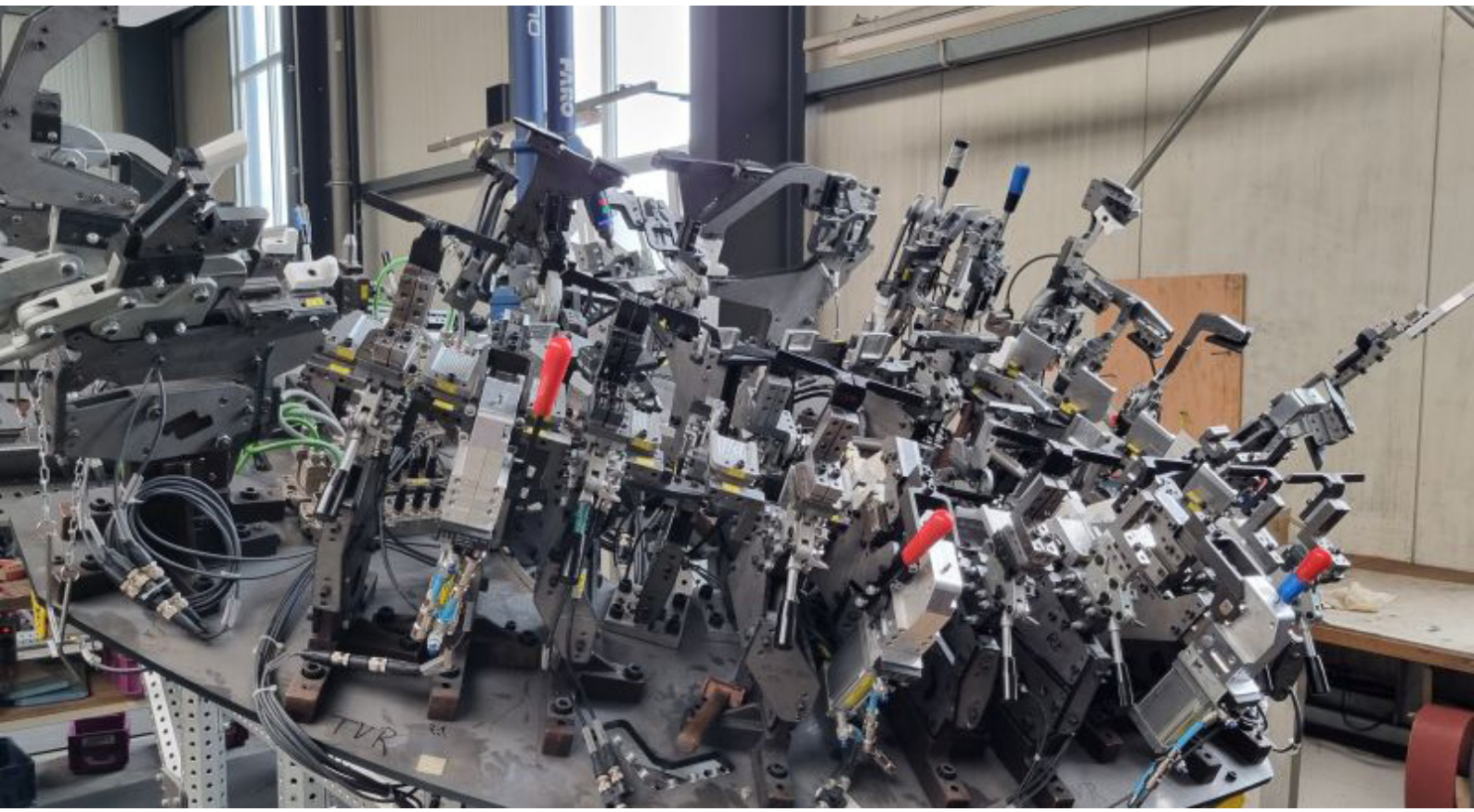
How jig manufacturing works today – WESCAD GmbH

# More flexibility in production through industrial 3D printing



**Promote innovation**
How the 3D printer from Markforged supports **existing technologies such as milling and laser sintering** and opened up new, innovative ways in production.

**Increase productivity**
By using additive manufacturing with industrial 3D printing, you increase productivity in your production and **free up resources for other projects** .

**Save costs**
With the 3D printer you can operate your **equipment not only unmanned**, but also produce more cost-effectively and faster than before.

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# About WESCAD GmbH

WESCAD GmbH is a renowned industrial company that supports its customers in the automotive and commercial vehicle industry in making production more efficient and producing assemblies more cost-effectively.

To this end, the company analyzes production and produces precisely fitting components such as welding, assembly and testing devices.

