Progress Maschinen & Automation AG, Brixen, Italy

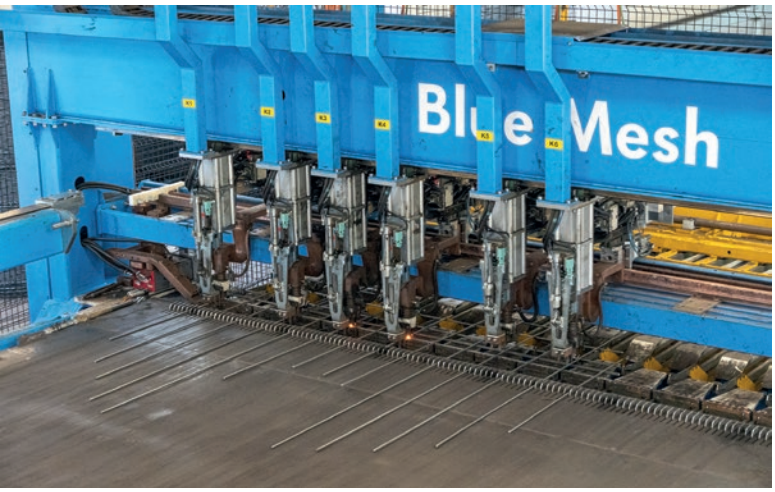
Less effort, more precision: How Sternafer is rethinking steel processing

What began in 1993 as a classic construction company is now a flagship example of digital transformation and automation in the construction industry: Sternafer produces reinforcing steel for the infrastructure and tunnel construction sectors with state-of-the-art automation technology and matching software from Progress Group – faster, cleaner and more cost-effective than ever before.

Anyone who enters Sternafer's plant in Novigrad (Croatia) today experiences pure precision: computer-controlled machines bend and shape reinforcing bar exactly according to plan; digital systems track every component from entry to delivery to the construction site. The company originally started modestly. Founded in 1993 as a construction company for residential and commercial buildings, the company initially began processing reinforcing steel only for its own requirements. But demand grew, along with the company's ambitions. In 2004, the decisive step followed: In Novigrad, Sternafer opened a specialised steel processing plant, the first of its kind throughout Istria. Since then, the company has developed into a specialist for reinforcement, such as reinforcing steel meshes and bespoke steel structures for the infrastructure and tunnel construction sectors.

Nevio Perić, owner of Pero Sternafer with his daughter and successor Sara Perić.

Sternafer's plant in Novigrad, Croatia.



With the machine's flexible welding heads, many different reinforcement elements can be produced just in time.

The M-System BlueMesh® mesh welding machine automates production and ensures time and material savings.

Automation and digitalisation as a strategic decision

The next major leap in development came with the investment in a fully automated mesh welding plant, the M-System BlueMesh®, with a bending system and the profityc software from Progress Group. A decision that, according to the owner Nevio Perić, was forward-looking. The results speak for themselves: Where around ten people were previously needed on the building site, three workers can now handle it without any problem. The BlueMesh and the bar bending system take over tasks that were previously carried out entirely manually and were therefore particularly prone to errors, especially on complex projects such as tunnel construction, where precisely manufactured reinforcement cages are crucial for structural safety. A special feature of the machine is the separate bar feed. This means that not only wires from the coil can be fed in, but also separately loose bars. This further expands

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The newly developed MFM combines straightening, cutting, and bending in a single machine - delivering maximum flexibility, intelligent automation, and outstanding quality in the production of stirrups and reinforcing bars.

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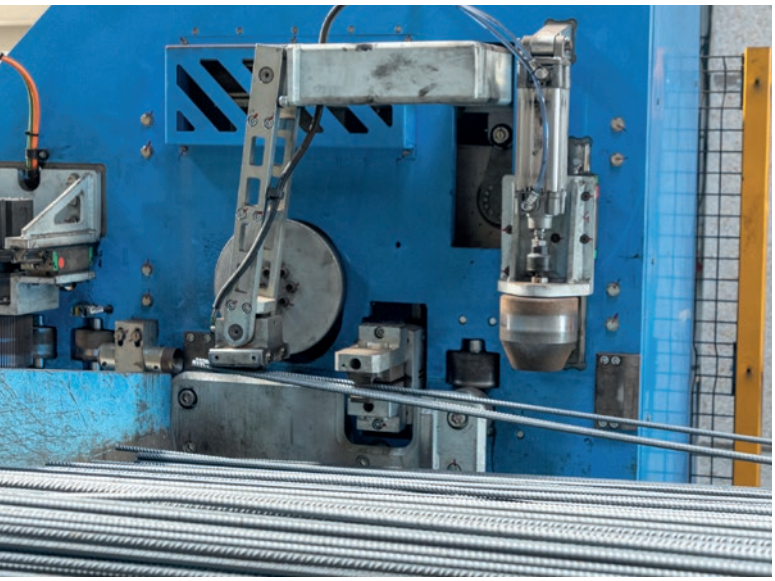

With the new machine, it is not only possible to work from the coil; there is also a separate, automated bar feed.

the production options–without creating additional work for the team. The bars are loaded into the bar feed by crane, fully automatically vibrated, and then transported on individually or fed into production.

