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MEASUREMENT & ANALYTICS

# ABB Ability™ Condition Monitoring for measurement devices

Cut compliance costs and keep  
continuous gas analyzers under control





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**Environmental stewardship is important for industry, and the internet of things (IoT) opens the door to a world of possibilities to improve environmental compliance. Each day, more and more devices are connected to the internet. Plant assets are among them. Operators can now monitor the gas analyzers that ensure we have clean air from an enterprise level. And no one does enterprise-level monitoring better than ABB.**

# Increasing regulations require you to be consistently compliant

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01 Overview of  
typical regulations  
requirements from  
Industrial Emission  
Directive 2010/75/EC

Across the world, environmental regulations on emissions are increasing. The regulations often require control and continuous measurement of pollutant gases, dust and other toxic materials. To ensure continuous operations, it is necessary to secure the availability of data required by environmental regulatory agencies. Otherwise, fines and penalties up to and including plant shutdown could occur.

Maintenance is traditionally performed either preventively or reactively. Under reactive maintenance, unplanned outages reduce plant performance and data availability, and increase costs before maintenance is performed. With preventive maintenance, assets are maintained regularly regardless of device status, and, as a result, sometimes unnecessarily. Additionally, on-site expertise, if available at all, is strained and not available 24/7. Margins are already tight and preventive maintenance costs time and money.

So the question is: how can one stay compliant while overcoming increasing costs?



## The latest regulations require 24/7 monitoring of:

- Pollutant gases:  
NO<sub>x</sub>, CO, CO<sub>2</sub>, SO<sub>x</sub>, HCl, HF
- Dust
- Mercury
- Dioxins

## In the most restrictive countries, operations may have only:

- Maximum 10 invalid minutes per half hour
- Maximum 5-6 invalid half hour averages per day
- Maximum 10 invalid days per year

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01



Increased emissions  
regulations



Increased  
compliance costs

# The answer is ABB Ability™ Condition Monitoring for measurement devices

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02 ABB Ability™  
Condition Monitoring  
for measurement  
devices is designed to  
meet all service needs  
to stay compliant.

ABB Ability™ Condition Monitoring for measurement devices can reduce and often eliminate costly machine failures that lead to increased service needs. As a remote service, the condition of your devices is always being monitored, and status updates are generated periodically. This produces continuous recommendations that will help increase plant uptime and reduce costs.

Our solution provides you with a system that streamlines your maintenance approach, performs time-saving analysis of data, identifies significant or undesirable changes in device condition and produces the necessary information for on-site personnel to leverage their own expertise.



Remote support



Condition monitoring



Asset health



## — 02 ABB Ability™ Condition Monitoring for measurement devices

ABB Ability™ Condition Monitoring for measurement devices provides emissions equipment condition data to ABB service experts, enabling condition-based monitoring using real-time data. It increases availability and reliability of equipment and prevents unplanned outages and downtime.

This move from a reactive and preventive maintenance approach to a predictive approach reduces potential risks and fines, as well as operating and maintenance costs due to less emergency maintenance and fewer unplanned outages.

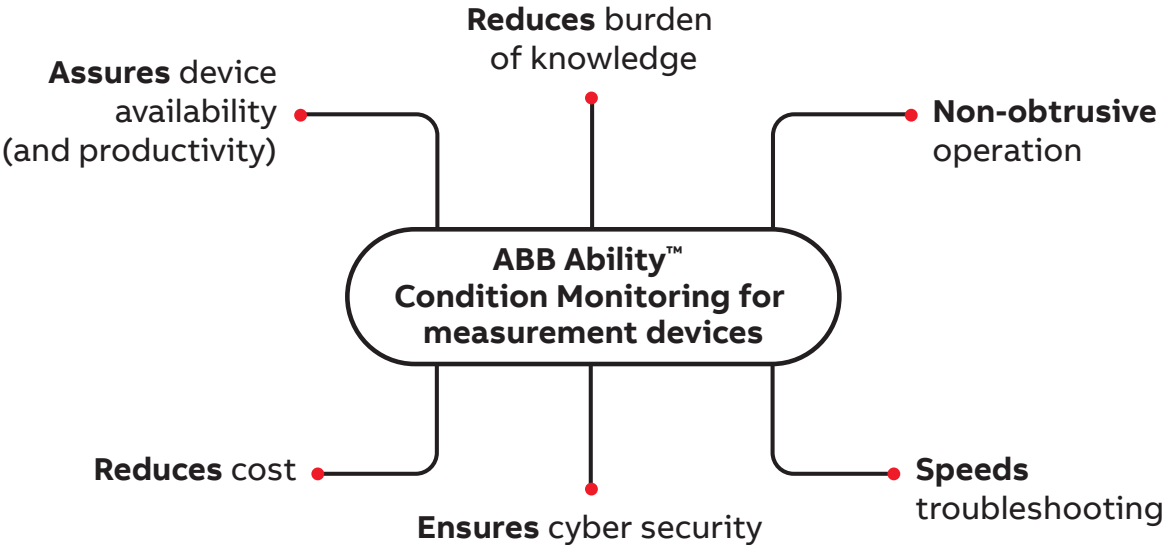


### Typical remote monitoring setup.

A continuous gas analyzer<sup>1</sup> is connected to a cyber-secure microPC<sup>2</sup> that protects the connected assets from cyber attacks. This microPC acts as the bridge to the remote monitoring systems<sup>3</sup> that can be monitored by users.



