

# Know how to do it – efficient manufacturing with 3D printing

Swiss m4m Center is an additive manufacturing center for medical applications and focuses the entire process know-how in a validated environment – from support during part construction to pilot production. The technology transfer center has set itself the task of making it easier for customers from the MedTech industry to get started with the 3D technology. Swiss m4m Center relies on training courses, education as well as further training opportunities concerning additive manufacturing. Going even beyond that, they draw up entire production processes for customers for the manufacture of medical technological products using additive manufacturing. The team surrounding CEO Nicolas Bouduban does not just depend on its own expertise: 45 partners from industry and science represent all subjects concerning 3D printing for medical technological devices and implants. One of these partners is TRUMPF. The TruPrint 2000 installed and qualified at Swiss m4m Center shows customers clearly how conveniently, flexibly and quickly even complex parts can be produced using 3D printing.

## Swiss m4m Center

[www.swissm4m.ch](http://www.swissm4m.ch)



Swiss m4m Center in Swiss Bettlach is an additive manufacturing center for medical applications. At the same time, the company acts as a technology transfer center to make it easier for customers from the MedTech sector to enter the world of additive manufacturing. At the end of 2020, the Eidgenössische Departement für Wirtschaft, Bildung und Forschung (SBFI) ("Federal Department for Economy, Education and Research") classified Swiss m4m Center as a "research facility of national importance".

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INDUSTRY	NUMBER OF EMPLOYEES	SITE
Medical technology	6	Bettlach (Switzerland)

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### TRUMPF PRODUCTS

- TruPrint 2000
- Industrial part and powder management
- TruMark

### APPLICATIONS

- Additive manufacturing
- Laser marking

## Challenges

The Swiss MedTech sector purchased products and services worth almost 18 billion francs in 2019. Additive manufacturing offers great opportunities for the approximately 1,400 companies in the country. However, at the moment many are still focusing on the risks when launching the technology: they are put off by high investment costs for machines and qualified staff who work with initiative even at the part construction stage and who recognize which parts can be produced efficiently with 3D printing.

Swiss m4m Center has set itself the task of introducing customers to all topics around 3D printing. CEO Nicolas Bouduban's team also provides complete individually designed processes for the production of medical technological products using additive manufacturing.



"Not only do users need the 3D printer itself, but also the expertise required for profitable operation and the security of a quick and high-quality production start."

**NICOLAS BOUDUBAN**  
CEO OF SWISS M4M CENTER



## Solutions

Swiss m4m Center provides training courses and professional development opportunities for additive manufacturing as well as very practical application examples. The company has also invested in a TruPrint 2000. Swiss m4m Center uses the machine to produce parts made of stainless steel 1.4542 / 17-4PHr in a qualified production environment in accordance with ISO 13485. "The machine," explains Nicolas Bouduban, "is very flexible. It can be used to print individual pieces economically as well as small to medium series." The relatively large build volume of the TruPrint 2000 facilitates a construction volume of 200 x 200 millimeters. The 300-watt fiber laser with a beam diameter of 55 micrometers guarantees outstanding print results and surface qualities even with complex, delicate parts. The TruPrint 2000 offers the possibility of developing productivity with the multilaser option. The Fullfield Multilaser is equipped with two 300-watt fiber lasers which scan the entire build volume simultaneously. The fully automatic calibration of the multilaser scanning fields to each other ensures maximum precision.

## Implementation

Swiss m4m Center developed a medical gripper for demonstration purposes. Its delicate and complex structures are designed to show customers the opportunities of 3D printing. "The TruPrint 2000 printed the surgical instrument seven times from stainless steel 1.4542 / 17-4PH within just a few hours," explains Bouduban and continues: "This example should demonstrate to customers how easy prototype construction can be with additive manufacturing. The TruPrint 2000 also offers the option of producing small series of special products quickly and economically." The simple operation of the machine, as well as its uncomplicated part and powder handling make the system an ideal entry-level machine for Bouduban. "The TruPrint 2000 does not overwhelm its user, yet still offers enough options so that capacities limits are not reached immediately."



## Forecast

There is a great deal of interest in the services of Swiss m4m. Nicolas Bouduban is confident: "There are many opportunities for 3D printing in the MedTech sector. More and more companies are starting to grapple with the technology. We provide a jump-start. Machine manufacturers know best which parameters have to be selected for individual applications and how the laser needs to control a component. TRUMPF is ready to share this know-how with us and with our customers. This is an important prerequisite as we work to convince our customers."

## Find out more about our products



### TruPrint 2000

Would you like cost-effective 3D printing with top quality? With its small 55- $\mu$ m laser beam diameter, the TruPrint 2000 provides a high-quality printing result with superior surface quality and level of detail.



[Zum Produkt](#)



### Industrial part and powder management

Optimum handling of the powder and components is a requirement for additive series production on an industrial scale. Discover the TRUMPF products for industrial part and powder management.



[Zum Produkt](#)

