

247TailorSteel processes sheet metal quickly and flexibly at request

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Machining-as-a-service put into practice in Belgium

More and more suppliers are offering an online service for 3D printing, sheet metal working, machining, injection moulding, electronics and various other customised production processes. These suppliers include 247TailorSteel, which specialises in custom-cut metal plates, tubes and edge parts, and which has also been active in Belgium for some time. The company is responding to the trend that everything has to be faster, better and cheaper without putting pressure on operators.

Machining as a service – or ‘MaaS’ – offers manufacturing companies more power and flexibility, which lets them respond faster and allows customers to order their tailor-made products easily and quickly. The principle is simple: the customer uploads a 3D product model, provides product specifications and receives a quotation and delivery time almost immediately. Thanks to extensive digitisation, advanced technologies and extensive production capacity, the supplier can send a quotation and produce and deliver customised parts quickly and to a high standard.

With its ability to do this, 247TailorSteel focuses on the sheet metal working industry, in which it has been active for more than 15 years. The company supplies customised laser-cut sheet and tube material from six locations in the Netherlands, Germany and, since recently, Belgium.

The company is part of the 'Smart Bending Factory' field lab, in which a physical ultra-modern metal working factory is being set up with the aim of reducing total cost of ownership by 20 percent and time-to-market by a factor of five. Here companies can share knowledge, experience and resources and exploit manufacturing processes together.

Extensive automation

The factory automation involved in this makes it possible for customers to order customised products online 24 hours a day, 7 days a week, and to do this for either a single piece or a whole series. Customers place their orders for metal sheets, tubes and edge parts to be cut to size via an online portal, using the online assistant Sophia® (Sophisticated Intelligent Analyser).

The 247TailorSteel machine park, consisting of flatbed lasers, press brakes and tube-cutting lasers, is fully equipped for this. Margins of error can be kept to a minimum, because human actions are no longer required during ordering. Thanks to the digital process, the work can be done quickly and efficiently, with an optimal final result.

The internal logistics processes are carried out by automatic guided vehicles (AGVs) and robots: the AGVs automatically transport the sheet and tube material to the carrying arm of the laser cutting machines, which are then automatically loaded by robots. The automatic tool changer reduces setup time, minimises errors and increases productivity. The dimensions are generated directly from the digital order data. The patented Easy-Form® laser system monitors and corrects the angles during the bending process. This makes it possible to work extremely accurately, reliably and first-time-right with zero defects. For less complex work, PDEB press brakes offer efficiency, speed and quality.

This approach results in a very high delivery reliability of 99.7 percent and a delivery speed so high that delivery can be made on the date chosen by the customer. It also gives the company a lower energy consumption than that of other laser-cutting manufacturers and material waste can be significantly reduced thanks to a technique for nesting multiple orders.
Thanks to the extensive automation, the operators do not experience increased workload on the factory floor, making it a pleasant and stress-free place to work.

Fast grower

For the sixth time in a row, 247TailorSteel has been in the 'Top 250 Growth Companies' (with an annual growth of at least 20 percent in employment). The third German production facility, covering 15,000 m², was opened in Langenau in 2022. A Belgian site of 17,000 m² in Hooglede and a second Dutch location in Oud Gastel will follow in 2023. In addition, the capabilities of the existing branches and of online assistant Sophia® continue to expand. These state-of-the-art factories are characterised by the latest production machines, a high level of automation with AGVs and robots, energy-efficient processes and a pleasant working environment. And all of this was achieved in a stagnating market.

247TailorSteel aspires to have a scalable network of more than 150 production sites for metal sheets, tubes and edge parts built close to customers as soon as demand increases. All available

production resources are merged into a 'cloud facility'. The customer cannot see which production facility will make the products they order.

Disruptive business model with potential

Competition in supply is changing drastically, as players such as 247TailorSteel take over the market with online services, extensive digitisation and bundling of production capacity.

Sirris addresses this trend in the recent white paper ‘Manufacturing-as-a-Service - Online, on-demand en supersnel toeleveren’ (Manufacturing-as-a-Service - Online, on-demand and super-fast delivery). We delve deeper into how SMEs can respond to the arrival of MaaS, based on some obvious questions, ranging from positioning and specialisation to options such as QRM and automation.

Download the white paper

Impact and future of Manufacturing-as-a-Service

Sirris identified MaaS as a key trend for manufacturing companies. The servitisation of production assets (including data and software) significantly contributes to production flexibility and responsiveness and enables on-demand production for many categories of customised products, with high flexibility and short lead times.

- That is why Sirris will be starting a European project on this theme in 2024: MASTT2040 ‘Manufacturing as a service for the EU's TWIN transition until 2040’. This project includes:
- A casebook that provides an overview of MaaS best practices and outlines their effect on industrial production.
- An exploration of the future, conducted together with industry and stakeholders, with the aim of setting out a vision for the evolution of MaaS until 2040 and to act as a beacon for the transition of industrial production in various sectors. Which scenarios improve the competitiveness and sustainability of European manufacturing? How do they strengthen more distributed, local production networks?
- A roadmap that outlines concrete paths and action plans in the short term (5 years), medium term (10 years) and long term (15 years) for realising the scenarios with the greatest desired impact.

You can expect more information about this project on our website soon.

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