

PlantPAx™ Process Automation Solutions for Power Generation

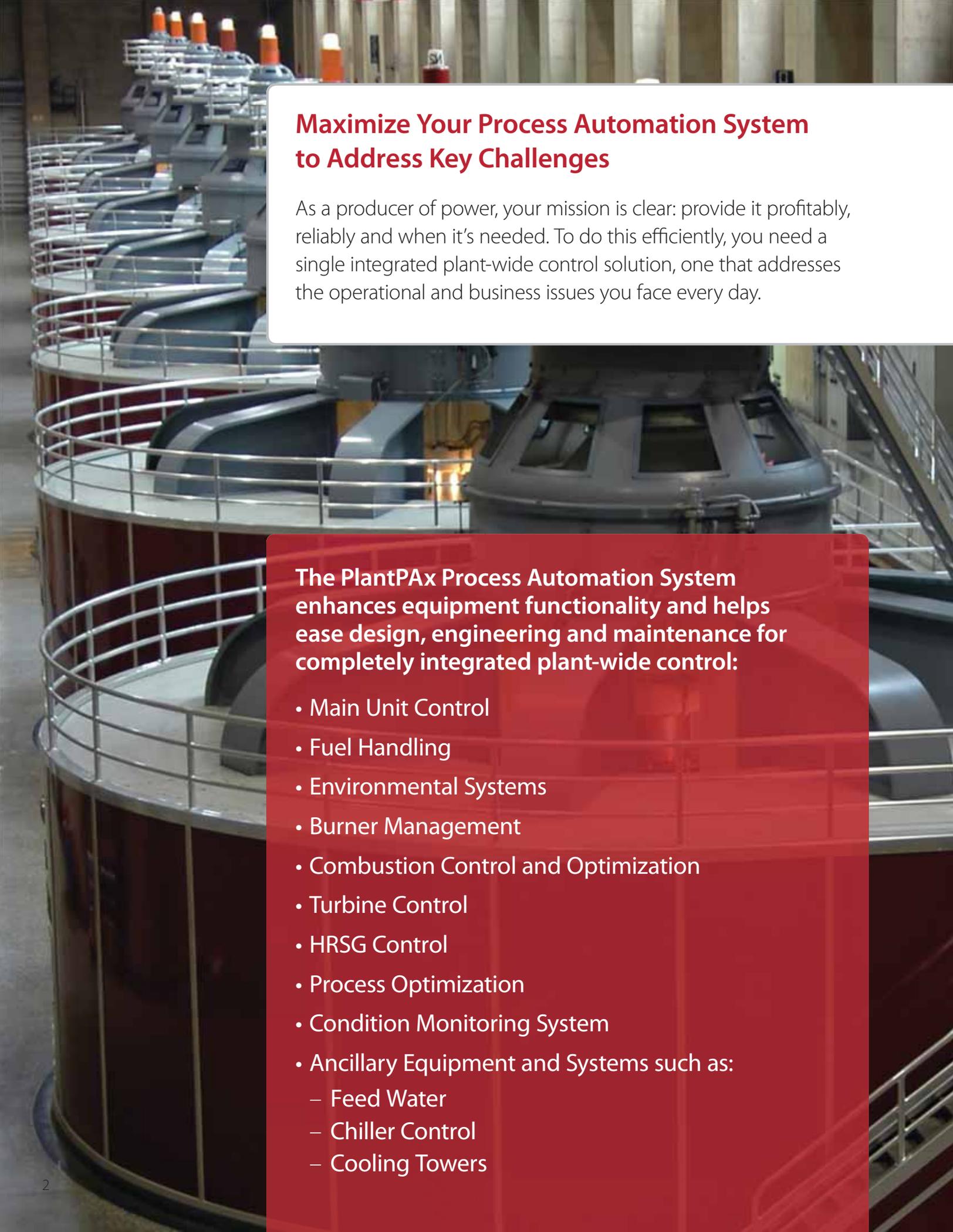
PlantPAx
Process Automation System



LISTEN.
THINK.
SOLVE.™

 Allen-Bradley • Rockwell Software

Rockwell
Automation



Maximize Your Process Automation System to Address Key Challenges

As a producer of power, your mission is clear: provide it profitably, reliably and when it's needed. To do this efficiently, you need a single integrated plant-wide control solution, one that addresses the operational and business issues you face every day.

