3D PRINTING NETWORK
HAMBURG
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3DP – THE DIGITALISATION OF MANUFACTURING

Enormous and constantly growing economic potential of 3DP in terms of market shares and growth rates

• With 3D printing (3DP), the digital economy makes the move from the world of data to the physical world: digital information is transformed into physical objects by adding layers of material.

• 3DP is a revolutionary technology: it blurs the lines between the physical, digital and biological domain, e.g. bionic structures can be built that previously could not be realised.

• The 3D technology has the potential to transform the manufacturing processes, reconfigure global supply chains and give rise to completely new business models.

• 3DP is a highly dynamic market due to ever new areas of application, new materials, new printing technologies and new players.

Definition

"3DP or additive manufacturing is a process of making three dimensional solid objects from a digital file with a special printer. In an additive process an object is created by laying down successive layers of material until the object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object. Physical or chemical curing or melting processes join the layers. 3DP is the opposite of subtractive manufacturing which is cutting out / hollowing out a piece of metal or plastic." (see: https://3dprinting.com)
BENEFITS AND CHALLENGES – HOW 3DP IMPACTS HAMBURG’S BUSINESS

3DP as a cross-cutting technology has an impact on all sectors and on the entire value-chain.

Examples for the impact chain seen from Hamburg’s perspective as a seaport and a trading town:

• 3DP end-use products that are printed in local 3DP hubs worldwide will challenge the logistics sector and company’s warehouse- and after-market-strategies.
• 3DP could enable companies to take back “home” value-adding processes formerly located abroad, thus 3DP will impact current plant locations.
• For the e-commerce business, challenged by demands for ever shorter delivery times, (“one hour delivery”) 3DP could open up new possibilities.
EXPERIENCES AND EXPECTATIONS – WHAT OUR COMPANIES SAY

The main findings of the Hamburg Chamber’s business survey on 3DP (2017)

Where we stand (business)

- More than 50 percent of the respondents have already gained experience in 3DP, with varying levels of maturity and intensity, according to the sector (most experienced: manufacturing sector)
- Most are still testing and experimenting (“prototyping”) but an increasing number uses 3DP for manufacturing production devices and small series of end-use products.
- 3DP is expected to have an increasing impact on all business divisions and sectors.
- The main barrier preventing the adoption of the technology, or its extension, is cost. The lack of expertise / know-how in-house is another key barrier to starting or extending 3DP use.

Where we stand (science)

- Hamburg is an excellence hub for 3D metal printing, especially in aviation: Key players like the Fraunhofer Institute for Production Technology (IAPT) on the scientific side and Airbus on the industrial side account for Hamburg’s outstanding reputation in metal printing.
THE WAY AHEAD – WHAT WE SAY

The main findings of the Hamburg Chamber’s business survey on 3DP (2017)

What the Hamburg Chamber recommends

• Further develop Hamburg’s 3DP scientific and technological infrastructure: expending its technology leadership to other 3DP materials, especially polymer, and other sectors (e.g. medical technology)
• Raise awareness and enhance competence of Hamburg’s companies
• Increase 3DP know-how by integrating 3DP in education and training

What are our objectives?

• Make Hamburg an even more attractive 3DP hub and promote its strengths
• Shape the 3DP market on-site for the benefit of Hamburg’s companies
3DP NETWORK HAMBURG – WHERE USERS AND EXPERTS MEET

Our mission

1. Information platform and competence forum for 3DP:
   • Bring together 3DP players from business, science and politics,
   • Tackle all aspects of 3DP (e.g. application, technological development or financing) cross-sector,
   • Discuss methods and solutions to meet current 3DP challenges,
   • Encourage co-operation projects and
   • Provide transparency with regard to Hamburg’s 3DP community

2. Expert body to increase Hamburg’s visibility as a 3DP and technology hub

Our structure

• Steering committee for high-level promotion of the network
• Working groups to exchange on the most relevant aspects of 3DP, i.e. 3DP materials, 3DP process chain, 3DP business models and 3DP projects and financing
• Coordinated by the Hamburg Chamber of Commerce
• Kick-off conference on 15th of February 2018 with ~ 200 participants
WWW.3D-DRUCKHAMBURG.DE – FOLLOW OUR ACTIVITIES
OUR MEMBERS (EXTRACT) – GET IN TOUCH WITH US
THANK YOU!

Questions / remarks?

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