

# Shift from reactive to predictive maintenance

Capgemini's Predictive Asset Maintenance with Microsoft



Before the advent of digital, manufacturers had no choice but to take a reactive approach to asset maintenance, making it difficult to stay ahead of problems like unexpected equipment downtime or performance inefficiencies. Fortunately, that's all changed with the rise of technologies like IoT that provide manufacturers the opportunity to drive significant gains in productivity, efficiency, and profit.

## Predictive Asset Maintenance with Capgemini and Microsoft

Capgemini's Predictive Asset Maintenance solution enables organizations to monitor equipment health to predict issues and failures before they happen. The solution leverages next-generation data collection, analytics, and communication with Microsoft machine-learning services to monitor equipment parameters such as temperature, pressure, flow rate, and vibration. This real-time monitoring helps calculate equipment health and detect anomalies and failure patterns of assets and processes.

### The solution covers:



**Data collection:** A digital twin is established to collate data from industrial systems and databases and enable cleansing and dimension reduction.



**Data analytics:** A robust predictive analytics framework based on statistical algorithms and machine learning analyzes trends and correlates data.

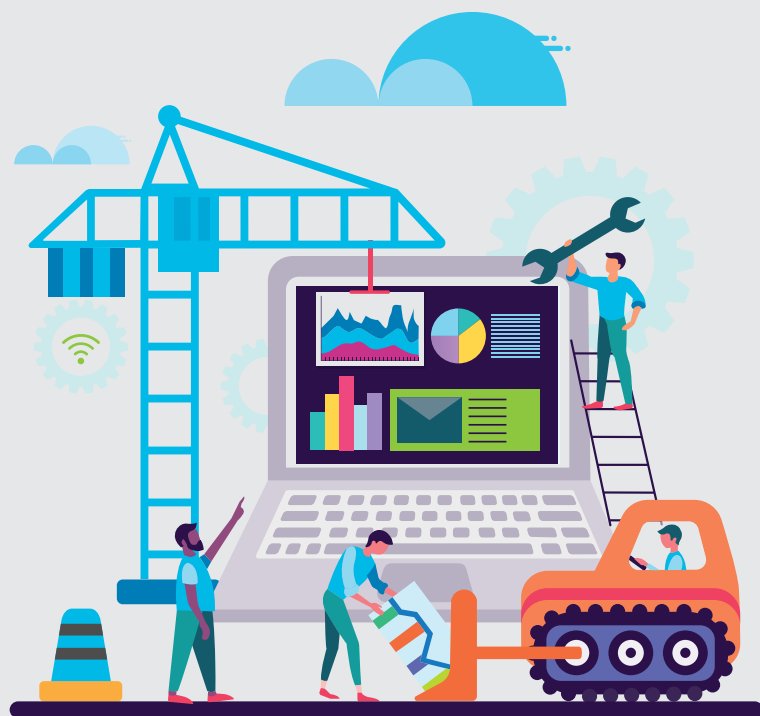


**Data communication:** Analysis feeds into dashboards and charts. When a failure is predicted, a maintenance work order is raised and sends an alert notification for preventive action.

By moving from reactive to predictive maintenance, organizations can maximize equipment uptime, enhance quality and supply-chain processes, and improve customer satisfaction.

## Success at a leading energy company

Capgemini worked with an energy company that recognized the potential of IIoT and wanted to initiate a pilot for compressors and flow meters in its mid-stream pipeline business. The objective was to access, store, and democratize operational technology data from various field assets to enable new business capabilities like predictive maintenance, optimization, productivity reporting, and complex environmental reporting. With this solution leveraging Microsoft Azure IoT capabilities, the company could easily run analytical models and take rapid action as needed, which is very different – and much more cost-effective – than interpreting the data in a data center and trying to remotely take action on those insights.



## About Capgemini

Capgemini is a global leader in consulting, digital transformation, technology and engineering services. The Group is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year+ heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. Today, it is a multicultural company of 270,000 team members in almost 50 countries. With Altran, the Group reported 2019 combined revenues of €17 billion.

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## Your digital transformation partners

Capgemini and Microsoft have supported manufacturers all over the world in their shift to digital. We bring deep experience, rich expertise in cloud, artificial intelligence, and machine learning, and accelerators to help you realize value, faster.

## Why Capgemini and Microsoft

As a Microsoft Managed Gold Certified Partner with more than 25,000 skilled Microsoft professionals across 35 countries, Capgemini brings significant expertise to any project. Capgemini is one of the few partners to achieve gold competencies in Cloud Productivity, Customer Relationship Management, and Data Center.

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- 1,450 certifications supporting application migration and modernization
- 770+ Azure-certified architects
- 2019 Microsoft SAP Azure Partner of the Year

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