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today's smart manufacturers help protect their businesses' bottom lines by lowering the total cost of ownership, accelerating time to market and increasing productivity. They accomplish such goals through the implementation of technology that allows an unprecedented level of connectivity, communication and collaboration across all locations.

Smart manufacturers converge their information technologies (IT) and operational technologies (OT) into a single, globe-spanning system. This provides new opportunities to access, monitor and capitalize on operational, business and transactional data across an enterprise. A network infrastructure approach based on EtherNet/IP™, a standard and open network infrastructure, enables secure interoperability between corporate IT networks and industrial applications.

To improve communications, manufacturers must assess their range of manufacturing processes and applications, standardizing on a strategy that provides better visibility into operations, improves performance measuring and comparisons among plants, and supports better decision making based on good data. Using a single manufacturing execution system (MES) coupled with an enterprise manufacturing intelligence (EMI) system brings information from hundreds of applications into one centralized location.

This gives workers understandable and actionable information they can use to make improvements. It also enables real-time analysis of key performance indicators such as quality, production performance and work-flow management.

One of the greatest benefits of a fully connected enterprise is the ability to share valuable information across people, devices and machines – not only within an organization but also across the supply chain. Collaboration paves the way to share best practices, lessons learned and new developments.

Rockwell Automation understands what it takes to build The Connected Enterprise because it has transformed its own business. Similar to other manufacturers with large product portfolios and a global manufacturing presence, Rockwell Automation used a range of manufacturing processes at its different plants. Each plant also ran its own enterprise resource planning (ERP) system and used custom applications that monitored and analyzed machine data in different ways.

The company developed a five-year plan for the complete restructuring of facility and supplier networks, establishing specific goals to maintain or improve quality levels. It unified IT and OT systems as well as standardized on a single ERP system. In addition, it rolled out a new MES to standardize processes across all of its production sites and deployed EMI software to pinpoint production trends.

As a result, Rockwell Automation has lowered its total cost of ownership, reducing inventory days from 120 to 82. It has also accelerated its time to market, with supply-chain deliveries now up to 96 percent and lead times cut in half. The company estimates it has experienced a 4 to 5 percent annual improvement in productivity.

With first-hand knowledge of what it takes to construct The Connected Enterprise, Rockwell Automation stands ready to help you build connectivity, communications and collaboration into your operations. Review this issue of Automation Today Asia Pacific to learn how we are working with manufacturers in the automotive, food and beverage, and pharmaceutical industries to help create their connected enterprises. Contact your local Rockwell Automation office to learn more about how we can help you.
Rockwell Automation Announces Leadership Changes

The Rockwell Automation® board of directors recently elected Blake D. Moret, a 30-year veteran of the company, as president and chief executive officer, effective July 1, 2016. At that time, Keith D. Nosbusch, who has been president and CEO since 2004, will transition from those roles while continuing as chairman of the board.

Moret is currently senior vice president of the company’s Control Products & Solutions segment. He has 30 years of experience in sales and business management roles in product, services and solutions businesses across Rockwell Automation. He began his career in 1985 as a sales trainee and subsequently served in senior positions across the organization. In 2011, he was named senior vice president of Control Products & Solutions.

Donald R. Parfet, Lead Director, says, “We welcome Blake to his new role... and are delighted he will build on the company’s many accomplishments under Keith’s direction and propel our vision of The Connected Enterprise to the next level.” He notes, “We thank Keith for his outstanding leadership during this period, including his work as a vocal champion of smart, productive and secure manufacturing. We are pleased that he has agreed to stay on as chairman so that the company can continue to benefit from his experience and support Blake’s transition to CEO.”

The Acquisition of MagneMotion is Now Complete

Rockwell Automation has completed its acquisition of MagneMotion®, a leading manufacturer of patented high-performance conveyor systems with servo-controlled independent cart technology. The addition of this new offering will integrate into existing Rockwell Automation control, safety and sensing solutions to help manufacturers more safely, quickly and easily transport products and heavy loads between machines and throughout a plant.

This is the second major investment made by Rockwell Automation to build its motion control business. In 2014, the company acquired Jacobs Automaton and its iTRAK® system.

The Michelon Group Awards Preferred Partner Agreement to Rockwell Automation

The Michelin Group has awarded a four-year contract to Rockwell Automation that designates the industrial automation and information company as the preferred provider to all the Michelin Group’s factories worldwide.

The agreement extends to the Rockwell Automation industrial automation, power, control, industrial software and services offerings. The Michelon Group will use these solutions to gradually leverage performance of their industrial assets and to design next-generation machines.