# How ABB Ability™ Condition Monitoring for measurement devices keeps you compliant for less



| Features   | Benefits   |
|--|--|
| Non-obtrusive continuous remote condition monitoring featuring remote assistance with agreed response time                 | <b>Assures</b> emissions measurement compliance and ensures continuous production  |
| Scheduled remote access to ABB local service personnel, factory support with agreed frequency and dedicated support number | <b>Reduces</b> burden of knowledge (expertise) on your personnel   |
| Schedules remote product health checks and generates reliable early warnings that recommend maintenance actions            | <b>Speeds</b> troubleshooting and avoids interruptions to daily operations — diagnostic data and history are immediately available to remote ABB experts |
| Monitors for critical aspects of equipment condition   | <b>Reduces</b> costs and risks to production   |
| All connections and communications are end-to-end encrypted (Connected and On-premise variant available)                   | <b>Ensures</b> cyber security — fully compliant with ABB's stringent cyber security guidelines and requirements  |



# Results from the field

Customers are seeing results from remote condition monitoring of their analyzers by ABB experts.



## Case study 1: electric utility

A leading utility company in Italy needed a reliable service provider capable of delivering 24/7 support.

They also wanted to lower compliance and labor costs without impacting service quality in support of multiple sites.

### Benefits

A comprehensive service agreement that:

- Eliminates redundant administrative costs
- Improves the overall maintenance approach
- Reduces emergency repairs
- Increases the availability and accuracy of measurement data used to show compliance with environmental regulations



## Case study 2: waste incinerator

A waste incinerator company had to replace the continuous emissions monitoring system (CEMS) on three different product lines and needed a single supplier to manage and maintain them.

### Benefits

Implementing ABB Ability™ Condition Monitoring for measurement devices under one comprehensive ABB Measurement Care agreement:

- Simplifies administration
- Provides a unique and reliable supplier for products and services
- Includes 24/7 Rapid Response support and monthly product health checks
- Improves analyzer performance
- Meets all local regulations



## Case study 3: chemical producer

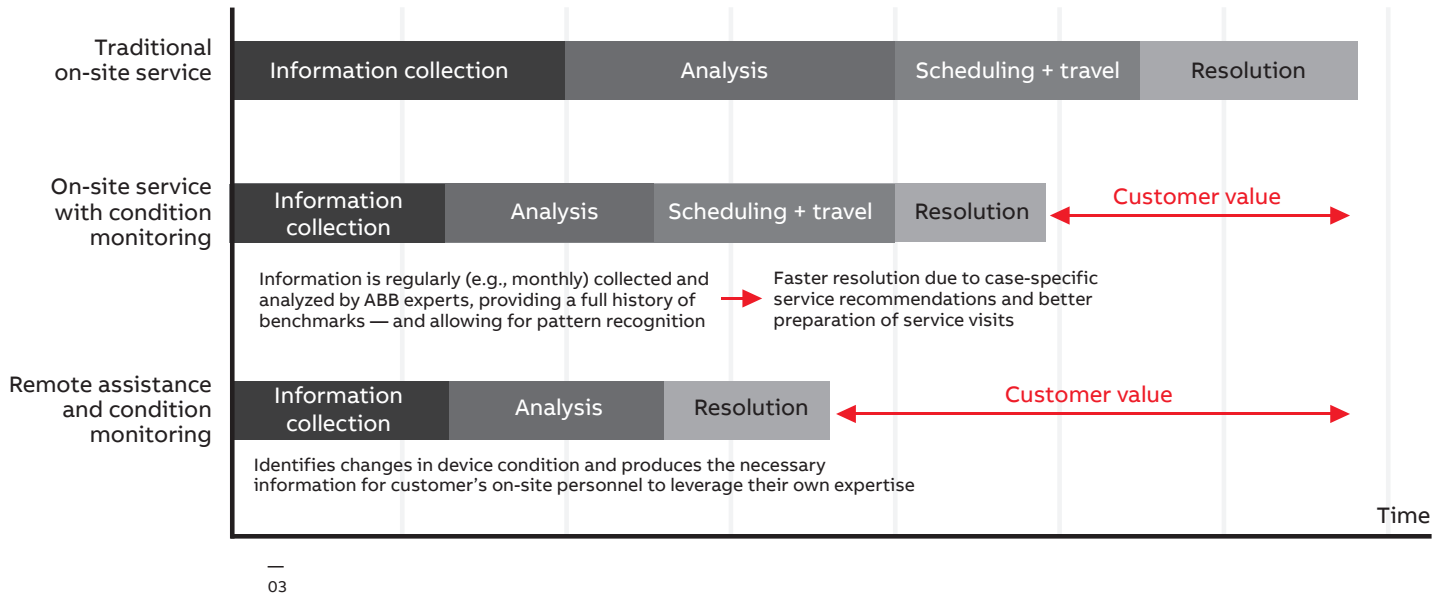
A chemical and renewable energy producer was using a local supplier to maintain some of its equipment. They were interested in an alternative solution that could improve analyzer performance while meeting their current budgetary needs.

### Benefits

ABB Ability™ Condition Monitoring for measurement devices:

- Includes monthly health checks that ensure device availability and functionality
- Reduces service calls to two guaranteed site visits during the 3-year contract
- Keeps the service agreement within the customer's current budget

# Spend a little now to save a lot later



03

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03 Typical length of service event resolution for various condition monitoring options.

The return on investment of ABB Ability™ Condition Monitoring for measurement devices is realized when the predictive approach of the solution eliminates the need for costly reactive maintenance. By routinely monitoring your assets and identifying needed adjustments and upgrades in advance, costly downtime associated with reactive maintenance is avoided, as are fines resulting from failing to meet the emissions monitoring demands of your local regulatory bodies.

Ask your ABB Service Representative if you would like to perform a quantitative analysis of the return on investment for your site.