



ABB Digital for Energy Industries

Enabling operational excellence through
innovative digital solutions

The value of implementing Industry 4.0

Pressured by shrinking margins, tightening compliance regulations, and the allure of richer data sources, industrial operators are increasingly embracing the next phase in the digitalization of industrial operations.

Autonomous



Industry 4.0 is focused on enabling smarter energy operations. That is, manufacturing that harnesses technology to drive tangible improvements in processes, production, sustainability—and profit potential. Industrial firms are aiming to achieve a number of vital objectives with Industry 4.0:



Reduce the cost of inventory holding by **15-20%**



Increase throughput by **10-30%**



Increase labor productivity by **15-30%**



Improve forecasting accuracy by **85%**



Reduce machine downtime by **30-50%**



Improve cost-of-quality by **10-20%**

Source: McKinsey & Company, Capturing the true value of Industry 4.0.

These ambitious goals underscore the need for industrial firms to deploy effective digital solutions. By leveraging advanced software technologies, industrial businesses optimize their processes, enhance security measures, and minimize downtime, ultimately driving operational excellence and achieving their goals.

ABB Digital

A suite of software applications and solutions that help industrial firms achieve new levels of operational excellence

ABB's digital portfolio for energy industries serves as an extension to your foundational control system, bringing additional value to existing investments with natively integrated solutions.

Leveraging the latest advances in machine learning, simulation, advanced process control, and 100+ years of domain expertise, ABB Digital is helping some of the largest industrial companies in the

world transition from automation to autonomy with solutions that monitor, learn, and respond to changing conditions without manual intervention.

Our global team of experts brings deep domain knowledge and operational experience to contextualized data as a second set of eyes, providing remote monitoring and assistance for optimal performance.

Five digital solutions for energy industries

Asset Performance Management

Improve industrial asset performance, reliability, risk management, and overall business profitability

Sustainability

Reduce carbon emissions and preserve resources with ABB solutions

Process Performance Management

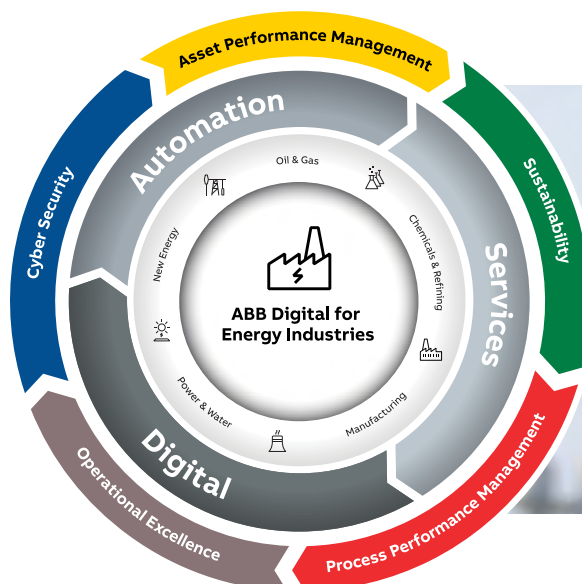
Improve production and operational processes to minimize production losses and redundancies

Operational Excellence

Boost performance and responsiveness by streamlining operations and leveraging technology for continuous improvement

Cyber Security

Increase uptime while protecting assets, platforms, and personnel



[Learn more](#)





Asset Performance Management

Digital solutions to improve industrial asset performance, reliability, risk management and overall business profitability