Ethisphere Institute Names Rockwell Automation a World’s Most Ethical Company

The Ethisphere Institute has recognised Rockwell Automation as a 2016 World’s most Ethical Company®. This is the eighth time that the Ethisphere, a global leader in advancing the standards of ethical business practices, named Rockwell Automation to the distinguished list, which recognises companies that align principle with action, work tirelessly to make trust part of their corporate DNA and, in doing so, shape future industry standards by introducing tomorrow’s best practices today.

Mining Company Adopts Industrial and Enterprise Data Management Solution

Rockwell Automation and OSIsoft have reached an agreement with diversified mining company BHP Billiton for the installation of an enterprise historian at the company’s iron ore operations in Australia. Design is under way with installation to be completed by the end of 2016. The enterprise historian will use FactoryTalk® Historian Site Edition software from Rockwell Automation and the PI System from OSIsoft.

New Services Improve Maintenance Strategies and Operational Effectiveness

A new diagnostic reliability service from Rockwell Automation helps manufacturers and industrial producers drive a streamlined maintenance strategy on mission-critical, integrated equipment lines. The solution deploys a layer of technology across plant devices and equipment to monitor and perform analysis. As part of the service, a Rockwell Automation domain service specialist closely tracks equipment performance to advise on reliability improvements to the production facility.
Turning information to real time intelligence – streamlining operations to create business value

Rockwell Automation® TechED revealed the latest software technologies to support the Connected Enterprise.

Technology is transforming industry, unlocking unprecedented quantities of data from intelligent devices within industrial applications. The challenge is contextualising the data to make it actionable and accessible to all parts of the organisation, maximising efficiency and creating value.

Rockwell Automation TechED, held recently in Sydney, revealed how the latest software technologies can help organisations grow their businesses by improving efficiencies and optimising production.

According to Matthew Treeby, commercial marketing manager at Rockwell Automation, “The fact that TechED reached capacity well before the event, demonstrated that the topics covered resonated with industry. There is a heightened interest in innovation and using technology to drive optimisation and improve productivity to be more competitive on a global scale.”

Kevin Bloch, chief technology officer at Cisco Systems, Australia and New Zealand, delivered the first keynote presentation titled ‘The top 10 ICT trends for 2016’. In an interesting and insightful presentation, Kevin specified that while commodity prices have plummeted, the value of digital, algorithm-based assets has escalated. He explained that the fourth industrial revolution is upon us and it is characterised by a knowledge or algorithm-based world fueled by data and this shift is underpinned predominantly by information technology (IT).

Scott Miller, business manager - Visualization & Information Software at Rockwell Automation delivered the second keynote presentation titled, ‘Enabling Digital Transformation through a Connected Enterprise,’ which highlighted how the Connected Enterprise can help address these trends and revealed insight into upcoming product developments, mobility and the development of Project Stanton.

Project Stanton is a new app platform that is on a mission to increase productivity by 33 seconds per hour instantly for every industrial role with zero friction. Doing that for a plant that has 2000 people – on average can move the productivity needle by 1.4 million dollars per year. The app itself is currently being developed to increase productivity and disrupt the notion that a device (phone, tablet or desktop) is just a client by activating the device as a smart node and is delivering new functions to improve industrial productivity.

Rockwell Automation TechED revealed innovative ways to optimise production data, increase yield, reduce energy costs, and help build secure networks. The event featured a combination of technical sessions, labs and workshops featuring industry-leading applications, control system design and optimisation, the latest information solutions, networks infrastructure and security, cutting edge process solutions, safety and virtualisation.

Industrial workers are increasingly turning to mobile devices to improve productivity and collaboration. By having the ability to access data from anywhere at anytime, smart decisions can be made in real time to increase productivity and profitability. There is a strong drive to use technology to get more out of assets by accessing data and providing it to the right person in the right time.

Enterprise connectivity represents a massive opportunity for industrial operations. By connecting control systems and making information available and actionable, these smart machines have the ability to make unprecedented operational improvements. A key focus of the event was to identify how the operational intelligence provided by smart machines can help endusers optimise production and provide flexibility to react to changing market demands.

As in previous years, the Process Solutions Users Group (PSUG) focused on process industry requirements and provided a unique perspective on industry developments and methods for optimising process applications. David Rapini, the global product manager for PlantPAx shared the roadmap to PlantPAx’s future and discussed specific applications and newly released features of the system. David shared how feedback from PSUG 2015 has been incorporated into product development and participants took the opportunity to provide further ideas for future product direction.

“The key focus of TechED was to generate interest to innovate and the business case to change through advances in productivity, operational intelligence, reliability and smart machines. I believe participants left knowing their next steps to get on board the Connected Enterprise and how that it would translate to business outcomes for them,” said Treeby.

