Kaspersky Industrial CyberSecurity: solution overview

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Kaspersky Industrial CyberSecurity

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Introduction

Historically, industrial companies all over the world have approached cybersecurity in their IT and OT (operational technology) networks differently. Most companies already have mature breach detection and incident response measures in their corporate infrastructure, but when it comes to OT they usually rely on a classical air-gap approach. Industrial companies are becoming increasingly 'digital', investing more and more in smart technologies, new automation systems, and the adoption of Industry 4.0. That actually erases the gap between IT and OT environments that is used to prevent cyberthreats from reaching industrial control systems. According to Kaspersky ICS CERT, in the first half of 2019 the percentage of ICS computers on which malicious objects were detected reached 41.2%[1].

What are these threats?

First of all, they include the risk of accidental infection by conventional malware. You don't have to be a target to become a victim. A single flash drive or phishing email with a banking Trojan or ransomware brought unintentionally into the ICS environment can seriously affect the core business of a company. Even if accidental infections do not occur that often, it is obvious that a motivated hacker can also penetrate OT networks and cause considerable damage to expensive equipment or production, or steal valuable information.

What are the proper ICS cybersecurity measures?

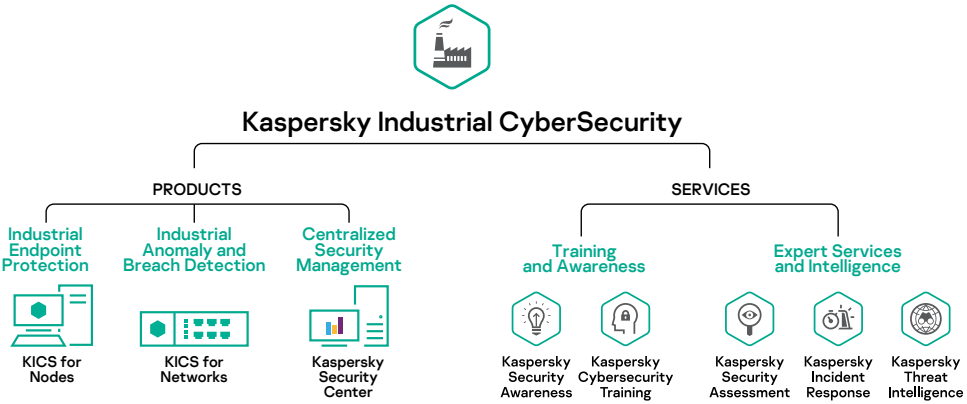
1. Industrial endpoint protection to prevent accidental infections and make motivated intrusion more difficult.
2. OT network monitoring and anomaly detection to identify malicious actions on the level of programmable logic controllers (PLCs).
3. Training programs for employees to reduce accidents and minimize the human factor.
4. Dedicated expert services to investigate the infrastructure, conduct expert analytics or mitigate the impact of an incident.

1 Threat landscape for industrial automation systems, H1 2019, Kaspesky ICS CERT

What does Kaspersky provide?

Kaspersky addresses all the cybersecurity needs of industrial organizations in its Kaspersky Industrial CyberSecurity (KICS) portfolio. KICS offers a holistic approach to industrial cybersecurity, bringing value to any stage of the customer's OT security process – from cybersecurity assessments and training to advanced technologies and incident response.

Kaspersky Industrial CyberSecurity components



In 2020, Kaspersky was mentioned in Gartner report "Competitive Landscape: Operational Technology Security"[2] as a representative vendor in 4 product categories, including:

- OT Endpoint security;
- OT Network Monitoring and Visibility;
- Anomaly Detection, Incident Response and Reporting;
- OT Security Services[2].

Arc Advisory Group emphasizes that Kaspersky delivers a unique combination of threat intelligence, machine learning, and human expertise that supports agile protection against any kind of threat[3].

Meanwhile, Forrester's study[4] shows an ROI of 368% for a company using Kaspersky Industrial CyberSecurity as well as other benefits such as expert support and peace of mind.