The PlantPax Process Automation System enhances equipment functionality and helps ease design, engineering and maintenance for completely integrated plant-wide control:

- Main Unit Control
- Fuel Handling
- Environmental Systems
- Burner Management
- Combustion Control and Optimization
- Turbine Control
- HRSG Control
- Process Optimization
- Condition Monitoring System
- Ancillary Equipment and Systems such as:
 - Feed Water
 - Chiller Control
 - Cooling Towers



PlantPAX, a plant-wide process control system, is just such a solution. Whether you're migrating from legacy controls, an existing DCS solution or building a brand new greenfield facility — PlantPAX is the answer.

Scalable, Integrated, Profitable

PlantPAX combines the plant-wide control technologies and unmatched scalability of Integrated Architecture™ with all the core capabilities expected in a world-class distributed control system (DCS).

- Maximize plant uptime through high availability and critical process control
- Integrate all plant systems into one environment for ease of configuration, operations and maintenance
- Reduced total cost of ownership by integrating systems using a single control solution
- Support sustainability with extended product lifecycles, emissions monitoring, environmental reporting and reduced energy usage

PlantPAX is based on open communications standards, using EtherNet/IP as its backbone. As a result, data is delivered where and when it is needed for better decision-making to maximize uptime. PlantPAX uses commercial off the shelf technology providing adaptability and flexibility as production requirements and your needs evolve.

"We needed state-of-the-art automation to meet all our requirements, from integrated control to real-time reporting to plant security."

Terry Borden – manager, hydro production
Box Canyon Dam

Integration Beyond Expectations

PlantPax Process Automation System seamlessly integrates multiple disciplines, including advanced process, safety, power (motor control centers and drives) and turbomachinery control. This premier integration provides rapid implementation, which in turn reduces overall lifecycle costs.

And the integration doesn't stop there. It also extends to the myriad applications that exist in your plant and all the way up to your business/enterprise system. This increased integration allows for real-time access to device information, which helps to improve maintenance and troubleshooting capabilities as well as providing information that can help make more informed decisions when trying to lower energy consumption, for example.

Integrated Process Control

Plant-wide control that safely controls the start-up and shut-down of plant systems and optimizes operations.

- High speed, high performance, scalable, multi-discipline control – sequential, process, drive and motion
- Burner Management control
- Combustion Control control
- Balance of Plant Systems control
- Turbomachinery Control
- Seamless integration with MCC/drives
- Seamless OEM/skid equipment integration

PlantPax is one of the most scalable process control systems. It can scale from less than 50 points of I/O to over 50,000 points of I/O. Take advantage of a robust network infrastructure that uses CISCO® technology and EtherNet/IP with redundancy options at every level. Combine that with the broadest range of traditional I/O and intelligent devices for completely integrated process control.

Engineering and Configuration

The PlantPax consolidated engineering environment helps save time through a single starting point for system configuration and tools for library management and bulk system engineering.

Shorten development time with a modular object library of controller code (Add-On Instructions), display elements (global objects), and faceplates that let you quickly assemble large applications with proven strategies, rich functionality, and known performance. Finally, a defined system architecture helps minimize risk of incorrectly sized systems and ensures system performance.

High Availability and Critical Control

Reduce your financial risk by protecting critical assets through integrated, scalable, process safety solutions from SIL1 to SIL3, including Triple Modular Redundancy (TMR). With PlantPax you get high availability and redundancy throughout the architecture for demanding 24 x 7 critical applications. Safe, secure, and versioned storage of configuration information and diagnostic data can trigger manual or automatic intervention before any unplanned shutdown.





Operator Effectiveness

Integrated Visualization

Quickly put actionable intelligence into the hands of decision makers with intuitive displays, objects, and faceplates with integrated diagnostics to streamline operator response.

Alarm and Event Management

Provide a single, integrated set of alarm information and real-time alarm management. Links between alarms and associated controls or displays provide direct access for rapid resolution of abnormal situations, and alarms can be suppressed and filtered by process resource and operator role.

Decision Support Tools

Identify opportunities for continuous improvement and monitor overall asset performance. Track production KPIs to manage cost and resources to help optimize operations.

Scalable Architecture

Solutions for on-process, mobile, and stand-alone applications up to large distributed systems, can be deployed traditionally or virtualized.

Security

Reduce risks to safe and reliable operation by protecting assets and information. Meet responsible disclosure needs with control system solutions that follow global standards and help fulfill independent & regulatory security requirements.

The Rockwell Automation portfolio of network and security services, offered with our partners, is structured to augment your staff or manage turnkey network and security solutions, providing cost-effective methods to help attain the highest return on your investment.



