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WHITE PAPER

# Cybersecurity in Manufacturing

**PREPARED BY:**
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# Navigating Cybersecurity Challenges in Manufacturing

Digitalization and increased automation have made manufacturing more efficient – but also more vulnerable. When IT and OT converge, new security challenges with corresponding consequences emerge: From production halts and loss of intellectual property to regulatory sanctions and reputational damage.

With stricter requirements in EU directives (such as NIS2) and standards like ISO 27001 and IEC 62443, the manufacturing sector must make cybersecurity an integrated part of daily operations.

This document provides insights into the threat landscape and shows how the SNOK® Cybersecurity Monitoring System can contribute to more secure and stable operations.

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# Possible Consequences from Insufficient Cybersecurity

Even minor incidents in the water sector can have major consequences, affecting public health, safety, and trust alike:

### Production downtime

In industries with tight schedules and complex supply chains, even short interruptions can cause major financial losses, delayed deliveries, and customer dissatisfaction.

### Loss of trade secrets

Designs, process parameters, and production methods are valuable intellectual property. Attacks that exfiltrate such data can weaken competitiveness long-term.

### Reputational damage

Customers and partners expect safe, reliable, and consistent delivery. A security incident compromising product integrity, safety, or customer data can quickly erode trust in the brand.

### Regulatory consequences

New requirements like NIS2 impose reporting duties and risk management obligations. Non-compliance can result in fines or loss of licenses.

# Why Cyberattacks Occur?

Manufacturing environments typically operate with a hybrid of legacy and modern OT/IT technologies. Many OT technologies were developed when systems were more isolated from the internet. The result is a complex, fragmented security situation where threats may slip past existing defences.

**Lack of built-in security**
Many control systems and machines cannot handle traditional security measures like updates or antivirus without compromising stability.

**Limited visibility and monitoring**
PLCs, HMIs, and sensors are often not covered by regular IT security monitoring, creating blind spots that attackers can exploit.s.

**Weak network segmentation**
Attacks can spread freely between IT and OT networks without proper separation and control.

**Lack of OT expertise in IT/SOC teams**
Traditional IT security centers often lack tools, processes, or personnel to understand OT environments and their specific needs.

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# Mandatory Security System

Cybersecurity in industrial operations is increasingly important, and the NIS2 Directive sets binding requirements for certain sectors. Within manufacturing, NIS2 applies to the food industry as well as to selected subsectors: medical devices (including in-vitro diagnostics), computer, electronic and optical products, electrical equipment, machinery and equipment, motor vehicles, trailers and semi-trailers, and other transport equipment.

## NIS2

**New regulation with real consequences**
NIS2 came into force in the EU in October 2024 and is expected to be implemented into national legislation during 2025.

- Mandatory reporting of serious incidents within 24 hours.
- Documented risk management and technical security controls.
- Security incident response plans including detection, response, recovery.
- Clear leadership accountability.

Violations of the rules may result in fines, audits, and loss of licenses — and in severe cases, personal liability for company management.

## IEC 62443

**Industry-standard for OT security**
This is the most widely recognized global standard for OT security. It divides production systems into security zones, and defines clear requirements for:

- Network architecture and segmentation
- Access control and authentication
- Continuous monitoring and logging
- Security updates and lifecycle management

For manufacturers, IEC 62443 provides a framework tailored to environments where uptime and stability are critical.

## ISO 27001

**Convergence of IT and OT**
Many manufacturing organizations use ISO 27001 when implementing IT security. OT systems that control important processes must be included in the organization's risk management and their Information Security Management System (ISMS).


## The Consequence

Manufacturers must establish a structured, documented, and continuous approach to cybersecurity. Ad hoc measures or isolated fixes are no longer sufficient. A well-functioning monitoring system like SNOK® helps meet all three regulatory frameworks simultaneously — by ensuring visibility, incident handling, and proper documentation.

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# Customer Case Study

## Customer profile

- Global manufacturer
- 20+ facilities worldwide
- 1,000+ employees

## Challenge

The customer had asked several IT security providers to also cover OT security but found it challenging to find the right solutions and expertise. They assumed that there were security gaps in their OT environments but did not have the overview. The customer needed to gain control over all facilities and ensure that there were no blind spots or unknown security gaps. The customer also wanted 24/7 monitoring of OT, which their current SOC managed service provider did not offer as part of their SOC services.

## Solution

**SNOK® Network Sensors**
Monitor traffic in the OT environment to detect unauthorized activity early and prevent damage.

