ALTFORM

ZENIT

MULTI-PROCESS ROBOTIC CELL



DIRECT ENERGY DEPOSITION
ADVANCED LASER PROCESSES

Configurable by design, industrial by nature

- Configurable for **additive or advanced laser processes**
- **Single or dual process,** with optional **inert chamber**
- **Siemens-based** digital control
- **Automation-ready** for industrial integration

Where laser versatility meets industrial power

The ZENIT Series is AltForm's most **flexible** and **automation-ready laser manufacturing cell**: a modular **robotic system** engineered for **Powder DED**, **Wire DED**, **WAAM**, and non-additive laser processes such as **remote welding**, **laser hardening**, and **surface treatments**.
Available in **single-process** or **multi-process configurations**, ZENIT allows two laser technologies to coexist in one platform, enabling production versatility and system scalability in any industrial context.

BUILT FOR REACTIVE AND DEMANDING MATERIALS

For **titanium**, **aluminum**, and **other reactive metals**, ZENIT is available with a **fully inert chamber**, featuring an **exclusive AltForm patent** that reduces inerting time. This system quickly achieves stable, contamination-free process conditions, ensuring **maximum safety**, **consistent quality**, and high productivity even with the most demanding materials. This capability makes it ideal for **aerospace**, **energy**, and **high-performance manufacturing environments** where precision and safety are critical.

AUTOMATION AT THE CORE

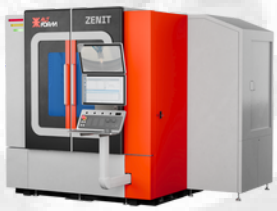
Designed to work autonomously or as part of a connected production line, ZENIT integrates seamlessly with robotic handling systems, automated powder feeding units, and external monitoring tools. Its Siemens-based architecture connects every component: from the robot and CNC to the digital twin and cloud analytics, ensuring real-time coordination and predictive efficiency.

TAILORED FOR YOUR WORKFLOW

Every ZENIT system can be **customized**: from **laser power** and **wavelength** to **automation level** and **process configuration**. Whether you're building, repairing, or coating components, AltForm engineers **design the system around your workflow**, integrating automation that enhances throughput, repeatability, and process reliability.



Single Process



Multi Process



Inert Gas Chamber

Build volume	1600 x 1200 x 700 mm / 800 x 800 x 600 mm (Inert configuration)
Laser type	≥2 kW IR multimode - Short wavelength lasers available on request
Degrees of freedom (X,Y,Z)	3
Degrees of freedom (A,B,C)	3
Axes speed	200°/s (acceleration 300°/s^2)
Accuracy	0.05 mm
Repeatability	0.05 mm
Power supply	400 V / 50 Hz / 20 kW
Dimensions	3552 (W) x 2751 (D) x 2425 (H) mm
Weight	4000 kg

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