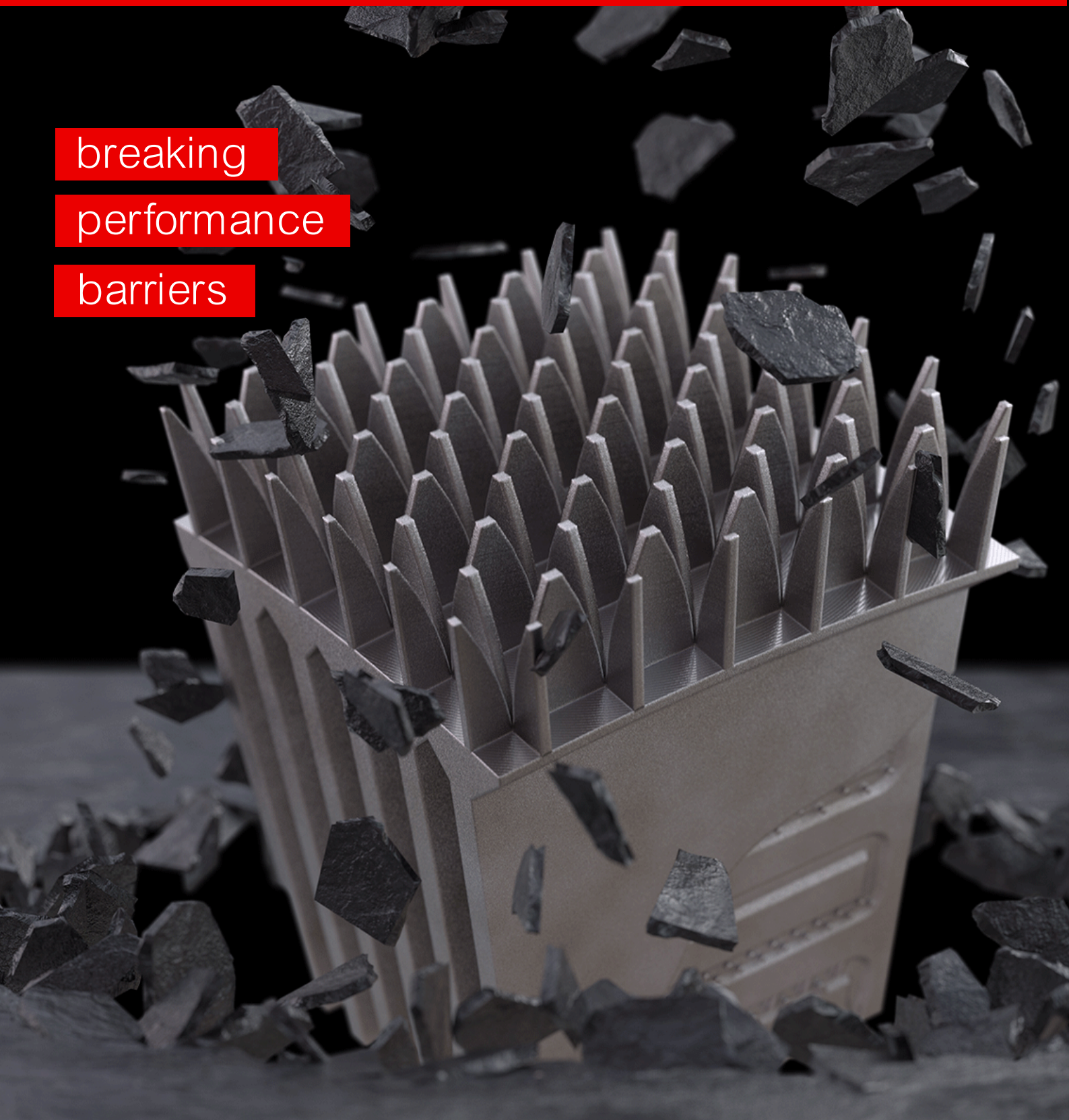


Metal Additive Manufacturing and Product Development Partner

breaking

performance

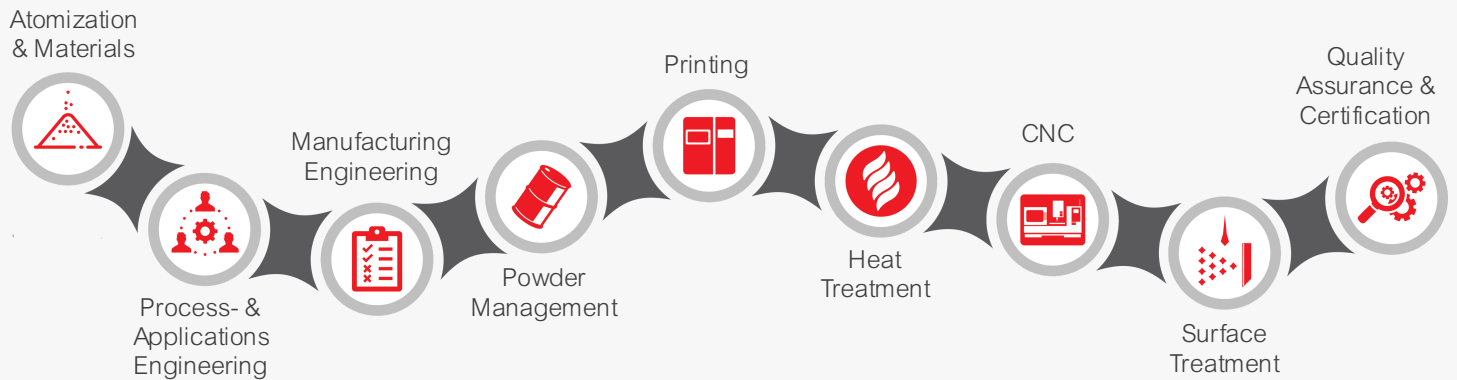
barriers



Industrialized AM is now

At Oerlikon AM, we're integrating and scaling the entire Additive Manufacturing (AM) value chain to handle your project from beginning to end.

By offering materials and surface technologies, design, production and testing of industrial metal-based components, Oerlikon AM and its global service network across the entire Oerlikon Group is uniquely positioned to advance the industrialization of Additive Manufacturing.



Metal Powders

We have high-quality production facilities, a growing portfolio of alloys, and a R&D team committed to developing new alloys that are ideally suited to the manufacturing process.

Design & Application Engineering

We help our customers overcome design challenges, whatever their industry or application requires. Our design and R&D teams can help turn concepts into a qualified production reality.

Additive Component Manufacturing

We have helped AM go from a prototyping tool to a mainstream manufacturing process. We act as the leading AM research hub for academic and industrial partnerships in the EU and the US. We are experienced in Powder Bed Fusion and Direct Energy Deposition technologies.

Post-Processing Expertise

Our global AM centers combine on demand a full scale of post-processing technologies to modify printed surfaces, HIP and/or heat treatment or coat the printed components prior to delivery.

Key Sector Experience

We work in space, aerospace, semiconductor, automotive, power generation, tooling and general industry - all sectors where precision and functional integration are vital.





Metal AM Component Manufacturing

Our Huntersville facility provides tremendous value to customers across the board. Our capabilities include end-to-end engineering, manufacturing, as well as a state-of-the-art research and development center. Additionally, we offer a wide range of post processing capabilities such as heat treatment and CNC machining.

Key Equipment

EOS

1x EOS M280
6x EOS M290
4x EOS M400
1x EOS M400-4

Trumpf

1x Trumpf TruPrint 1000
2x Trumpf TruPrint 5000

Concept Laser

5x Concept Laser M2

3D Systems + GF

1x DMP Factory 500

Printing Materials Capabilities

Aluminum

AlSi10Mg, AlSi7Mg, AlSi12CuNiMg, AlSi9Cu3, Al 6061, CP1, Scalmalloy®, AlMgSc, Elementum, Al7050-RAM2, High Entropy, Al-Cr-Fe Ni

