In This Issue of Robotics Integration Matters

Since the recession in 2009, manufacturers around the world have faced a growing desire for increased quality and throughput. Technology advances, labor shortages, increasing wages and heightened pressure to improve worker safety are driving labor-intensive industries to explore other options, such as robotics.

As both OEMs and end users embrace the business case for implementing robotics, engineers are challenged to design systems using today’s highly complex and increasingly sophisticated robot technology. When implementing robotics, engineers need to ensure the system is scalable, while mitigating safety and security risks, and building in energy management. The robotic system must provide personnel at all levels with access to prognostic and diagnostic data the same way discrete and process automation systems deliver operating data. The complexity of the design process itself can often be a barrier to achieving the cost-savings and efficiency gains expected with robots.

Rockwell Automation works with OEMs to help them integrate robotics into end-user, plant-floor applications. Through its Integrated Architecture system, extensive PartnerNetwork program, and more than 100 years of automation industry expertise, Rockwell Automation can help OEMs solve their robotics-integration challenges so they can streamline supply chains, simplify project implementation, and get the best value to end users for robotics and automation investments.

A Scalable, Integrated Architecture

Traditionally, system designers had to implement control systems developed for a specific-sized architecture. OEMs now can use the Rockwell Automation® Integrated Architecture™ system to scale a solution for the entire range of robotics applications, regardless of size or complexity. OEMs can re-use control and visualization designs, and program segments or tags to configure and integrate robots more quickly.

Using common components and re-usable development tools of the Integrated Architecture system enables OEMs to match hardware and software to the needs of each robot application, and can often reduce the machine or line footprint. Whether end users are looking to integrate robotics into existing equipment or scale their control and information platform to accommodate it, Rockwell Automation offers a wide range of options to meet different price and performance needs.

With a single network technology, using EtherNet/IP™ and a common control and visualization environment, Rockwell Automation can help ease robot integration. The system provides end users with access to configuration parameters in a programming environment that is familiar to their operators and maintenance personnel.

The Integrated Architecture system uses a common control engine with a common development environment to help eliminate the need for separate controllers and systems, helping to reduce training, spare parts and maintenance costs. Many OEM and robot-vendor partners standardize on the Logix control platform because it is familiar to their engineers and maintenance personnel, allowing them to focus on their core competencies.
Robotics Integration Expertise

Rockwell Automation can work with OEMs to determine the best robotics-integration method for an application, including the following:

- **Networked** – A networked approach to robotics integration uses EtherNet/IP to integrate the robot control system with the machine control system. This is the most cost-effective solution for quickly integrating robotics into an existing application. Doing so gives the machine’s controller access to the robot’s control system, including diagnostics, necessary automation interlocks, troubleshooting, alarming and reporting.

- **Embedded** – An embedded approach to robotics integration brings the robotics module directly into the Integrated Architecture chassis. This keeps machine and robot control separate, but helps drastically reduce machine footprint – by up to 50 percent – because there are fewer control boxes on a machine.

- **Integrated** – This method allows the highest level of integration because it combines kinematics robot control within a machine’s controller. All configuration, programming, kinematics, troubleshooting and operations are performed within a single control platform, which helps reduce engineering costs, training, maintenance and the overall machine footprint.

Case in Point: Machine Builder Uses Vision-Guided Robotics for Flexibility

Aagard, a Rockwell Automation OEM Partner in Alexandria, Minn., had extensive experience developing modular packaging solutions, but previous in-feed modules had been custom designed to handle specific package dimensions. As a result, the in-feed modules limited machine flexibility. To overcome fixed package-size constraints, Aagard incorporated vision-guided robotics.

Aagard worked with Rockwell Automation to design a flexible robotic in-feed module using the Logix control platform, which effortlessly scales from small to large to accommodate a wide range of motion axes.

The networking solution – EtherNet/IP with CIP Sync and CIP Motion – enables seamless communication across the motion control system, vision cameras and I/O. It also helps simplify the process of synchronizing the module with other machinery. Previous in-feed modules without EtherNet/IP were difficult to connect with other equipment.

Aagard’s customers see tremendous value in the intelligent diagnostics available with the bandwidth of EtherNet/IP, regardless of the number of axes.

The robotic in-feed module can accommodate fewer than 16 or up to 52 coordinated motion control axes. Aagard engineers can simply shift from Allen-Bradley® CompactLogix™ controllers to Allen-Bradley ControlLogix® controllers to accommodate additional axes using the same application code base, saving development time and cost.

