of E-Mobility Components | RWTH AACHEN UNIVERSITY

AACHEN CENTER FOR ADDITIVE MANUFACTURING

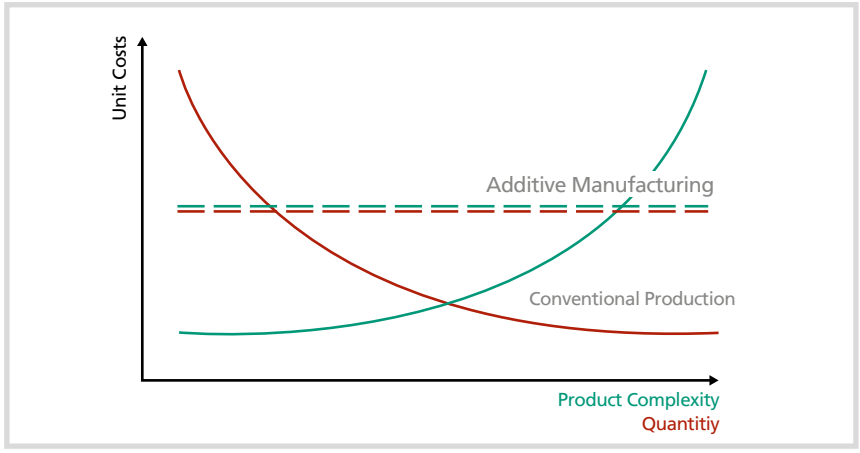
Additive Manufacturing: The New Industrial Revolution?

Motivation

Costs for additive manufactured components are almost independent from quantity and complexity. This leads to the question, whether conventional processes can be complemented or replaced by additive manufacturing. If so, which products and applications would be replaced and to what extent?

The first round of a consortium study entitled »Additive Manufacturing« started in September 2014, followed by a second round with a further consortium in March 2015 with the participation of over 60 relevant industry players. Due to the high demand for information regarding this dynamic technology field, a third round will start in April 2016.

In cooperation with the most relevant players this consortium study aspires to create economic and technological transparency and emphasizes future trends and developments of additive manufacturing technologies. Furthermore, we aim to promote valuable exchange and networking between international industry partners.



Additive manufacturing: a new production paradigm

Main Focus

The study focusses on the fields of processes, materials and applications in all relevant target markets and covers different technological issues, which will be adjusted to the requirements of each consortium individually, i.e.:

Productivity

- How can the build-up speed be improved?
- In what way can new machine concepts contribute to a higher productivity?
- Which automation measures keep the costs low?

Economic Attractiveness

- What are drivers and barriers for economic applications of additive manufacturing?
- What are economic applications now and in the future?
- How can costs for additive manufacturing efficiently be forecasted?

Component Design

- How can the components be configured and redesigned for additive manufacturing?
- Which are general design guidelines for additive manufacturing?
- How can the dimensions of the components be increased?

Process Quality

- How can additive manufacturing processes be integrated into complex process chains?
- How can process stability be improved by process monitoring?
- Which measures are necessary to certify the components and materials?

Partners and Markets in Focus

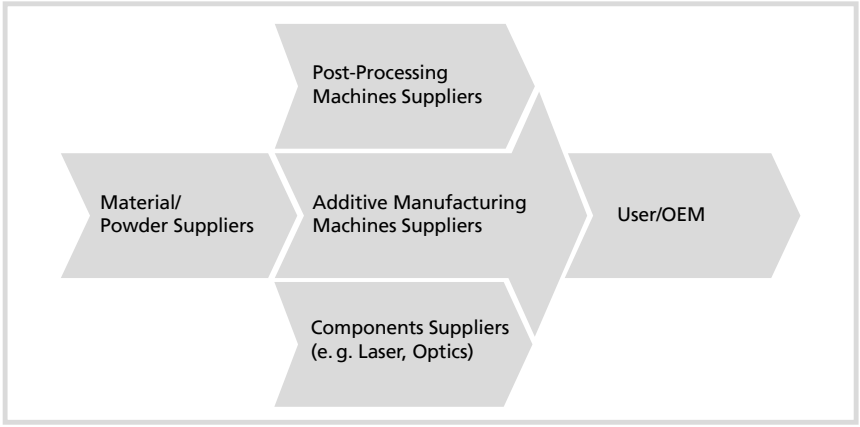
Expert Community

In order to achieve the mentioned objectives, the consortium study will utilize the extensive knowledge from previous projects carried out by the research partners in the context of additive manufacturing and leverages the pooled expertise in the consortium.

