Integrating Process Control and Safety Through the Unified Experion Platform
Count on Experion PKS to improve your business performance and peace of mind.

Improving business performance in the process industries depends on getting the right knowledge to the right people when minutes make the difference between profitability and downtime. The Experion® platform, the foundation for Honeywell’s Experion Process Knowledge System (PKS) helps collect, synthesize and share process and business knowledge from multiple sources across the enterprise, and recommend an appropriate action so your operators can increase their productivity.

Unifying operations across a facility connects people in all work areas with the information they need most to make on-time and informed decisions. This keeps systems and processes running at optimum levels. Thousands of customers in these industries count on the Experion platform to improve their business performance and peace of mind.
Experion Unified Architecture Goes Beyond DCS to Optimize Profitability and Productivity

Experion’s knowledge management capabilities extend far beyond the borders of a traditional Distributed Control System (DCS). The unified architecture of the Experion platform integrates innovative DCS technologies with advanced applications that address manufacturing operations and all related operations across the enterprise. The Experion platform embeds applications to improve process performance, business agility and asset and people effectiveness.

Connecting people with knowledge drives revolutionary gains in performance and profitability for decades to come. As operators become more effective, assets work harder, businesses become more agile, process performance increases and overall operational effectiveness advances to new levels.

Optimizing assets, processes, people and business goals individually yields improvement, but the most significant gains come from collectively optimizing all of these areas.

Process and Safety Management Embedded in a Single System

Honeywell’s safety management solutions, including Safety Manager,™ are embedded within the Experion platform. Process security is maintained independently from the mainline control system. The result is a unified safety system solution that elevates safety and process availability, as well as production and profitability.

Integrated Safety Integrity Level (SIL) rated sensors and valve actuators in the field ensure that safety functions are positioned to protect complex and hazardous processes.

Tight integration of safety management with Experion PKS provides these key benefits:

• Improves safety and availability of manufacturing processes
• Saves millions of dollars in reduced safety incidents and installed system migration

Benefits Offered by the Experion Platform

• Improved decision-making and reduced incidents
• Increased system availability and reduced commissioning and maintenance costs
• Enhanced integration of business processes
• Improved system performance and increased process availability
• Higher safety and process availability, production and profitability
• Protected automation investments—offering an easy migration path from TDC or TPS to the Experion platform

Connecting people with real-time.

View Data from Multiple Systems from a Single Operator Interface

Honeywell’s patented HMIWeb technology merges process, application and business data seamlessly from the secure Experion Station environment or directly from standard Internet technologies, such as HTML and XML.

The HMIWeb user interface is the most open, secure and user-friendly control system interface available, enabling information from multiple systems to be viewed on a single operator interface display. This not only facilitates remote operation, but supports integration of foreign data sources and the various tiers of mission-critical plant systems.
Knowledge increases productivity.

“We chose Honeywell for the plant-wide integration capabilities between Experion and existing systems.”
—Mr. Dinis Ferreira, Project Manager, Borealis Polímeros, Lda

Control Execution Environment Provides Reliable Execution and Scheduling
The Control Execution Environment (CEE) is the foundation for Experion controllers, providing a deterministic and reliable execution and scheduling environment in several Honeywell control platforms, including:
- C300 and C200 Process Controllers
- Application Control Execution (ACE) node
- C200 Simulation Environment

Control strategies can be easily built, integrated and monitored using the Control Builder engineering tool. The Control Builder tool also configures and integrates alarms and events that operators can acknowledge on the Experion Station alarm summary display.

Control Platforms Accommodate All Control Strategies
The C300 and C200 Process Controllers provide integrated regulatory, fast logic, sequential and batch control applications. Remote, as well as local I/O families with direct connection to the Process Controllers are available to accommodate a variety of connectivity requirements.

The Application Control Execution (ACE) node control platform is a PC node for application control hosted on a Server-grade PC platform. The ACE node is ideally suited for supervisory control and integration with third-party systems and devices.

The C200 Simulation Environment (SIM-C200) duplicates system operations on PCs without requiring dedicated controller hardware or process connections.

Fault Tolerant Ethernet Improves Industrial Plant Performance
Honeywell’s Fault Tolerant Ethernet (FTE) can be used to connect the Process Controller to be the network. FTE is a high-performance, low-cost networking solution for industrial plants. FTE reduces commissioning and maintenance costs and increases system availability by providing the performance, determinism and security required for industrial control applications. Additionally, Honeywell’s network services organization can help manage all aspects of Ethernet systems from a small process control system to a total enterprise.

Digital Video Manager Captures Live Video to Monitor the Process
Honeywell’s Digital Video Manager (DVM) enables operators to see live video from anywhere in the process. Inexpensive, open video cameras connect to Experion via Ethernet, eliminating the need for video cables and videotapes. Experion can raise alarms based on movement within a video window, making video cameras a next-generation process sensor. Complete integration allows operators to view and control both the industrial process and the plant cameras from a single Experion Station.

