The Industrial\textsuperscript{IT} advantage from ABB

A results-driven synergy of people and technology

Reduced total cost of ownership

Reduced risk, increased safety

Increased productivity
Interoperable products and deliver unprecedented business value.

Industrial IT is ABB’s commitment to open interoperability of automation and power solutions and services that leverages the ABB portfolio, third party products and the relevant standards.

The underlying technology supports integrated solutions that translate into measurable value by increasing productivity, reducing total cost of ownership, reducing risk or increasing safety – the core values of Industrial IT.

The Industrial IT Architecture

At the core of Industrial IT standards based products and solutions is an information architecture that seamlessly links equipment and applications in real time. Industrial IT technology consists of:

- Single window environment for information access
- Context sensitive decision and action tools
- Unique object-oriented architecture
- Industrial IT certified “building blocks” for maximum interoperability
- Field bus technology support for intelligent devices

The distinctive advantage of Industrial IT is its ability to provide customers - from operations to maintenance to management - with real time, relevant asset and process information to make the best decisions in a context of adding business value.
The Industrial IT information architecture, combined with the Industrial IT ecosystem of interoperable products and solutions, enables ABB to deliver unprecedented business value. For example:

**Asset Optimization**
- Real time monitoring of asset health
- Asset monitors trigger CMMS work orders
- Identifies asset performance problems before failure
- Automatic notification of asset conditions

*Reduce preventable breakdown costs!*

**OEE Analysis Tools**
- Alert generation for non-productive equipment states
- Integrated root cause analysis tools
- Identification of improvement areas in real time
- OEE display in single window environment

*Reduce unplanned downtime!*

**Process Engineering Tools**
- Automatic configuration of System 800xA loops, tags and configuration
- Bi-directional data synchronization
- Automatic population of controllers and I/O
- Difference viewer to identify changes

*Reduce engineering time!*

**CMMS Systems**
- Automatic entry of maintenance work orders
- Viewing of CMMS work orders from 800xA
- Seamless integration between operations and maintenance
- Single electronic audit trail

*Reduce mean time to repair (MTTR)!*

**Field Bus Devices**
- System 800xA HART, FF and Profibus device libraries
- Device asset monitors allow early identification of issues
- Object types include faceplates, diagnostics, asset monitors and configuration support

*Reduced integration and lifecycle cost!*
increased productivity

ABB’s Industrial IT solutions deliver measurable increases in productivity by:

- Enabling predictive / preventative maintenance strategies
  ✓ Maximizes uptime
- Integrating planning and production
  ✓ Decreases ERP transaction costs
- Optimizing plant asset availability
  ✓ Reduces unplanned downtime
- Providing performance analysis capabilities
  ✓ Identifies areas for improvement
- Reducing information overload with context sensitivity
  ✓ Improves operator reaction time
- Automating maintenance system (CMMS) transactions
  ✓ Reduces mean time to repair (MTTR)

Increased productivity in action

Operational excellence results when continuous improvement strategies, in conjunction with real-time feedback and analysis tools, maximize production or asset availability, optimize quality and ensure predictable performance. Industrial IT solutions provide relevant information in the context necessary for each user to perform his function efficiently and without knowledge of the individual solution components (ABB or third party).

“ABB’s System 800xA provides a cost effective way to integrate our process control and safety instrumented system functions in a unique scalable hardware configuration, using common user application development tools. System 800xA’s high integrity controller, I/O and revolutionary ‘same but separate’ architecture will enable us to reduce project design, engineering, modification and lifecycle costs while helping to meet our safety requirements.”

Ed Sederlund,
Process Automation Manager,
The Dow Chemical Company
**ABB’s Industrial IT solutions reduce the total cost of asset ownership in the following ways:**

**Engineering and Design**
- Reducing engineering costs through streamlined workflow
- Providing comprehensive portfolio of Industrial IT Enabled “plug and produce” products from ABB and partners
- Minimizing custom interfaces between applications
- Standard connectors for ERP and CMMS integration

**Capital Deployment**
- Evolution path for existing process controller enables addition of new optimization features
- Capital cost avoidance through improved real time production intelligence (OEE) reporting

**Operating Expenses**
- Making valuable data accessible with context
- Enable production flexibility through ERP integration
- Operator training simulators re-enforce correct situation management
- Reduction of data overload by transforming multiple sources into relevant information

**Maintenance Cost**
- Integrated operations and maintenance reduces logistics costs
- Embedded maintenance knowledge reduces discovery costs
- Integrated control and ERP enables converting unplanned to planned downtime

**Reduced risk, increased safety**

ABB’s Industrial IT delivers risk reduction in the following areas of your enterprise:

**Production**
- Extending system life through evolution
- Provides proper information and context for overloaded operators
- Utilizes smart instrumentation to ensure maximum asset efficiency

**Projects**
- Extensive industry and solution delivery expertise
- Global engineering resources and support network
- Technology partnership program with key industry vendors
- Execution of main automation/instrumentation/electrical vendor projects