**SNOK® Endpoint Sensors**
Strategically placed sensors on PCs in the OT environment reduce blind spots and enable effective monitoring of critical parts of the OT environment with limited visibility to other systems.

**Secure-NOK Analysis Services**
Provide analysis as a basis for decisionmaking, security reviews, and integration of OT SOC with a third-party SOC provider.

"Cybersecurity is no longer just an IT concern – it is critical to continuity, competitiveness, and trust."

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# SNOK® – A System Tailored for OT in Manufacturing

**The SNOK® Cybersecurity Monitoring System offers real-time insight, alerts, and safety. Built to work in challenging OT environments, it operates without disrupting production.**

### Network sensors

Passive monitoring of normal traffic with anomaly detection.

### Endpoint sensors

Patented technology compatible with both modern and legacy Windows/Linux systems.

### API integrations

Supports integration with tools used by internal/external SOCs (e.g., SIEM).

### Benefits

- Actionable security insight
- Early detection of cyber threats
- Compliance with IEC 62443 / NIS2
- Operational continuity

Actionable security insights

Compliance with IEC 62443 and NIS2

Early detection of cyber threats

Continuity of production

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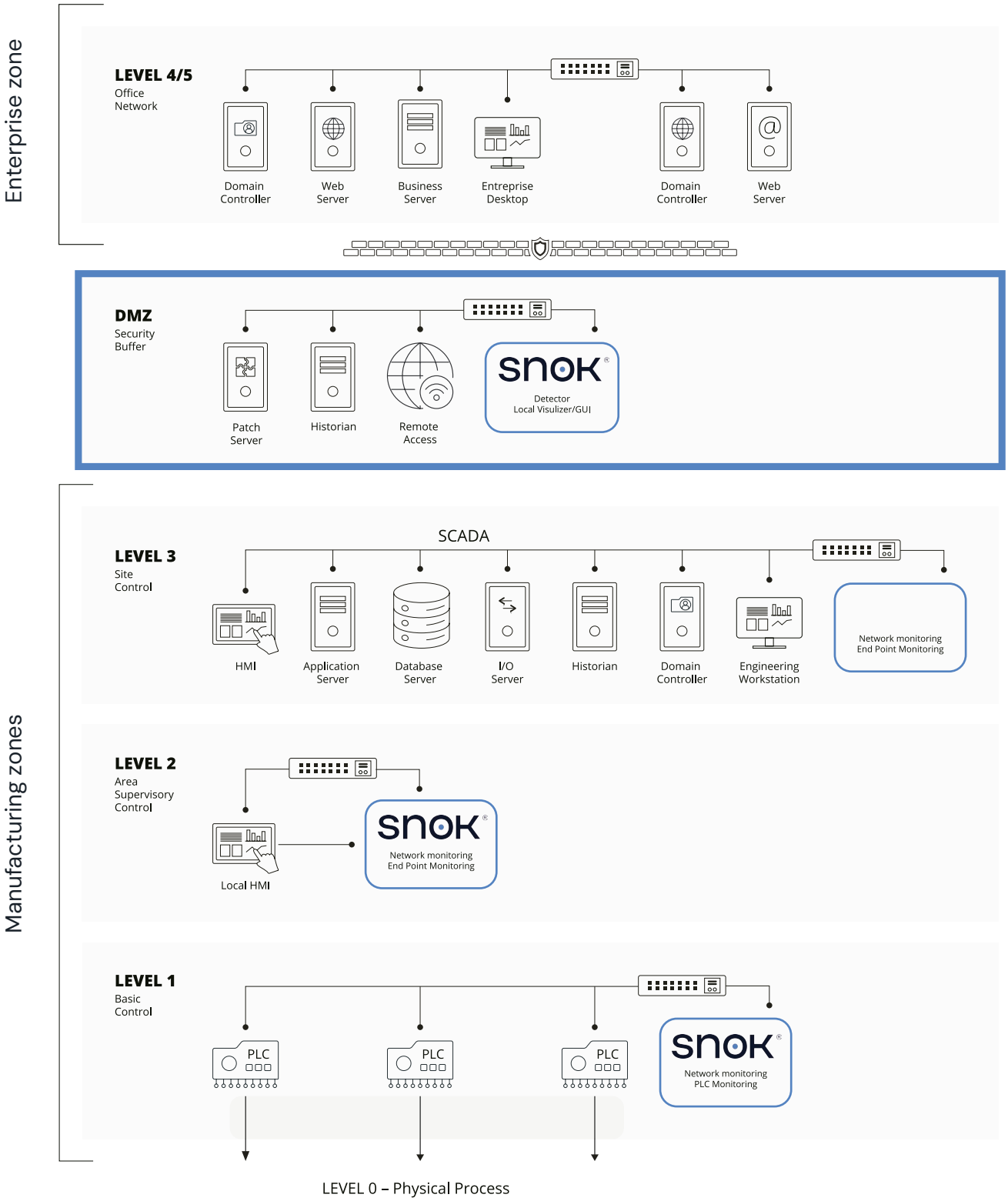
CYBER ESSENTIALS CERTIFIED PLUS

