



Łukasiewicz
Institute
of Aviation



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

3D
METAL

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.



Available range of metal materials:

- **CuCrZr**
A copper alloy with favorable combination of electrical and thermal conductivity accompanied with good mechanical properties.
- **316L**
This stainless steel alloy is a high performance marine-grade austenitic stainless steel that is molybdenum alloyed for enhanced corrosion resistance in chloride environment.
- **CoCr**
A cobalt-chrome-molybdenum-based superalloy. This class of superalloy is characterized by excellent mechanical properties [strength, hardness etc.], corrosion and temperature resistance.

KEY FEATURES

- Highly detailed prints / permeable internal channels' diameter down to 0.3 mm.
- Increased productivity for copper alloys with 1kW laser.
- Excellent part properties and surface quality.
- Open software for process optimization.
- Print volume up to 250 x 250 x 300 mm.
- ISO 9001, ECSS-Q-ST-70-80C.

The Institute provides customers with a full and comprehensive service including:



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.

- Depowdering and cleaning.
- 3/5 axis CNC machining.
- Controlled electro-erosion (in development).
- Geometrical validation (CMM, 3D scan).
- Material test (NDT, XCT, SEM).
- Structural tests (static, dynamic).



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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