ABB nuclear solutions
A complete and collaborative suite of solutions for operational excellence in nuclear generation
ABB is committed to excellence in safety, rigor, and efficiency for the nuclear industry with innovation that leverages 30+ years providing solutions to the world’s best nuclear operators.
A trusted long-term partner

ABB sets the standard in nuclear operations with the most experience supporting the nuclear industry. In fact, more than half of all nuclear power plants utilize ABB’s innovative and functionally-rich operational solutions.

Our long and successful history means ABB offers solutions with the lowest risk and highest success for addressing the requirements of the Standard Nuclear Performance Model, as well as other internationally-recognized nuclear performance models. With numerous customer implementations, pioneering breakthroughs in technology, and numerous industry accolades and recognition, ABB’s solutions support:

- 9 of the top 10 US fleets
- More than 50% of the world’s nuclear fleets
- 233 nuclear reactors worldwide
- 30+ nuclear fleet operators across 13 countries and 4 continents
- 200,000+ MWe of nuclear capacity
- 3,300+ reactor years of operation
- 190,000+ licensed users across nuclear, fossil and hydroelectric generation facilities

A professional community

The ABB Nuclear Leadership Council (NLC) is one of the most active user forums in the nuclear community, representing over 250 nuclear reactors worldwide. The NLC’s regular meetings provide a forum to share continuous process improvement and suggestions for product enhancements to realize a Standard Nuclear Performance Model workflow.

Our utility customers actively engage with ABB in the discussion and prioritization of development plans through various channels including participation in product advisory and community groups. Today, ABB utility customers are achieving best-in-class, record-breaking performance in operations, cost and regulatory performance.

A sustainable investment for nuclear performance

ABB is committed to the industry-wide program, “Delivering the Nuclear Promise.” The initiative is a multifaceted effort to analyze the cost drivers common to all nuclear plants and redesign programs and processes to improve efficiency and effectiveness. With support from the Nuclear Energy Institute, Institute of Nuclear Power Operations (INPO) and the Electric Power Research Institute (EPRI), the initiative has set a goal to reduce nuclear production costs by 30%.

ABB actively supports the initiative with an investment in future technical innovation that will:

- Improve operational performance, while decreasing operating expenses
- Redesign common processes and procedures to increase efficiency, while ensuring safe and reliable operation
Customer need is our innovation fuel

ABB solutions incorporate the latest in technology to provide continuous improvement for existing and new customers. Over the years, ABB has helped our customers stay competitive and efficient, by driving improvements like reducing total cost of ownership (TCO), and improving scalability, flexibility and productivity.

Today ABB is continuing its solution investments by:

- Creating new mobility platforms and apps to improve business flexibility and productivity
- Offering additional cloud solutions leveraging Microsoft® Azure®, reducing overhead and maintenance expense
- Improving UX and solution flexibility
- Expanding analytics capabilities
- Developing a new generation of simulation tools
- Strengthening integration between ERP, EAM and SCADA
- Connecting the field to real time information
- Refining solutions for decommission & new build

Creating solutions for tomorrow

ABB enables the management of your physical assets across the entire asset lifecycle, creating a robust and comprehensive business and technology solution, from strategy through execution. ABB calls it ‘ABB Ability™ Connected Asset Lifecycle Management™’.

By connecting EAM system equipment data with a workforce management system and asset performance management system, we identify the right work on the right assets at the right time – driving down maintenance costs, reducing unplanned equipment failures and system outages, and driving up performance, availability, reliability, wrench time – all of which helps you to deliver on your promise.
Our team of industry specialists work hand in hand with our customers, from initial implementation through ongoing support, ensuring maximum return on investment.
Operational excellence

ABB nuclear solutions were developed to support the utility industry, driven from utility requirements, and implemented with utility-experienced personnel. Because of this, the unique work & asset management and operational requirements of nuclear companies are embedded throughout.

We offer a broad range of solutions to address our customers’ most critical needs, including:

- Asset and work management
- Mobile workforce management
- Asset performance management
- Electronic work packages
- Customer care
- Energy trading and risk management
- Energy operations
- Energy analytics
- Outage, generation & distribution management

Safety

Above all else, ABB solutions enable nuclear operators to manage and maintain a safe environment for workers, the general public and the plant. Combined, our solutions support your goals for regulatory compliance and instill a culture of high standards in nuclear and radiological safety. Because ensuring the safety of your employees and community and maintaining compliance with regulators are top of mind in asset intensive organizations.

Work and asset management

- Asset maintenance
- Work scheduling
- Preventive maintenance
- Predictive maintenance
- Emergency work
- Historical analysis

Supply chain management

- Inventory management
- Stocked material
- Non-stocked material
- Consignment material
- Direct charge
- Tool control
- Material receipt
- Material replenishment
- Purchasing
- Accounts payable
- Contract management
- Invoice payments

Operations management

- Configuration control
- Operator rounds
- Narrative logs
- Limiting conditions for operation
- Tagout procedures
- Personnel scheduling
- Field mobile support
- Equipment configuration

Compliance

- Safety data sheets
- Personnel qualifications
- Extended control for safety and regulatory materials
- Asset engineering change control
- Radiological exposure control
- Asset isolation
ABB solutions for the nuclear industry

ABB welcomes the opportunity to provide a truly integrated enterprise workforce, asset management, and operations management solution that will allow you to unify your culture and effectively manage your assets, work and resources in a single, paperless and real-time environment. ABB’s Asset Suite and eSOMS are being offered as an integrated solution that reduces risk and cost, increases productivity, and provides measurable business value and return on investment.

**ABB Asset Suite**

Asset Suite uniquely addresses the needs of nuclear operations for cost reduction and improved operational efficiency and business agility. It is the most complete state-of-the-art, mobile-enabled enterprise asset management (EAM) solution available, providing significant savings in cost and time through new functionality, improved business processes, simplified architecture, and reduced maintenance. Asset Suite delivers true return on assets by enabling enterprises to plan, measure, monitor, and improve asset performance throughout the entire asset lifecycle.

**ABB eWorkPackages**

eWorkPackages (eWPs) are the solution to address efficiency in the nuclear power critical work management processes. eWPs by DataGlance are the first step in the evolution of a fully-integrated mobile work management system. eWPs can be assembled automatically or manually from multiple existing plant data systems. The eWP solution integrates with existing enterprise asset management and other operations systems to manage work packages and data throughout the eWP lifecycle.

**ABB eSOMS**

Nuclear operators can rely on eSOMS (electronics Shift Operations Management System), a mission-critical software that ensures safe, efficient, and reliable operation and maintenance of nuclear facilities and assets.

eSOMS is designed to provide a consistent, organized, and integrated approach to those activities that affect equipment configuration, system status, and hence plant operation. Users benefit from:

- Enhanced efficiency, productivity, and safety
- Reduced time and costs of operations activities
- Consistent and compliant processes

**ABB Equipment Reliability Suite**

ABB solutions for asset health enable asset-intensive businesses to unlock the wealth of real-time sensing and monitoring data now available, in combination with maintenance and enterprise data, to proactively predict, prioritize and act on potential risks to maximize uptime, safety and total return on capital investments.