**Engineering**
- Re-using proven solutions
- Provides a single source of asset lifecycle data
- Extensive authentication features
- Standard open interfaces

**Security**
- Secure design practices and patch delivery program
- Audit trail and advanced access control
Building value through inter-operability

Industrial IT certification

**ABB’s certification process**

Industrial IT solutions are comprised of software, hardware, intelligent devices and infrastructure equipment. “Industrial IT Enabled” products and solutions are verified for interoperability with System 800xA. Products can be developed, tested and released as part of a System 800xA release, or integrated into System 800xA and independently verified for interoperability with System 800xA through the Industrial IT certification process. This means that:

- **Software Applications**
  Integrated software applications have two way data exchange with System 800xA and provide intuitive information access directly and efficiently through the System 800xA workplaces. Certified product functionality is available through context navigation.

- **Hardware**
  Automation and power products such as controllers and switchgear can be integrated into 800xA through certified “connectivity packages”. These packages provide valuable aspects including OPC servers, faceplates, control code, two-way data communication and electronic product documentation.

- **Intelligent Devices**
  Intelligent devices such as instruments and drives can be integrated into System 800xA through certified “device integration packages”. These fieldbus devices support standard foundation fieldbus, profibus and HART protocols. The packages include aspects such DTMs, asset monitors, diagnostics and faceplates.

- **Infrastructure Equipment**
  Includes PCs and network equipment including servers, routers, switches and other equipment that makes up the infrastructure of a 800xA system. These products are verified for proper operation and non-interference in an 800xA system.

Industrial IT Enabled products enable ABB to deliver integrated solutions that are efficient to engineer, install and maintain and deliver measurable value over the lifecycle of a system.

**Translating certification into value**

Industrial IT Enabled products from ABB and our partners deliver the integrated “plug and produce” functionality that translates into continuous productivity improvement. For example:

<table>
<thead>
<tr>
<th>Unique functionality...</th>
<th>delivers...</th>
<th>unprecedented value.</th>
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<tbody>
<tr>
<td>Integrated process engineering tools</td>
<td>Reduced TCO</td>
<td>Improved engineering value through streamlined workflow</td>
</tr>
<tr>
<td>Alarm Analysis</td>
<td>Reduced Risk</td>
<td>Reduces risk of human error</td>
</tr>
<tr>
<td>Real time monitoring of smart field devices</td>
<td>Reduced TCO</td>
<td>Integrated diagnostics support predictive maintenance strategies</td>
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<tr>
<td>Integrated CMMS</td>
<td>Plant OpEx</td>
<td>Reduced time to repair</td>
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<tr>
<td>Real time OEE Analysis tools</td>
<td>Plant OpEx</td>
<td>Reduced unplanned downtime</td>
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Integrating & leveraging best-in-class resources

Industrial IT technology partnerships

Partnership overview

The technology base found in the Industrial IT System 800xA provides the platform for integrating value-added intelligent devices and software applications to deliver continuous productivity improvement for our customers. ABB is continually evaluating our product portfolio in various industries to determine what ABB products should be “Industrial IT enabled,” and where we need to partner to deliver a comprehensive solution. The Industrial IT Enabled certification indicates that products have completed integration and verification testing in the System 800xA environment, proving their “plug and produce” functionality.

We are constantly expanding our portfolio of interoperable Industrial IT Enabled products and through our Technology Partnership Program aim to provide many new integrated partner products over the next few years.

A commitment to open standards.

ABB’s commitment to open standards enables the open interoperability that is the cornerstone of the Industrial IT portfolio. This strategy enables evolution of existing systems as well as the integration of advanced software and hardware products from ABB and our partners.

Through ABB’s Industrial IT solutions, customers have more choices from bus technologies (FF, Profibus, HART) that open the device world to engineering standards (IEC 61131) that make it easy to acquire competent engineering resources at an affordable cost to connectivity standards (ISA S95) or PC standardized and efficient ERP integration.

Industrial IT is ABB’s commitment to open interconnectivity of Automation and Power solutions and services that leverage the ABB portfolio, 3rd party products and the relevant standards.

The Industrial IT solution architecture - leveraging best-in-class partners to deliver value in every solution area
**System 800xA Extended Automation**

The heart of all Industrial IT enabled products, services and solutions is System 800xA, ABB’s extended automation system. System 800xA provides not only the technology base for open interoperability, but itself consists of many integrated functions from asset optimization, device management, CMMS integration and OEE analysis to production management, information management and flexible operator workplaces.

The Industrial IT System 800xA enables traditional ABB control system users to incrementally extend their existing systems for a cost effective and secure evolution path. By “using what you have” and extending it with new System 800xA features, functions, and technologies “to get what you need” to be competitive, you will ultimately achieve increased productivity, lower total cost of ownership, reduced risk and improved safety – the core values of Industrial IT.

Learn more at [www.abb.com/controlsystems](http://www.abb.com/controlsystems)