Furthermore, we are building an expert network that enables and fosters knowledge and information exchange across value creation stages and business sectors.

In other words, we are bringing together all experts and decision makers involved with additive manufacturing.

Benefit from the chances provided by our network and take the opportunity to determine, which technologies and innovations have an impact on your business and which developments to keep on your radar!



Process and value creation chain partners for this consortium study

Markets

Additive manufacturing methods have been established as relevant solutions for product development and prototyping in various industry sectors.

In this consortium study we will focus on additional applications and future potentials beyond already established solutions in specific target industries:

Cross-sectional application

Industrial & Tooling

Application market

Automotive

Aerospace

Electronics

Consumer Goods

Medical & Healthcare

Energy

Study Approach

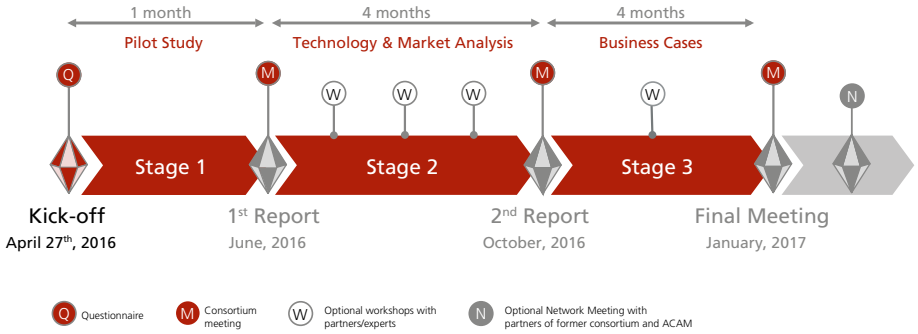
Methodology

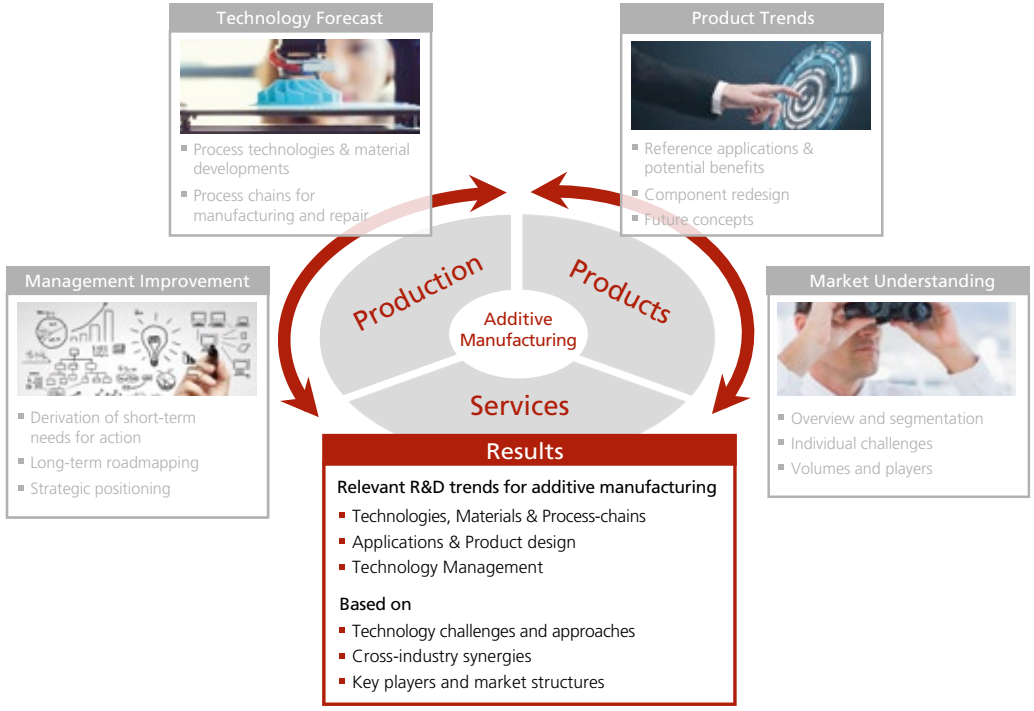
This study provides an overview on additive manufacturing technologies and related future trends as well as at aligning these trends with requirements from diverse applications within the most relevant target markets. This broad information basis on both technological capabilities and market requirements will then be utilized to derive and assess highly attractive market opportunities and hidden potentials. In order to reach this aim systematically, the study is divided into three phases featuring increasing levels of detail. Transferability of results will always be safeguarded.

