

RAMONA HÖNL

Smart in Slovenia – sisters favor networked production

From a one-man operation to an energy-saving smart factory – sisters Sintija and Tina Križni have led their father's company in north-eastern Slovenia into a new age of manufacturing. Elpro Križni, a traditional company, has successfully transitioned to a digitally networked production model and is well-positioned for the future. Alongside their digitalization efforts, sustainability plays a key role in the sisters' corporate strategy.

Sintija Križni has long been fascinated by the vision of a fully connected smart factory. But it wasn't until 2019 – when the young CEO and English-literature graduate paid a visit to TRUMPF's Smart Factory in Chicago – that her plans finally began to take shape. "The new era of sheet-metal fabrication was literally within reach – and I wanted Elpro to be a part of it," explains Sintija Križni. Determined to put her plans into practice, she called on the support of her younger sister, and co-CEO, Tina.

Elpro Križni is headquartered in the town of Slovenska Bistrica, some 30 kilometers south-west of the regional capital Maribor. Founded in 1989 as a one-man electrical contractor, the company initially specialized in installing electrical cabinets and distribution boards. Over the past 30 years, it has expanded and now employs over 100 people. Company founder Ivo Križni – Sintija's and Tina's father – retired in 2016, but the corporate philosophy he applied during Elpro's development still echoes through the company to this day.

Operating from a garage

Elpro started life as a garage workshop. Today, the company is a sought-after partner in the energy industry and in sheet metal processing, renowned for its high-quality turnkey solutions. On a plot of land at Tomažičeva Ulica 18 stands the company's 15,000 m² smart factory. Packed to the rafters with modern equipment and innovative technologies, it is also home to the largest STOPA storage system in south-east Europe. "We built this new environment through hard work, perseverance and a lot of expertise," says CEO Sintija Križni. She feels a keen affinity with these traditional values, as does her younger sister Tina, who handles the company's finances.



Networked production – founder Ivo Križni and his daughters Tina and Sintija (right) keep the family business on track. "We have moved into the digital age."



Sought-after partner – Elpro Križni is a byword for high-quality turnkey solutions in sheet metal processing and in the energy industry.



Welding, punching, bending – TRUMPF machines ensure maximum part quality, productivity and flexibility at Elpro.

The allure of a family business

Both women took a circuitous route to their current positions at the head of an industrial enterprise. While studying at Maribor University, Sintija was a world away from medium- and low-voltage distribution systems in smart grids, let alone CNC-controlled laser cutting, bending and punching machines. Yet as she witnessed the expansion of the family business, the greater her fascination with the growth and diversification of its portfolio became. Sintija stayed on at Maribor University, but switched courses and ended up graduating with a Master of Business Administration in 2016.

USA trip wins her over

Now things really started to escalate. In mid-2019, Elpro was planning the construction of a new factory. This coincided with Sintija's visit to the TRUMPF technology center in Chicago, where people, machines, automation and software work together in perfect harmony, and sheet-metal manufacturers experience can experience connected manufacturing systems in action. On her return from the USA, the young CEO laid the foundations for a digitally networked factory in Slovenska Bistrica. "People had been talking about digital networking for ages, but I now knew it was already a reality. I saw with my own eyes just how far it had progressed. I realized that smart machines and systems were now capable of interacting with automated storage systems, with all the benefits that entailed," the CEO recalls.

» Family-run companies are special. Their philosophy is defined by sentiment, loyalty and accountability.

Sintija Križni, CEO Elpro Križni

Networked production gets underway

In early 2022, Elpro's smart factory started making products for its two new business divisions, EK Metal and EK Electric.

Consignments of a wide range of electrical components and cabinets now leave the factory on a daily basis. At the same time, the high-tech machinery is used to fulfil job-shop orders. From welding and punching to bending, two TruLaser 5030 fiber machines, a TruPunch 3000, a TruPunch 5000 and the TruBend 5170 and 7050 machines provide high-quality, precision parts and fast throughput times. Materials are loaded and unloaded automatically by a LiftMaster Compact system.

Largest STOPA storage system in south-east Europe

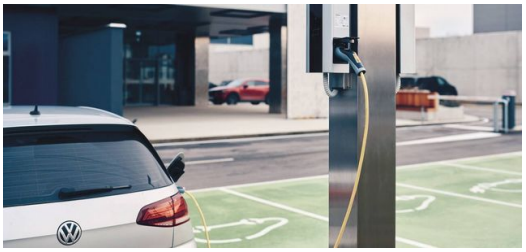
A TruMatic 7000 combines the benefits of punching and laser processing in a cost-effective package, while a TruBend Cell 5000 bending cell sets the benchmark in programming and angle measurement. These machines and more have been connected to the STOPA system since 2022. This not only serves Elpro as a material buffer, but also performs the complex functions of a logistics center. Operating around the clock, it provides the new smart factory's production line with everything it requires for sheet metal processing.



No downtime – more product variants and shorter lead times always require new automation solutions to cope with future challenges.



Smart factory – getting the new machines up and running in Slovenska Bistrica was one thing, but adopting a new shop-floor mindset was quite another. The key was getting everyone to implement the manufacturing philosophy of networked production in their daily work.



Sustainable development – the charging stations for the company's vehicle fleet are powered by rooftop solar panels.

Up and running

This story wouldn't be complete without mentioning the effort made by the whole Elpro team to get these technical facilities up and running. Meeting this challenge required a fresh mindset among managers and shop-floor workers alike. All employees had to grasp the production philosophy behind digital networking, implement it one phase at a time and then put it into practice in their daily working lives. "It took real fortitude and stamina," says Sintija Križni□. The new processes are now running smoothly, and operation is stable. This has drawn praise from the many customers who have already toured the site. "Getting the system up and running was an incredible team effort," confirms Križni□. "We're proud of what we've achieved and delighted that Elpro has completed another stage of its digitalization journey."

Sustainable development

Construction of the new smart factory not only boosted the company's efficiency; it also made the business more sustainable. Elpro sources most of its power from a photovoltaic system with a 750-kilowatt peak output, using batteries as buffer storage. The company runs a fleet of electric vehicles and allows employees to use its on-site charging stations free of charge. It also uses fresh water and other natural resources extremely sparingly. Elpro Križni remains positive about the future despite the effects of ongoing global crises. "We're continuing to look ahead with confidence", says Sintija Križni. "Elpro is determined to celebrate its centenary in 2089, just like TRUMPF did this year."



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SPOKESPERSON FOR MACHINE TOOLS