2 Gartner: Competitive Landscape: Operational Technology Security, March 2020
https://ics.kaspersky.com/KICS-cited-in-Gartnercompetitive-landscape-OTsecurity

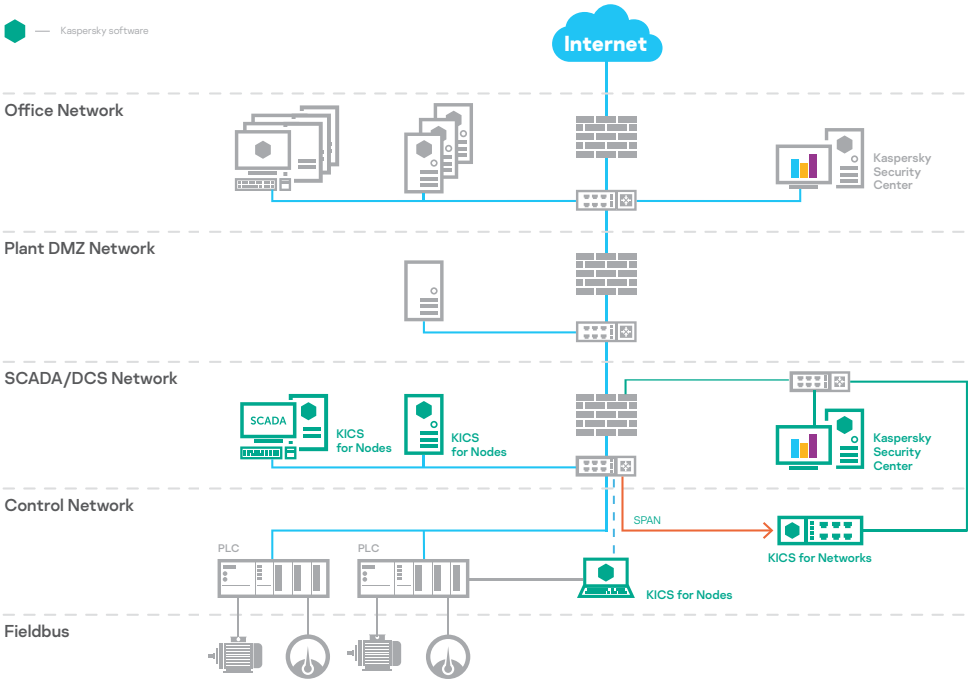
3 Arc Advisory: Kaspersky Moves Forward with Improved Cybersecurity Solutions, 2018

4 Forrester Research: The Total Economic Impact™ of Kaspersky Industrial CyberSecurity, April 2019.
https://www.kaspersky.com/ forrester-tei-for-kics

Products

KICS products are designed to comprehensively secure the industrial elements of your organization: KICS for Nodes is aimed at industrial endpoints, while KICS for Networks monitors industrial network security.

Kaspersky Industrial CyberSecurity products deployment



KICS for Networks

KICS for Networks is an OT network monitoring and visibility solution, delivered as software or a virtual appliance, passively connected to the ICS network.

The benefits:

- ✓ **Asset discovery** passive OT asset identification and inventory
- ✓ **Deep packet inspection** almost real-time analysis of technical process telemetry
- ✓ **Network integrity control** detection of unauthorized network hosts and flows
- ✓ **Intrusion detection system** sends alerts about malicious network activities
- ✓ **Command control** inspects commands over industrial protocols
- ✓ **External systems** external detection capabilities by API integration
- ✓ **Machine learning for anomaly detection (MLAD)** finds cyber or physical anomalies through real-time telemetry and historical data mining (recurrent neural network)

KICS for Networks detects anomalies and intrusions inside ICS networks in their early stages and ensures the necessary actions are taken to prevent any negative impact on industrial processes.

KICS for Networks is an appliance-agnostic solution that allows the customer to choose the industrial computing appliance vendor they trust the most.

The KICS for Networks interface displays a live dashboard and a network map, allowing working with assets and security events.

Example of KICS for Networks appliance

KICS for Networks interface

KICS for Nodes

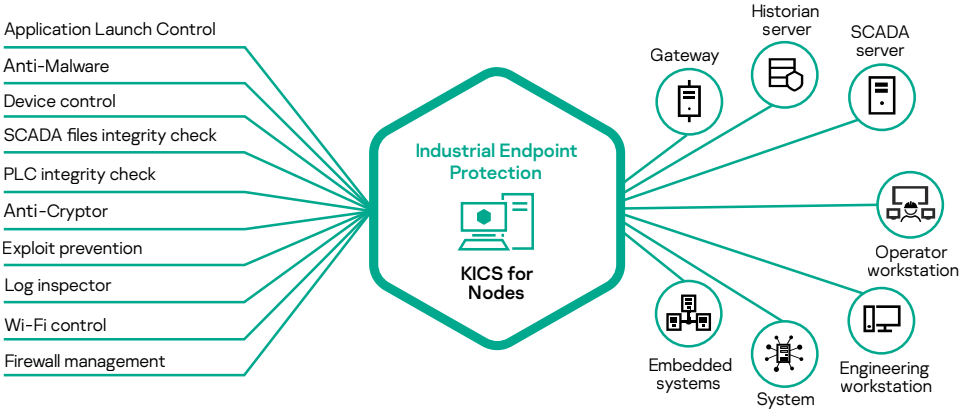
KICS for Nodes is an OT endpoint security product, delivered as software for Windows and Linux-based machines.