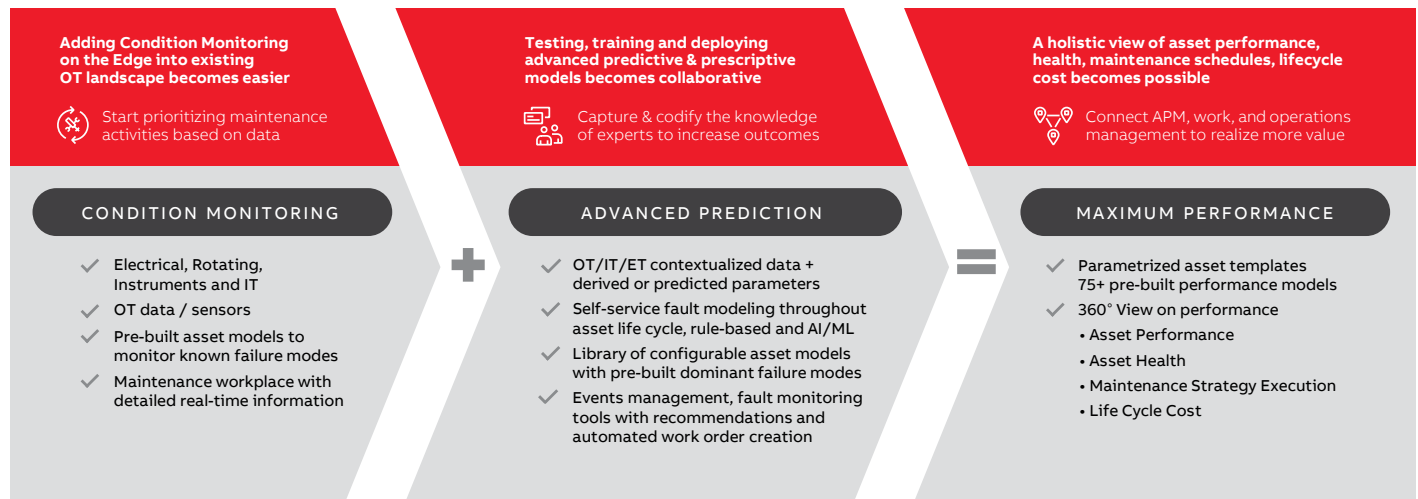
ABB Ability™ APM is the next generation of maintenance, reliability and performance enhanced with machine learning and artificial intelligence. It takes asset performance to the next level with AI, predictive and prescriptive analytics and optimization models to deliver role-specific actionable insights to enable quick strategic and tactical decision making.

ABB Ability™ APM works by collecting, integrating and contextualizing data from multiple sources, and producing data analytics that support better business decisions. It delivers 360-degree actionable insights and expertise powered by predictive and prescriptive analytics to achieve maximum uptime, safety and performance in a cost-effective manner.

ABB Ability™ APM

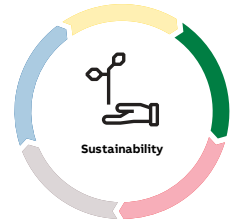
Next generation AI-Based Asset Performance Management

Vendor-agnostic | Enterprise-grade | Flexible deployment



Learn more





Sustainability

Digital solutions for reducing your carbon footprint, lowering energy costs and harnessing the power of renewable energy

Industrial firms are facing increasing pressures to reduce energy costs and cut emissions—and prove to regulators that they are doing so. The energy transition is also driving change in how energy is generated, transported and consumed, requiring new assets that need coordinated control.

Companies need innovative products, solutions, and services that help them reduce energy consumption, improve process efficiency and increase the use of renewable energy sources.

ABB offers a suite of industry-specific digital solutions that help companies optimize, electrify and decarbonize, enabling their transition to an energy efficient future.

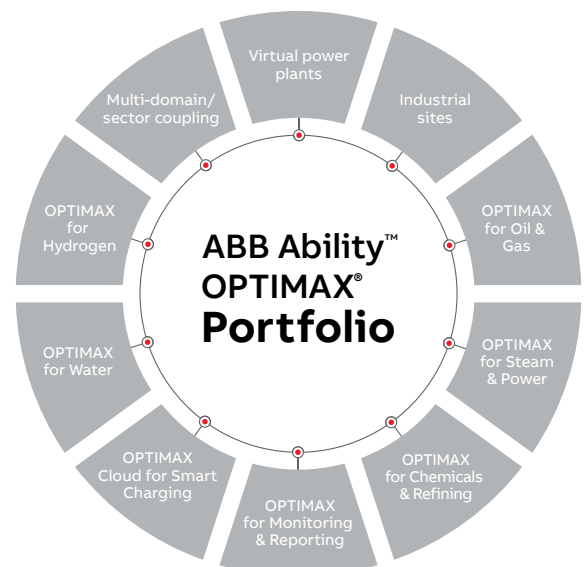
Our complete portfolio of digital sustainability solutions enable customers to monitor, analyze, and control, and optimize energy usage in real-time. This enables customers to identify and prioritize inefficiencies in processes, reduce energy waste, and achieve sustainability objectives.



