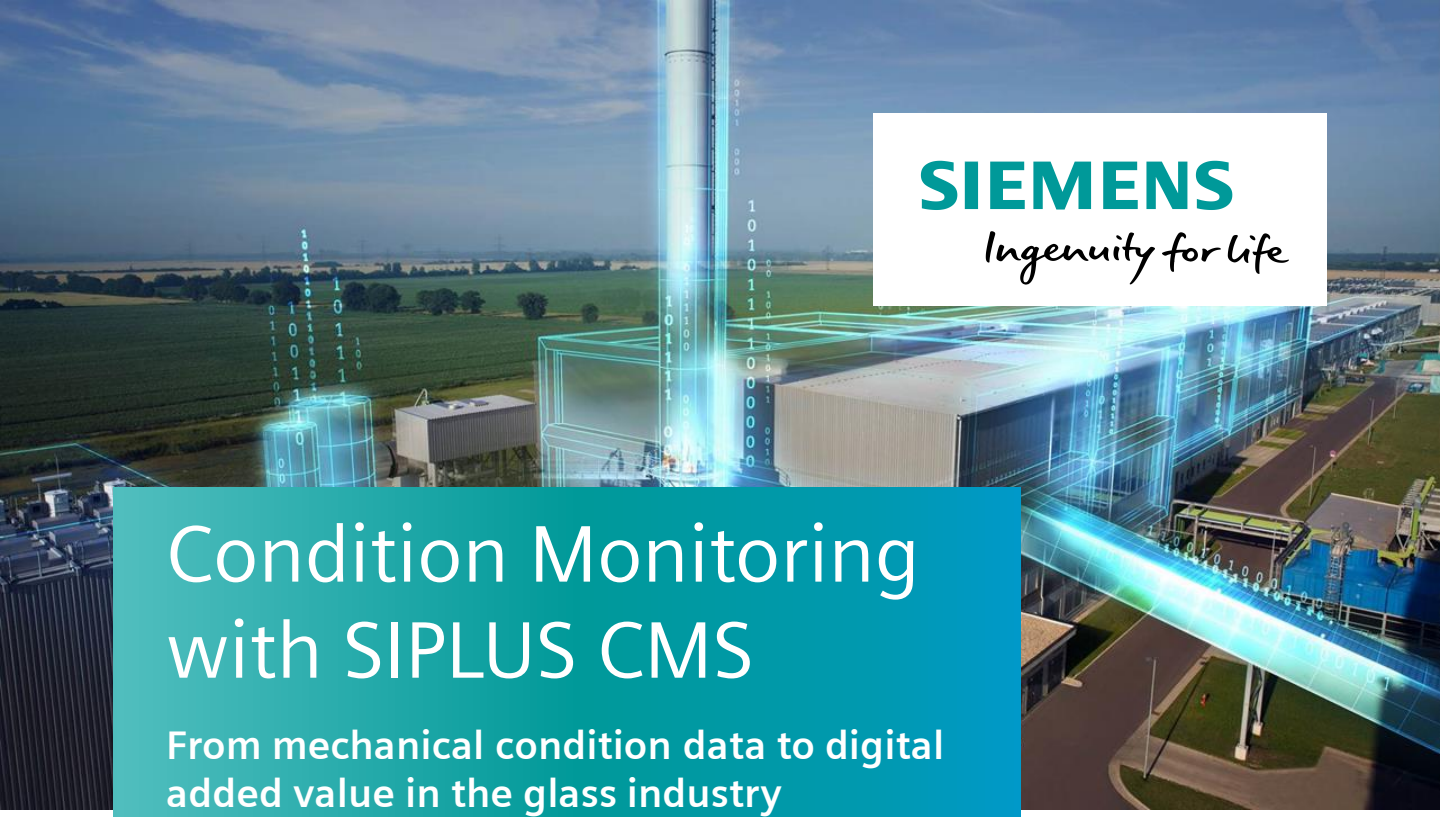

SIEMENS
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Condition Monitoring with SIPLUS CMS

From mechanical condition data to digital added value in the glass industry

The Challenge

The availability of machines and plants is a basic prerequisite for productivity in the glass industry. In order to avoid unscheduled downtimes, possible sources of error must be detected at an early stage. Mechanical wear in gearboxes or motors, especially in the bearings they contain, is often the cause of failure.

There are different strategies to prevent a failure. In the case of pre-determined maintenance, a repair is carried out at periodic intervals, irrespective of the wear condition of the components. In the case of condition-based maintenance, an inspection is first carried out and, if necessary, components are replaced or repaired. However, this leads to increased costs due to inspections, some of which are costly.

