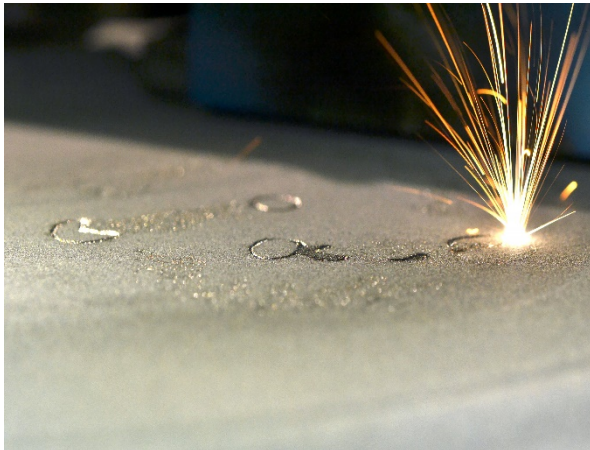


Checking layer by layer

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From security-related components to operating theatre equipment, the sheer range of 3D-printed parts is expanding by the day. This also increases the significance of Melt Pool Monitoring in guaranteeing their safe and cost-optimised production.

Whether bespoke, single-batch components through a fully-digital process chain, or complex geometric shapes: 3D metal printing allows for quick and economically efficient implementation of innovative component

concepts. Active quality assurance during the printing process is an extremely relevant, indispensable factor on which several sectors such as the aviation industry or medical technology are now particularly keen. Melt Pool Monitoring, which can detect defects already during component printing, has proven

particularly effective, explains WILD Project Manager Dieter Trampusch. "Cameras and sensors are used for real-time detection of molten pool emissions in the infra-red range which are generated as radiation during melting. As a result, it is possible to introduce countermeasures or interrupt the process at an early stage". This saves the customer a lot of money, time and material resources.

One of the leading manufacturers in Melt Pool Monitoring is plasmo, a long-standing customer of WILD. "Our Quality assurance systems allow manufacturers of 3D components to look deep into the melt pool. Several sophisticated algorithms make it possible to draw conclusions about errors. The system can be used both for process monitoring in serial production and as an expert tool for process development and quality assurance. Especially when serial production is involved, it is necessary to archive production data for several years", explains Martin Melchart, Head of global operations at plasmo Industrietechnik GmbH. With more than 800 plasmo systems in operation worldwide, the growing list of customers now features top international companies, including some from the automotive and steel sectors.

The industry leader cooperates closely with research institutes and industrial partners like the WILD Group, which has been involved in a series of development and manufacturing projects in the last 17 years. "We bring along many years of experience in the areas of optics and additive manufacturing and we can rely on an assembly team that can quickly and smoothly manage the construction of new systems. In such projects, a short time to market plays a decisive role", says Dieter Trampusch from experience.