



HYDRO

HyNET - HySEC

NETWORK
AND
CYBERSECURITY

ANDRITZ

ENGINEERED SUCCESS



HyNET and HySEC - The dedicated smart network and security solution for hydropower plants in the digital age

Digital innovations have become an integral part of our world and the energy sector must respond with modern security concepts to keep their operations safe and secure at all times. Over time, the demands on power plant networks have changed dramatically. Nowadays, a multiservice network is cutting-edge for the hydropower sector and active data exchange between energy producers, distributors, and consumers is making a full spectrum security concept crucial. It must also combine traditional process and control communication systems with modern technology.

ANDRITZ' HyNET network is the basis for secure communication both within a power plant and between several power plants and the central control room. Based on our long experience, HyNET combines state-of-the-art network and security technology and guarantees smooth and secure operations.



HyNET - Multi-service network and redundancy

Networking of all the necessary components for running a power plant takes place on the control and process level. Special attention is given to network availability and redundancy. Even in the case of an interruption, communications between the automation equipment and the control system must be maintained. This is achieved with a comprehensive network design, as well as the use of high-quality components. The converged infrastructure of Voice-over-IP, Video-over-IP, control system, and process environment results in a unified and structured multi-service network that can be expanded flexibly and cost-effectively.



HySEC - Cybersecurity

High-performance networks and their connected processes and control equipment must be unconditionally protected against attacks like unauthorized access, data manipulation, and denial of service attacks. ANDRITZ' dedicated cybersecurity solution is known as HySEC. An all-encompassing and fully integrated solution, it meets the extremely high demands required in the energy business.

SYSTEM PATCHING, MALWARE AND FALSE-POSITIVE PREVENTION

Operating systems must always be kept up to date. The lack of a single patch could endanger the entire environment. Therefore, to safeguard the control environment, a comprehensive system patching and anti-malware solution is indispensable. With pre-checks of the operating system patches and cryptographic integrity checks of the control system programs, HySEC solutions prevent the occurrence

of so-called false positives, i.e. the misrecognition and misinterpretation of regular files.

WHITELISTING

Whitelisting permits only predefined services to be started in a secure environment, preventing the execution of malicious code. A specially fine-tuned malware scanning engine is the basis for ensuring secure and fault-free operation.

SYSTEM HARDENING

Operating systems have to meet a wide variety of requirements and have to support applications. This is why a multitude of services and programs run on the operating systems. However, the control system only requires a part of these services and programs for its functionality. The complexity of operating systems increases the possibility of attacks and exploitation of security vulnerabilities. With HySEC system hardening,



these potential threats are eliminated by deactivating services and programs that are not needed. Computers of the control systems always undergo a hardening process of the operating system.

MONITORING AND DIGITAL RISK MANAGEMENT

Securing the network and all its connected components, as well as monitoring the infrastructure and cyber risk governance are also an essential aspect of ANDRITZ Hydro's Cybersecurity strategy.

The HySEC SOAR (Security Orchestration, Automation and Response) solution provides a centralized,

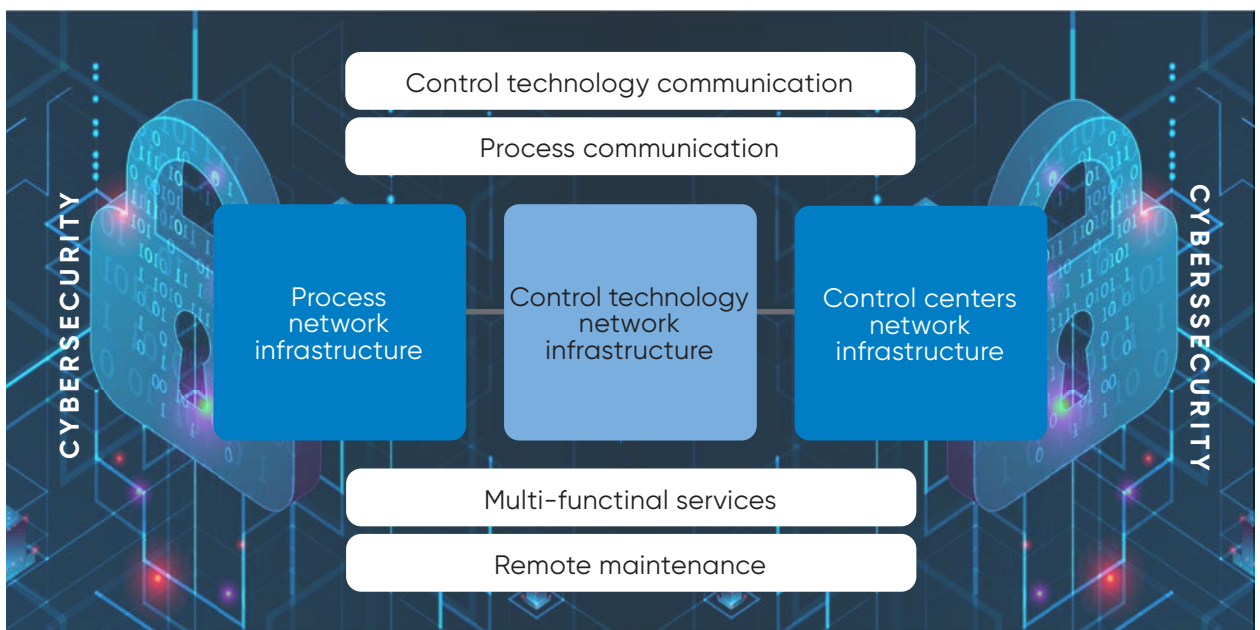
digital-industrial automated and simplified cybersecurity risk management. Behavior of the data streams, vulnerability management, display, and monitoring of attacks, and the correlation of log-

ging and system information can all be achieved through the system-wide implementation of HySEC orchestration.

ANDRITZ' HyNET and HySEC are innovative and comprehensive cybersecurity solutions that provide a wide range

of services, all with top-tier technology, perfectly defined processes.

ANDRITZ is offering an all-encompassing cybersecurity tool suite to guarantee hydropower plant systems are able to run in a controlled and secure manner.





YOUR BENEFITS

Optimum utilization:

- High-performance network infrastructures
- Comprehensive security concepts
- Customized network solutions

Cost reduction:

- Standardized network components
- Reduction of service- and system costs
- Modular system structure

Increased profitability:

- Durable network infrastructures
- Convergent network designs
- Maximization of productivity





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AH_HyNET.01.en.0923