Rockwell Automation TechED USA 2017 will be held on 11-16 June in Orlando Florida, this will be followed by our local event shortly thereafter.
AUSTRALIA & NEW ZEALAND

Lane Cove Assembly Facility
Comprehensive local engineering solutions in world class facility

The Lane Cove Assembly facility has a dedicated customer test areas available for you to utilise Rockwell Automation equipment to prove your automation and drive systems before installing on site. The test areas help enable customers to perform full integration test set ups, proof of concepts, integration tests with non-Rockwell Automation equipment and load testing with all types of motors.

Our services provide customers with a cost effective, integrated approach to the complete solution delivery. This expertise enables us to take a project concept through specification, detailed feasibility and costing stages as a FEED service. It also provides the expertise, engineers and technicians to implement, test and install your new solution while providing tailored training and support services.

With local service and support, the turnaround time for engineering design, supply and manufacture is reduced and it removes the difficulties involved with working in different countries and time zones at the same time considering local electrical standards.

The Lane Cove facility is AS/NZS 9001 Quality Certified and has the capability to design, customise and assemble a variety of systems including motor control centres, electrical switchboards, control panels, drive systems and instrumentation panels. Your project will be managed by experienced engineers who understand local codes, standards and application requirements to help you get to market faster than ever before.

For any further information contact Chris Turnbull cturnbu@ra.rockwell.com

Rockwell Automation appoints new customer care manager for South Pacific region

Rockwell Automation® announced that Andrew Schreiber has been appointed the customer care manager/logistics manager for the Australian and New Zealand region.

In this role, Andrew will provide overall leadership to the customer care and logistics team to ensure we provide the best customer experience. He will also continue to oversee the Quality Management System (QMS) function.

Andrew joined Rockwell Automation in September 2013 as an inventory planning supervisor and was appointed to the position of program manager, Asia Pacific Distributor Inventory Planning in June 2015. Prior to joining Rockwell Automation, Andrew was employed by Robert Bosch Australia in the positions across procurement, warehouse manager and materials planning and also worked for Corning Cable Systems as a production planner.

Customer Care strives to provide an effortless customer experience by offering a single point of contact for a variety of queries such as pre and post sales support for products and services, price and availability, delivery expedites and issue resolution. The team support internal and external sales staff, as well as our South Pacific distributors, NHP Electrical Engineering Products and Rexel Industrial Automation.

“I am very excited by the opportunity to fully align critical customer facing functions which will allow us to better serve our customers. I am also very pleased that Andrew will be taking on the role and look forward to his leadership in customer care and logistics”, said Dave Hegarty.

“It’s exciting that Rockwell Automation is taking a different approach to enhancing our customer experience by aligning our end-to-end Supply Chain functions. We have very technically strong teams throughout both functions, which helps enable us to provide a high level of support to our customers. I’m proud to lead Customer Care and Logistics through the next phase of our evolution; from back office support functions to a proactive, “Single Point of Contact” for our internal and external Sales and to provide customer advocacy and issue resolution”, said Andrew Schreiber.
HMI Evolved

Data that was once untapped or lost in complexity can be brought to life through modern HMI software integrated with IT and OT systems.

Are you playing Pong while the competition plays Halo 5? The human-machine interface (HMI) system has evolved from push-button controls to the primary platform for operational decision-making. Just as today’s best video games offer up dramatic, new capabilities, today’s HMI provides more effective graphics, contextualised alerts and intuitively placed information that helps operators to make quick, in-process decisions.

Expectations for HMI software are progressing as OEMs and users want to take advantage of new technologies. Migrating to more advanced HMI software can help unlock new benefits by reducing design and commissioning time and boosting uptime and productivity. The drivers behind these benefits are improved visualisation and ease, more detailed and accurate alarm information, and anytime, anywhere access to information.

Behind the Screens

Every day, control systems collect a swarm of unused operational data that could potentially help in plant-wide decision-making processes. Companies that are electing to converge their IT and operations technology (OT) now are uncovering once-ignored data from controllers and supervisory control and data acquisition (SCADA) systems.

Thanks to the confluence of IT and OT solutions, the HMI can take on producer and consumer roles in the system-wide data flow. In short, not only does it display all of the real-time information needed to control a system, but by accessing data from other sources, operators can visualise and contextualise a broader set of information. This results in making decisions and solving problems closer to where and when data is created.

Reduce Design Time

The idea of HMI system migration can seem daunting, but modern HMI software alleviates this with simplified design and commissioning processes.

By offering a common development tool, multiple users involved in a deployment can create machine- and site-level HMI applications in a single, scalable design environment. Developers, for instance, can create reusable objects that achieve consistency, and managing entire object libraries to improve the overall productivity of the design process. Plus, the entire machine-level applications or their individual components can be imported into supervisory-level applications.