Experion’s open and scalable architecture protects your automation investment and also allows you to add new capabilities as your needs change.
“A project of this scope requires an automation technology that offers superior interoperability and has the ability to grow with the facility...Honeywell serves both of these needs with their seamless suite of offerings.”
—Tractebel Engineering International

Model-Based Control Reduces Maintenance Costs

Honeywell integrates an advanced, model-based control algorithm in the Experion controllers that reduces valve maintenance costs, increases process stability up to 30 percent and eliminates PID tuning requirements. Honeywell’s patented Profit® Loop algorithm achieves optimal control by using an empirical model of the process dynamics to predict effects of past, present and future control moves on the controlled variable.

This innovative model-based technology increases control performance while reducing maintenance costs by as much as $100,000 per year on critical loops.

Only Honeywell Integrates Abnormal Situation Management Intelligence to Reduce Incidents

Integrating intelligence from the Honeywell-led Abnormal Situation Management Consortium (ASM®) with the Experion platform and advanced applications helps reduce unplanned outages and increase plant uptime and profitability. The Experion platform integrates a wide variety of open device protocols, including FOUNDATION fieldbus™, HART®, DeviceNet, and Profibus for easy access to valuable device data that improves decision-making and reduces incidents. The bottom line is improved business performance and peace of mind.

Experion Fieldbus Solution Enables Efficient Data Access

The Experion fieldbus solution provides quick, efficient call-up of device information from detailed transducer block information to a simple process variable or tuning constant. Experion integrates with the FOUNDATION fieldbus device network via Fieldbus Interface Modules (FIMs). These modules integrate completely and transparently into a single, unified database. For applications requiring only fieldbus control and access, the FIM can be implemented without a process controller.

Exclusive Features of the Experion Platform

- Abnormal Situation Management practices and built-in advanced alarm handling
- Distributed System Architecture for easy scalability
- Advanced application integration for capturing and utilizing process knowledge
- Security integration (both process and physical) for best-in-class protection
- Wireless field integration
- Seamless migration from all previous systems and third-party systems
- Open support for all network and protocol standards
- More than 30 years of experience and leadership in implementing industrial automation and control projects

“The Experion platform was chosen from among hundreds of products, based on market impact, service to industry and technology advancement. Experion is not only changing the way other vendors are reacting to the marketplace, but also the way engineers are thinking about how they do their jobs.”
—Control Engineering, Editorial Director David Greenfield on Honeywell’s selection for an Editor’s Choice Award (Control Engineering, January 2004)
Experion Unlocks the Power of HART

The direct connection between HART and Experion enables continuous performance monitoring of HART devices. Diagnostics and reports of possible failure modes that can lead to process upsets improve operational effectiveness and reduce the possibility of unplanned downtime. Redundant I/O HART modules provide full access to all HART device digital data, helping process plants:

• Improve end-user performance
• Increase process throughput, availability, safety and quality
• Reduce lifecycle costs

Continuous Evolution Protects Automation Investments

Honeywell is the only automation supplier that continuously supports its installed base. The first controller introduced more than 30 years ago can be completely integrated with the newest Experion platform. Honeywell’s migration path provides true integration to Experion from previous Honeywell systems or third-party systems. Other process automation suppliers use an interface that requires creating and maintaining mirrored or duplicate databases. With Experion, TPS data and events fully incorporate into a single global database, eliminating the costly step of building an intermediate database and manually synchronizing the database with TPS.

Control the Timing of New System Upgrades

Upgrading current Honeywell systems with Experion technologies is based on each customer’s specific timing and needs. Results are immediate, regardless of when new capabilities are added. There is no need to invest in replacing controllers, I/O modules or other hardware that continues to provide a return on the original investment. For processes that need to run uninterrupted during system upgrades, Honeywell’s service organization has unmatched experience and expertise implementing hot cutovers.

Migration Options: The Path to Results

Honeywell offers a wide range of migration options that include a packaged set of standard hardware, software and services. The Honeywell Console Migration package includes Stations with large flat panel displays. Honeywell ION (Integrated Operator Node) provides the unique ability to migrate Universal Stations to Experion Stations in less than 20 minutes.

Whichever migration path chosen, Honeywell’s world-class services organization stands ready to support customers’ systems throughout their entire lifecycle, helping sustain the benefits of investing in Honeywell technology.

For More Information

To learn more about Honeywell’s Experion platform, www.honeywell.com/ps or contact your Honeywell account manager.

Automation & Control Solutions

Process Solutions
Honeywell
2500 West Union Hills Dr.
Phoenix, AZ 85027
Tel: 877.466.3993 or 602.313.6665
www.honeywell.com