

Honeywell | Connected Industrial

LEVERAGE ADVANCED COMMISSIONING AND THE INDUSTRIAL INTERNET OF THINGS

Reap Greater Benefits from Open System Integration





TABLE OF CONTENTS



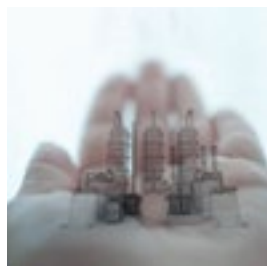
Introduction

Automation has traditionally employed diverse systems and tools specifically designed for given applications. What's needed is a modern approach—one delivering all the core capabilities of a Distributed Control System (DCS), but built on contemporary technology that easily integrates with other plant assets, operator activities, and business systems.

MERGE SYSTEMS AND FUNCTIONS

- Control system suppliers now offer DCS solutions that provide superior value by forming an integrated “automation ecosystem” where technologies and tools work together like a single system.
- Recent technology advancements enable greater collaboration amongst key stakeholders, and at the same time, integrate all critical systems and advanced applications under a common architecture.





At modern industrial facilities, there is an urgent need to unify plant-wide systems. Pockets of data stranded in end devices such as valves and transmitters, or in

systems like Programmable Logic Controllers (PLCs), can be difficult to reach or unavailable to the enterprise. Worse yet, there may be no way to share useful equipment health and control data with higher-level systems. A new approach goes a step further than traditional systems.



CONNECT ASSETS AND INFORMATION

- A single, integrated platform can encompass continuous, sequence and batch control, as well as safety, security, electrical, Supervisory Control and Data Acquisition (SCADA) and asset management.
- An effective DCS solution can enable plant owner/operators to easily integrate a wide range of functions and systems that once had difficulty talking to each other.
- New developments allow diverse plant-wide systems, devices and modular equipment to communicate and exchange data in a seamless way.

TAKE ADVANTAGE OF THE IIoT



*Unscheduled downtime ranked **top threat** to maximizing revenue*



42%
*said they have **put off** new investments in equipment*



Increasingly, manufacturers are looking to harness the Industrial Internet of Things (IIoT) and deploy solutions to better manage and analyze plant information. The IIoT enables “real-time” access to asset and operational data—and helps put it in the hands of those who need it most.

LEVERAGE DATA AND DEVICES

- With growth of the IIoT, there are opportunities to deploy cloud-based applications and smart connected assets to reduce the time, money and mistakes associated with instrument design, ordering, configuration, and set-up.
- Cloud engineering with integrated tools and automated documentation can help reduce project risk and schedule, lower implementation costs, simplify operations, minimize lifecycle cost, improve efficiency, and enhance safety.

AUTOMATE DEVICE COMMISSIONING



Major capital investments are jeopardized by traditional automation system commissioning practices and their associated problems: missed deadlines, errors, and over-deployed personnel. Done right, commissioning can help teams meet schedule constraints and come in on budget.



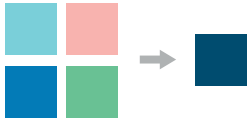
OPTIMIZE CONFIGURATION, AVOID ERRORS

- An automated device commissioning methodology does away with the traditional I/O assignment phase of a control system project—eliminating time-consuming work and improving overall efficiency.
- This capability fully separates device and control strategy configuration, helping to avoid/identify costly and unanticipated mistakes in wiring, termination and other commissioning tasks, and separating device configuration from functional configuration over the project lifecycle.
- Automated device commissioning helps eliminate the potential for stranded data—information becomes part and parcel of the control system itself.

Improve Commissioning & Testing

Improve Project Execution

LEAP™ enhances our project implementation services with innovative, enabling technologies to revolutionize lean project execution.



Universal Channel Technology



Experion® Virtualization Solutions



Cloud Engineering



The success of an automation project may depend on how easily devices can be configured to exchange data across digital networks. There is a need to simplify the discovery, configuration, commissioning, and documentation process associated with adding new devices to a control system.

ELEVATE EFFICIENCY, ELIMINATE MISTAKES

- Automated device commissioning is an extension of Lean project execution and its ability to reduce waste and simplify implementation.
- I/O channels are automatically configured based on the devices detected. For example, if a HART analog input device is recognized, the channel will be automatically configured as an analog input.
- Automated commissioning supports Lean execution, reducing the opportunities to make simple mistakes and increasing the speed at which teams can perform loop checks—from approximately 10 loops per day to 60 loops per day.

Reduce Effort and Duplication

Automated Device Commissioning

Late binding of devices with loop configuration created in the cloud.



1 MINUTE Transmitter commissioning time reduced from 2 hours to 1 minute



6X Balanced cabinet commissioning 6 times faster



4 HOURS Every mistake avoided saves 4 hours of troubleshooting



Not only do industrial organizations seek major reductions in device configuration and setup time, they also want to eliminate duplicate engineering effort and do away with errors while minimizing testing requirements and commissioning effort.