For running systems, edits to
applications are straightforward during commissioning. When changes are made, the system will update without costly redeployment or recompile cycles.

Advanced HMI software also integrates with the control system instead of existing as a separate entity. The HMI can reference tags and alarms directly in the controller instead of using abstracted intermediate databases. This direct connection means reduced error rates in design and increased accuracy in state-tracking and time stamps.

**Bring Data to Light**

You’ve integrated IT and OT systems. You’ve reduced design time. Now, an abundance of data is available at your fingertips. This quantity of information might seem overwhelming and in itself doesn’t monitor or control production. It requires presentation in a clear, concise and consistent view that enhances the operational role of a modern HMI solution.

Fancy graphics make a contribution, but what users really need is a way to visualise complex information in an intuitive display. By using industry standards for operator awareness, an HMI can present even that swarm of data on a physical screen without confusion. For example, Web-browser-style navigation buttons empower operators to quickly respond to problems or select specific screens from a list.

By supporting multiple platforms and form factors, the view from an operator terminal at one plant can be consistent with a PC-based system at another. Organizations with multiple plants can actually improve the efficiency of their workforce by supporting consistent, visualisation standards across their enterprise.

**Alarmingly Detailed Information**

As the primary view into a production system, quickly alerting users to a current or potential issue is a critical task for any HMI system. An especially relevant component of a modern visualisation system is a comprehensive alarming system.

Modern HMIs simplify alarming functions and tightly integrate them with the controller. That means it’s a new world where controllers hold alarm configurations and state conditions, displaying state changes and alarm triggers on the HMI without constantly polling for information. It’s a world in which alarms require no additional configuration in the HMI. If a network outage occurs, alarms are buffered in the controller and show on the display in the right order with accurate time stamps.

**On the Go? So is the HMI**

Modern HMI also provides greater flexibility in where and how information is available. Smartphones and tablets have put almost unlimited information in the palm of the user’s hand. Blending advanced HMI software with mobile devices lets an organisation extend the reach of its system. Modern HMI systems with responsive displays mean that operators, maintenance, quality, plant managers or other key users have instant access to their operations anywhere – from the plant floor, to the couch at home, to seat 24B on an airplane.

**Robust Information Sharing**

Data that was once untapped or lost in complexity can be brought to life through modern HMI software integrated with IT and OT systems. An HMI’s value doesn’t end at the operator interface. Rather, it can and should extend into your information architecture for easier and more robust information-sharing and decision-making.

When an HMI can directly integrate with plant-floor systems, users gain access to real-time information from a controller along with information stored on the plant floor. This data can be delivered as actionable information via the HMI software to help plant personnel better analyse production, optimise equipment performance, improve fault detection, track product quality and more.

Accessing and visualising valuable data has never been easier. A modern HMI isn’t just fancy graphics. It can be the catalyst to push your production forward.

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**FactoryTalk® View**

FactoryTalk® View provides robust and reliable functionality in an HMI solution that scales from a stand-alone, machine-level HMI to a distributed visualisation solution. With FactoryTalk View, HMI challenges in process, batch and discrete applications are managed in a single software package that extends beyond the walls of your facility to deliver critical visibility on demand, improving the productivity of users at every level of your organisation.

Further Information:

- [http://www.rockwellautomation.com/rockwellsoftware/overview.page](http://www.rockwellautomation.com/rockwellsoftware/overview.page)
Medical Device Manufacturer Relies on Manufacturing Intelligence to Improve its Process

By installing a solution based on the FactoryTalk software from Rockwell Automation®, Advanced Scientifics Inc. automated manual data collection and improved customer experience.

T urning human and animal cells into medicine, like insulin and antibiotics, is a complex, sophisticated process. The transformation occurs in mixers, which separate and help extract vital therapeutic materials.

Stainless steel equipment has long been an essential aspect of this process, but sterilising stainless steel effectively requires time-consuming and expensive methods. So, life science and healthcare companies often turn to a more efficient and cost-effective solution: single-use bags that are inserted into mixers, used during the process and then thrown away. The disposable bags reduce the need to sterilise stainless steel mixers, minimise the potential of cross-contamination and greatly decrease turnover time between batches.

Advanced Scientifics Inc. (ASI), a leading global producer of single-use systems for biotech, is a major provider of these single-use bags to a variety of life science and healthcare companies. ASI wanted to improve its data collection and reporting capabilities on bag runs, improve quality control for customer orders, and provide each customer with process and production information on their orders.

For part of the process, operators still had to record some data manually. ASI not only wanted to completely automate the data collection and reporting process but also desired a more granular view of each parameter in real time. This would allow it greater control over the process and greater visibility into alarm conditions to reduce downtime.