Phase 1 - Pilot Study
Generating an overview on the status-quo of technologies and market applications and relevant trends.

Phase 2 - Detailed Study
Providing detailed information on selected applications regarding technological opportunities and market potential.

Phase 3 - Business Cases
Deriving comprehensive business cases on selected highlight applications regarding technological feasibility and market competitiveness.





Participation and Benefits

Your Participation in the Study

Your participation in this consortium study provides you broad access to an expert community regarding current performance and future development of additive manufacturing technologies. Through your continuous participation in workshops you will be able to influence the proceeding and contents of the study. Furthermore, the consortium will get exclusive access to all independent study results.

Your Benefits

- Define your roadmap and strategy within a highly dynamic technology field, which enables game-changing products and services
- Gain knowledge on all existing additive manufacturing technologies and materials
- Understand technological potentials and constraints within the most relevant target markets
- Discover the innovation patterns behind additive manufacturing for products and production processes
- Network with cross-industrial players and experts

Time Frame

Start: **27th of April 2016**
End: **January 2017**

Costs

Investment in this study: **€ 25,000**

Center for Additive Manufacturing

The consortium study also serves as an expert community for exchanging and generating knowledge on additive manufacturing related challenges. After participating in the study, the consortium has the option to join the Aachen Center for Additive Manufacturing (ACAM). ACAM provides access to innovative know-how, consultancy and training. Members can choose between a Basic, Business and Cooperation partnership depending on their commitment to a joint and strategic cooperation.

Benefits of a long-term participation in the ACAM

- Community: ACAM provides a physical and a virtual platform for companies to network and exchange within a growing community
- Consortial R&D: ACAM manages cooperate R&D topics and coordinates funding
- Contractual R&D: ACAM acts as general contractor, organizing the project team and the coordinator
- Training & Education: ACAM partners can choose out of a big variety of seminars

Your Expert Network

Fraunhofer IPT

Fraunhofer Institute for Production Technology IPT

- Founding year: 1980
- 415 employees
- Business portfolio: Turbomachinery, Tool Making, Optics, Lightweight Technologies, Life Sciences Engineering, Integrated Mechatronic Systems
- Knowledge and experience in all fields of production technology for developing and optimizing solutions for modern production facilities

www.ipt.fraunhofer.de

Fraunhofer ILT

Fraunhofer Institute for Laser Technology ILT

- Founding year: 1985
- 420 employees
- Business portfolio: Lasers and Optics, Laser Material Processing, Medical Technology and Biophotonics, Laser Measurement Technology and EUV Technology
- One of the most important development and contract research institutes of Laser Technology worldwide

www.ilt.fraunhofer.de

PEM Chair of Production Engineering of E-Mobility Components | RWTH AACHEN UNIVERSITY

Chair of Production Engineering of E-Mobility Components

- Founding year: 2014
- Focussing on production technologies and innovative solutions in the field of E-Mobility

www.pem.rwth-aachen.de

AACHEN CENTER FOR ADDITIVE MANUFACTURING

ACAM Aachen Center for Additive Manufacturing GmbH

- Founding year: 2015
- Platform for networking, coordinating joint research and development as well as conducting training and education seminars
- Access to innovative know-how, process, software and systems engineering as well as customized services on Additive Manufacturing (AM) technologies

www.acam.rwth-campus.com

KEX. Knowledge Exchange®

KEX Knowledge Exchange AG

- Founding year: 2012
- Technology and market information provider
- Demand-based provision of information: Scanning, scouting and monitoring of markets and technologies, as well as exclusive access to an unique network of experts.

www.kex-ag.com

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