The Logix control platform provides the flexibility needed to successfully implement vision-guided robotics into the in-feed module. The new module has reduced factory testing time by at least 10 to 20 percent. Re-using application code has saved between 10 to 30 percent in the overall development cycle. Best of all, the module is easily scalable to meet unique package-size, machine-footprint, cost and performance requirements.

To read the full story, click here: [http://literature.rockwellautomation.com/idc/groups/literature/documents/ap/ia-ap010_-en-e.pdf](http://literature.rockwellautomation.com/idc/groups/literature/documents/ap/ia-ap010_-en-e.pdf)
Sample Code Library
The Sample Code Library from Rockwell Automation is a website that gives users a place to share their best Integrated Architecture applications, including logic, HMI and drive applications. Denso Robotics, FANUC and other robot-vendor partners have developed Add-On Instructions (AOIs) and Add-On-Profiles (AOPs) available on the library website, enabling even new robotics users to easily install, program, operate and support robot applications using the familiar Rockwell Software® RSLogix™ interface. Users can find sample code from Rockwell Automation partners by searching for “Partner Products.”
For more information, visit: http://samplecode.rockwellautomation.com/

Find an Encompass™ Referenced Product
Quickly and easily locate Encompass Referenced Products that best solve end-user application needs by using the Encompass online search engine. Users can search by company name or product category (Robotics – Embedded Control, Robotics – Logix Integrated or Robotics – Networked) to learn more about robotics solutions offered by Rockwell Automation and its PartnerNetwork™ program.
For more information, visit: www.rockwellautomation.com/encompass

Integrated Architecture Builder
The new Integrated Architecture Builder is a graphical software tool for configuring Logix-based automation systems. The tool helps users select hardware for a variety of applications, including controllers, I/O, networks, Allen-Bradley PowerFlex® drives, on-machine cabling and wiring, and motion control. The tool provides users with bills of material and reports with graphics. Fourteen Encompass Partners are included in the system configuration tool.
For more information, visit: http://www.rockwellautomation.com/support/configuration.page
Optimizing Exceptional Equipment

Information from Rockwell Automation for OEMs

Save the Date: Automation Fair 2013

Join us at this year’s Automation Fair® event, Nov. 13 and 14 at the George R. Brown Convention Center in Houston, for a great opportunity to explore smart, safe, sustainable manufacturing solutions geared toward improving your business profitability. Attend industry forums, user group meetings, hands-on labs, technical sessions and demonstrations to expand knowledge and use of the latest control, power and information technologies. Take advantage of automation expertise from Rockwell Automation and our PartnerNetwork program, providing comprehensive solutions from industry leaders in distribution, systems integration, machine building, and complementary technologies.

For more information, visit: www.automationfair.com

SAVE THE DATE: PACK EXPO 2013

Join more than 26,000 attendees at PACK EXPO 2013, Sept. 23 to 25 in Las Vegas. This year, Rockwell Automation and its PartnerNetwork program will be sponsoring the Center for Trends & Technology (CTT). Located in the Central Hall (Booth #1358), the CTT will provide cutting-edge learning sessions and dynamic displays on trends including network security, line integration, secure remote access, cloud computing and manufacturing convergence.

For more information, visit: www.packexpo.com

Events Around the World

Rockwell Automation hosts events around the globe to help you learn more about how to use technology as a competitive advantage – to help you get your products and services to market faster, reduce costs, better utilize power and plant-floor assets, and minimize risk in your manufacturing environment.

For a list of events worldwide, visit: http://www.rockwellautomation.com/rockwellautomation/events/overview.page

For more information on OEM Solutions from Rockwell Automation visit: www.rockwellautomation.com/oem

Rockwell Automation OEM Program for Machine and Equipment Builders

As an OEM, you are challenged to differentiate yourself amidst global competition and rapidly evolving technology. To effectively compete, you need to define value beyond the cost of your equipment and maximize company performance. Rockwell Automation can help improve your performance with solutions and services to lower the Total Cost to Design, Develop and Deliver™ equipment and meet your customers’ requirements.

As part of the OEM Program, you can expect increased co-marketing opportunities, better market planning with our sales force, and improved customer engagement with co-managed objectives.

For more information, visit:
http://www.rockwellautomation.com/rockwellautomation/sales-partners/oem-partners/join-oem-program.page?

Allen-Bradley, Automation Fair, CompactLogix, ControlLogix, Encompass, Integrated Architecture, LISTEN.THINK.SOLVE, PartnerNetwork, PlantPAx, PowerFlex, Rockwell Software, RSLogix and Total Cost to Design, Develop and Deliver are trademarks of Rockwell Automation Inc. EtherNet/IP is a trademark of ODVA. Trademarks not belonging to Rockwell Automation are property of their respective companies.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

www.rockwellautomation.com