These tailor-made resources are precisely tailored to the project and budget and not only offer the customer solutions, but also create added value.

WESCAD is characterized by an outstanding level of vertical integration and maximum flexibility.

The products are manufactured using the latest milling technology and additive manufacturing processes such as laser sintering and industrial fiber composite technology.

The team of 25 experts ensures that they understand the customer's requirements and use the most suitable manufacturing process to produce the equipment and fixtures.

WESCAD administration and production in Bad Iburg.

# Why it was time to introduce a new manufacturing process

WESCAD not only produces devices and equipment for production in the automotive and commercial vehicle industries.

The company takes a holistic approach: it analyses its customers' entire production process and, on this basis, selects the most suitable process - previously laser sintering or milling.

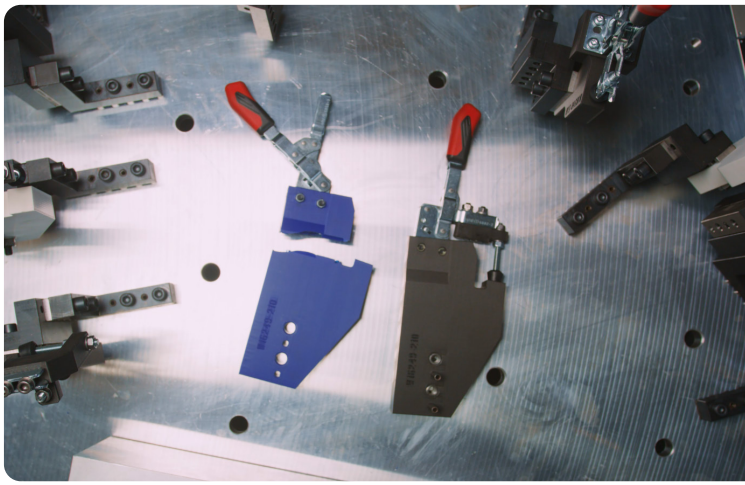
Recently, customer demand for mechanically resilient components has increased significantly. However, this could not be fully met with previous solutions.

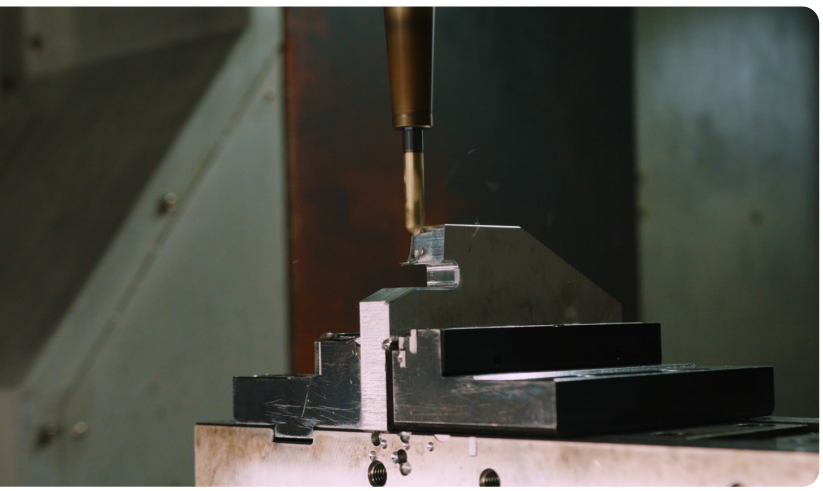
But WESCAD is also constantly looking for innovative technologies to quickly and cost-effectively produce equipment for its own production, development and testing.

In a conversation with Bernd Pille, Sales and Project Manager at WESCAD GmbH, he talked about **4 challenges** :

## 1. Unstable components

The laser-sintered components often lacked the necessary strength. In some cases, the devices could not withstand the stresses of production and failed.





