

**Media Release**

## **Oerlikon Metco Laser Center of Competence: A major technology for the automotive and aerospace industries**

**Wohlen, Switzerland — May 11, 2021** — Just a few months ago, Oerlikon Metco launched two completely new materials for high-speed laser cladding applications. Now the coating specialist goes one step further: At the facility in Wohlen, Switzerland, Oerlikon Metco has built a unique laser center of competence, which gives customers access to the promising technology of laser cladding. Its multifunctionality makes the process particularly interesting for suppliers in the automotive and aerospace industries.

"Laser cladding as a coating process is not new, but robust development in recent years combined with the fall in the price of lasers and laser cladding system components that this process has become economically interesting for suppliers from the industry," explains Arkadi Zikin, head of the new Oerlikon Metco Laser Center of Competence.

At the heart of the Laser Competence Center is a new, high-precision 7-axis gantry system that enables a variety of process options. It has been especially modified by Oerlikon Metco and equipped with, among other things, a specially developed tilting turntable.

Laser cladding results in high-quality deposits with a metallurgical bond to the substrate. "But the system can do much more," says Zikin. "It's capable of multiple processes, including additive manufacturing. This opens up completely new possibilities for large parts, such as those produced by suppliers in the automotive and aerospace industries."

### **Wide range of industrial applications for the automotive and aerospace industries**

Laser cladding makes it possible, among other things, to build 3D structures layer-by-layer directly on the surface of components and thus change their design. Therefore, laser cladding is also included in the additive manufacturing processes of Directed Energy Deposition (DED) or Laser Metal Deposition (LMD). With Laser Cladding, additive structures can be built on the free-form surface of existing components and thus even extremely large components for the aerospace industry can be built and/or repaired.

EHLA (Extreme High-Speed Laser Application) is achieved with high coating deposition and a high application efficiency of 90%. This results in very thin layers with low surface roughness and excellent properties, positioning EHLA a serious alternative to processes such as thermal spraying or hard chromium plating to produce, for example, wear and corrosion protective deposits on brake discs and hydraulic piston rods.

Another application of laser cladding is wire coating, in which the feedstock metal is consumed completely producing coatings with 100% deposition efficiency. This is not only economically interesting, but also a promising alternative for industries where processing with noxious powders is restricted. Recent developments also open up new horizons for additive applications and the construction of highly precise 3D geometries with excellent process control.

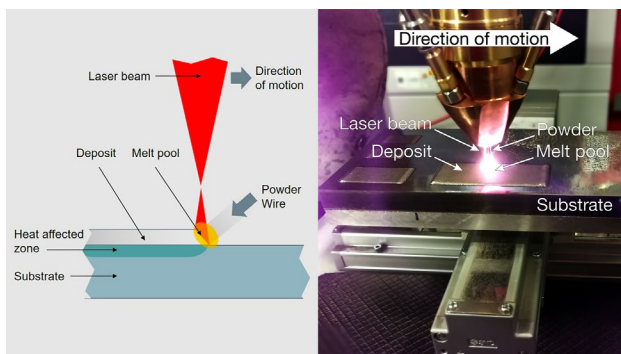
### The Laser Center of Competence covers the entire process chain

"The center is available to our customers for coating orders ranging from prototype production to large-scale series production, as well as joint, exclusive R&D projects. Hence, we cover the entire process chain from concept development through pilot production through industrialization," explains Arkadi Zikin. Oerlikon Metco itself continuously develops the process in its Laser Center of Competence through testing of the latest generation of materials and applications.

Oerlikon Metco that we continue to research and study industry trends to formulate a better customer experience to purchase our products," said Liana Vinokur, Director of Commercial Excellence for Oerlikon Metco.



*Oerlikon Metco's Laser Center of Competence team.  
From left to right: Patrick Spapens, Kemal Coskun,  
Dr. Arkadi Zikin, Jörg Spatzier, Peter Öhninger.*



*With laser cladding, the geometry and size of the spot and thus the deposit can be precisely controlled.*

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Oerlikon Metco enhances surfaces that bring benefits to customers through a uniquely broad range of surface technologies, equipment, materials, services, specialized machining services, and components. Surface technologies such as Thermal Spray and Laser Cladding improve the performance, efficiency and reliability of customer parts and systems. Oerlikon Metco serves industries such as aviation, power generation, automotive, oil & gas and other specialized markets via a dynamically growing network of more than 40 sites in EMEA, Americas, and Asia Pacific. Oerlikon Metco, together with Oerlikon Balzers, and Oerlikon AM belong to the Surface Solutions Segment of the Switzerland-based Oerlikon Group (SIX: OERL).