

CASE STUDY

# Swiss Industrial Systems Provider Integrates OT and IT To Enable New Services

Founded in 1985, Sisag AG has become one of the leading European suppliers of mountain transportation and control systems. In addition to the mechanical equipment and materials that constitute the funicular, ski chairlifts, and cable-car installations on which it has built its reputation, Sisag AG also provides all the control and monitoring systems to ensure safe, reliable, and environmentally sustainable operations.

These complete solutions include everything from the operational technology (OT)—such as motors, drive-control units, sensors, and custom-developed monitoring and control systems—to the network and security infrastructure required to securely interconnect it all.

## Early Adoption of Digital Transformation Through OT/IT Integration

Sisag AG was among the first mountain transportation manufacturers to recognize the potential of increased digitization in its operations and the logical subsequent integration of its OT and information technology (IT) environments.

Historically, such networks have remained separate—partly due to incompatible technology arising from their nonoverlapping origins with different types of vendors—and partly due to concerns over security.

When entrusted with the safety of cable-car passengers as they ascend hundreds of meters up sheer rock-faces and across treacherous ravines, the network security of the control systems needs to be as tight and reliable as the cables from which they are suspended.

But the potential business benefits of being able to monitor, control, upgrade, and extract decision-driving data from such systems via the OT network are also impossible to ignore.

Fortunately, security technology has now matured to the extent that secure, independent network zones can be established for OT and IT networks, such that all but the essential authorized and fully authenticated traffic is blocked as effectively as if it were “air gapped.”

## Secure Zoning With FortiGate Next-Generation Firewall (NGFW)

For Sisag AG, the possibility of such integration led to the search for a network security partner that would help it to expand its product and service portfolio beyond its core business.

By facilitating the collection and processing of critical systems data from across the various parts of its customers’ installations, Sisag AG will be able to offer a range of modular add-on services, such as ticket sales and management systems, weather forecasting, and remote monitoring and maintenance.



*“Our selection criteria had two equally important parts. We obviously needed rock-solid security, performance, and reliability in the product itself, but since this would form a key part of the Sisag solutions we provide to our customers, we also needed a vendor who we felt could continue meeting our evolving needs well into the future.”*

– Marcel Jauch, Head of ICT, Sisag AG

### Details

**Customer:** SISAG AG

**Industry:** Transportation

**Location:** Switzerland

### Business Impact

- Enabled profitable new services through IT/OT integration
- Massively increased cybersecurity for Sisag’s customers

This, in turn, will increase customer value and competitive differentiation and generate profitable new revenue streams.

“Our selection criteria had two equally important parts,” explains Marcel Jauch, head of ICT at Sisag AG. “We obviously needed rock-solid security, performance, and reliability in the product itself, but since this would form a key part of the Sisag AG solutions we provide to our customers, we also needed a vendor who we felt could continue meeting our evolving needs well into the future.”

After careful evaluation of potential partners and their solutions, Sisag AG selected Fortinet and the FortiGate Next-Generation Firewall (NGFW).

In addition to its robust and comprehensive range of advanced threat-protection capabilities, the FortiGate NGFW can identify thousands of traffic types including many of the proprietary protocols used in industrial control systems (ICS) within OT environments. Furthermore, with its custom-designed security processor unit (SPU), the FortiGate NGFW handles all this additional security processing without compromising throughput or latency—even for SSL-encrypted traffic.

Available in a wide range of speeds, port densities, and form factors, including ruggedized versions able to operate in harsh environments with larger temperature swings (such as those found in the Swiss Alps), the FortiGate NGFW makes an ideal foundation for OT/IT integration.

As a result, the FortiGate firewall is now supplied as an integral part of Sisag AG cable-car and funicular railway control systems, connecting the customer’s on-site IT network to the OT systems at the drive station and terminal installations.

Also, using the FortiAP wireless access point, administered as a logical extension to the FortiGate through the same management interface, Sisag AG can offer its customers the additional option of secure Wi-Fi connectivity across the site.

“The integration of the FortiGate NGFW has massively increased cybersecurity for our customers,” adds Simon Jauch, head of SisITServices at Sisag AG. “By differentiating between the customer’s IT network and the OT control systems, [FortiGate] creates an environment that is accessible for control and monitoring, yet self-contained and secure.

“But this is just the first step,” he continues. “At the moment, there are still elements of our systems control and maintenance that would benefit from further IT/OT integration, which is why we chose a solution that not only meets our needs today but has the breadth and depth of functionality to continue meeting them for years to come.”

## Solutions

- FortiGate Network Firewall
- FortiAP

*“The integration of the FortiGate NGFW has massively increased cybersecurity for our customers. By differentiating between the customer’s IT network and the OT control systems, [FortiGate] creates an environment that is accessible for control and monitoring, yet self-contained and secure.”*

- Simon Jauch, Head of SisITServices, Sisag AG