## 2. Cost factor of post-production

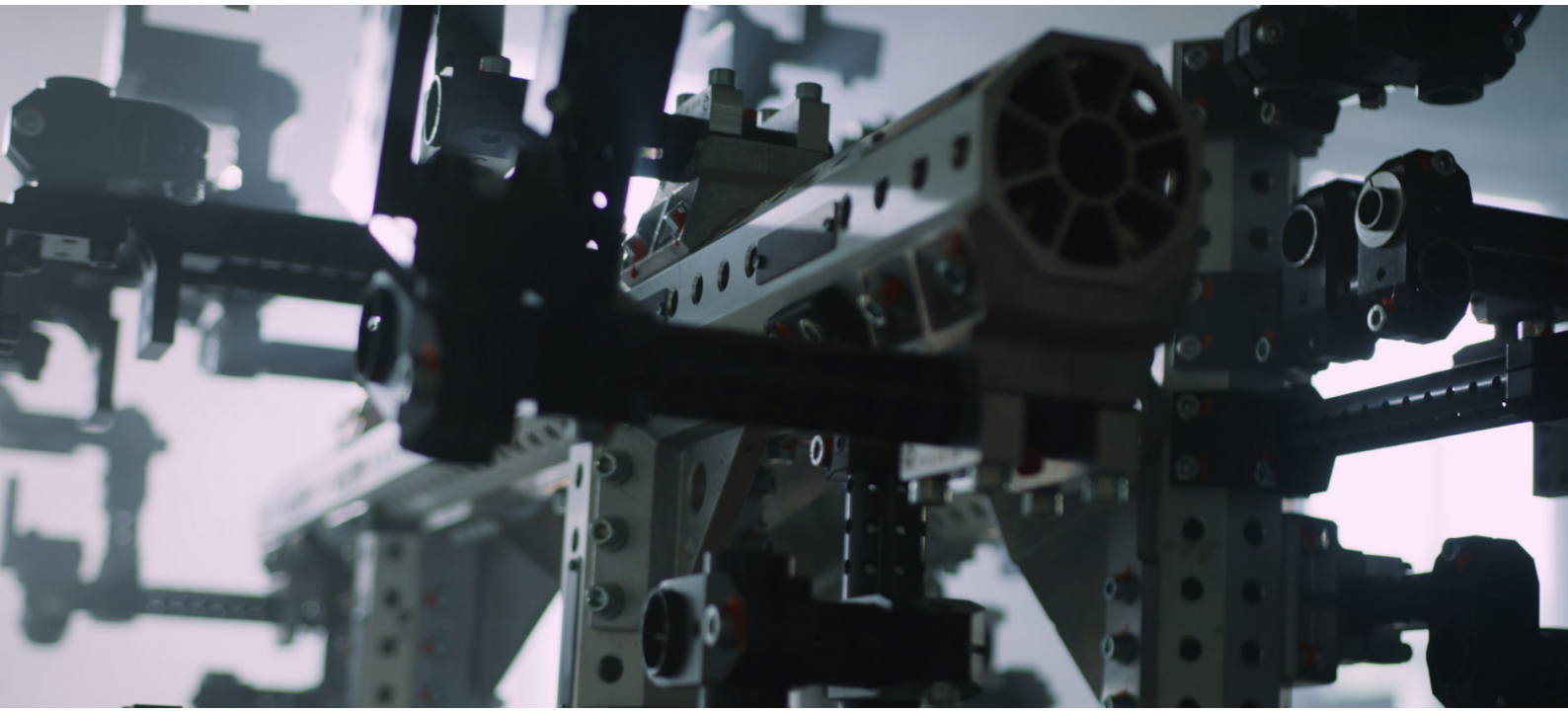
If there were errors in the design, the equipment had to be mechanically reproduced at great expense, which caused additional costs and impaired efficiency.

### 3. Lack of space in the production hall

For reasons of space, it would not be possible for WESCAD to purchase a new milling machine. To do so, they would have to expand the hall, which would involve additional investment costs.


### 4. Lack of skilled personnel

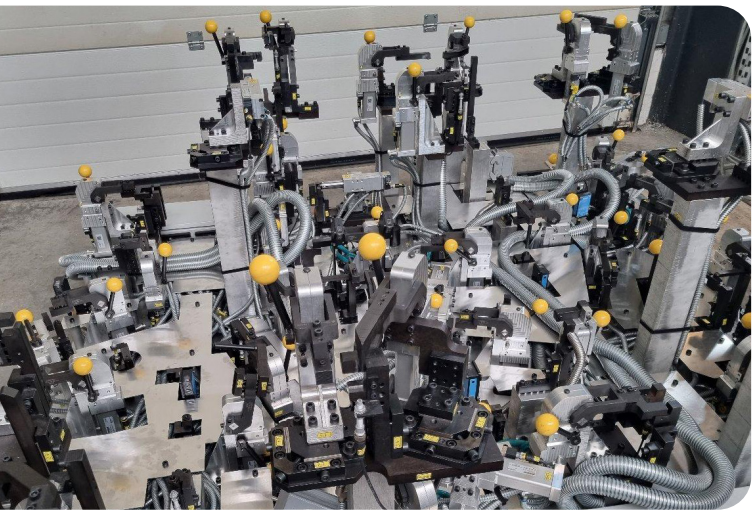
Due to the shortage of skilled workers, it was difficult to find suitable personnel for mechanical production. In addition, the already fully utilized milling machines needed to be relieved.



