MNS *i*S Condition Monitoring
Enhanced availability
through innovative design

MNS *i*S reduces operational costs and increases asset availability

Continuous Asset Monitor

Maintenance accounts for one of the largest forms of expenditure in today's process plants.

The benefits of the MNS *i*S Condition Monitoring System are two-fold:
It can help to reduce unscheduled downtime whilst vital information for a predictive maintenance program is also provided. Thus operational costs are reduced and asset availability is increased.

Professional operation and maintenance assistance

In a reactive situation MNS *i*S Condition Monitoring minimises the time to repair by providing a root cause analysis of the condition and a suggested maintenance action to rectify it.

To assist with a predictive program the Condition Monitoring System enables the maintenance and operation teams to have continuous supervision of the switchgears' conditions, alarms and events, both real time and historic. The Condition Monitoring System analyses this data and provides focussed information on each individual asset. This allows maintenance to be scheduled only when it is required, therefore reducing the need for a preventive maintenance schedule.

MNS *i*S Asset Monitor characteristics

The MNS *i*S Condition Monitoring System utilises as its foundation Asset Monitors, these are software function blocks with maintenance and diagnostic rules inbuilt.

MNS *i*S supports the following Asset Monitors:
- M*Start* (Motor starter)
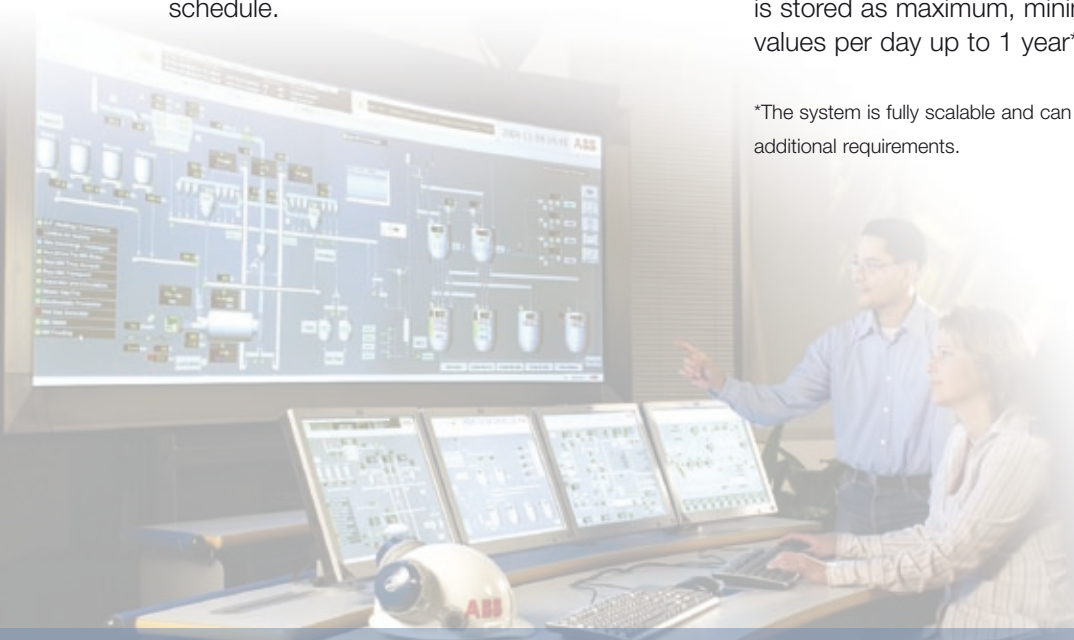- M*Feed* (Energy distribution)
- MNS *i*S Cubicle