An alternative is predictive maintenance using a condition monitoring system. Mechanical condition data is recorded via sensors and the next maintenance date is determined on the basis of this data.

The solution

The Condition Monitoring System SIPLUS CMS permanently records and analyses mechanical parameters of machines, integrates them into the automation and provides decision support for maintenance personnel, operators and management. The open system architecture and the efficient interaction of all automation components through Totally Integrated Automation (TIA) enables plant-wide condition monitoring of mechanical components across all levels.

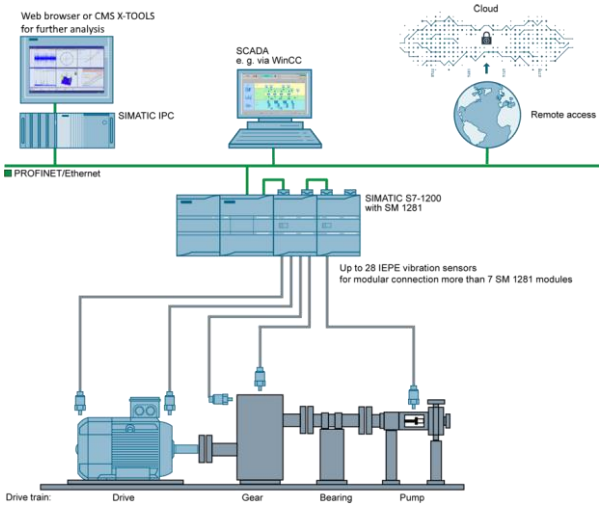
In this way, control stations always have the current states of the individual components at their disposal. In the event of anomalies, for example, it is possible to estimate how long safe operation will still be possible. Conversely, anomalies in a glass system can be directly compared with the condition of the components. From this it can be concluded whether a changed vibration behavior indicates a defective bearing.

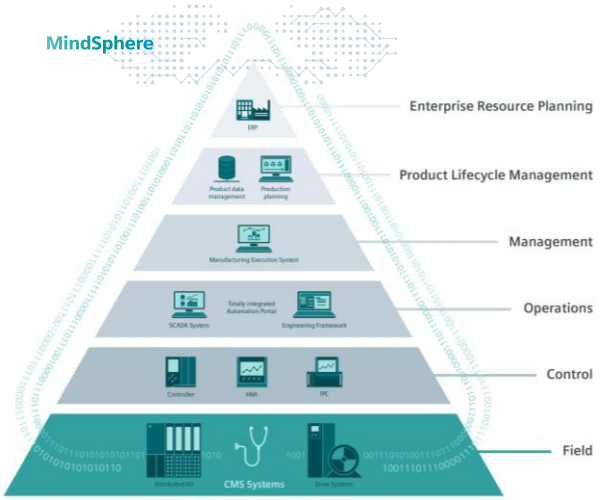
Using the integrated web browser, damage type and course can be traced by means of frequency-selective analysis. The connection to the cloud-based MindSphere solution makes it possible to monitor globally distributed systems for service purposes and to reduce their downtimes.

Advantages of SIPLUS CMS

- Early detection of mechanical damage
- Simple integration of the condition monitoring of mechanical components into the automation system
- No additional software is required for parameterization and visualization
- Proactive maintenance through detailed and early localization of damage
- Fast full diagnostics at a glance
- Expert analysis on raw data basis via the analysis software CMS X-TOOLS

SIPLUS CMS - Early detection of damage and wear and tear and targeted planning of maintenance work!





System advantages

through simple system structure, open standards and simple expandability

Reduced costs

through longer lifecycles, effective maintenance and spare parts management as well as investment protection.

Higher productivity

through higher availability, predictable maintenance and repair and simple diagnostics.

Part of digitalization

by capturing and analyzing mechanical quantities, connecting to the cloud, and decision support for service.

Different analysis options

This enables the detection of the smallest details, e.g. the detection of gear tooth wear or the monitoring of variable speed drives.

Reduced downtimes

through the worldwide analysis and monitoring of plants and the connection to MindSphere.

Available product portfolio

Portfolio	Article number
SIPLUS CMS1200 SM1281	6AT8007-1AA10-0AA0
SIPLUS CMS2000 VIB-Sensor S01	6AT8002-4AB00
SIPLUS CMS2000 cable MIL-1000	6AT8002-4AC10
CMS X-TOOLS PROFESSIONAL V05.00	9AE4160-1BA00
CMS X-TOOLS ANALYZE LIBRARY V05.00	9AE4160-2BA00

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