MADE IN NORWAY

# Implementing SNOK®



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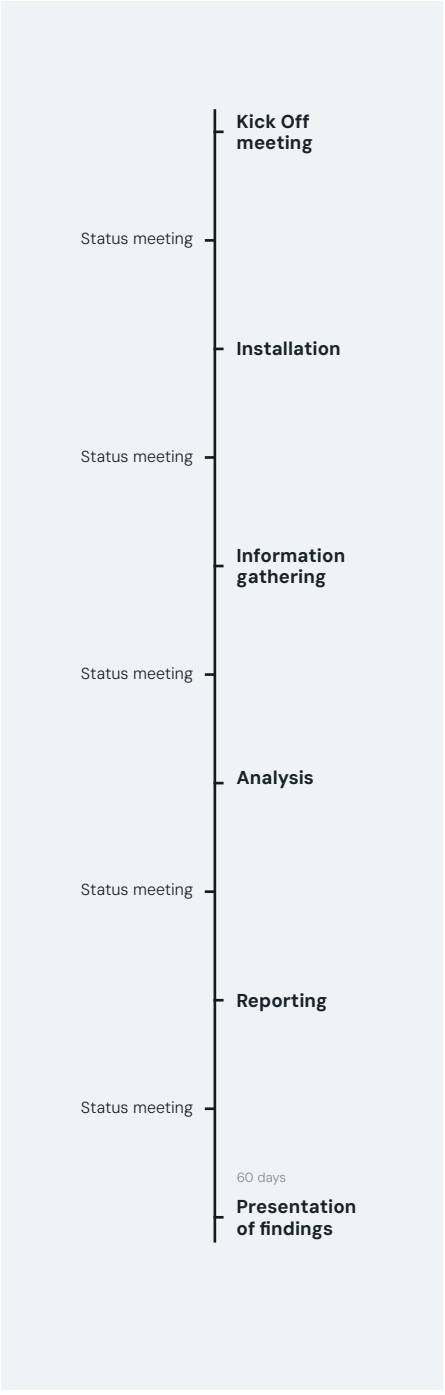
# Best Practices for Safer Manufacturing

**Security is not just about technology—it requires good processes and proper organization:**

• **Segmentation**: Separate IT and OT environments to limit the impact of potential attacks.
• **Real-Time Monitoring:** Use sensors to monitor networks and critical devices.
• **Secure Endpoints:** Remove unnecessary software and restrict network access on all devices.
• **Response Preparedness:** Develop and regularly test an incident response plan.
• **Appropriate Expertise:** Collaborate with OT specialists, not just IT security vendors.

By combining these measures, food producers can reduce risk and increase resilience against attacks.

# Implementation and timeline for security status with Securenok




**Visibility**

Full insight into OT assets and traffic

**Risk**

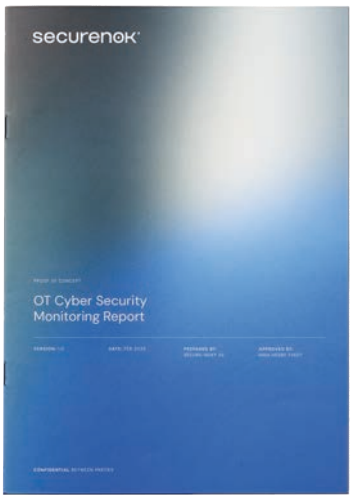
Uncovers weaknesses and unwanted behavior

**Actions**

Concrete, prioritized recommendations

**Fixed price**

60-day SNOK license and report included



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# Want to know if your water and wastewater facilities meet today's security requirements?

We offer a security status assessment and practical advice to strengthen your preparedness, tailored to municipalities and inter-municipal companies.


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