Such transparency is also important for customers. Consistent documentation and accuracy of each run are essential for compliance for life sciences and healthcare companies. So, another goal of ASI’s was to be able to produce high-level reports that would provide customers with the insight they needed into the final product.

Unlocking Production Data

ASI needed the right software to meet its goals. The company turned to Automated Control Concepts Inc. (ACC), a Solution Partner of the Rockwell Automation® PartnerNetwork™ program, to design and deliver a solution based on the FactoryTalk® software from Rockwell Automation.

“Choosing FactoryTalk software was a simple decision because we knew it would integrate seamlessly with our existing Rockwell Automation hardware, meaning minimal changes and interruptions to the process,” says Rudy Pavlik, engineering manager, ASI.

FactoryTalk VantagePoint® software accesses data from points in a run and allows operators to view various parameters on dashboards in real time, including those once manually collected. ASI can create a deeper-level report for operating managers to track various parameters – including seal-pressure and temperature, trends and machine status – to verify quality control on a bag-to-bag basis.

Operators can also view the status of each machine on the line – whether it is running, idle or paused – so they can more accurately predict when an order will be completed and when a new one can start.

For customers, ASI can readily create a report containing high-level process data – including temperature, pressure and time – for each individual part produced.

By using FactoryTalk Historian Site Edition software, ASI operators can record and track time-series data to pinpoint operating trends. “By integrating information from individual machines, as well as throughout the line, we can adjust parameters when and where necessary, which improves efficiency throughout the plant,” Pavlik says.

More Efficient Operations

ASI’s increased visibility into the process has made operations more efficient and has improved their competitive status. Customers, some of whom even visit the plant during production, can view the detailed status of their order – down to the last five bags.

“This level of information gives ASI’s customers reassurance and confirms the quality of their product,” says Michael Blechman, president, ACC.

Pavlik explains that the Rockwell Automation software has already helped reduce downtime. The company is also identifying opportunities to leverage new data for better decision-making.
Is Industrial Security Critical for Digital Manufacturing?

As more devices connect to the Internet, it’s more important than ever to protect industrial networks against cyber security vulnerability.

As more devices connect to the Internet, it’s more important than ever to protect industrial networks against cyber security vulnerability.

By Chet Namboodri, managing director, Global Enterprise Business, Manufacturing Vertical, Cisco

Manufacturing is undergoing radical advancements, much like the ones we’ve seen in health care and education, thanks to the Internet of Everything (IoE) and all of the people, data, processes and things it connects.

It’s estimated that by 2020, 50 billion devices and objects will be connected to the Internet, including many devices in the manufacturing world. “Smart” factories where machines “talk” to one another, fleet vehicles such as trucks and forklifts with sensors that monitor their movements, and even wireless inventory tracking devices are all in play at manufacturers across the globe.

In addition, manufacturers are embracing a new generation of machine-to-machine (M2M) and person-to-machine (P2M) systems, as well as mobile applications and cloud-based services that drive efficiency and innovation across their value chain.

All of these connected “things” and processes allow manufacturers to benefit and address challenges that more traditional models and operating practices were not able to offer. This is especially true as IT and operations technology (OT) become more integrated in The Connected Enterprise and vast data streams are acquired, processed and transmitted. However, it’s these very streams of data and interconnectedness that are putting industry at risk.

Industrial Security

Via a Twitter chat (#CiscoChat), Rockwell Automation (@ROKAutomation) and members of our company, Strategic Alliance Partner Cisco® (@CiscoMFG), discussed what new digital business models mean for industrial security.

During the chat, Nancy Cam-Winget, one of the leading experts in industrial security and Cisco engineer, Gregory Wilcox, global business development manager at Rockwell Automation, and other participants talked about how to mitigate digital risks and the future of security within the manufacturing industry.

Why is industrial security such a critical discussion? In 2012, McAfee’s Threat Predictions white paper identified industrial networks as the leading cyber security vulnerability, confirming industrial control and automation systems (IACS) as target-rich environments. Just two years ago, Symantec reported that manufacturing was the most targeted sector for targeted attacks, accounting for 24% of them.

Fast forward to 2016, and the news isn’t much better. Cybercrime costs have risen to $445 billion annually; the interconnectivity of devices and the new business models they drive are a huge reason.

In manufacturing, hackers can take control of certain software platforms and infect systems with malware. If there are unpatched or unprotected areas on IACSs, hackers can easily gain access to them — just like on traditional enterprise networks. The consequences could be detrimental, both internally and externally — worker downtime, economic losses, regulatory requirement violations are just a few.

Reproduced from The Journal Magazine – A Rockwell Automation publication
Going Paperless for Regulatory Reporting

Advances in modern EBR systems can help companies optimise production, speed time-to-market and ease compliance.

