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THE IDEAL TIME FOR 3D PRINTING IS NOW

INTERVIEW WITH FRANK PETER WÜST

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TRUMPF

ADVANCED MANUFACTURING CENTER

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THE TRUMPF TRUPRINT 5000 3D IS EQUIPPED TO HANDLE EVEN THE MOST DEMANDING INDUSTRIAL APPLICATIONS.

Mr Wüst, we know that 3D printing has been able to provide quick support for medical technology during the corona crisis. What other potential do you still see?

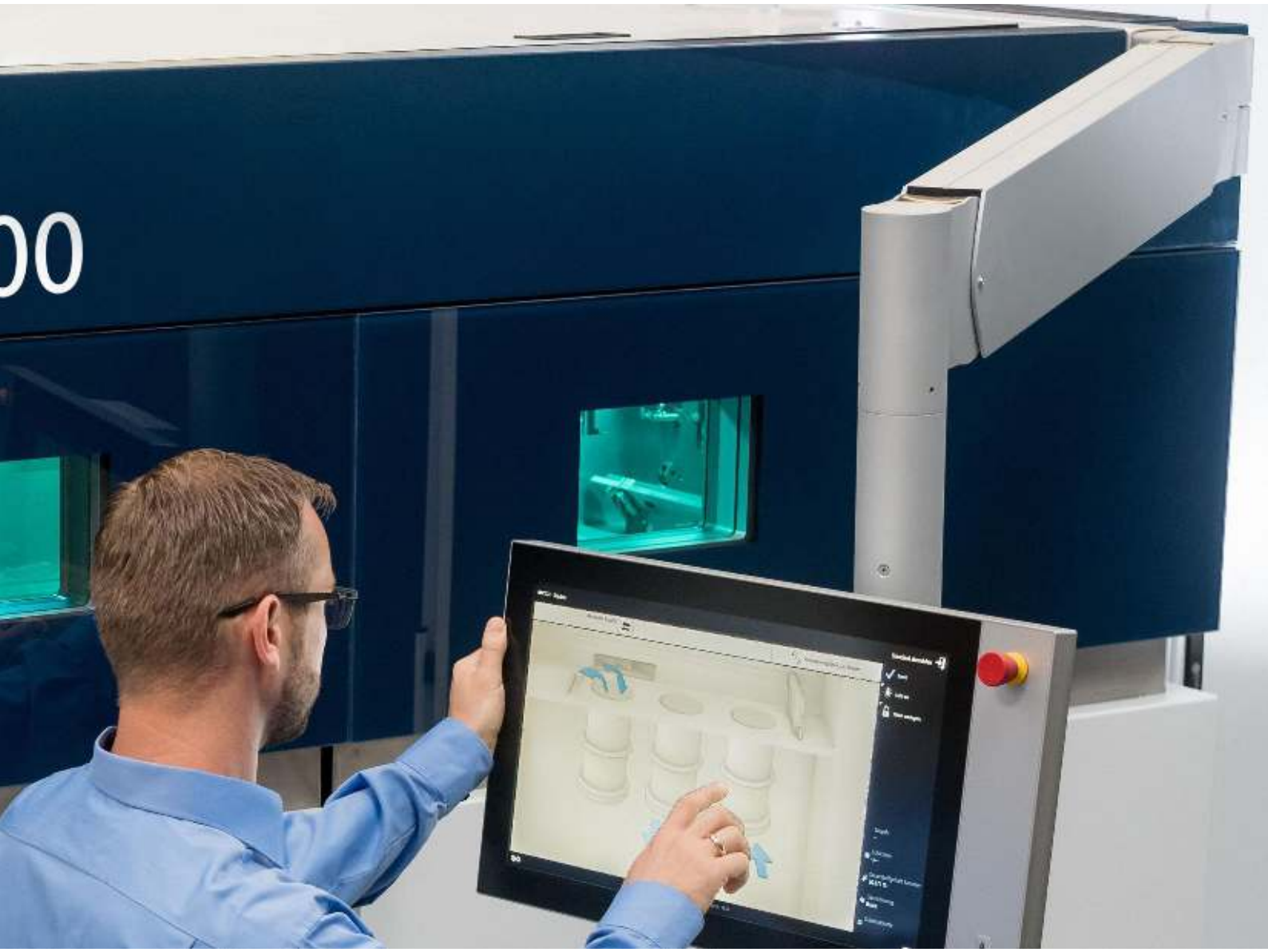
3D printing has huge potential to re-establish supply chains. All sectors can in principle benefit from this, for example, the automotive and energy industries. It is not just about replacing another technology with 3D printing. Additive manufacturing processes is more about giving us an opportunity to rethink and sustainably improve supply chains. For example, a complex component can often be printed "in one piece" rather than assembled from several individual pieces. This can save time and costs as well as increase quality. A spring heat sink on our TRUMPF laser machines, for example, is made up of ten individual parts when traditional manufacturing methods are used. In the case of 3D printing, we need only one component. This has enabled us to save 30 percent in costs and to simplify assembly.