Iron

SS 17-4 PH, SS 316L, Maraging Steel, C300, Tool Steel H11, Tool Steel H13

Titanium

Ti-6Al-4V Grade 5, Ti-6Al-4V Grade 23

Nickel

Inconel 625, Inconel 718, H188, H282, Alloy23X, HX, C-22, Pure Ni

Cobalt

F75, F78

Copper

CuNi2SiCr

Certifications

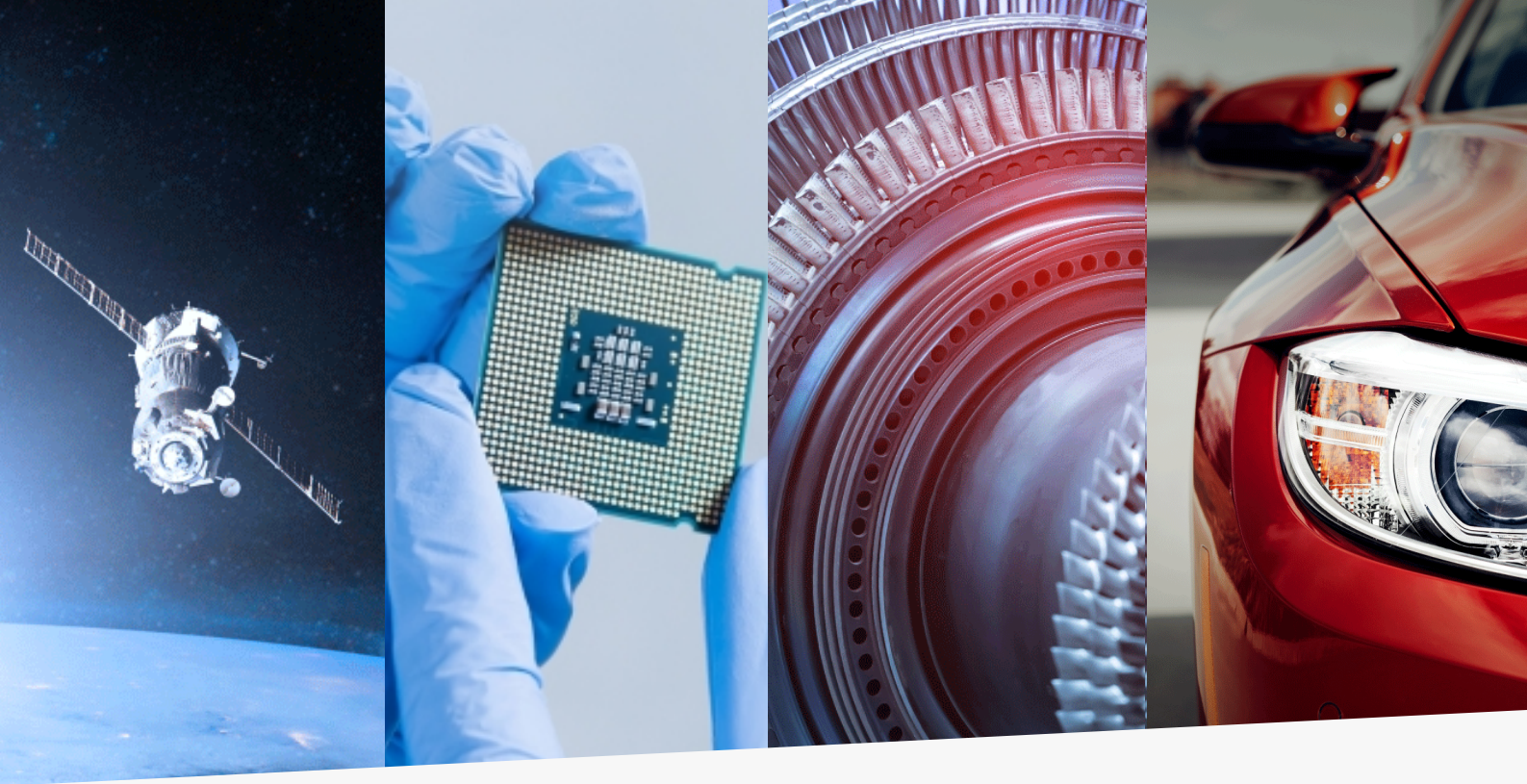
We have the AS9100 and ISO 9001 certifications; as well as the ITAR registration.

MetcoAdd™ Metal Powder Portfolio for Additive Manufacturing

We provide one of the world's leading metal powder portfolios, offering superior quality, traceability and production performance.

We have a broad range of alloys and are continuously developing more. We know that current solutions in AM cannot answer every production need. Therefore, our R&D teams can rapidly design, optimize, and produce new and custom alloy chemistries for pilot atomization and AM validation in our production facilities.

Base	Product	Nominal Chemistry	Nominal Particle Size Distribution [µm]
Nickel	MetcoAdd 718C	Ni 18Cr 18Fe 5(Nb+Ta) 3Mo 1Ti 0.6Al	-45 +15
	MetcoAdd 718E		-63 +20
	MetcoAdd 718F		-106 +45
	MetcoAdd 718 API C	Fe 53Ni 18Cr 5(Nb+Ta) 3Mo 1Ti 0.5Al	-63 +16
	MetcoAdd 718 API F		-106 +45
	MetcoAdd 738LC-A	Ni 16Cr 7(Al+Ti) 9Co 4 Fe 3W 2Mo 2Ta 0.1C	-45 +15
	MetcoAdd 625A	Ni 21Cr 9Mo 4Fe 4(Nb+Ta) 0.4Al 0.4Ti	-45 +15
	MetcoAdd HX-D	Ni 21Cr 18Fe 9Mo	-45 +15
	MetcoAdd HX-L		-53 +20
	MetcoAdd H23X-A	Ni 22Cr 2Mo 14W 0.35Al 0.03La	-45 +15
	MetcoAdd NiCP-A	Ni99	-53 +15
	MetcoAdd 6022A	Ni 22Cr 14Mo 3Fe 3W 2.4Co 0.5Mn	-53 +20
Cobalt	MetcoAdd 75A	Co 28Cr 6Mo	-45 +10
	MetcoAdd 76A-1		-45 +15
	MetcoAdd MM509-A	Co 10Ni 24Cr 7W	-45 +15
Iron	MetcoAdd 316L-A	Fe 18Cr 12Ni 2Mo 0.02C	-45 +15
	MetcoAdd 316L-D		-106 +45
	MetcoAdd 415F	Fe 13Cr 4Ni 0.8Mn 0.6Mo 0.5Si 0.03C	-45 +15
	MetcoAdd 415G		-106 +45
	MetcoAdd 17-4PH-A	Fe 17Cr 4.5Ni 4Cu 0.3(Nb+Ta) 0.07C	-45 +15
	MetcoAdd 17-4PH-D		-106 +45
	MetcoAdd 15-5PH-A	Fe 15Cr 4.5Ni 3.5Cu 0.3Nb 0.07C	-45 +15
	MetcoAdd 15-5PH-B		-90 +45
	MetcoAdd C300-A	Fe 18Ni 9Co 5Mo	-45 +15
	MetcoAdd H11-A	Fe 5Cr 1Mo 1Si 0.5V 0.4C	-45 +15
	MetcoAdd H13-A	Fe 5Cr 1Mo 1Si 1V 0.4C	-45 +15
	MetcoAdd H13-B		-90 +45
Titanium	MetcoAdd Ti-64 G23-A	Ti 6Al 4V	-45 +15
	MetcoAdd Ti-64 G23-C (Coming 2024)		-53 +15
	MetcoAdd Ti-64 G23-E		-106 +45
	MetcoAdd Ti-64 G5-B		-63 +20