The pharmaceutical industry is highly competitive and strongly regulated. To succeed in this environment, manufacturers must be swift and lean in their operations, yet robust and agile in their response to changing market and regulatory forces.

Implementing manufacturing execution system (MES) with electronic batch recording (EBR) – within The Connected Enterprise – can be transformative to operations. MES can help optimise overall production while its EBR capabilities address common applications, such as dispensing and quality. And when MES operates within The Connected Enterprise – one that seamlessly and securely connects the control and information levels of an organisation – the right data is shared with the right people in the right context to drive improvements that have exponential value across organisations.

What to Look for in an MES Solution

When evaluating MES systems for pharmaceutical applications, companies must consider solutions that provide broad functionality, enabling users to adapt, configure and extend software capabilities. The MES system must demonstrate that it can improve time to results. In addition, it should reduce or eliminate programming by integrators through the re-use of existing building blocks that enable users to set up new workflows in minutes.

The MES system also must provide out-of-the-box integration with engineering resource planning (ERP) software, which will enable users to better manage data from product planning, purchasing, manufacturing and service delivery. Finally, the MES system should be scalable, reliable and fast to deploy.

A Focus on EBR

Exhaustive paper documentation became the status quo in the pharmaceutical industry to satisfy regulatory documentation requirements. However, paper-based systems are time-consuming, which increases manufacturers’ cost per batch and limits opportunities to be more efficient. They can also introduce risk in the form of human error.

EBR, on the other hand, replaces paper documentation with a more agile, software-driven system that can manage workflows and record-keeping for everything from recipe creation to batch quality. An EBR system automates data collection to help speed up the documentation process and reduce the likelihood of errors. Logged data also can help reduce cycle times by optimising every stage of the product life cycle, as well as increase inventory turnaround times.

With EBR, greater efficiencies in production and compliance efforts enable companies to lower the cost of operations. In addition, improved decision-making made possible through EBR data, combined with a potential reduction in human errors, can help reduce waste.

A paperless EBR system can simplify compliance efforts. Deploying a serialisation system from the same MES software used for EBR can help meet emerging regulations, including anti-counterfeiting requirements.

Time to Market

Time to market is critical for pharmaceutical makers who want to meet customer demands and maximise profits before patent and product expiration dates. An advanced EBR system can help improve time to market in several ways.

First, it can help optimise cycle times across the product life cycle. The system can retrieve batch protocols and minimise the need to pass records physically between stations, shortening the time required to produce and ship products.

It can also speed up review times for batch documentation. The system’s ability to notify operators of exceptions during the production process can improve batch accuracy and consistency.
It also allows quality assurance teams to review by exception rather than go through each record line by line to avoid batch-release delays.

Pre-validated recipe building blocks available in advanced EBR systems can be re-used to achieve shorter deployment times. Instead of time-consuming custom programming and validation, recipe authors can use a library of instructions to create new workflows in minutes.

Batch records must be kept for at least one year following a product’s expiration. An EBR system electronically archives all records to help maintain complete batch records.

In addition, the easy access to key information in an advanced EBR system enables more targeted opportunities for continuous improvement in operations. It can help companies identify and eliminate unnecessary tasks, such as redundant material checks and weight verifications.

Cost Savings
Lengthy compliance activities drive up the cost of production operations while products wait to ship. Also, human errors made during the production or documentation processes can result in wasted product, contamination and potential recalls.

An EBR system can help reduce costs in three ways:
• Savings through efficiency. The efficiencies made possible through an EBR system can optimise the total cost of deployments. For example, automating quality assurance functions and review by exception capabilities reduce the effort and associated cost of researching process deviations while electronic logs of batch data help eliminate the costs of physically storing paper documents.

• Less waste. Reducing the risk of human error combined with EBR features, such as enforceable workflows, can help prevent production or recording errors and reduce wasted product. Preventing these errors can help minimise the likelihood of expensive, brand-ravaging product recalls.

• Inventory savings. Automated data collection and the ability to review exceptions in real time rather than after the fact result in less product sitting in the warehouse and waiting for release. The faster turnover translates to reduced inventory costs.

Painless Compliance
Compliance is compulsory, but it does not have to be painful. A paperless EBR system harnesses the power of automation and greater connectivity to help ease, and even improve, demonstrated compliance.

It can integrate recipe and order information into The Connected Enterprise and support the use of enabling technologies, such as mobile devices, to provide information in more convenient and efficient ways.

EBR delivers individualised, context-specific instructions to production operators. It also enforces processes and procedures, such as required sign-offs.

In addition, it reduces the potential for human errors, such as calculation errors and incomplete or incorrect records. Production activities can be restricted to authorised personnel using security features, such as role-based access.