The benefits:

- ✓ **Low impact on protected device**
- ✓ **Highest compatibility**
- ✓ **Advanced malware protection**
- ✓ **Control of environment**

KICS for Nodes was specially designed to consume minimal resources. Built on security and embedded systems, its modular architecture means you only have to install the protective components you need. Protective components can be configured to the threat prevention mode or to detection-only mode. This approach is ideal for legacy, low-performance machines that require the maximum available computing power.

KICS for Nodes functions and supported endpoints



"We decided to partner with Kaspersky as Kaspersky Industrial CyberSecurity could be implemented whilst our operations were still running, and because the solution is compatible with the control systems we use"

Jan Houben, Plant Manager,
AGC Glass Germany GmbH

KICS for Nodes secures industrial nodes from the various types of cyberthreat that can result from human factors, generic malware, targeted attacks or sabotage. KICS for Nodes is compatible with the software and hardware components of industrial automation systems, such as SCADA, PLC and DCS.

Kaspersky Security Center

Kaspersky Security Center is a centralized security management solution. It provides control and visibility of industrial layers at multiple sites as well as the surrounding business networks.

The benefits:

✓ **Systems management**
- Centralized system data collection
- Centralized software deployment
- Vulnerability detection and patch management
- Extended client management capabilities

✓ **Policy management**
- Centralized security policy management
- Remote task scheduling and execution

✓ **Reporting and notification**
- Event logging
- Dashboards and reports
- SMS/email notifications

✓ **SIEM integration**
- Arcsight, Splunk, Qradar
- Syslog server

✓ **HMI integration**

✓ **MES dashboard integration**
- Security status and information delivery to IEC 104/OPC 2.0 compatible host

Kaspersky Industrial CyberSecurity: services

Our suite of services forms an important part of the KICS portfolio – we provide the full cycle of security services, from industrial cybersecurity assessment to incident response.

Expert services

"Their experience in the ICS cybersecurity domain, professionalism and the complexity of their solution, in comparison with other suppliers, has given us great value and ensured a bright future for our company's security strategy"

Ondřej Sýkora, C&A manager, Plzeňský Prazdroj

- **Industrial Cybersecurity Assessment:** Kaspersky provides a minimally invasive industrial cybersecurity assessment, including external and internal penetration testing, OT security assessment and automation solution security assessment. Kaspersky experts provide significant insights into a company's infrastructure and give recommendations on how to strengthen the ICS cybersecurity posture.
- **Threat Intelligence:** Up-to-date analytics collected by Kaspersky experts help enhance the customer's protection from targeted industrial cyberattacks. Provided as TI feeds or tailored reports, they meet specific customer needs according to regional, industry and ICS software parameters.

"By undertaking the exercise and learning from the Kaspersky team's knowledge, we have increased our protection against cyber security threats"

Yu Tat Ming, CEO, PacificLight.

- **Incident Response:** In the event of a cybersecurity incident, our experts will collect and analyze data, reconstruct the incident timeline, determine possible sources and motivation, and develop a remediation plan. In addition, Kaspersky offers a malware analysis service in which Kaspersky experts will categorize any malware sample provided, analyze its functions and behavior, and develop recommendations and a plan for its removal from your systems and for rolling back any malicious actions.

Training and awareness

"Kaspersky was the best possible company to deliver professional industrial cybersecurity skills training for our ICS group"

Søren Egede Knudsen, Chief Technical Officer, Ezenta

- **Industrial Cybersecurity awareness training:** On-site and online interactive training modules and cybersafety games for employees interacting with industrial computerized systems and their managers. Participants gain a new insight into the current threat landscape and attack vectors specifically targeting the industrial environment, explore practical scenarios and acquire cybersafe working skills. The on-site course can be customized and adapted to run over one or two days.
- **Expert training programs:** The ICS Penetration Testing and ICS Digital Forensics training modules were created for cybersecurity professionals. Participants gain all the advanced skills needed to conduct comprehensive pentests or digital forensics in industrial environments. Certification included.

Learn more about KICS at
https://ics.kaspersky.com

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www.kaspersky.com

CYBER SECURITY EXCELLENCE AWARDS
WINNER
2018

* World Leading Internet Scientific and Technological Achievement Award at the 3rd World Internet Conference

** China International Industry Fair (CIIF) 2016 special prize