



Oerlikon AM

www.oerlikon.com

Oerlikon AM supplies additive manufacturing solutions to the aerospace, energy, automotive, semiconductor and various other high-tech industries. Along with Oerlikon Balzers and Oerlikon Metco, Oerlikon AM forms the Surface Solutions Segment of the Swiss-based Oerlikon Group (SIX: OERL). The segment offers unique and integrated solutions, from material selection and production through to the post-treatment of components with functional coatings.

INDUSTRY	NUMBER OF EMPLOYEES	SITE
Manufacturing solutions for the aerospace, automotive, energy and tool industries, among others	120	Barleben (Germany)

TRUMPF PRODUCTS

- TruPrint 3000
- TruPrint 5000

APPLICATIONS

- Additive manufacturing

Challenges

Oerlikon AM is one of the pioneers of additive manufacturing with metals and polymers. At four sites in Europe, the USA and China, the company offers collaborative development and order production of high-quality and performance-optimized components, including the research and development and even production of customized metal powders for 3D printing. The company entered the additive manufacturing market in 2004 with rapid prototyping, investing heavily in collaboration with various equipment manufacturers and evaluating exactly which concepts work best for Oerlikon AM customers in the aerospace, energy, automotive and toolmaking sectors.

Shortly before the breakthrough

Hendrik Alfter, General Manager at Oerlikon AM Europe, is convinced that the technology is now about to reach the next major milestone: "The production of complex series components using additive manufacturing is on the verge of a breakthrough in industrial sectors such as aerospace and energy. The technology, the materials, the processes, the costs per component - the overall package is cohesive and has arrived in economically attractive regions." But it is not yet time to pop the champagne corks and celebrate, explains Hendrik Alfter: "The options are there - but development and qualification take time, which delays project launches and requires perseverance. The industry needs to stay on the ball by continuously improving performance so that series production can really take off."

Mostly statements of intent

This is because the project pipeline is well-filled in many places, including at Oerlikon AM. Many development projects with good options that are intended as series projects are already in-house. Even small series, which take a lot of time to prepare and follow up, have already been realized. But quantities in excess of 2000 parts rarely make it beyond mere statements of intent.

Hot Phase

The reason: While suppliers such as Oerlikon have developed the technology and gathered knowledge over many years and are already transferring it to the industrialization of additive manufacturing, the detailed examination of the technology in many customer industries is only now entering the hot phase. The training of the next generation of design engineers who think "AM-first" is in full swing at universities and with customers. The same applies to the qualification of the technology, for example in the aerospace industry.

Challenging times

As a result, the major projects are under development, but will only be completed in the medium term before they materialize. In the meantime, however, the write-off payments for the systems continue. This makes the current situation a stress test for many companies.



"The most important criteria for a good machine suitable for series production are reliability, component quality and good service. TRUMPF can provide all of this for us."

HENDRIK ALFTER
GENERAL MANAGER OERLIKON AM



Solution: Shared risk

The planning uncertainty caused by the current market situation cannot be minimized. The market cannot be accelerated. Nor can the qualification phases. Companies like Oerlikon AM must continuously develop the technology and their expertise. They must also print parts so that the investments pay off. And now? For Hendrik Alfter, the concept for success until the time comes for series production is crystal clear: "If system manufacturers and their customers work closely together during development, the technical and commercial risk can be shared until the time comes for series production and development can be accelerated. Both sides learn something new. "I believe that development partnerships pave the path to success in additive series production."

Implementation

Oerlikon AM has been following this path together with TRUMPF since 2010. As a test customer, Oerlikon AM receives early access to beta versions of new TRUMPF systems, for example. The two companies also work closely together on parameter development. The TRUMPF TruPrint 3000 and 5000 are already qualified as series machines at Oerlikon and offer the best price/performance ratio for many applications. The inert, closed powder circuit enables simple and safe parts handling and powder

handling under inert gas, as well as consistent powder and component quality. Both machines have a quickly interchangeable build cylinder and powder supply cylinder. Cylinder setup and powder removal for build jobs can therefore be performed parallel to the LMF process. This significantly reduces the downtimes and non-productive times of the systems at Oerlikon and enables the company to respond quickly and flexibly to customer requirements. "The most important criteria for a good machine suitable for series production are reliability, component quality and good service," explains Alfter. "TRUMPF can provide all of this for us."



Forecast

Partnerships such as the one with TRUMPF are a key factor for Oerlikon AM in influencing the development and qualification of technologies at an early stage. "We receive the machines early on for testing. This allows TRUMPF to optimize the machines in a timely manner based on our feedback. In turn, we can use and qualify the systems quickly, become familiar with the technology and parameters and, at the same time, bring future business to our company more quickly." Alfter adds: "For the machine manufacturer, this is ideally also a market launch in very new, emerging sectors, for example in aerospace. This allows the manufacturer to establish themselves in new sectors at an early stage." Manufacturers who do not enter into such partnerships risk missing out on generating market share in future markets.

Find out more about our products



TruPrint 3000

The TruPrint 3000 is a universal medium-format machine (LMF / PBF / LPBF) with Industrial Part and Powder Management. This means you benefit from even more flexibility, quality and productivity for your additive series production – now also with the full-field multilaser option.



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TruPrint 5000

The TruPrint 5000 gets you ready for industrial series production. You can produce your 3D component more quickly thanks to highly productive, partially automated LMF processes.



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