What’s more, the same software used for MES and EBR can also form the core of an anti-counterfeiting serialisation system. This can help companies meet the data-collection and data-management requirements for emerging anti-counterfeit laws and avoid the burden of designing, implementing and maintaining multiple stand-alone systems.

Where to Begin
Rockwell Automation recommends a four-phase approach to EBR implementation.

The first phase, Pre-Assessment Review, defines an organisation’s opportunities, overall readiness and the project’s scope. The time required to complete this phase is two to three days.

The second phase, Proof of Concepts, involves the initiation of design changes and development of documentation guidelines. It typically takes between eight and 13 weeks to complete this phase.

The next phase, Re-Design and Harmonisation, requires 13 to 16 weeks. In addition to re-designing and harmonising remaining documents, pilot testing, change control and implementation take place.

The final phase, Additional Opportunities, adds complementary MES modules, such as a serialisation system. During this time, the EBR system is interfaced with business systems.

If your company has held off on going paperless, or had a difficult experience with software developed a decade ago, the time to revisit paperless reporting is now. There will always be challenges in pharmaceutical production, but capabilities in the latest software offering mean reporting and validation can be taken off that list.

For more information, visit: www.rockwell-automation.com/rockwellsoftware/products/pharmasuite.page?
Sustainability is a key component of Australia’s pulp and paper industry. Advances in technology have provided the capability to reduce environmental impact, safety and support the ongoing sustainability of the tissue production process.

Encore Tissue is an Australian family owned business that was established in 1998 by the Holckner family, comprising of Charlie Holckner and his two sons, David and Mark Holckner.

Today, the company is a leading manufacturer of toilet tissue and kitchen towel with a manufacturing plant in Laverton North, Victoria. Encore’s philosophy is to manufacture quality products and endeavour to be environmentally, socially and economically responsible.

The fibrous raw material is sourced from responsibly managed plantations and regrowth forests. The fibres are sourced from local and International suppliers who practice sustainable management of forests in line with strict international standards. All suppliers operate under Forest Stewardship Council accredited environmental systems and practices.

Encore Tissue is committed to achieving sustainable economic growth that is of benefit to present and future generations, without threatening the resources or biological systems of the world in which we operate.

The company is committed to constant improvement in its manufacturing process as it grows into a major player within the industry. As testament to this commitment, Encore Tissue decided to undertake an upgrade to part of their tissue production line to keep in touch with the latest technology, increase production output and help their customers by providing a better quality product that exceeds their requirements.

The scope of the project was to upgrade the original tissue machine, which was commissioned back in 2003 to incorporate new technologies and improve production rates.

Driving increased tissue production

The original tissue machine at Encore originated from Italy and had Reliance Automation components, which were supplied by Rockwell Automation. The tissue machine was relocated from Velcarta in the south of Italy and was installed in 2002/2003 at Encore Tissue’s Laverton North site, which enabled Encore to supply a full range of multi-ply virgin and recycled converted tissue products. During the relocation of the tissue machine, the original end of life Reliance DC drives were upgraded to newer FlexPak 3000 DC drives, beginning the relationship between Encore Tissue and Rockwell Automation. However, as demand continued to grow for Encore’s products, the original tissue machine required an upgrade that would use new technology to improve quality and output.

According to Mark Camilleri, project manager at Encore Tissue, “We have enjoyed a longstanding relationship with Rockwell Automation. The company upgraded our drives back in 2003 so when we were embarking on the latest line upgrade, we invited them to tender for the project and once again, their approach, solution and capabilities made them the most logical choice.”

The tissue making process starts with pulp that is approximately 99.8 percent water and 0.2 percent fibre. This pulp is pumped by a large pump called a fan pump onto the machine, through a head box, which distributes the pulp onto a forming fabric creating the tissue sheet. The tissue sheet is then transferred onto a felt and transported through the machine. The felt passes over a suction roll, which removes some of the water.
from the sheet before the tissue sheet is transferred onto a large steam heated and pressurised drum called a Yankee Dryer. The Yankee Dryer further dries the tissue sheet, aided by gas heated hoods until the sheet is 95 percent fibre and only 5 percent water before it is creped off the Yankee and wound onto paper cores by the pope reeler, creating the finished parent reel.

To gain additional kilowatts and increase production output with the new machine, the fan pump, forming roll and suction press drives were upgraded from FlexPak 3000 DC drives with four new PowerFlex® 755 AC drives and the existing control system was upgraded to GuardLogix® to address safety requirements.