The Asset Monitors operate using real-time production and control data. The Condition Monitoring system continuously processes this data, and in the event of an 'out of tolerance' condition the 'root cause analysis' is generated, which provides the following:
- The Severity level of the alarm
- The Condition – Where the problem is located
- The Sub-Condition – The status of the asset
- The Problem description
- The Possible cause
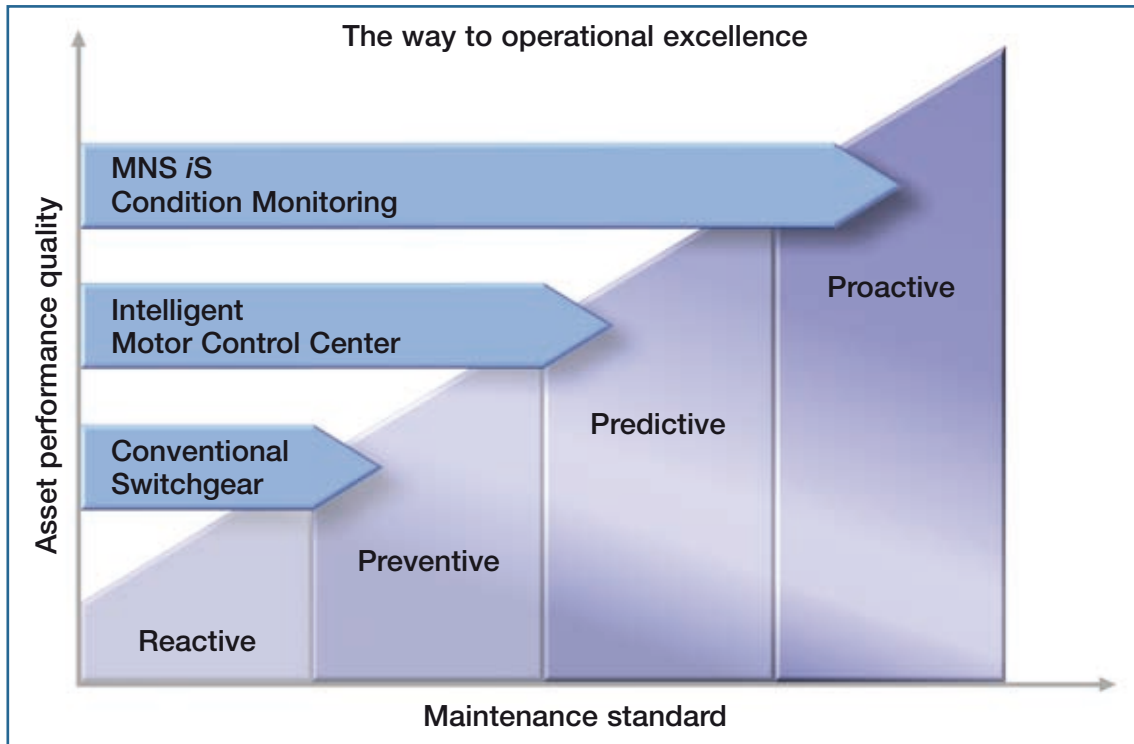- The Suggested action

Historic data

MNS *i*S Condition Monitoring provides a data logging function for each Asset where the real time data is stored at a 3 second interval for the last 7 days. Exceeding one week, the data is stored as maximum, minimum and average values per day up to 1 year*.

*The system is fully scalable and can be engineered to suit additional requirements.

MNS *i*S sets the standard for proactive maintenance

The way to operational excellence

Asset performance quality →

- MNS *i*S Condition Monitoring
- Intelligent Motor Control Center
- Conventional Switchgear

Reactive — Preventive — Predictive — Proactive

Maintenance standard →

Types of maintenance

Reactive
Typically a 'fix on failure' procedure

Preventive
Schedule based maintenance, usually incorporating plant shutdown

Predictive
Condition based, maintenance when required

Proactive
Cross functionality of maintenance and production to lessen or eliminate the route cause of possible failure

Reduce downtime and increase production

The MNS *i*S Condition Monitoring System performs tasks evaluating all events and alarms and provides the following root cause analysis.

- What is the problem?
- Where is the problem?
- What is the severity of the problem?
- What caused the problem?
- Who should initiate the rectification?
- What actions are required for the rectification of the problem?

