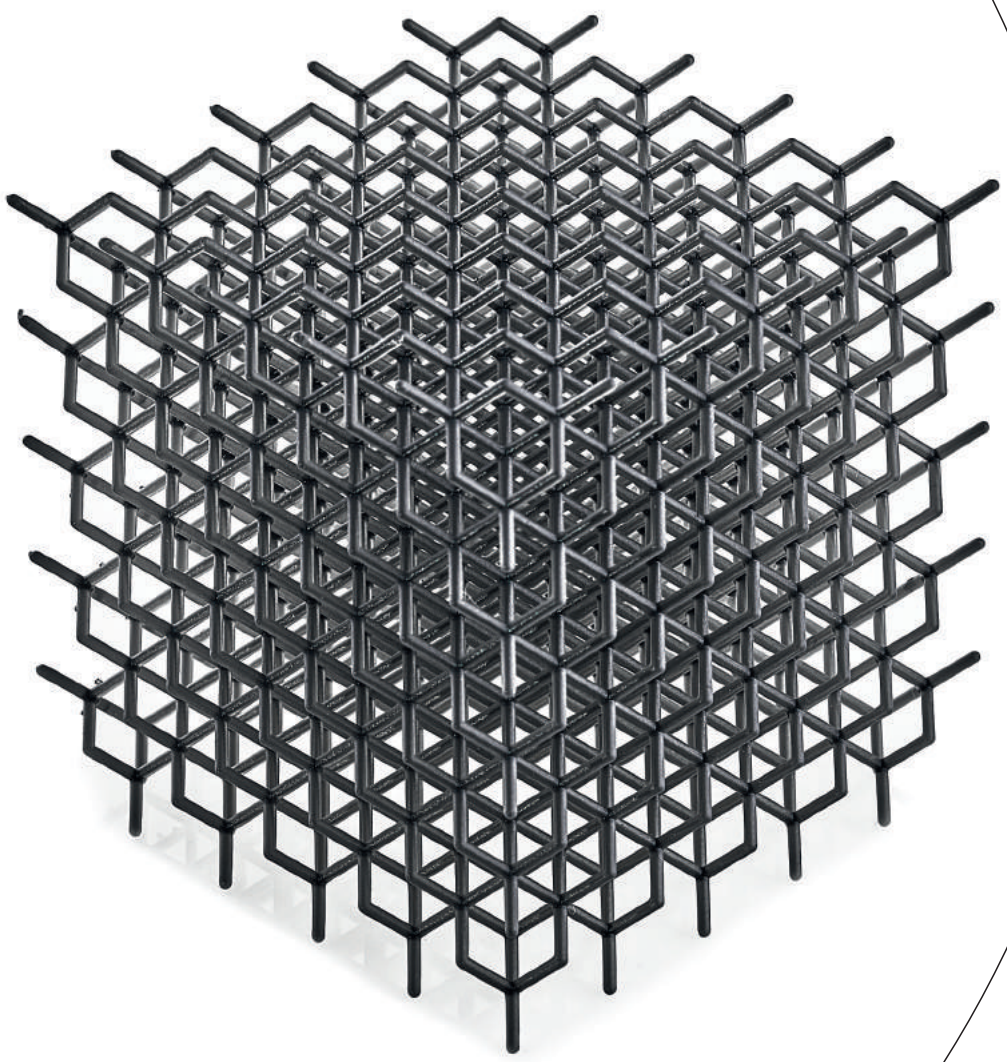
Łukasiewicz
Institute
of Aviation



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

3D POLYMERS

CHARACTERISTICS

The offer of Łukasiewicz – Institute of Aviation within the framework of additive manufacturing technologies includes a comprehensive service of complete 3D printing in-house manufacturing process chain, targeted mainly for space and aerospace instruments. Many completed projects, specialized machinery and experienced engineering staff make the Institute's offer unique.

Wide range of polymer materials, among others:

- **Elastomer / rubber-like** – production-grade rubbers.
- **High Temperature** – ultra-high temperature plastic for use in applications requiring high heat resistance. With heat deflection temperature of over 300 °C.
- **Composite** – high Performance Photopolymer, a two-part epoxy/acrylate hybrid material, production-grade parts feature long-term mechanical stability in various environments.
- **Tough – ABS like** – a strong plastic simulating injection-molded ABS, with long-term environmental stability.
- **High performance Ceramics (in development)** – additive manufacturing using ceramic, metal, glass-ceramic resins / filaments.

KEY FEATURES

- Isotropic properties.
- Highly detailed prints (internal channels diameter down to 0.15 mm).
- Threaded parts.
- Excellent surface quality and repeatability.
- Automotive Fluids compatibility.
- ISO 9001.

Complete In-house capabilities:

R&D for internal and commercial projects	Process parameters optimization	Design – 3D modeling	3D Printing	Thermal treatment	Post-processing / CNC	Quality control – geometrical validation (CMM, 3D scan)	Structural tests (static, dynamic, fatigue, XRD)	Material test (NDT, XCT, SEM)

The Institute provides parts from different metal alloys using powder bed technologies as well as wide range of polymer materials using DLP, MJP and FDM processes.

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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