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Additive Manufacturing

LASERTEC 30 SLM 3rd generation: repeat accuracy and productivity

Additive manufacturing offers the potential to optimize process chains, increase their efficiency, and conserve resources. As a full-line supplier in the machining of metal components, DMG MORI combines both conventional CNC machines and additive technologies such as powder deposition welding on the LASERTEC DED hybrid models and the powder bed process in the form of the LASERTEC SLM series in its product range.

With the LASERTEC 30 SLM 3rd generation introduced in 2024, DMG MORI is setting new standards in this field. Both its expertise in additive manufacturing and its many years of experience in machine tool construction have gone into the development of the powder bed machine. A frame made of cast components acts as a highly rigid base, enabling DMG MORI's latest powder bed machine to redefine robustness and repeatability. While dynamic forces are generated by axis movements in conventional machine tools, thermal expansion due to temperature changes is the biggest challenge in powder bed technology. The process chamber is floating within the cast frame and can expand freely in response to temperature fluctuations. At the same time, the high-precision optical modules—with a spot diameter of 80 µm—are firmly mounted on the cast frame. Precise calibration of the coater using a reference surface ensures a constant distance between the optics and the powder bed, additionally supported by active temperature compensation of the positioning in the Z-axis.

To make the manufacturing processes in the powder bed more efficient, DMG MORI has equipped the LASERTEC 30 SLM 3rd generation with up to four lasers with a power of up to 1000 W, whose scan fields completely overlap. For short non-productive times, the construction container – measuring 325 x 325 x 325 mm – can be equipped with up to four lasers with a power of up to 1000 W, whose scan fields completely overlap. For short non-productive times, the construction container – measuring 325 x 325 x 400 mm – can be changed before it has cooled down. Covers for the build container and the working space are stored in the working space during operation. They serve to seal the build container during removal and to maintain the inert gas atmosphere in the machine. The next build job can thus be started quickly without having to refill the machine with inert gas.

At EMO, DMG MORI will be presenting the LASERTEC 30 SLM 3rd generation live in action: a rocket combustion chamber is being created in the machine's build space, which impresses with its improved cooling efficiency and lightweight, monolithic design. Experts from DMG MORI Additive look forward to discussing individual applications with trade visitors.