Digital control connects production and the building site

A key component of success is the software solution with which Sternafer has digitally networked the entire production process. Shortly after its implementation, processing and production times could be reduced significantly. Projects can be broken down into individual manufacturing and delivery phases, enabling resources to be planned more effectively and deadlines to be met more reliably. profit^{yc} not only enables the connection of the new mesh weldingplant but also integrates the existing reinforcement machines into operations. The result: complete real-time monitoring of all ongoing manufacturing steps.

"We can see at any time what the machine is currently producing and how far a project has progressed. This allows us to plan production and delivery lead times significantly better," says Sara Perić, the daughter of Mr Perić and co-owner. According to her, another particularly noteworthy point is seamless material traceability: Every manufactured mesh, every reinforcement cage and every individual component is fitted with a barcode label and recorded digitally–from mate-

With the bending system for reinforcement meshes, manual processes can be automated and made more efficient.

With modernisation, only 3 people are now needed for production, rather than 10 as before.

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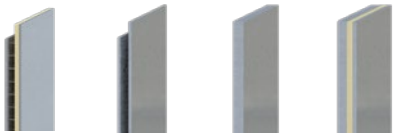
Carousel Plants



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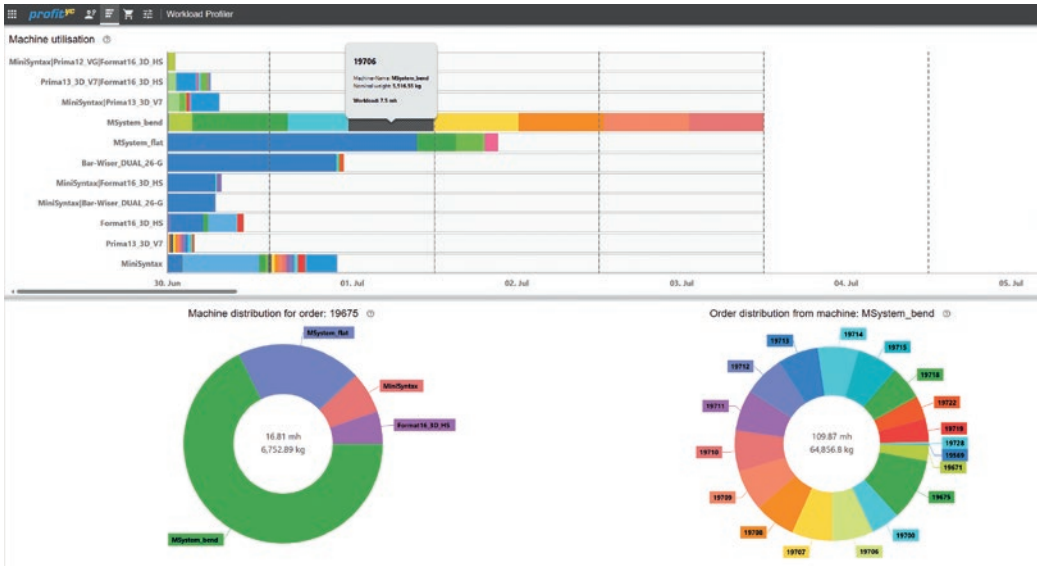
With the new automated machine, flexible reinforcement meshes with cut-outs are no problem.

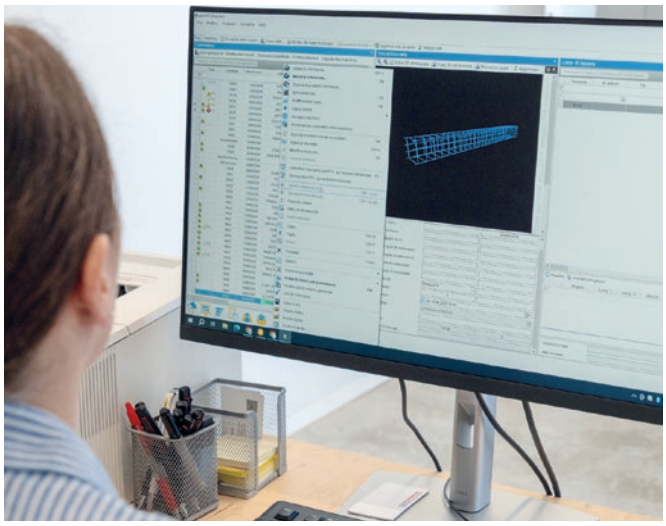
rial input to use on the building site. This makes it possible to identify errors quickly and provide complete quality records. Less paperwork, more clarity: "Previously, it was all paperwork; today we have a clear, digital view of the times we need for individual manufacturing steps," explains Mrs Perić. The software also demonstrates its added value in data generation. Reinforcement data can be generated and adjusted directly in the system, so that the meshes and cages are optimally configured for automated production. Design and production grow together into a seamless process.