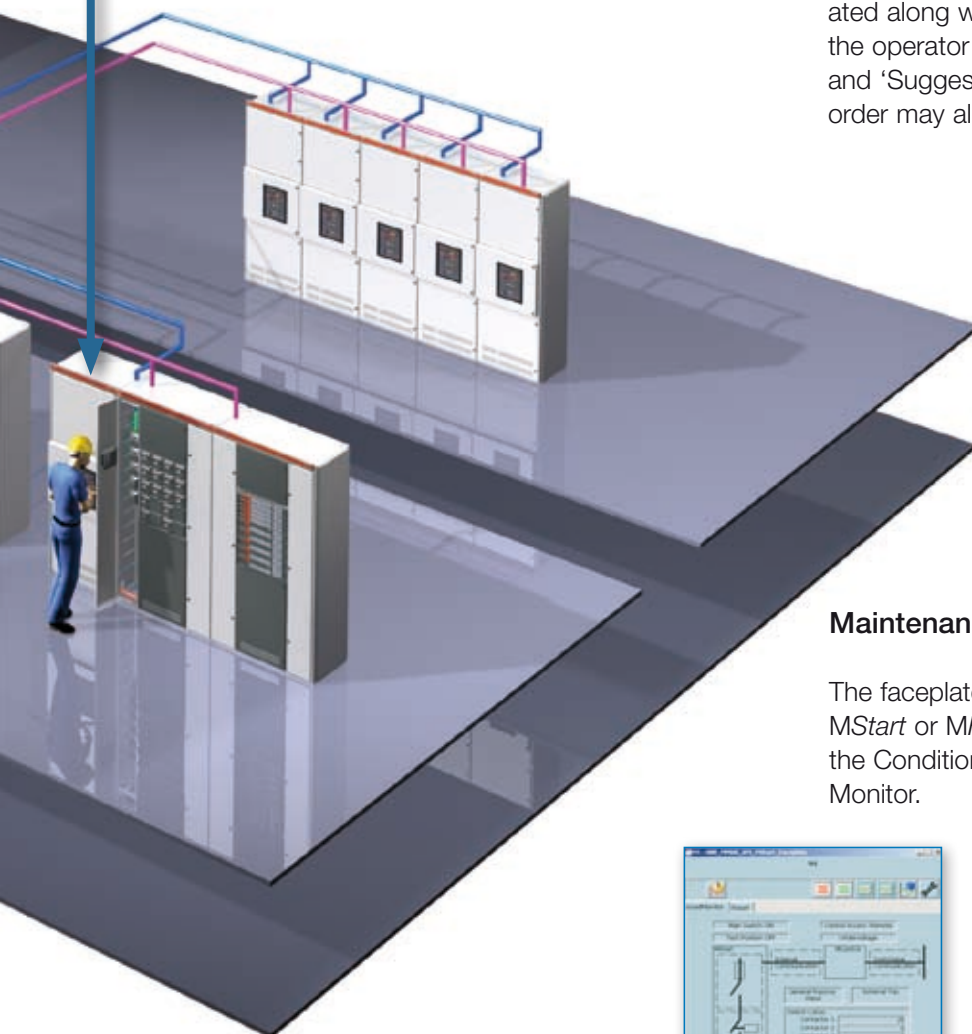# Integration of MNS *i*S Condition Monitoring into the plant-wide operation process

Maintenance issue detected:
Asset Monitor characteristics give Possible cause and Suggested action.

