EXPLORING NEW SECTORS BY DEPLOYING AN AM-FACTORY

EDA-AM project - EDA Additive Manufacturing Feasibility Study & Technology Demonstration

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MOTIVATION AND SCOPE

AM have a significant potential for to enhance defence capabilities. Among them, the most likely are mobility, sustainability, ensuring platform availability, effect and protection through e.g. on-site and on-demand field repair & maintenance, reduced logistic burden of deployments and improved sustainability in warfighting and peacekeeping missions. Substantial economic benefits are also expected.

To identify and explore areas where additive manufacturing will have a wider impact, the European Defence Agency (EDA) commissioned Fundación Prodintec (www.prodintec.es) and MBDA FR (www.mbda-systems.com) to conduct this project. The project targeted the entire spectrum of European defence and AM stakeholders, at all levels of defence and AM supply chains.

STATE OF THE ART AND STRATEGIC STUDY

INITIAL CONSIDERATIONS FOR THE STUDY:

• Balance capability pull and tech push in a high-tech world
• New threats coming from misuse of AM?

STAKEHOLDERS MAPPING
Sources of information
Consultation
Applications
Value Chains
Limitations

NEW CHALLENGES

• Technology need to meet Defence requirements for spare parts built in AM
• New process to build spare parts with AM (need to train technicians)

STUDY APPROACH AND CONTENT:

- Stakeholders mapping
- Sources of information
- Consultation
- Applications
- Value Chains
- Limitations

State of the Art Report
Strategic Report

State of the art and strategic study

- Assess the areas where AM can make a greater contribution to defence capabilities
- Promote a better understanding of the potential held by these technologies

Technology demonstration, including the deployment of an AM-factory

- Stimulate their implementation in defence specific areas
- Demonstrate the deployability of these technologies in a simulated defence specific scenario

Conference and exhibition on AM

- Create synergies between the R&T community and the operational staff
- Helping the R&T community to understand the requirements from the operational side
- Raise awareness in the defence community presenting the project results to military staff

WORKSTRANDS AND OBJECTIVES

STATE OF THE ART AND STRATEGIC STUDY

- Self contained module
- Containing 2 different AM technologies
- Polyjet technology
- FDM (Fused Deposition Modelling) technology
- Deployed in the EDA sponsored Airlift Exercise
- Data gathering to better understand AM in operations

DEPLOYMENT OF THE AM-FACTORY

State of the art and strategic study

- High level presentations
- Covering full range of the value chain
- Civil-Military perspectives

CONFERENCE AND EXHIBITION ON AM

Series of presentations by experts

- Illustrating applications
- Sampling the technology from initial design to the AM manufactured parts
- Illustrative presentation of the deployment

- Non-technical factors (IPR, training, standardization and certification, etc.) represent solid limitations for AM implementation, stronger in fact than technical ones.
- Although some organizations taking part on defence activities have earned a significant AM experience, defence sector still needs to increase its AM expertise to better understand the impact of AM on defence capabilities.