Elevating operational and sustainability performance

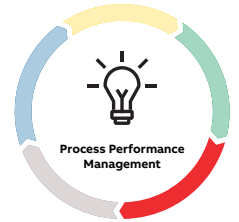
ABB enables customers in the industry, utility and energy spaces to preserve resources, optimize operational efficiency, achieve sustainability goals and increase their profitability.

Spanning from CAPEX to OPEX, our applications and vertical solutions ensure safer, smarter and more sustainable energy and process management.



Learn more





Process Performance Management

Closes the gap between design and operational performance to improve your overall yield and quality, reduce costs, and increase process safety

Leveraging our deep process expertise and process control domain knowledge, ABB Ability™ Process Performance Management (PPM) solutions enable customers to gain comprehensive process insights that uncover opportunities for improvement and support effective management.



ABB Ability™ PPM

Maximizing profitability while improving safety in a reliable and efficient manner

Vendor-agnostic | Multi Asset Type | Enterprise-grade | Flexible deployment

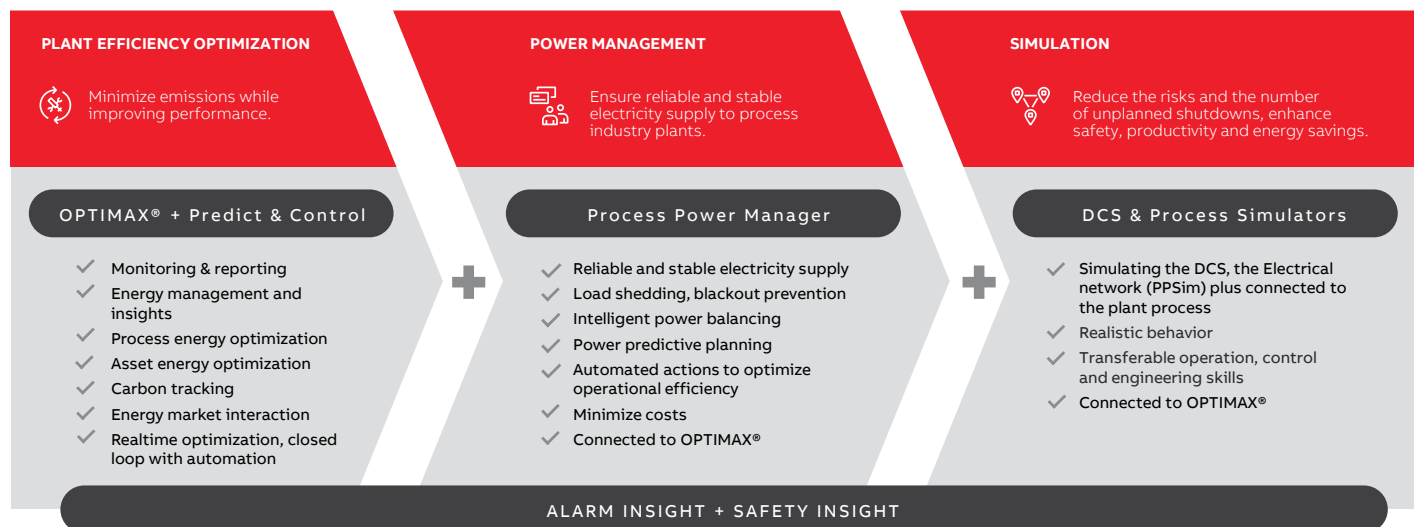


ABB support throughout the entire plant lifecycle



Concept/FEED



Engineering



Testing & commissioning



Operation



Digital twin & simulation

Learn more





Operational Excellence

Boost performance and responsiveness by streamlining operations and leveraging technology for continuous improvement

Operational excellence is the relentless pursuit of efficiency, effectiveness, and continuous improvement in all aspects of operations. It involves achieving the highest standards of performance while minimizing waste, cost, and risk. ABB's integrated operations approach facilitates seamless collaboration by aligning people, processes and technology, driving efficiency, innovation, and value creation throughout the industrial operation.