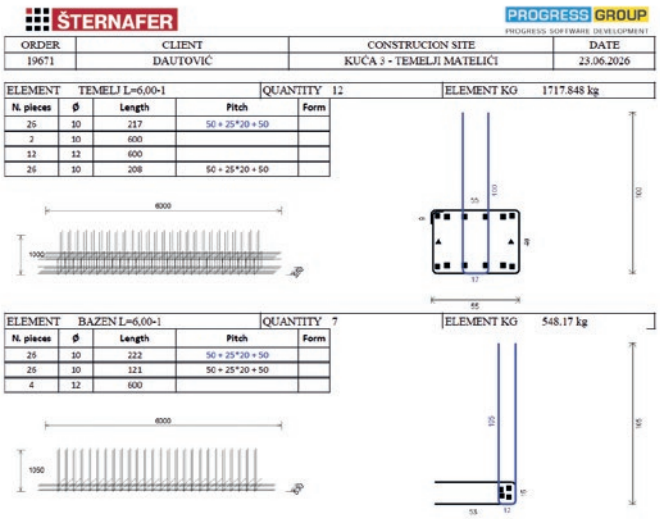
Clean building sites, strong partnership

The result is immediately visible. "There is no waste anymore, no stray steel offcuts – the building site is clean. We deliver exactly what is needed, and it goes straight into use," says Nevio Perić. For clients, this means not only a more efficient building site, but also reduced risks and costs.



profit^yc not only controls Progress machines, but also existing reinforcement machines in the plant. This gives the team an overview at all times of the current production status and enables them to coordinate manufacturing and delivery dates optimally.





profit^yc supports the creation of data for reinforcement meshes and reinforcement cages with the integrated CageMeshManager module. Projects can be aligned with production using the BlueMesh already in the planning phase.

Sternafer consistently rates its collaboration with the technology partner Progress Group positively. Even when a breakdown occurred, the service proved its worth: Urgently needed spare parts could be delivered within a day. "We are truly very satisfied with the collaboration," says Sara Perić.

Fewer staff, less material offcut waste, higher speed: The benefits of automation and digitalisation are tangible. With further investments in robot-assisted reinforcement machines from Progress, Sternafer plans to continue on this path consistently. The aim is a fully networked production operation in which automation and digitalisation interlock across the board – for clients who expect reliability, quality and efficiency at the highest level. ■

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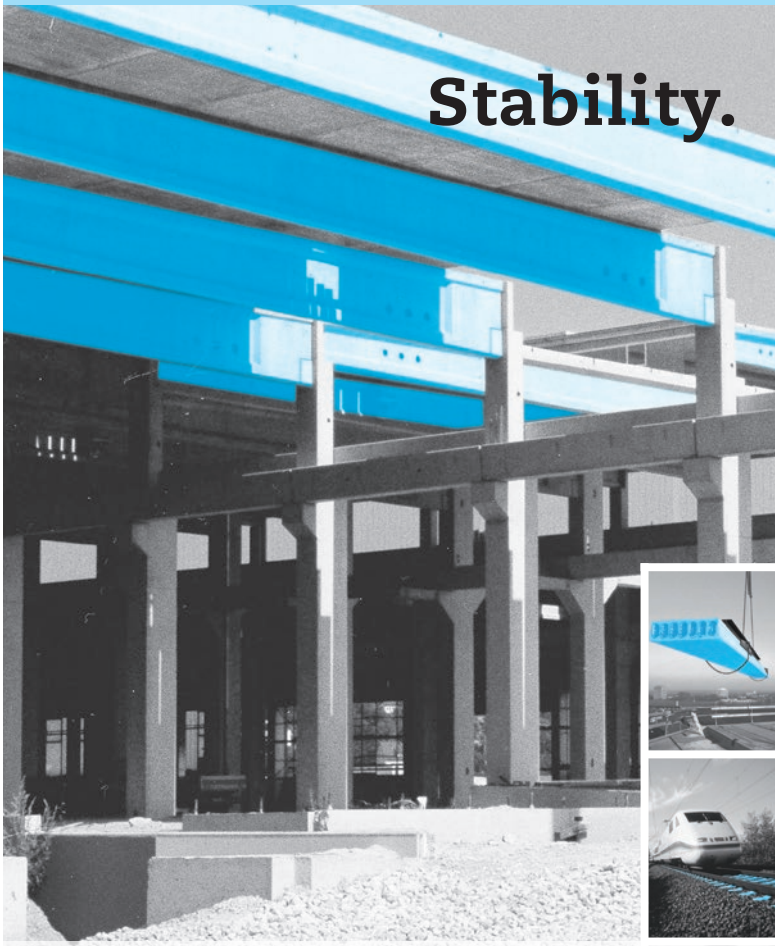

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