BOOST PRODUCTIVITY, ENHANCE TEAMWORK

- Automated device commissioning enables engineers to configure control loops via the cloud and reduce commissioning time from hours to minutes. There is also automated “binding” of the physical device in the field.
- Cloud-enabled execution allows configuration development and testing to be performed by teams around the globe. People can collaborate on work using the same virtual engineering platform. All testing is done one time—in the cloud—using smart capabilities.
- With a conventional approach, devices are specified for a given application early in the process. Inevitable changes require updates to parameters and reconciliation of the configurations in the DCS and device. This rework is no longer required with automated commissioning—only a tag name is needed during discovery of the device connection.

AUTOMATE SKID INTEGRATION

Applies LEAP to PLC Integration:

- *Automatic detection and interrogation*
- *Automatic remote configuration*
- *Automatic late change documentation*



In a competitive environment, manufacturers need ways to implement new automation solutions quickly, efficiently, securely and cost-effectively. One particular challenge is minimizing site integration costs that are associated with Original Equipment Manufacturer (OEM) equipment skids.

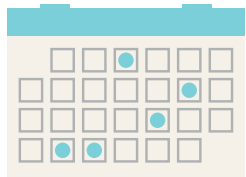
SIMPLIFY ENGINEERING, OPTIMIZE WORKFLOWS

- Automated skid integration also applies Lean project execution methodologies to Programmable Logic Controller (PLC) and Remote Terminal Unit (RTU) integration to lessen schedule risk for late changes and eliminate misalignment of configurations.
- With enhanced third-party integration capabilities, industrial sites require less effort to validate Supervisory Control and Data Acquisition (SCADA) Interfaces—reducing rework and retesting when a package program is modified.

Minimize Schedule and Risk



Up to 30% automation
CAPEX savings



Up to 25% increased
schedule flexibility

RISK

Reduced project risk



Skid builders must develop automation solutions connecting disparate devices and instruments together on a high-bandwidth, high-performance basis. However, skid integration can consume a large percent of a project budget, making it a prime target for improvement.

STREAMLINE PROCEDURES, REDUCE MAINTENANCE

- Using conventional work practices, engineers are required to maintain a tag database in a spreadsheet program and map third-party PLC tags to SCADA tags on the DCS. This manual procedure makes tag updates and maintenance difficult.
- Employing automated skid integration, it is no longer necessary to map out PLCs and the corresponding tags in the DCS. Program files are read into the control system, and engineers can quickly determine the tags and associated parameters that are needed, with points built automatically.

Decrease Time and Labor

Engineering Hours



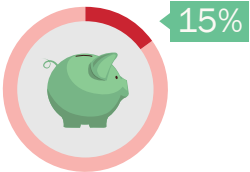
Third-party PLCs on skid-mounted and packaged systems for process plants can create control and automation problems. These interfaced subsystems generally require more field engineering to configure and maintain than the other plant controls.

ELIMINATE STEPS, CONSERVE RESOURCES

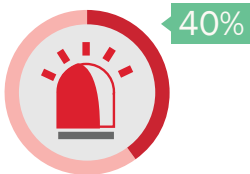
- Plants relying on a conventional skid integration approach can spend 10 to 12 engineering hours mapping variables, creating channels for controllers, and configuring points and diagnostic displays.
- With automated skid integration, the user simply configures the controller on the system and all of its points and variables are automatically generated—the diagnostics configuration is complete and available once the controller is recognized, and all work is completed in just 15 minutes or less.

EXPERION PKS: ADVANCED, OPEN AND SECURE

Experion PKS Results



Improved project effectiveness



Reduced operator-related incidents



Reduced lifecycle management costs



Honeywell's Experion PKS was the first enterprise-wide solution to merge disparate functions, systems and knowledge to integrate people with processes, business requirements, and asset management. The result is a unified architecture for all process control, safety systems, and advanced applications with a consistent HMI across everything.

TRANSFORM YOUR OPERATIONS AND BUSINESS

- IIoT-ready Experion PKS further optimizes our revolutionary LEAP project execution to drive improved performance and project results with Automated Device Commissioning and Automatic Skid Integration.
- Customers can deploy innovative, IIoT-based solutions for improving project execution and commissioning, modernizing control system infrastructure, expanding standards compliance and interoperability, and providing a path for continuous technology evolution.
- In addition, Experion PKS Orion extends open system integration in the areas of electrical system control and management, multivariable APC in the controller, and *WirelessHART*.®

RELY ON HONEYWELL



Around the world, Honeywell's control systems are employed in the most demanding industrial applications to improve process safety, reliability and efficiency. You can rely on our proven, advanced DCS technology to improve your operational and business performance.

For More Information

To learn more about Honeywell's Experion PKS solution, visit www.honeywellprocess.com/Experion, contact your Honeywell account manager in your country/region, or write to us at hpsmarketing@honeywell.com.

Honeywell Process Solutions

1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Arlington Business Park
Bracknell, Berkshire, England RG12 1EB

Shanghai City Centre,
100 Zunyi Road Shanghai, China 200051

www.honeywellprocess.com

Follow us:

Experion® is a registered trademark and LEAP™ is a trademark of Honeywell International Inc. All other trademarks are the property of their respective owners

©2017 Honeywell International Inc. 03/17

Honeywell

©2017 Honeywell International Inc.
All Rights Reserved.