Our Industry Expertise

Space

Additive Manufacturing offers several benefits for space technology, including cost savings, weight reduction, on-demand manufacturing, and parts consolidation. Typical 3D printed space applications include rocket components, satellite parts, and heat exchangers.

Aerospace

3D printing in aviation offers cost savings, material innovation, and the potential to transform the industry through increased efficiency and improved performance. Typical aerospace applications are complex engine parts, structural components and replacement parts.

Semiconductor

Additive Manufacturing offers substantial advantages to capital equipment manufacturers in the semiconductor industry that range from enhanced thermal management to fluid flow optimization and structural optimization.

Automotive

The design flexibility of Additive Manufacturing empowers automotive engineers to push the boundaries of innovation, create highly customized vehicles, reduce weight and improve performance, and streamline the manufacturing process.

Power Generation

Additive Manufacturing streamlines production of renewable energy systems, like solar panels and wind turbine components. Its flexibility allows for rapid customization, driving innovation in the pursuit of cleaner, more efficient energy sources.

Airbus and Oerlikon sign contract for the industrial Additive Manufacturing of satellite components

Oerlikon AM and Airbus have been working together in the field of 3D printed metal parts for space for more than ten years, developing components, several of which are already in orbit. The aluminum antenna clusters measure approximately 400x400x400 mm and are manufactured using laser powder bed fusion technology. These antennas are part of next-generation communication satellites that will transmit and receive communication and/or data signals in K-band frequency.

Advanced technologies like Additive Manufacturing are key in space applications to deliver benefits such as weight reduction. Moreover, satellites must meet extremely challenging mass, reliability and sustainability requirements.

Thanks to AM, the production lead time for an antenna cluster could be reduced from six months to a few weeks compared to conventional manufacturing.

In addition to aluminum 3D printing, the two parties have jointly fine-tuned the post processing as a key part of the process development. As an all-round service provider, Oerlikon AM offers Airbus printing, post processing and surface finish optimization for the best possible RF (radio frequency) performance, precision CNC (computer numerical control) milling, quality assurance, ultrasonic cleaning, assembly, and wire integration, as well as customized logistics. Oerlikon AM is a registered and qualified supplier to Airbus and passes audits annually.

“To create a final product of excellent quality, technical cooperation and understanding each other’s needs and requirements is fundamental for a well-coordinated design and manufacturing process – not only in rapid prototyping, but even more so in serial production.”

Stephen Phipps
Active Antenna Programme Lead, Airbus



Oerlikon is a leading global provider of surface and additive manufacturing solutions and services. The division offers an extensive portfolio of market-leading thin-film, thermal spray and additive manufacturing technologies, equipment, components and materials. Emission reduction in transportation, maximized longevity and performance of tools and components, increased efficiency and intelligent materials are hallmarks of its leadership. Pioneering technology for decades, the division serves customers with standardized and customized solutions across a worldwide network of more than 170 sites in 37 countries. The division is part of the publicly listed Oerlikon Group (SIX: OERL), headquartered in Switzerland, which has more than 13 000 employees and generated sales of CHF 2.9 billion in 2022.

We'll never stop expanding our capabilities

When you're an industry disruptor, you can never rest on your laurels. We're constantly developing our innovation and production sites to serve you with the latest technology.

Why not see what our experience and expertise in application-tailored solutions and materials developments could do for your business?

If you can imagine it, we can build it.

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