ABB's offering consists of a comprehensive Manufacturing Operations Management (MOM) and advanced analytics suite, targeting industry-specific needs to enhance operational excellence by enabling more efficient and effective processes, decision-making, and resource allocation.

Effective decisions - Data-driven decision-making with timely, role-based insights to identify trends and anticipate challenges.

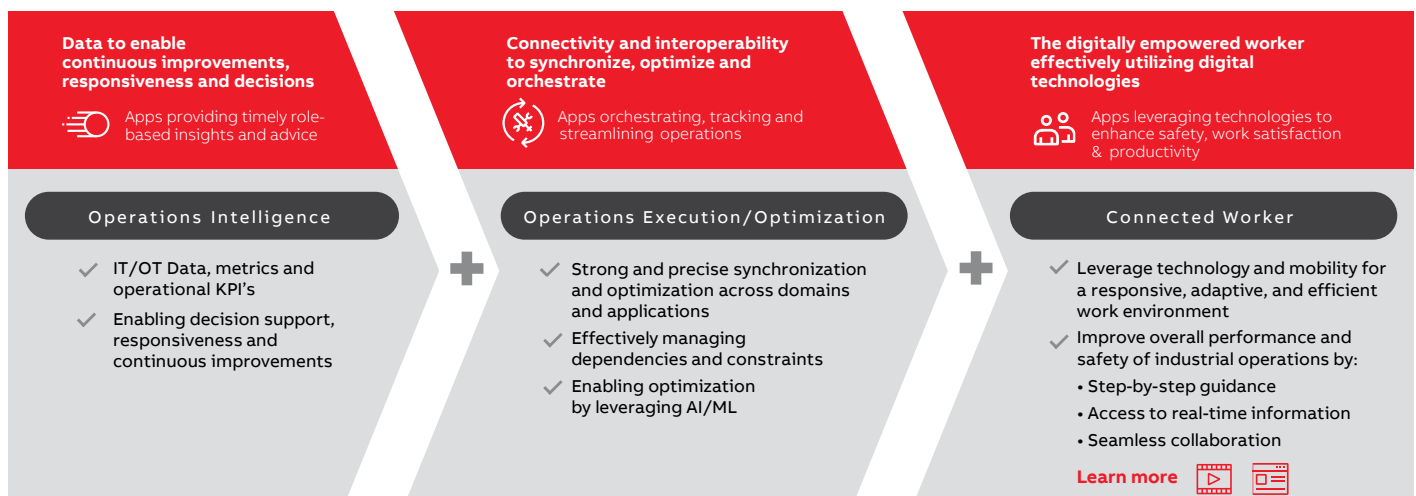
Flawless execution - Orchestrating, guiding, and monitoring operations execution, while effectively allocating resources and managing risks.

Continuous improvement - Evaluating performance, identifying areas for improvement, and implementing changes to enhance efficiency, quality, and customer satisfaction.

ABB Ability™ Manufacturing Operational Management Suite

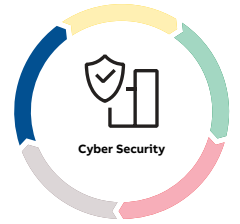
Targeting the next level of operational effectiveness

Vendor-agnostic | Modular | Web Enabled



Learn more





Cyber Security

For successful digitalization, you need end-to-end industrial cyber security

In the era of Industry 4.0 and IIoT, manufacturers are driven to gather more data and interconnect more devices through digitalization. This expansion opens up new opportunities. With increased intelligence and hyperconnectivity of systems and devices in the OT environment, the potential for innovation expands, presenting novel avenues for growth and efficiency.

Maintaining cyber resilience becomes essential to maximize the benefits of digitalization, especially in multivendor setups. ABB's cyber security solutions play a pivotal role in this pursuit by identifying and mitigating risks across diverse systems and vendors.