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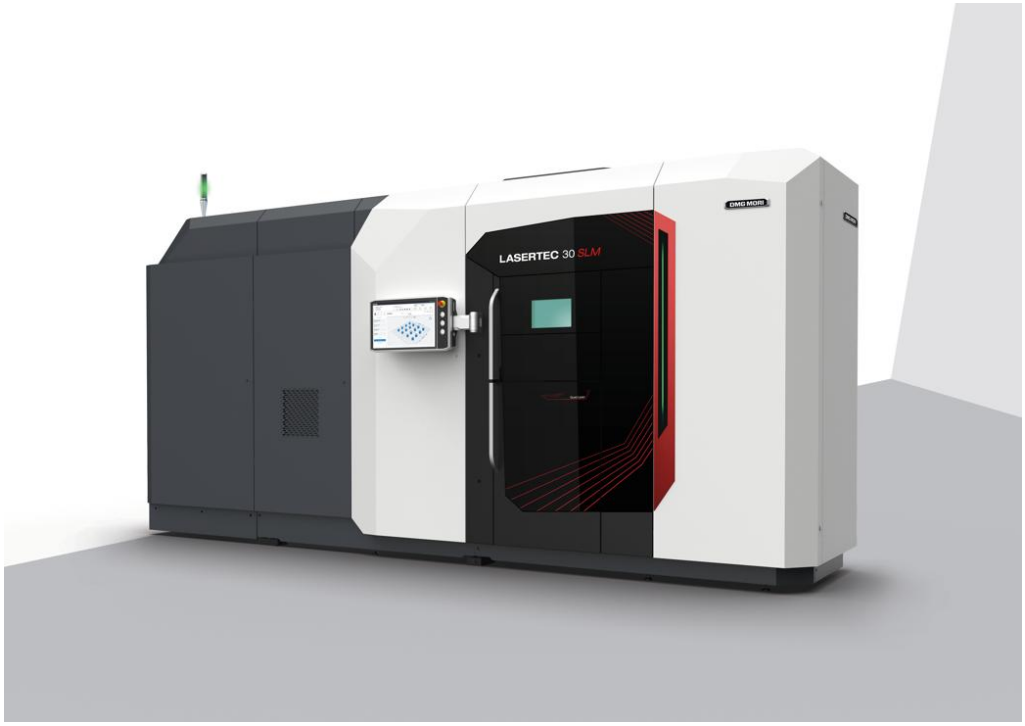
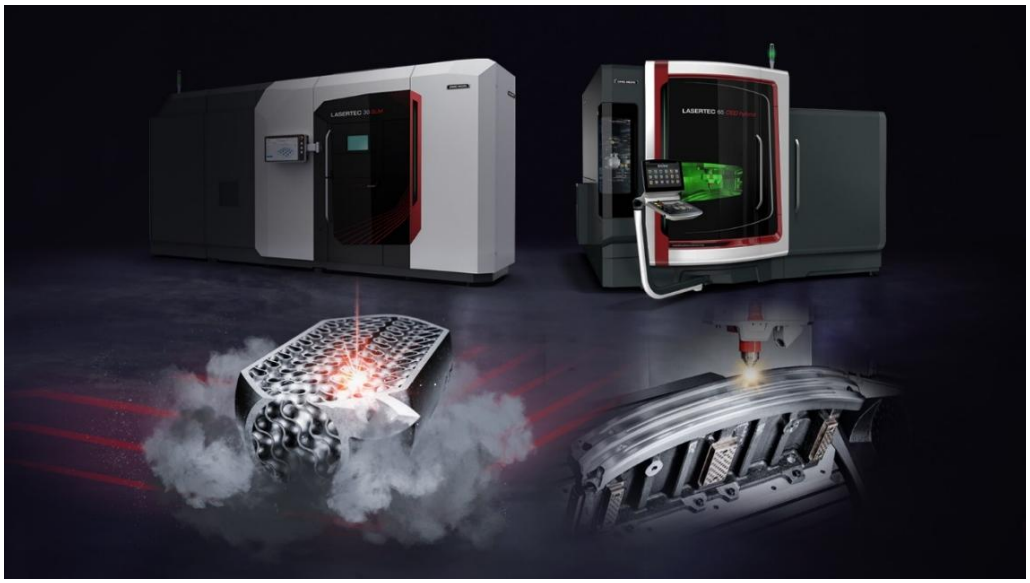


As stable as a machine tool, four lasers, a large installation space and optics with a spot diameter of 80 µm: The DMG MORI LASERTEC 30 SLM 3rd generation sets new standards in terms of robustness and repeat accuracy.



At EMO in Hanover, DMG MORI will be presenting the latest developments in the field of additive manufacturing, including the LASERTEC 30 SLM 3rd generation.

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Company Profile // DMG MORI

DMG MORI is a leading global manufacturer of high-precision machine tools and is represented in 44 countries – with 124 sales and service locations, including 17 production plants. In the “Global One Company”, more than 13,500 employees are driving the development of holistic solutions in the manufacturing industry. Under the guiding principle of Machining Transformation (MX), DMG MORI combines four pillars for the efficient, sustainable production of the future: Process Integration, Automation, Digital Transformation (DX) and Green Transformation (GX).

DMG MORI stands for innovation, quality and precision. Our portfolio covers sustainable manufacturing solutions based on the technologies Turning, Milling, Grinding, Boring as well as Ultrasonic, Lasertec and Additive Manufacturing. With technology integration, end-to-end automation and digitization solutions we make it possible to increase productivity and resource efficiency at the same time.

At our production sites worldwide, we implement holistic turnkey solutions for the main sectors of aviation & space, automotive & e-mobility, die & mold, medical, and semiconductor. With the DMG MORI Qualified Products (DMQP) partner program, we offer perfectly matched peripheral products from a single source. Our customer-oriented services cover the entire life cycle of a machine tool – including training, repair, maintenance and spare parts service.

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