txOne networks

Customer Story

Technology as a Strategic Ally in Protecting Production Environments

Ansaldo Energia selects TXOne Networks solutions to protect critical plants without impacting operational continuity.

The Situation

Founded in Genoa in 1853, Ansaldo played a key role in Italy's industrialisation in the decades that followed. Deeply rooted in the local territory, the company has built a strong heritage of industrial and technological expertise over time, becoming a reference point in the design and delivery of solutions for energy production.

In 1991, Ansaldo Energia was established and embarked on a path of progressive specialisation in the power generation sector, establishing itself as one of the leading international players. Its headquarters remain in Genoa, while today the Group operates in more than 30 countries worldwide, employing over 3,500 people.

Ansaldo Energia's core business encompasses the design and manufacture of gas turbines, steam turbines and generators, as well as the construction of complete power generation plants. These activities are complemented by a wide range of high value-added services, including maintenance, technological upgrades, plant performance monitoring and advanced predictive maintenance solutions.

ansaldo energia

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Diego Lusso

Cyber Security OT Manager, Ansaldo Energia.

The company also operates in the nuclear sector and is strongly committed to the development of sustainable technologies through Ansaldo Green Tech, with the aim of supporting the energy transition and industrial decarbonisation processes.

The Switch

Historically, in the industrial sector, cybersecurity has always been secondary to operational requirements, explains Diego Lusso, Cyber Security OT Manager at Ansaldo Energia. The absolute priority was to ensure continuity of production processes—everything had to run without interruption. From this perspective, cybersecurity was often seen as an element to be introduced cautiously, in order to provide protection without compromising operational efficiency.

For a long time, the protection of industrial environments also relied on presumed security factors, such as the isolation of OT systems or the use of proprietary, less widely adopted protocols. As threat scenarios evolved, however, these approaches proved inadequate, turning into real security myths.

The increasing integration between IT and OT, together with plant digitalisation, has definitively overturned the idea of an industrial environment as closed and inherently secure. As a result, the attack surface has expanded and vulnerabilities have become more evident.

'In this scenario, the challenge is not only technological, but also cultural,' Lusso continues. 'It is necessary to move beyond the perception of cybersecurity as a problem, and instead recognise it as an enabler of operational continuity and business. Fortunately,' Lusso adds, 'at Ansaldo Energia, management has always shown strong awareness of these issues—not only to meet regulatory requirements, but as a conscious strategic choice aimed at protecting plants and corporate value.'

The Transition

'The adoption of TXOne solutions originated from an initiative by Ansaldo Energia's top management, which promoted a structured assessment to identify critical issues and vulnerabilities in the cybersecurity domain, with a specific focus on the most operationally sensitive OT assets,' Lusso explains.

Following the guidance of the international IEC 62443 standard, a recognised reference for the security of industrial environments, an in-depth analysis was carried out across Ansaldo Energia's plants and factories. This analysis highlighted the need to protect OT systems that are often based on legacy platforms characterised by limited computing power and memory, through solutions designed natively for industrial environments.

Within this context, TXOne Networks emerged as the ideal technology partner, capable of responding precisely to Ansaldo Energia's requirements.

The first step was the adoption of Stellar, an endpoint protection solution based on an allowlisting approach and particularly suited to OT environments.

'Stellar is an extremely lightweight software, compatible even with outdated operating systems, enabling us to replace traditional IT antivirus solutions that were no longer updatable and poorly suited to environments where even a single false positive can have a direct impact on production,' Lusso adds.

'In OT environments, even a disruption of just a few minutes can have significant consequences. Stellar's whitelist-based technology, built on certificates and precise identification of legitimate applications—including those released by machine vendors—makes it possible to accurately distinguish authorised activities from those that may be malicious. This drastically reduces false positives while at the same time ensuring operational continuity. A further distinguishing

feature is the ability to operate even in the absence of a direct internet connection, a fundamental requirement in sensitive industrial environments.'

Building on this initial implementation, Ansaldo Energia has progressively extended the adoption of TXOne Networks solutions across multiple layers of protection.

'**Portable Inspector** devices were introduced to scan particularly delicate machines on which it is not possible to install security software,' Lusso continues. 'These devices enable us to carry out non-intrusive anti-malware checks and to collect useful information even from assets that are not connected to the network, supporting asset inventory activities in complex environments.'

Portable Inspector devices also integrate encrypted storage for the secure transfer of files, with automatic content scanning. This functionality ensures that no malware is introduced into production systems, while also addressing the growing security requirements of Ansaldo Energia's customers regarding the software installed on their plants.

To further strengthen control over removable storage, Ansaldo Energia also adopted **SafePort**, a solution that enables the verification and securing of USB devices used by maintenance personnel.

'SafePort allows us to definitively overcome the false myth that security is guaranteed simply by isolating plants, by introducing structured and centralised control of removable media,' Lusso emphasises.

Finally, the implementation of **EdgeIPS** solutions is currently under way, dedicated to protecting network traffic directed towards the most critical assets. These devices enable both the monitoring of communications (IDS functionality) and the blocking of potentially dangerous traffic (IPS functionality), with a high degree of configuration flexibility. This approach makes it possible to prioritise visibility and detection in the initial phase, reducing the risk of false positives.

Thanks to EdgeIPS, Ansaldo Energia has gained greater visibility into data flows originating from maintenance technicians' computers—both on site and remotely—towards critical OT systems.

Overall, the adoption of TXOne Networks solutions has enabled Ansaldo Energia to build a multi-layered defence, significantly improving the security of OT environments without compromising efficiency or operational continuity.

Business Benefits

Cybersecurity is never a final state. There is no condition in which an organisation can consider itself completely secure: as defences evolve, attackers' capabilities also continue to grow, and the number of threats is constantly increasing.

'From an operational standpoint, strengthening security without affecting productivity is an ongoing journey that goes beyond the simple deployment of technologies. Building trust over time among the people who work daily in factories and plants has been essential, particularly in overcoming initial resistance,' Lusso explains.

'This journey was facilitated by a highly collaborative approach with TXOne experts. The adopted solutions evolved through constant dialogue between our Ansaldo Energia team and the TXOne Networks team, with careful attention to the specific characteristics of individual machines. This joint effort,' Lusso underlines, 'allowed us to introduce security gradually and consciously, without impacting production processes and while encouraging acceptance among those who work directly on the machines.'
plants managed by Edison Next.

All these technologies are integrated into a centralized console that enables 24/7 monitoring, as well as structured incident management and remediation processes.

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The Result

Looking to the future, industrial cybersecurity will increasingly sit at the centre of a complex balance between emerging threats and technological opportunities, particularly those related to artificial intelligence. While advanced computing tools and sophisticated algorithms can increase risk levels for industrial plants, they also offer new defensive possibilities.

'In OT environments, one of the main challenges remains the management of false positives, which can undermine operators' trust in security platforms. In this context, AI can play a key role by improving data analysis and enabling faster, more targeted responses. The future of industrial cybersecurity will therefore increasingly be a shared challenge, where technological innovation becomes a strategic ally in protecting production environments,' Lusso concludes.

About TXOne Networks

TXOne Networks offers cybersecurity solutions that ensure the reliability and safety of industrial control systems and operational technology environments. TXOne Networks works together with both leading manufacturers and critical infrastructure operators to develop practical, operations-friendly approaches to cyber defense. TXOne Networks offers both network-based and endpoint-based products to secure the OT network and mission-critical devices using a real-time, defense-in-depth approach. Learn more at www.txone.com.