

A bright future – 3D printing conquers the dental market

Individual high-quality solutions from New Ancorvis, a modern production and service company in the dental industry. It provides services including development, software, production, design and training. The company has modernised its workflow with assistance from additive manufacturing.



New Ancorvis Srl

www.newancorvis.eu

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INDUSTRY	NUMBER OF EMPLOYEES	LOCATION
Dental	90	Bargellino (Italy)

TRUMPF PRODUCTS

■ TRUMPF TruPrint 1000

APPLICATIONS

■ Additive manufacturing

Challenges

Emilia-Romagna has more to offer than just fast cars and fantastic food. In recent years, the region in the lower part of northern Italy has become one of Europe's leading training and research hubs in the information and communication sector, the agricultural and food sector, industry 4.0 and medical technology. One of the up-and-coming companies in the dental market is New Ancorvis, which is based just a short drive from Bologna Airport. Founded in the late 1940s, New Ancorvis specialises in milling and 3D printing techniques using CAD/CAM technology to manufacture prosthetic components for the dental market, such as crowns and bridges, screw-retained structures and surgical frames, from moulds to meshes. The items that leave the production line here represent the pinnacle of precision and are a cut above the norm: "Manufacturing mass-produced goods has never been our speciality," explains Fabio Cocchi, Export Manager at New Ancorvis. "We have always been passionate about jobs that are tricky and challenging. Customisation is our core business."

Over the years, the company has developed from an expert in milling technology for the dental industry into a modern manufacturing company focusing on innovative, advanced solutions. The expansion of production to include 3D printing technology was a logical step in this evolution. "Additive manufacturing is superior to milling in many areas, particularly in an extremely customised business such as prostheses and implants," says Fabio Cocchi. "We firmly believe that 3D printing is the future of the dental market."



"The setup, commissioning and training provided by TRUMPF were exceptional."

FABIO COCCHI
EXPORT MANAGER



Solutions

In 2016, New Ancorvis began initial testing on a single additive manufacturing system. This was followed by an in-depth test phase and the development of expertise and new manufacturing processes. The investment quickly paid off. New Ancorvis now consistently produces prostheses made of titanium and cobalt-chrome alloys on its eight additive manufacturing systems - three of which were supplied by TRUMPF. The performance and surface quality of the parts printed with the TruPrint 1000, as well as the Preform option, were the deciding factors when it came to purchasing the machine.

Implementation

New Ancorvis uses Preform for precise and fast production of screw-retained elements and single abutments. Abutments are the connecting pieces between the tooth root replacement and the visible tooth crown. Conventionally, customised abutments are often milled from blanks or pre-milled blocks. The preforming process makes it possible to print the customised part made of a chrome-cobalt alloy or titanium onto base parts with a prefabricated implant connection geometry (preforms). This creates the abutment that supports the dental crown or bridge. New Ancorvis manufactures preforms and preform adapters in-house using conventional methods and prints the patient-specific part onto them with the TruPrint 1000. This significantly reduces component costs and production times. New Ancorvis can print up to 64 individual single abutments on a build plate in around two hours, reducing the production time per abutment by 80 to 90%. By comparison, milling an abutment used to take between 10 and 20 minutes. "Thanks to Preform, we have succeeded in consistently optimising our workflow by combining the advantages of each production technology in the best possible way for each application. For example, we first produce the connecting pieces on the lathe. We insert these into the TRUMPF build plate. The printer calibrates itself automatically and then prints the anatomy," explains Fabio Cocchi. "This enables us to achieve short production times, low unit costs and high surface quality. Our customers benefit from this as we can provide them with market-leading quality quickly and at competitive prices."



Forecast

Investing in the machines and developing in-house expertise has paid dividends for New Ancorvis. The company is now a reliable quality supplier of 3D-printed components for the dental market. In addition to contract manufacturing individual parts, New Ancorvis also produces preforms and preform adapters for other production sites. The company is currently evaluating a range of options for expanding its 3D printing portfolio to include other medical fields. "We would also like to continue our collaboration with TRUMPF and work together to further develop Preform. Preform is not yet widely used in the dental market, but we see great potential for it in this sector. We are sure that we can make Preform even more successful by working in conjunction with TRUMPF."

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