# How industrial 3D printing perfectly complements existing processes

At WESCAD, the customer is always the focus. The goal is to help them optimize their production - in line with the project and budget.

The benefits of additive manufacturing were not new to WESCAD. The company already uses laser sintering (SLS) and has been using 6 months of printed equipment and fixtures from a service provider who also has a Markforged machine.



The printed components from the industrial Markforged 3D printer were used to test their stability and to familiarize customers with the new manufacturing technology.

However, WESCAD was hesitant to invest in their own Markforged 3D printer because they were unsure if they could utilize the machine at 100% capacity.

Shortly afterwards, Bernd Pille discovered a post by Mark3D on LinkedIn.

After an initial consultation, WESCAD visited Mark3D on site to view the Markforged machines.

And the **FX10 convinced** due to its large build volume, modularity and continuous fiber technology in carbon.

Then everything went quickly and smoothly: WESCAD invested in the FX10. **after only 4 weeks, the company's design department is now printing end use parts**.

After installation and a two-hour introduction to how to use the 3D printer, it was immediately ready for use.

What is special: WESCAD is the first customer from the industrial and mechanical engineering sector in Europe to invest in the **FX10 industrial printer from Markforged**!

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"The overall package is perfect! It is extremely easy to use and works!

We started in mid-June and with the FX10 we went from 0 to 100 and have 100% capacity utilization. We can't get any better than that."



**Bernd Pille**

Sales and Project Manager
WESCAD GmbH

Arrange a free initial consultation:
**www.mark3d.com/en**

# The FX10 from Markforged exceeds all expectations after only 2 months

The conclusion after only 2 months: The investment in the machine was completely worth it!

Not only does it offer a higher level of productivity compared to mechanical manufacturing, **it represents a more economical solution and does not cause any follow-up costs** .

The machine **also works completely unmanned**, so no set-up time and no additional personnel are required.

But that's not all! Learn more about the benefits of the industrial printer for WESCAD.

## 1. High accuracy for large shapes

Particularly large and complex components can be manufactured with greater precision and with the same strength as aluminum. What used to consist of 2 or 3 milled parts is now made from a single piece. The result: lower material and assembly costs and less work on the milling machines.

## 2. All-round increased operational efficiency

The design department can immediately print new ideas and concepts for equipment for internal testing or in-house production. This speeds up internal processes and allows employees to concentrate on the important tasks.

## 3. Automatic component marking

All components of the FX10 are marked with a serial number or component identifier. These are designed directly into the component by the design department.

During milling, the components must subsequently be engraved manually with a marker.

### 4. Simple parts management

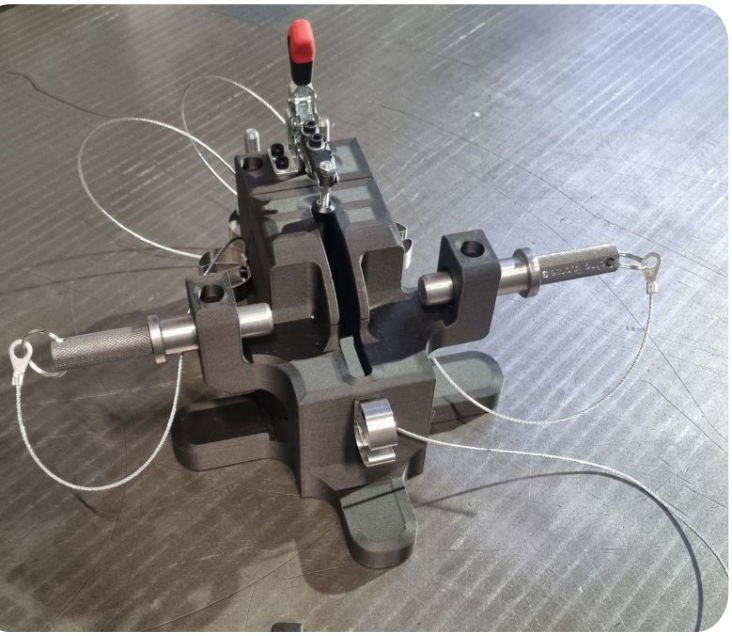
Thanks to the integrated library, WESCAD can easily store and manage equipment digitally and produce it on demand (overnight) as needed. This not only reduces the error rate, but also significantly reduces lead times and storage costs, as damaged or worn components can be reprinted directly.

