



Tapping the full potential of the production capacities

Integrated maintenance

High cost pressure and capital-intensive machines force companies to tap the full potential of their existing production capacities and have efficient maintenance and other internal service processes implemented. By integrating fault data acquisition, condition monitoring and maintenance management, machine downtime can be reduced or avoided and the productivity of the systems increased on a permanent basis. Integrated maintenance also provides a solution for quick repairs and proactive maintenance job management. **The benefits: Productivity increases while maintenance costs and unit costs decrease.**

Your requirements

- Overall Equipment Effectiveness
- Fewer unscheduled machine interruptions and downtimes
- Quick and targeted troubleshooting
- Improved preventive and condition-based maintenance
- Automatic forecasting of the impact of malfunctions on production and delivery dates

- Lower maintenance and spare parts costs

The solution components

The Siemens solution approach comprises the following components that can be integrated into the relevant production environment as a comprehensive and uniform concept:

- **Status monitoring** of systems through automatic recording of fault status information and condition monitoring including automatic ticket generation when threshold values are exceeded
- Implementation of a uniform **service process management** system for analyzing incoming reports and managing repair and maintenance jobs
- **Reporting functions** in real time as the basis for improved monitoring and planning
- Integration of **maintenance systems** for pro-active maintenance and troubleshooting

The condition monitoring system records data on the current status of machines and systems and ensures that any parameter deviations that may indicate a



critical condition are recorded at an early stage. The fault data recording system provides quick and accurate information about any machine problems. After analyzing the data, the system sends an automatic report to the central service desk or the responsible maintenance unit. Machines and systems can thus be maintained proactively before they fail.

In addition, the monitoring system analyzes the total impact of an event. For example, is the affected system on a critical production path, or can service calls for other machines and systems be combined?

The central service desk or maintenance unit records and prioritizes the trouble tickets and notifies the respective maintenance technicians. As well as defining clear service roles and responsibilities, service process management (SPM) is highly customer-focused and provides clearly defined interfaces and communication channels. A ticket system is used to record and forward trouble reports.

Standardized performance indicators and a central reporting system provide information about disturbance variables and potential improvements. They also allow potential malfunctions to be forecasted and hence enable proactive countermeasures to be taken before systems fail. In this way, the Siemens solution takes account of all levels from the top floor to the shop floor.

Our services

As one of the world's largest manufacturing companies, Siemens has many years' experience in implementing complex production and maintenance solutions. Our offering covers all service phases:

- **Consulting** in analyzing requirements and developing a customer-specific concept
- **Concept and design** to integrate new and existing application components where necessary
- **Implementation** of the solution at the production site or in a global production network
- **Transformation and change management** to achieve a high level of acceptance among the employees involved
- **Role-specific training**
- **Operation and maintenance** of connected IT systems

Your benefits

Companies benefit from this unique know-how in integrating production, services and IT. The benefits for your business include:

- Reduced maximum machine and system downtime through faster troubleshooting and shorter maintenance windows
- Faster response times and higher direct resolution rate
- Lower maintenance costs thanks to fewer on-site service calls and more effective spare parts keeping
- More efficient use of internal and external resources
- Improved availability of production resources to help reduce unit costs
- Improved delivery reliability thanks to better production system availability
- A modular solution that delivers measurable added value from day one

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