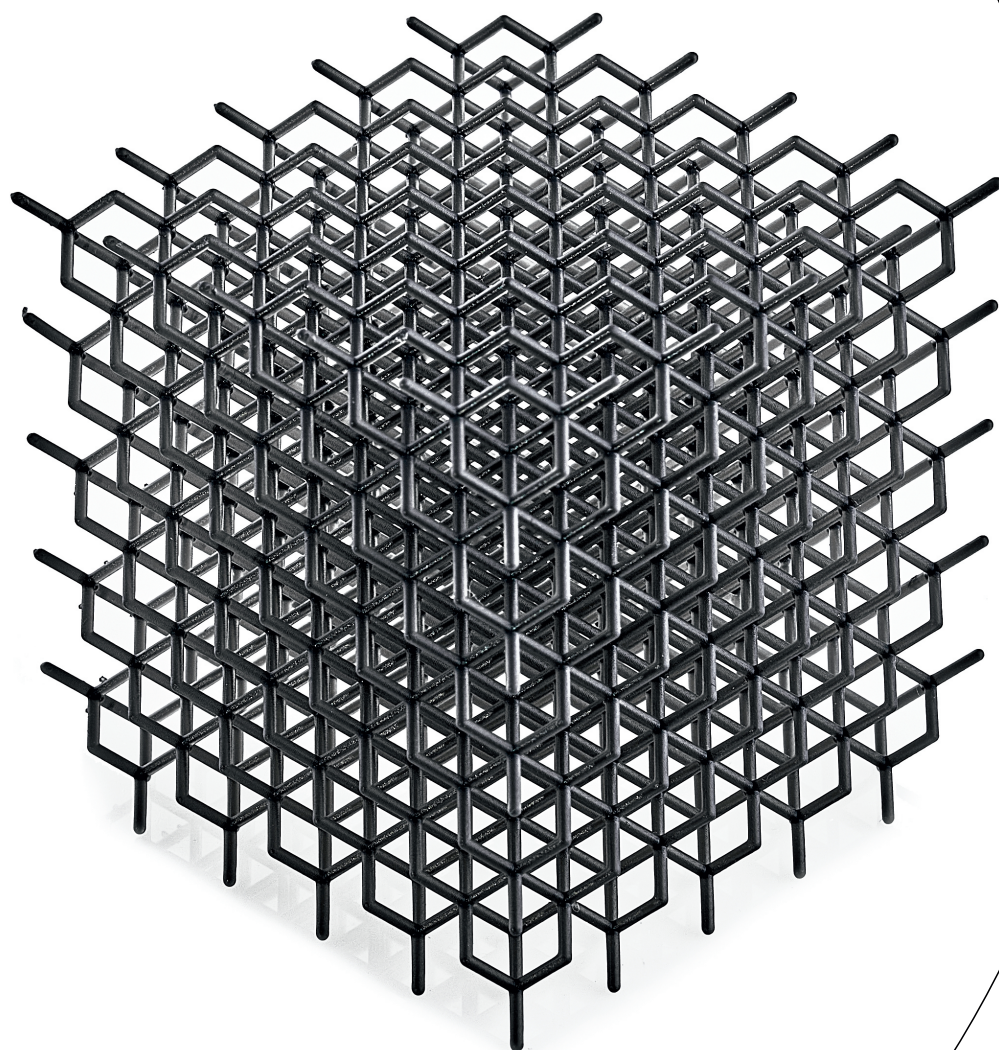




Łukasiewicz
Institute
of Aviation



Institute offers
an integrated end-to-end
additive manufacturing capability
for a range of industries

3D

POLYMERS

CHARACTERISTICS

Łukasiewicz- Institute of Aviation offers comprehensive additive manufacturing services for polymers using Fused Deposition Modeling (FDM) and Digital Light Processing (DLP). A wide range of materials enables the manufacture of functional components for demanding aerospace and industrial applications. Advanced technological infrastructure and materials engineering expertise support the entire process, from concept development and technology selection to the delivery of ready-to-use components.



FDM



DLP

Digital Light Processing (DLP):

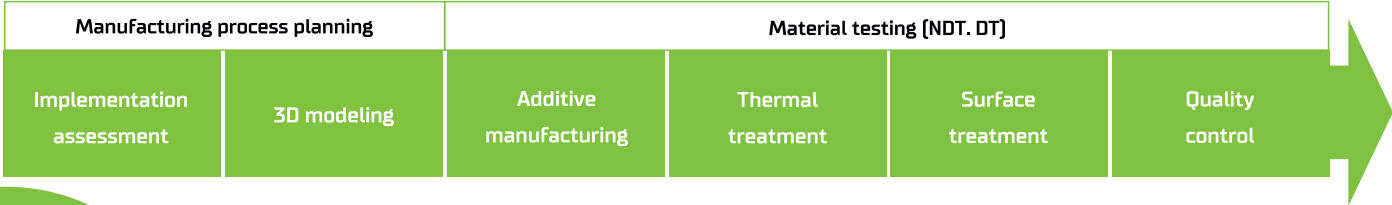
- High dimensional accuracy and print surface quality,
- Ability to reproduce internal channels diameter down to 0,15 mm,
- High process repeatability,
- Capability to manufacture components with complex geometries,
- Isotropic mechanical properties of printed components.
- Available photopolymer resins include, e.g., flexible and high-temperature materials (up to 300°C).

Fused Deposition Modeling (FDM):

- High thermal and chemical resistance, as well as dimensional stability of manufactured components,
- Resistance of materials to contact with operational fluids, including oils, lubricants, and fuels,
- Manufacturing of components with dimensions up to 610 × 508 × 508 mm.

Available materials include:

- **ULTEM™ 9085** – FST – certified material compliant with FAR 25.853 and OSU 65/65 requirements,
- **PEEK** – high-performance polymer with exceptional mechanical strength and thermal resistance (up to 250°C),
- **PEI, PPSU, PSU** – high-performance engineering thermoplastics,
- **Carbon – and glass-fiber reinforced composites** (e.g., PEEK-CF, PEEK-GF, PEI-CF, PC-CF, PA-CF, PA-GF)
- **Engineering thermoplastics** (e.g., PC, PA6, PA12, ABS, ASA, HIPS).



The Łukasiewicz Research Network – Institute of Aviation offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

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