



Real-Time Security and Continuous Improvement Of Energy Supply at e-netz Südhessen AG



VISIBILITY AND TRACEABILITY OF IACS



FAST EVALUATION OF CYBERATTACKS AND TECHNICAL ERRORS



CONTINUOUS IMPROVEMENT WITH PERIODIC STABILITY AND SECURITY AUDITS

»With Rhebo we can actively make sure that our Industrial Automation & Control System (IACS) is stable and secure. Rhebo provides the detailed visibility into our IACS to rapidly identify and mitigate novel attacks and misconfigurations that have been invisible to us in the past.«

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Setting and Challenges

As a distribution network operator of Entega AG, e-netz Südhessen AG reliably supplies electricity and gas to one million people in 63 municipalities in the German Rhein-Main-Neckar region. As a sustainable, future-oriented energy and infrastructure service provider, e-netz Südhessen stands for reliable operation and the innovative advancement of its networks towards energy transition. Since 2010, the company has been implementing quality, energy, occupational health and safety as well as environmental management systems according to ISO 9001, ISO 50001, ISO 45001 and ISO 14001, respectively.

In 2012 e-netz Südhessen implemented a certified Information Security Management Systems (ISMS). In order to continuously improve the growing infrastructure, the IACS is to be periodically audited for vulnerabilities and optimisation. In addition, the company wanted an intelligent embedded system that would comprehensively secure the IACS against cyberattacks, misconfigurations and technical error states.



Detection of attacks and error states

Continuously monitor IACS communication (IEC104) on value level to detect and mitigate any anomaly in real-time.

Fast, sound analysis of events

Document all event details to enable root cause analysis and traceability of affected devices.

Support of ISMS re-certification

Establish continuous improvement process as well as evaluation of security levels and implemented measures.

Solution

RISK ANALYSIS

Rhebo Industry 4.0 Stability and Security Audit

- Analysis of assets and communication structures;
- Risk assessment for cybersecurity and stability;
- Definition of mitigation measures.

IACS MONITORING

Rhebo Industrial Protector

- Continuous IACS monitoring;
- Real-time identification and evaluation of cyberattacks, vulnerabilities, malware and technical error states;
- Compliance with industry standards and regulatory requirements.

CONTINUOUS IMPROVEMENT

Rhebo ReadyNow

- Periodic Industry 4.0 Stability and Security Audits
- Forensic analysis of security and stability events;
- Emergency support.

Implementation and Findings

Rhebo performed a Rhebo Industry 4.0 Stability and Security Audit of the e-netz Süd Hessen's IACS. Using three passive sensors, all communication via Ethernet, mobile and the corporate network was recorded and analysed by Rhebo. The results proved a very well managed and secured infrastructure. Further use cases (e.g. connection of a substation) were simulated to evaluate the functionality of the IACS monitoring solution Rhebo Industrial Protector. The detailed monitoring data, extremely good traceability of events as well as the

customisation of the dashboard convinced e-netz Süd Hessen to integrate Rhebo Industrial Protector with a total of seven data tapping points. Rhebo will also support e-netz Süd Hessen with periodic audits and forensic analysis as part of the Rhebo ReadyNow Service Level Agreement. This service helps e-netz Süd Hessen to continuously improve its security infrastructure and get immediate assistance whenever events occur.



The network map visualises all assets in the ICS with their properties and connections.



For each host, details such as protocols, connections, and anomalies are displayed in real-time.



Rhebo Industrial Protector reports insecure operations such as scans and unencrypted passwords.

Results



COMPLETE TRANSPARENCY

of the structure, assets and connections of the IACS.



REAL-TIME ALERTS

and documentation of anomalies ensured.



CONTINUOUS IMPROVEMENT

according to ISO 27001 and ISO 9001 supported with periodic risk analysis.



CONTINUOUS MONITORING

of communication within the IACS.



TRACEABILITY AND RISK ASSESSMENT

of incidents significantly improved.



STABLE OPERATION OF THE IACS

strengthened by identification and analysis of misconfigurations.

About Rhebo

Rhebo is the only vendor-independent provider of industrial monitoring solutions ensuring both cybersecurity and stability of ICS and IoT infrastructures. The German company's solutions monitor all communication within the ICS and on distributed critical IoT de-

vices. Thus, Rhebo vendor-neutrally supports industrial, energy and water companies to increase cybersecurity, productivity and availability of their systems and plants to safeguard their digital transformation.