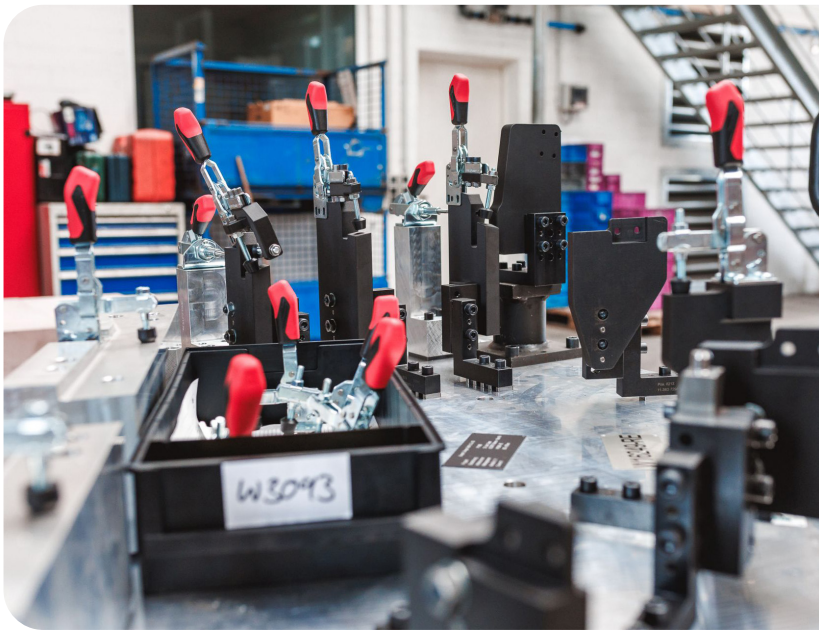
### 5. Cost savings through automation

With the Markforged 3D printer, WESCAD has been able to significantly reduce the number of steps involved and achieve savings that the company passes directly on to its customers, as well as freeing up resources for other projects.

### 6. Customer-oriented production

WESCAD can better respond to the needs of its customers and offer them the products that are tailored exactly to their projects and budgets. This strengthens cooperation and increases customer satisfaction and trust, resulting in repeat orders.





"What convinced us? The quality, the precision, the support and an all-round worry-free package with software etc. No follow-up costs like with laser sintering.

The ability to stop the manufacturing process and insert nuts or sensors was equally important to us!"

**Dennis Bartusch**

*Production Manager WESCAD GmbH*

Arrange a free initial consultation:
**www.mark3d.com/en**

# What sets us apart as Mark3D

### Fast delivery and installation

To help you start printing as quickly as possible, the Markforged industrial 3D printer **delivered within just 1-3 weeks and installed on the same day** .

### Needs-based training

Although the 3D printer is easy to set up and operate thanks to its plug-and-play system, we are happy to carry out a **Training on correct operation at your location by** .

### Individual support

We are there for our customers: From the first conversation to the purchase of the 3D printer, you will have a personal contact person at your side, **who will advise you comprehensively and answer all your questions.**

Bernd Pille (left) in conversation with Ferdinand Bunte (right) from Mark3D GmbH in the PRINT ROOM: The 3D printing practice podcast.

# Summary and Outlook

Since WESCAD started using the FX10 in its design, the components printed with the industrial printer have replaced numerous devices that were previously made from an aluminum alloy.

Despite initial concerns, the industrial printer runs smoothly from the start **around the clock with 100% capacity** .

The industrial 3D printer is exciting: not only because of the **high quality of the printed parts** , but also because of its **easy operation** and reliability. That's why the company placed the printer directly in the construction.

What happens next?

In the future, WESCAD would like to expand its capacities in the area of **additive manufacturing with 3D printing** , reinforced by the positive feedback and trust of our customers.

Even more 3D printed components such as clamping arms or special parts are to be integrated into production in order to **optimize processes and reduce costs** – both for customers and for WESCAD itself.

And there is news at Markforged: At the end of August 2024, the FX10 was expanded to include a new metal 3D printing function.

This makes him the **world's first machine that combines 3D printing of composite fibers and metal** .

WESCAD also plans to invest in this new feature to benefit from its advantages. The company is currently intensively examining use cases.

3D printed metal components in the Markforged FX10. The machine received an upgrade at the end of August 2024 and can now produce metal components.

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# Do you also want more flexibility in your production?

Then arrange your free
initial consultation on **www.mark3d.com/en**

## Mark3D UK Limited

Romsley Point, Farley Lane
Romsley, Halesowen, B62 0LG

Telephone: 0121 661 1151
E-Mail: printstronger@mark3d.co.uk
Internet www.mark3d.com/en

## WESCAD GMBH

Niedersachsenstr.
26 49186 Bad Iburg

Tel.: +49 (0) 5403 / 79509-0
E-Mail: info@wescad.de
Internet: www.wescad.de

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