

Bystronic, a globally leading technology company in the area of sheet metal processing, embeds the NanoLock Edge Defender to protect its smart machines.

Post-embedment performance comparison tests show zero impact on machine memory usage, functionality, and performance.

Industry:	Sheet metal processing, laser cutting, bending, automation
Founded:	1964
Market cap:	\$1.42 Billion (April 2023)
Number of employees:	3,609 (2022)
Global Presence:	30+ countries
Headquarters:	Niederönz, Switzerland

Bystronic supplies machines for the economical processing of sheet metal and other sheet materials. The Company focuses on the automation of the complete material and data flow of the cutting and bending process chain to digitize the sheet metal industry.

The challenge

Machine cyber protection with zero impact on performance

Bystronic operates in a competitive industry with a constantly evolving technological landscape, increasing customer demands, growing cybersecurity threats, and stricter regulations around cybersecurity.

The Company sought a machine-centric cybersecurity solution to achieve improved security and compliance for its smart laser cutting machines and press brakes. For Bystronic, this meant safeguarding and ensuring machines' operational integrity without impacting performance.

Bystronic sought:

- Protection from cyber events and adversaries, as well as human errors
- A solution with zero impact on machine performance
- Applicable to new and legacy machines

The solution

Embedding zero-trust in the machine level

Only a lightweight, zero-trust, machine-level protection solution could meet all of Bystronic's requirements while also complying with evolving standards and customer demands.

Available as a software installed at the OS level for Bystronic's new and legacy machines, NanoLock protects the Bystronic-made machines from outsiders, insiders, third-party incidents and human errors, and ensures operational integrity.

How it works

Securing access in all situations

The machine-level zero-trust NanoLock solution takes a passive approach to protection. Only when there are change requests to critical code, configuration, and calibration data, it's activated to make sure all such changes are authenticated and signed in order to become operational, regardless of their origin and access privileges.

Results and benefits

An in-house Bystronic study shows that NanoLock has close to zero impact on machine performance and functionality.

Additional benefits:

- Visibility into machine security posture, alerts, analytics, and detailed forensic data
- Secured and validated remote and local upgrades
- Small footprint with near zero power, processing, and memory requirements
- Customized protection for Bystronic systems



"Our vision regarding the factory of the future is to give our customers the capability to manage their entire material and data flow. In the future, customers will connect their systems as devices to the cloud and for that reason, cyber security is of utmost importance.

With NanoLock, we ensure peace of mind for our customers by covering all aspects for our customers' smart factories."

Alberto Martínez, Chief Digital Officer at Bystronic

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