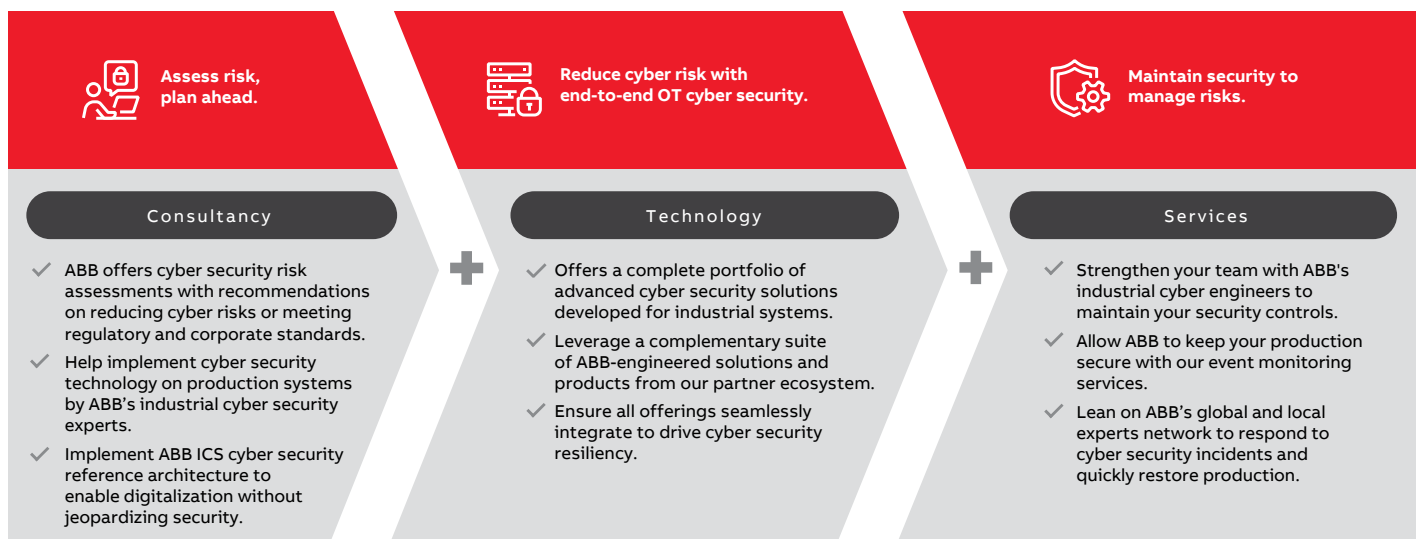
By leveraging ABB's cyber security expertise, industrial operators can implement robust measures to fortify their infrastructure against cyber threats and ensure seamless production operations.

Furthermore, ABB's cyber security solutions empower organizations to meet compliance standards and regulatory requirements. Ultimately, by prioritizing cyber resilience with ABB's support, businesses can bolster their bottom line and sustain continuous operations amidst the evolving landscape of digital environments.

ABB Ability™ Cyber Security

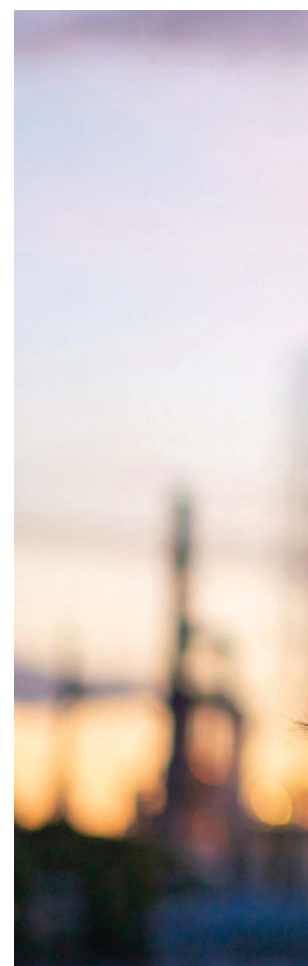
Manage cyber risks and protect your assets

Secure digitalization with defensible architecture, security controls, and monitoring.



Learn more





For more information, please contact:
ABB Inc.
Operating in more than 100 countries.
abb.com