SIEMENS
Ingenuity for life

# Maintaining Drive Train Systems in the Digital Age

## Drive Train Analytics

**The maintenance of a medium voltage drive train system can be challenging. The equipment in the drive train is often exposed to extreme stresses subject to varying levels of wear and tear. These strains can remain invisible to the naked eye until it is too late, leading to outages and unplanned downtimes.**

**Maintenance personnel are responsible for the overall health of the drive train equipment and ensuring their company's processes are consistently on-line without interruption. In the event of equipment failure, time is of the essence and the faster the issue is resolved, the sooner processes are back up and running. Waiting to obtain and transmit equipment data, in addition to the time it can take for this information to be reviewed and assessed, can significantly increase downtime.**

### Increasing Availability with Siemens Drive Train Analytics

With Drive Train Analytics, customers can breathe easy knowing that Siemens experts are continuously monitoring and analyzing the health and operating conditions of their drive train equipment remotely from our Service & Support Center. Siemens provides valuable insights into equipment health as a service to maintenance personnel, which enables them to be notified and to act, often before the equipment breaks down. **It's like having your own drive train expert on staff - working together with maintenance personnel 24/7 and taking care of your drive train equipment with real-time intelligence.**

In the unlikely event of downtime Drive Train Analytics optimizes the time it takes to get equipment back online by transferring the right data to the right Siemens expert in the fastest time possible. This enables Siemens to immediately analyze and provide recommendations and corrective actions to resolve the issue.

**The result: overall improved uptime and reliability of the drive train system.**

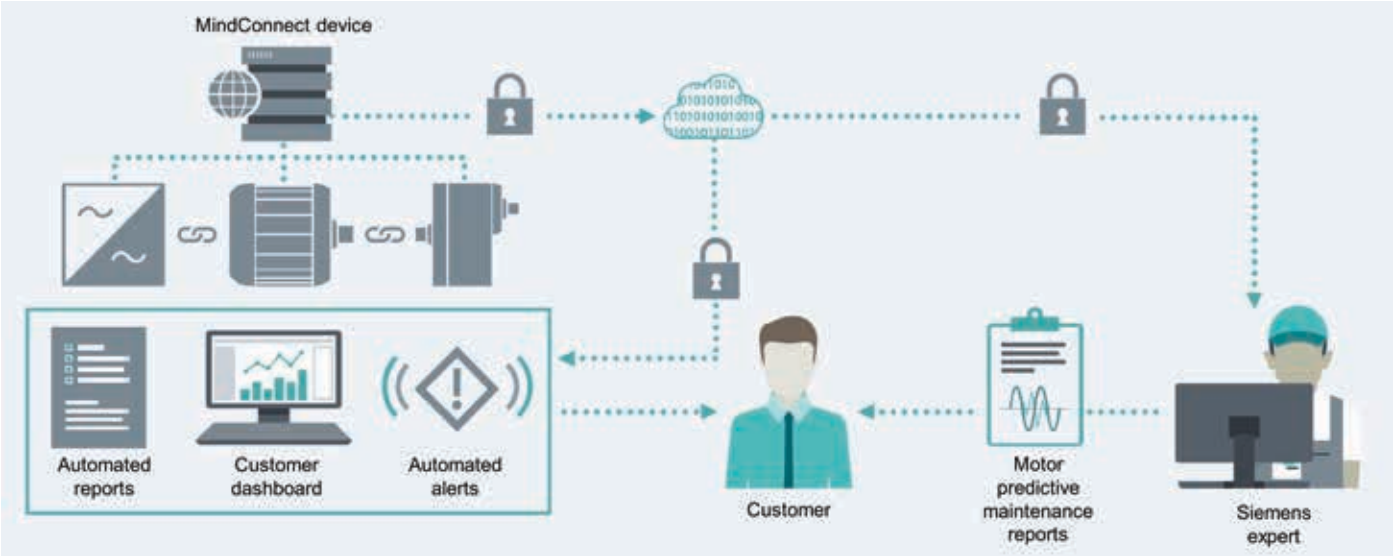
**Siemens Drive Train Analytics is available for medium voltage Siemens VFDs and any manufacturer's medium voltage motors.**

| Features | Benefit |
|---|---|
| Automated notifications and accelerated troubleshooting | • Early notification of abnormal behavior or condition<br>• Immediate transmission of relevant data to Siemens expert<br>• Accelerated analysis by Siemens expert using real time equipment data |
| Web-based Customer Dashboard | • Real time transparency into critical performance parameters and KPI's anywhere with internet access<br>• Trend data and identify patterns over time to assist in maintenance |
| Automated Health Report (Monthly) | • Summarizes the operation and health of the monitored components<br>• Provide prescriptive recommendations |
| Motor Predictive Maintenance Report | • Predictive maintenance recommendations for motors |

## Drive Train Analytics - how it works

Implementing Drive Train Analytics begins by collecting data from the sensors on the motor and the control unit in the Siemens SINAMICS VFDs. This data is then sent to a MindConnect device – a hardened Siemens SIMATIC industrial PC. This IPC creates a direct and secure, one-way connection with MindSphere, a Siemens cloud-based, open IoT operating system.

MindSphere provides state-of-the-art security during data acquisition in the field, transmission, and storage via the cloud. The security framework of MindSphere is aligned to the principles of industry standards (IEC 62443, ISO/IEC 2700) and governmental recommendations for data handling in cloud environments.




## Call us today, we can help

Siemens Drive Train Analytics includes standard and customized solutions for plants of all sizes. Contact us at (800) 333-7421 to learn how Drive Train Analytics can change the way your company manages service and maintenance. Let us show you how to evaluate and utilize your equipment data to gain breakthrough insights, driving the performance and optimization of your drive train for maximized uptime.

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