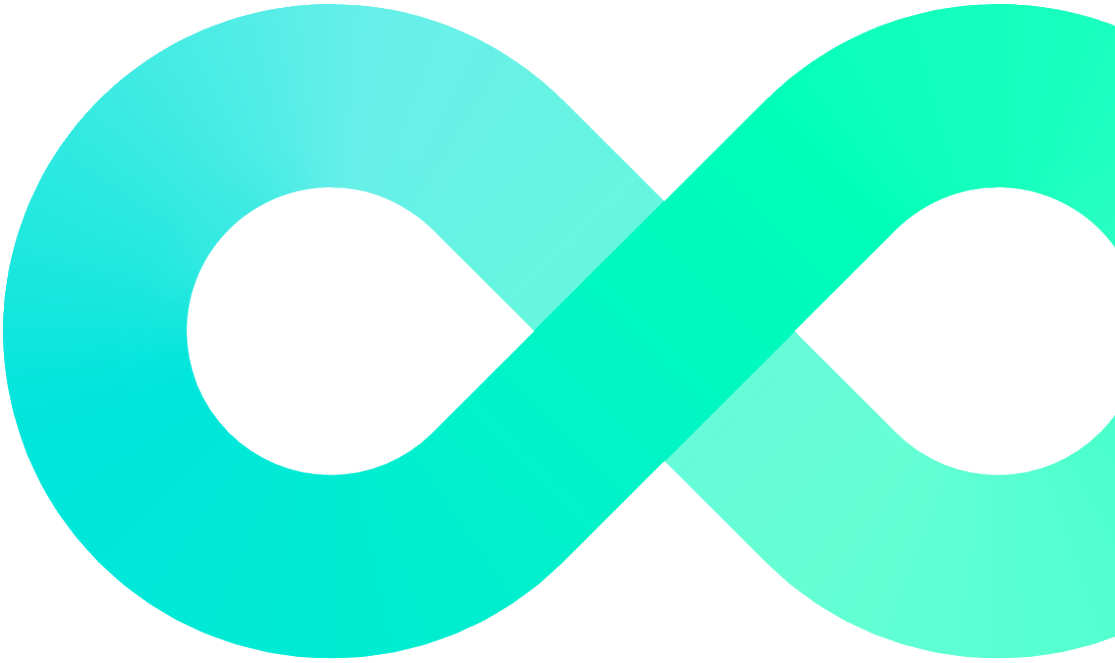
TRANSPARENCY OF PRODUCTION PERFORMANCE

Monitoring of machine and plant performance

Data is the key to ensuring high productivity and availability of machines and systems. However, only companies that use this data in a meaningful way to gain transparency into production performance can remain competitive in the long term. In particular, manufacturing companies with multiple sites, some of which are located around the world, need to be able to monitor and compare the production performance of all machines.



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Using data to track production performance

Transparency across production plants is crucial to making fact-based decisions at the right time. To do this, manufacturing companies need the right solutions to not only access the data they need, but also to analyze it and draw conclusions.

Edge and cloud computing, along with industry-specific energy and analysis solutions, enable efficient data evaluation even across multiple production locations.

Getting the data from the production machine is one thing; making sense of that data and creating value from it is quite another.

How to track production performance

One KPI that companies use to track their performance is the Overall Equipment Efficiency (OEE) KPI, which correlates three factors: availability, performance and quality. For all three factors, companies can use a variety of solutions to make production data available from machines and systems by connecting the necessary automation assets to a local data lake. Ultimately, however, they also need solutions that help them draw the right conclusions from the available data and gain transparency into the performance of their assets.

Transparency fosters a sense of trust and provides serious motivation.

One possible solution is a combination of Industrial Edge and the Industrial Edge app Performance Insight. Industrial Edge devices can be easily attached and connected to sensors, actors, machine controllers or entire lines. Hereby so-called Connector applications collect operational data from greenfield and brownfield systems and make it available to higher-level systems, the Industrial Information Hub for local data standardization and contextualization, and other applications, such as Performance Insight for data analytics use cases or even AI-driven applications. The Performance Insight app for example provides out-of-the-box KPI dashboards, widgets and formulas for calculating production KPIs, including

OEE monitoring for selected time periods, unlocking the full potential of line productivity assessment. The Performance Insight app can be used locally an the shop floor on Siemens Industrial Edge and in the cloud on Siemens Insights Hub.

The production transparency in factories must meet the needs of different stakeholders across the company.

Companies with complex plants and processes that require centralized monitoring, and control can also use a SCADA system, such as SIMATIC WinCC V8. It enables real-time plant monitoring and control, data analysis, and reporting and can be deployed locally, providing high control over data and infrastructure. It addresses the challenge of managing machines that impact production line performance by connecting all existing WinCC Unified systems to a central SIMATIC WinCC V8 system. This integration improves production line efficiency by enabling efficient data combination and eliminating the need for manual retrieval. SIMATIC WinCC V8 provides an integration of WinCC Unified screens and data for transparency, identifying bottlenecks, optimizing processes, and improving productivity. It integrates seamlessly with existing installations, ensuring a smooth transition and minimal downtime.

Analyzing production performance

Accessing data from a heterogeneous production environment is half the battle. However, it is critical to create the highest possible data transparency and to analyze this data in order to be able to draw conclusions and identify optimization potential. There are a number of possibilities available to help companies achieve this transparency. Industrial-grade, easy to implement solutions are scalable, modular, and open, enabling data transparency at the machine, line, or company level. Which one they ultimately choose, or whether it is a combination of solutions that creates the optimal data transparency for them, depends on the individual company and its requirements. But whichever solution they choose, the benefits speak for themselves. They include easy-to-achieve transparency over production performance, ready-to-use and industry-standard software and hardware, as well as high cost efficiency through easily scalable solutions.

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P.O. Box 48 48

90026 Nuremberg

Germany