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TE@CH

ADDITIVE MANUFACTURING ACADEMY
TO BOOST TRAINERS' COMPETENCES IN INDUSTRY

Summary

Industry Introduction – AM in Aerospace

Project Number: 2021-1-IT01-KA220-VET-000033365

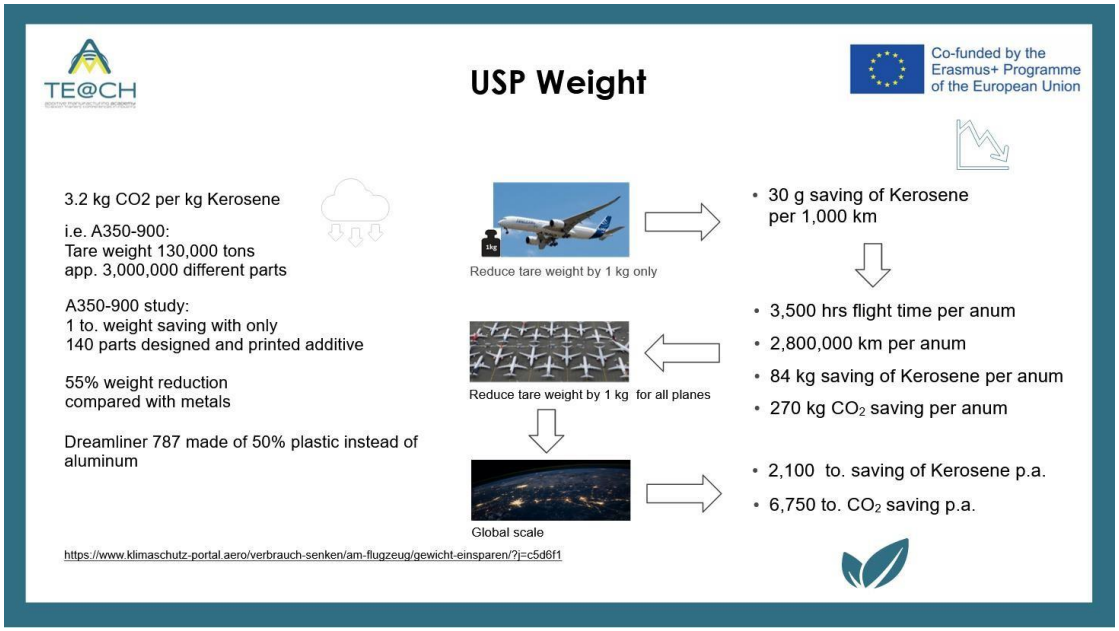
Course Content

The online course provides an overview of Additive Manufacturing with polymers and metals in the aerospace industry.

Short Description

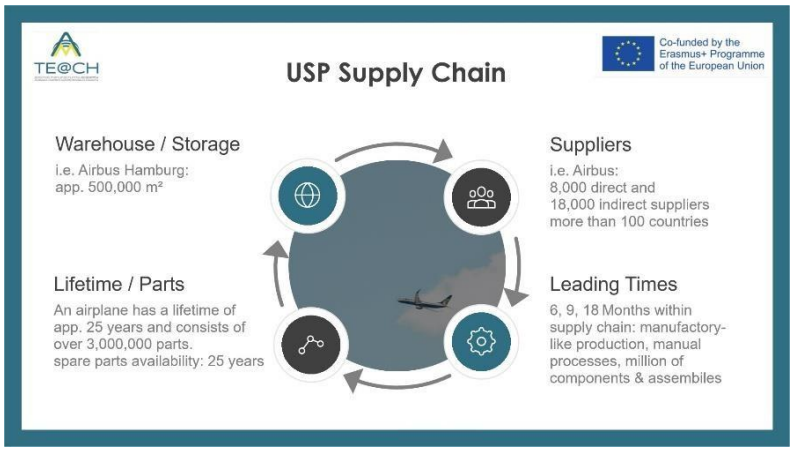
Increasing customer demands for individuality and the necessity for weight reduction are the challenges facing the aerospace industry. Additive manufacturing offers three decisive unique selling propositions.

Weight reduction



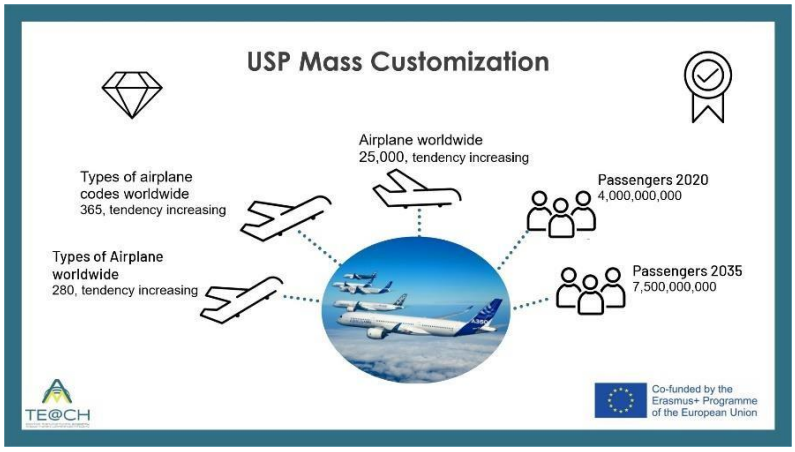
The main advantage of additive manufacturin for aerospace industry is the huge potential to reduce weight of an airplane. By reducing the weight only a few kilograms, thousand of euros of operation costs can be saved per year and per airplane.

Supply Chain



An airplane consists of more than 3 million parts and has a lifetime of 25 years. Therefore, spare parts must be available for up to 25 years. This is causing tremendous warehouse and storage place. Currently aircraft manufacturers like Airbus have 8000 direct and 18,000 indirect suppliers in more than 100 countries. By using additive manufacturing, warehouse and storage capacity can be reduced through on demand production.

Mass Customization



There is a megatrend to mass customization in the aerospace industry. There are 280 different types of airplanes and 365 different types of airplane codes tendency increasing. The demand for individualized travel experiences and to stand out from competitors in terms of design, interior, look and feel is stronger than ever. Additive manufacturing can master these challenges due to the fact, that parts can be produced without the necessity of design specific tools.

Polymer Applications

Short Description

This page gives an overview of some application examples for Additive Manufacturing in the aerospace industry.

Air Ducts

HT-23

PA 2241 FR

FR-106

Cabin Interior

PA 2241 FR – Venting grid

FR-106 - Overhead compartment

Notes

Metal Applications

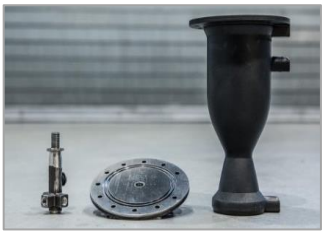
Short Description

This page gives an overview of some application examples for Additive Manufacturing in the aerospace industry.

Tail Bracket

Injector Head

Liquid Rocket Engine



Spoiler actuator valve block

Latch shaft

Notes

Companies

Pioneers of Additive Manufacturing

Boeing is one of the early adapters of the AM technology and using additive manufacturing for more than 20 years now. Beside Boeing, Bell Helicopter and Airbus can be named as pioneers of additive manufacturing in the aerospace industry.

Further Companies

Some other aerospace companies, OEMs and TIERs that play a special role in additive manufacturing are listed below.

For further information and contact details, have a look here:

http://additive-minds-academy.com

https://store.eos.info/

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