In which areas is AM most beneficial?

*3D printing offers benefits in almost every industry. At TRUMPF, we envisage plenty of opportunities in medical technology, aerospace, dental technology and the energy industry. It's not just about companies improving their products with 3D printing, but more about the opportunities for in-house production. For example, 3D printing can optimize grippers in production lines by integrating f*unctions and improving cooling and gas flow.

Supply chains will eventually be working again. 3D printers are quite expensive. When is it worthwhile for a company to invest in a system?

Whether a 3D printer is worthwhile is not just a question of investment costs but more about creating a business case for each additively manufactured part and taking all factors into account. Component costs such as for production, assembly and tools must be included in the calculation as well as system performance factors such as longer service lives



and increased capacity utilisation. 3D printing also offers added value along the entire value chain, for example, due to independence from suppliers and lower storage costs. When a company is able to take advantage of these benefits, it pays to invest in a 3D printing system physical test product.

Is the crisis a good time for companies to think about 3D printing?

Absolutely. Right now, lots of employees are highly motivated and want to be innovative and to explore the opportunities of additively manufacturing their products. This is exactly what is needed to be successful with 3D printing. At TRUMPF, we have developed a training program that helps companies to get started with 3D printing – from understanding the process to selecting components and integrating it into their own process chain.

The AM sector includes many new companies and start-ups. What impact has the corona crisis had on the industry?

One effect might be for start-ups and smaller companies to work more closely with larger firms because the former can often react faster and more flexibly than large companies in times of crisis. Large companies, on the other hand, have greater financial leeway. Cooperation is therefore beneficial to get innovative ideas implemented faster. This would provide major added value for the industry as a whole.

Does additive manufacturing now have an opportunity to move into new areas of traditional manufacturing? If so, why?

In times of crisis, companies are often under pressure to think differently and come up with new ideas. 3D printing opens up many opportunities to do this. However, fully replacing traditional technologies with 3D printing is feasible only in a few industries. The technology and entire value chain needs to be examined closely. Designers also need to free themselves from the limitations of traditional methods and learn to think "in 3D".

Frank Peter Wüst

Graduate in Electrical and Welding Engineering.

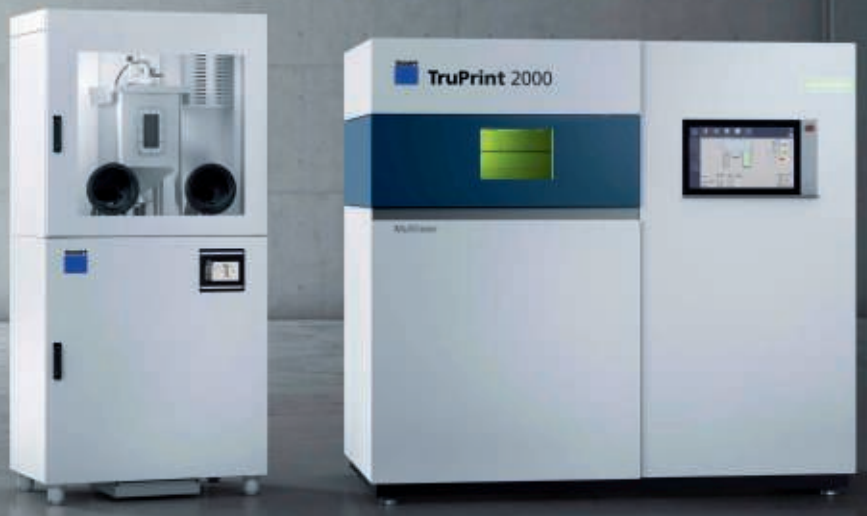
25 years' experience in welding technology and AM.

Since 2001 at TRUMPF in different departments.

TruPrint 2000

Make the most out of the cost-effective 3D printing with premium quality

Highly productive premium component quality, low costs per part, the highest quality standards, simple operation



With its small 55-µm laser beam diameter, the TruPrint 2000 provides a high-quality printing result which impresses with its surface quality and level of detail. It offers a build volume (cylinder) of 200 mm in diameter and a height of 200 mm. The fullfield multilaser with two 300-watt fiber lasers from TRUMPF – which scan the entire build area – delivers top productivity. Melt Pool Monitoring and comprehensive process monitoring ensure the highest quality standards. The production process with the TruPrint 2000 is a closed powder circuit under shielding gas. This allows for easy and practical handling, with the highest operator safety.

More information at www.trumpf.com