“In order to improve our uptime rates, we knew we needed a new turbine control system with an open architecture that our staff could troubleshoot and optimize themselves, without having to rely on outside expertise.”

Norman Verbanic – production department manager
Hawaii Electric Light Company



Asset Management and System Maintenance

Help ensure process uptime through improved asset performance management and predictive maintenance to obtain secure access to your control systems, track users' actions, manage asset configuration files and provide back-up and recovery of operating asset configurations.

Integrated Condition Monitoring

- Help predict and prevent impending failures of process devices with centralized device information
- Access critical machinery health information through standard plant information, control and visualization systems

Device Management

- Management of intelligent process devices throughout the lifecycle based on industry standards
- Centralized device diagnostics and configuration
- Variable frequency drives and intelligent motor control devices as native components

Advanced Process Control

Deliver proven economic gains through increased production and reduce costs by using existing technology. We offer the broadest solution portfolio, from basic regulatory control to fuzzy logic and soft sensors to model predictive control. This broad portfolio means users benefit from scalable optimization solutions, from single loop to the supervisory layer.

- Fossil fueled boiler optimization—evenly distribute burning to reduce emissions and fuel consumption
- SCR optimization – lower cost to run and maintain
- Multi-unit or fleet optimization – dispatch equipment based on economic and environmental constraints

Predictive Emissions Monitoring

Generate accurate emissions and compliance information at a significantly reduced cost to operate and maintain compared to hardware-based Continuous Emissions Monitoring Systems (CEMS). A patented, model-based software, Predictive Emission Monitoring System (PEMS) that provides an alternative to hardware-based CEMS.

Cost-Effective Monitoring and Compliance

- Scalable platform to a full site environmental management system
- Lower installation and maintenance costs than hardware systems
- Lower safety risks and higher reliability

Highly Accurate and Reliable Emissions Monitoring & Reporting

- Meets strict continuous emissions monitoring data availability requirements of 95% or more
- Continues to operate in the event of sensor/instrument failure
- Meets all performance criteria for regulatory certification

Sustainability

Provide cleaner, safer and more energy efficient operations to help you achieve your business goals and address regulatory compliance. PlantPAX integrates easily with energy monitoring, control and reporting tools. Vital data helps maximize asset availability, utilization and efficiency which means more uptime, reduced fuel use and optimized, efficient energy use.

Phased Migrations that Mitigate Risks and Minimize Costs

Migration services from Rockwell Automation help you expertly and quickly migrate to newer technologies while minimizing downtime and maximizing operational success. These services help you achieve productivity gains, lessen the risk of replacing obsolete equipment and systems, and allow you to migrate at a pace that is comfortable for you. And most importantly, they are instrumental in driving system lifecycle cost savings. Rockwell Automation has migration solutions for many legacy DCS systems, as well as a portfolio of tools to reduce risk and facilitate migration in phases.

Delivering Value and Confidence to Protect Your Investment

When you work with Rockwell Automation, you engage a supplier focused on listening to you – and learning about your plant's issues and objectives. Then, we apply our domain expertise, global execution ability and certified project management methodology to help you create and execute innovative solutions that meet or exceed your business goals.

We provide your plant with the solutions and services you need to maximize production throughout your automation lifecycle – from design and installation through operation and migration.

Our experience includes complete solution delivery capabilities that complement and enhance our product and technology offerings. We will draw on our in-house expertise and partner resources to deliver repeatable, scalable and maintainable solutions on time and within budget.

In addition, we will assess your entire operation and recommend the right mix of services to help increase productivity, optimize plant assets and improve overall financial performance.

“Rockwell Automation provided us with complete system specifications for [our plant], mapping out every aspect of the architecture that would automate all key functions of the plant. It was one of the fastest and cleanest installations I’ve ever seen. Their knowledge of the issues facing our industry was impressive and helped us countless times over.”

Brent Richardson – plant manager
Colorado Springs Utilities

The Power of Collaboration

When you choose Rockwell Automation, you also tap into the power of our PartnerNetwork™ program – a framework of well-managed relationships based on your needs. Our program provides you with access to a local, regional and global network of best-in-class companies including distributors, system integrators, machine builders, alliances and complementary product providers.

The keystone of our PartnerNetwork is collaboration that allows a seamless relationship with you, built on mutual trust and shared business values.

PlantPAX

Process Automation System

For more information about our process automation solutions, please visit:

<http://www.rockwellautomation.com/solutions/process/>
<http://www.rockwellautomation.com/industries/power/>



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