

Schildknecht and PRTG

Condition monitoring in industrial environments
with Schildknecht and Paessler

UPTIME 
ALLIANCE



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Securing production in IT/OT and beyond

Complex process chains are used in the operation of production plants. Malfunctions can not only bring these processes to a halt but can also endanger the plant and its workers. Condition monitoring is therefore vital for ensuring the safe and reliable completion of production processes. Every production step and link in the process chain must be monitored continuously. In the event of a malfunction, clearly defined alarm and escalation procedures must allow for quick response times. What's more, condition monitoring should come with dashboards (i.e., centralized control stations) to provide a constant overview of the status of processes.

With digitization, IT is playing an increasingly important role in the roll-out of comprehensive condition monitoring solutions. IT must work closely with OT to allow for monitoring data to be collected during production, as well as for data to be stored, conditions to be displayed in centralized overviews (dashboards), and precise notifications and alerts to be sent in the event of malfunctions. However, the transfer of data from the production environment to IT can sometimes be quite challenging, as many production sites lack the necessary infrastructure (network coverage, cables, etc.) to send monitoring data from machines or environmental sensors directly to the servers where the monitoring software runs.

Successful condition monitoring therefore requires a combination of a comprehensive IT monitoring solution and a system for collecting and transporting data from the production environment to IT.

Schildknecht: Data transmission in the production environment

Schildknecht AG is a manufacturer and provider of industrial data radio transmission systems (e.g., PROFIBUS and PROFINET) and offers an "IoT ready-to-use" system for condition monitoring. The DATAEAGLE Condition Monitoring System is easy to install and extremely flexible when it comes to retrofitting machines and motors, and it allows for improved data analysis and transmission.

The system consists of "multi-sensors" that are specifically designed for harsh industrial environments and communicate wirelessly via Bluetooth Low Energy. The DATAEAGLE Condition Monitoring System allows for communication between IT and OT systems by using these special sensors to collect data from machines during production and then transmitting this data via radio link to a central DATAEAGLE gateway. From here, the data is transferred to PRTG via Modbus TCP.

Paessler PRTG: Monitoring of IT and OT

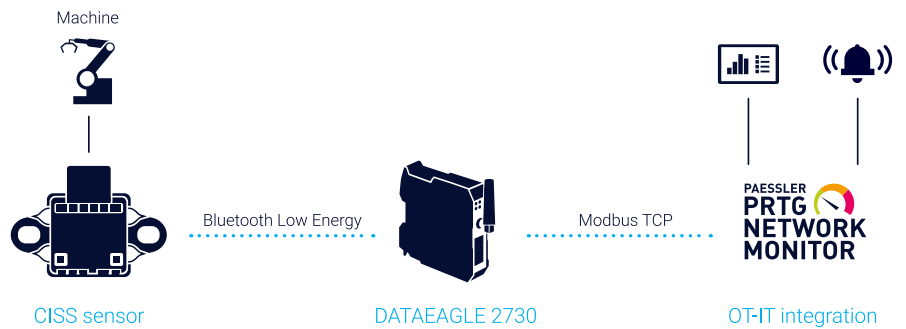
Paessler AG is the creator of PRTG, one of the leading IT monitoring solutions in the world with more than 300,000 users. PRTG monitors IT infrastructure, networks, traffic, virtual environments, and cloud applications. Thanks to its API and compatibility with protocols and methods such as DICOM, HL7, OPC UA, Modbus, and MQTT, PRTG can monitor the availability and performance of devices and applications in both traditional IT environments as well as in hospitals and industrial settings. It can also incorporate a variety of environmental sensors into its centralized monitoring. PRTG also comes with customizable reporting, alarm, and user management features, allowing admins to promptly take action or trigger escalation procedures in the event of issues.

PRTG and DATAEAGLE: Condition monitoring made easy

The DATAEAGLE CMS uses various sensors to collect data on the status (condition) of production environments and machines. This data is sent to DATAEAGLE gateways via Bluetooth Low Energy over distances of up to 50 meters (160 feet). PRTG links up with DATAEAGLE via Modbus TCP to collect, process, and present the monitoring data in dashboards and reports. Threshold values can be set up in PRTG to trigger alerts that are sent by SMS, email, push notification, or other methods.

PRTG can also monitor processes that encompass various production areas, thereby adding a management level to its traditional, detail-based monitoring. This makes it possible to identify and visualize how IT affects production (and vice versa). It also avoids unnecessary alarms and allows for the prioritization of notifications.

DATAEAGLE Condition Monitoring System with PRTG Network Monitor



Using PRTG with DATAEAGLE provides many advantages:



Retrofitting of older production plants

The condition of analog machines can be determined using external sensors and this data can easily be integrated into the central monitoring system.



Comprehensive condition monitoring

Information on the condition of production systems, environmental parameters such as temperature and humidity, and the path (to IT) and processing of data are consolidated and monitored from one central location.



Management level

Thanks to the production condition data transmitted by the DATAEAGLE CMS, PRTG can monitor processes that go beyond IT and OT, thereby creating centralized, management-level information.



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About Schildknecht

Schildknecht AG has been a leader and pioneer in the areas of industrial radio data transmission and Industry 4.0 for 40 years. The company strives to develop products that optimize the availability of radio links. To achieve this goal, Schildknecht AG prioritizes product innovation and the ongoing development of its technical solutions. With its DATAEAGLE line, the company offers an innovative radio system for use in industrial environments which allows for secure and stable radio transmissions and the implementation of IoT connectivity solutions for customers.

ABOUT PAESSLER AG

Paessler believes monitoring plays a vital part in reducing humankind's consumption of resources. Monitoring data helps its customers save resources, from optimizing their IT, OT and IoT infrastructures to reducing energy consumption or emissions – for our future and our environment. That is why Paessler offers monitoring solutions for businesses across all industries and all sizes, from SMB to large enterprises. Paessler works with renowned partners, and together they tackle the monitoring challenges of an ever-changing world.

Since 1997, when Paessler first introduced PRTG Network Monitor, it has combined its in-depth monitoring knowledge with an innovative spirit. Paessler knows the challenges of complex IT, OT and IoT infrastructures and networks. Paessler products empower its customers to monitor everything, and thus help them optimize their resources.