

Additive manufacturing of certified aircraft components: production and technology partners sought

Summary

Profile type	Company's country	POD reference
Technology offer	Germany	TODE20231018015
Profile status	Type of partnership	Targeted countries
PUBLISHED	Research and development cooperation agreement Commercial agreement with technical assistance	• World
Contact Person	Term of validity	Last update
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General Information

Short summary

A German startup, certified by the European Union Aviation Safety Agency (EASA) for the 3D-printing of aircraft components and focused on polymer cabin interiors, seeks companies who would like to be licensed as production partners. Also, partners are sought for the further development of the technology & hardware, especially regarding metals and composites. Advantages include the fast, flexible and cost-efficient production spare parts on site. Commercial and R&D agreements are sought.

Full description

Supply bottlenecks and delays in the delivery of spare parts are a major problem for the aviation industry. The repair, overhaul and modernization of aircraft cabins sometimes requires only small quantities of spare parts, which then have to be procured from far away with long delivery times, at high cost and with a significant environmental impact.

A German start-up, founded in 2021, enables the decentralized, fast, flexible, cost-effective and more sustainable production of individualized spare parts through 3D-printing. The technology can be used for repair manufacturing in situ, retro fit-cabin upgrade, OEM and supplier solutions and VIP total care cabin parts. This includes spare parts for seats, tables, monitors, trays, side panels, light panels and speakers that can be manufactured at the location of the aircraft to be repaired. Currently the company is focused on polymer parts, with the future goal of expanding into metal and composites. The company also offers reverse engineering: 3D scans of components are used to create a

3D model which is then used to optimize the geometry before printing.

The startup is one of the first 3D printing companies to be approved by the European Aviation Safety Agency (EASA) as a manufacturing facility with EASA Part-21/G certification for the production of aircraft components with EASA Form 1. It also meets the Standards of the US Federal Aviation Administration (FAA). The German company is the only company authorized to resell this license.

It now intends to establish a global network of production partners who, by acquiring a license and the necessary production cells from the German company, can become licensed suppliers for clients from the aviation industry. The German company provides the licenses and can also offer integrated solutions including the necessary manufacturing cells. Possible production partners can be maintenance, repair, and overhaul companies (MROs), equipment manufacturers (OEMs) and aviation suppliers.

Also sought are additive manufacturing system manufacturers, software developers, or partners from academia to further develop technology and necessary hardware. In addition, airlines are sought for customization of cabin interiors and other parts. Other possible partners are materials providers that can provide and, if necessary, customize materials for specific aviation applications.

The German company provides the necessary transfer of know-how, training of personnel and - depending on requirements - the necessary hardware (Manufacturing Cells) or its certification.

The desired types of cooperation are commercial agreements with technical assistance or R&D agreements.

Advantages and innovations

- cost-efficient, fast and flexible production of small series on-site: costs often reduced to one third compared to conventional methods, delivery times of up to 12 weeks reduced to 1-2 weeks, reduced environmental impact
- specialization in additive manufacturing for aviation: focus on a high-yield niche area, leveraging deep expertise and understanding of the aviation industry's specific needs.
- certified production: offers EASA-certified manufacturing, ensuring all produced components meet the stringent quality and safety standards of the aviation industry.
- empowering partners with certified manufacturing cells: provides integrated solutions

Technical specification or expertise sought

Stage of development

Already on the market

IPR Status

Secret know-how

Sustainable Development goals

- **Goal 9: Industry, Innovation and Infrastructure**

Partner Sought

Expected role of the partner

- MROs (maintenance, repair, and overhaul companies), equipment manufacturers (OEMs) and aviation suppliers
Tasks to be performed: integration of the technology and use for their own clients
- Airlines
Tasks to be performed: customization of cabin interiors and other parts to meet specific needs and standards.
- Research institutions and universities with a focus on aviation and additive manufacturing.
Tasks to be performed: Joint development and qualification of new technologies and methods
- Additive manufacturing system manufacturers
Tasks to be performed: Development and qualification of new production systems specifically for aviation requirements
- Material suppliers
Area of activity: Supply of specialized materials for 3D printing.
Tasks to be Performed: Provision and, if necessary, customization of materials for specific aviation applications
- Consultancy firms in aviation certification
Tasks to be performed: Ensuring all manufactured components meet aviation standards
- Software companies
Area of Activity: Design, modelling, and process monitoring in additive manufacturing.
Tasks to be performed: Provision and integration of software solutions optimizing the additive manufacturing process
- Production and Technology Partners
Area of activity: advanced production technologies and manufacturing processes.
Tasks to be performed: Collaboration in developing and implementing new production technologies and methods to enhance the efficiency and quality of additive manufacturing

Type of partnership

- **Research and development cooperation agreement**
- **Commercial agreement with technical assistance**

Type and size of the partner

- **SME 11-49**
- **SME 50 - 249**
- **University**
- **SME <=10**
- **R&D Institution**
- **Other**
- **Big company**

Dissemination

Technology keywords

- 02011002 - Aircraft
- 3D printing
- 02007014 - Plastics, Polymers
- 02009023 - Interior equipment
- 02007010 - Metals and Alloys

Targeted countries

- World

Market keywords

- 09004008 - Other manufacturing (not elsewhere classified)
- 09001001 - Airlines
- 09001005 - Motor vehicles, transportation equipment and parts
- 08001018 - Polymer (plastics) materials
- 02007011 - Manufacturing/industrial software

Sector groups involved

- Digital
- Mobility - Transport - Automotive
- Aerospace and Defence

Media

Images



[AM production cell](#)



[spare part](#)