Analysis of a problem:
Asset Monitor characteristics give Possible cause and Suggested action.
Changes of MNS *i*S parameters via M*Navigate* may be required.
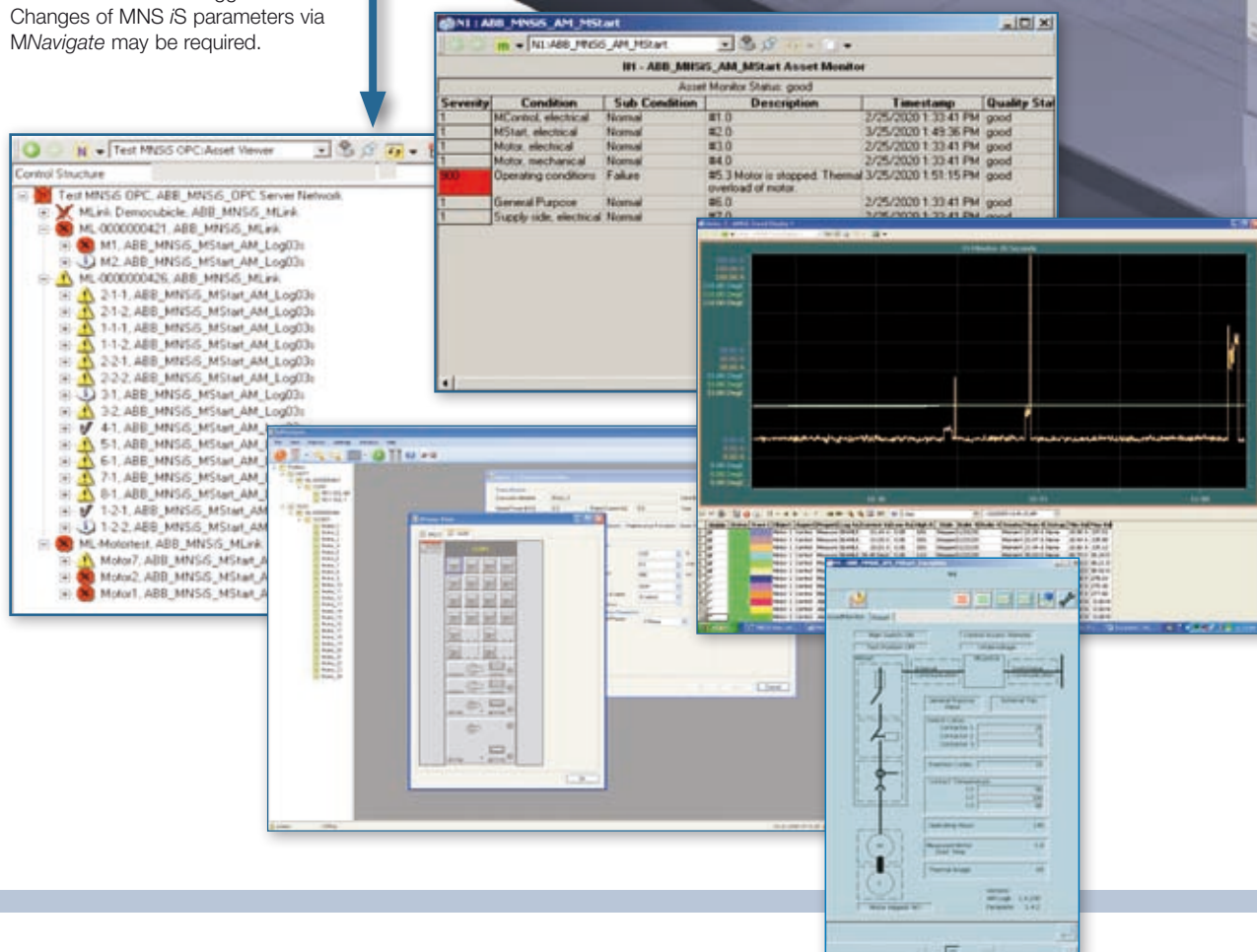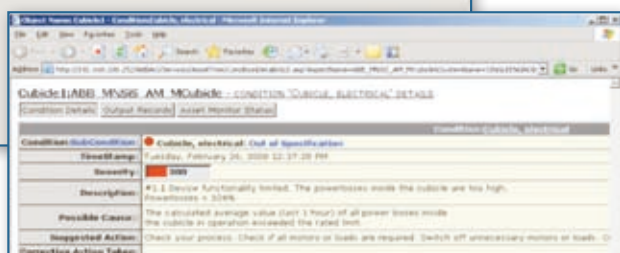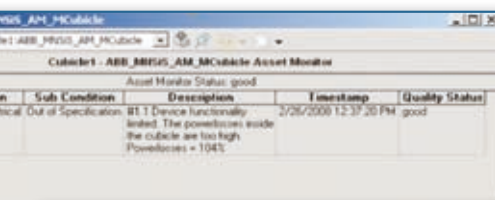
Switchgear condition details in Asset Monitor

The system provides a comprehensive overview for maintenance and operations, with navigation through a Windows™ environment and graphic representation of the connected assets.

For example, shown left is a cubicle Asset Monitor that has detected that the admissible power loss for that individual cubicle has been exceeded. A 'Condition' has now been generated along with a timestamp. From this event the operator can asses the 'Possible cause' and 'Suggested action'. A corresponding work order may also be issued.

Resulting
Work order

Maintenance faceplate

The faceplate gives an active overview for each M*Start* or M*Feed* (Asset) detailing the status of the Conditions used within the associated Asset Monitor.
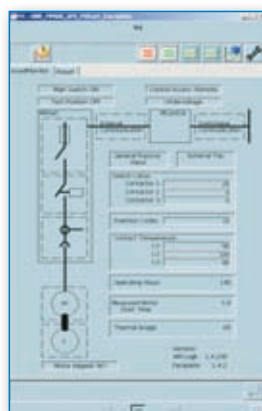
The faceplate allows easy access to the following information possible via the toolbar icons

- Alarm list
- Event list
- Trend displays for operational data and diagnostic data
- Data logging configuration
- Reset of maintenance alarms

Contact

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