“As part of the design process we went to the plant to measure the room to see if the drives fit within the existing space, but because the footprint of the AC drive is much larger than the DC drives, we had to change the configuration of the drive so it would fit in the room. This involved reversing the arrangement of some of the drives and putting the circuit breaker panels on the left hand side, instead of the right side so they were aligned with the high beams in the roof,” said Peter Tomazic, senior solutions consultant at Rockwell Automation.

“The tissue machine required a high current system, the incoming feed was 4000amps so this involved finding a suitably rated busbar system. Also, because at least 50 percent of the cabinet was retained we had to ensure that it married up with those existing cabinets and the system was integrated effectively,” he explained.

According Mark Camilleri, “To continue to grow the business we need to keep in touch with the latest technology and provide a high quality product to our customers. The team at Rockwell Automation were able to customise our panels and solution to suit our requirements and maximise our output.”

Software customisation

According to Matthew Barrett, “Supplying the product is the easy part but understanding how it is engineered to run is much more challenging. With this sort of equipment you need to make sure the drives are running at the same speed to avoid mechanical damage or breaks so there is a fair amount of smarts in the way you engineer the drives. We have developed libraries of software for these sorts of applications as a result of years of experience that saves engineering time and improves reliability.”

The Encore site has now evolved through three generations of Rockwell Automation solutions and has gradually migrated equipment so that down the track when any remaining equipment needs to be updated, they will be able to do so easily.

“Being able to migrate in stages is good from an economics point of view and there is a lot of flexibility in the product which makes integration of the new solution with our existing equipment seamless,” said Mark Camilleri.

As part of the system test, a full factory test was conducted to minimise downtime upon installation. This demonstrated that the whole system was working as a dry system and also validated a few functions. During the commissioning process there was a standard protocol that was followed which made installation easy and ensured that there was no downtime involved.

Sustainable lifecycle

According to David Holckner, director at Encore Tissue, “Today we have three generations of Holckner family members working together supported by a dedicated management team, and we are all looking forward to the challenge of continuing to build our business, offering our customers improved tissue quality and innovative products with our new capability.”

Water is a key resource in paper manufacturing and trying to reduce water usage has been a key project for Encore Tissue. Since commencement, the amount of water used per tonne of paper manufactured has reduced by 65 percent. This has been largely due to reusing and recycling water within the manufacturing process.

“The solution is more energy efficient and helps us to use less water in the manufacturing process, especially as we get it up and running to full capacity. Integration and commissioning was straightforward which meant we were up and running with no significant downtime and we are already familiar with the look and feel of the product which makes it easy to operate. As a result of the solution, the tissue machine now has increased output which was our key business driver,” said Mark Camilleri.

“We have enjoyed working with Rockwell Automation, they are a very professional company that knows their product well. They are easy to work with and provide flexibility within their product and services so we would not have any hesitation in recommending Rockwell Automation to other customers,” he said.
Diverse consumer demands and greater competition are driving food and beverage makers to produce more SKUs than ever before. Doing so has introduced greater complexity into the production processes and supply chains, requiring that food safety and quality be managed across a broader product spectrum.

How do companies recommit their operations with a heightened focus on food safety in the face of wide-ranging challenges?

The answer lies in taking an enterprise-wide approach – one that embraces information-enabled technologies and automation. Check out the key steps that can help manufacturers address food safety across their operations while increasing productivity.

Step 1: Get Connected

The most important step in implementing an enterprise-wide approach is to converge operations technology (OT) and information technology (IT) into a single unified network architecture. This lays the foundation for seamless connectivity and greater collaboration among the many people, processes and technologies that impact product safety and quality. Rockwell Automation refers to this as the Connected Enterprise.

Mobile platforms, cloud computing and Ethernet are technologies that enable the Connected Enterprise. While the Connected Enterprise provides the foundation for greater connectivity, these technologies serve as the actual tools that can help you improve visibility into safety- and quality-related processes. They also enable easier viewing and sharing of that information across the enterprise.

Step 2: Secure Your Networks

Network security directly impacts food safety and quality. As more manufacturers bring their quality-critical applications onto the network, from irradiation processes to managing proper heating and cooling temperatures, they must take the necessary measures to be sure a robust security program is in place.

The breadth and ever-changing nature of today’s threat landscape means that a “security through obscurity” approach is no longer viable. Instead, a multilayered security approach is needed – one that builds several lines of defence across multiple levels of your network infrastructure.

That is what the defence-in-depth (DiD) security approach aims to accomplish. A DiD security approach addresses both internal and external security threats across six areas of focus:

- **Physical Security:** Includes guards, gates, lock-in/block-out devices and physical access control
- **Network Security:** Firewalls, IDS/IPS, switches and routers, DMZ and VLANs
- **Computer Hardening:** Antivirus software, application whitelisting, HIDS, software-patching best practices
- **Application Security:** Authentication, authorisation and audit integrated into control-system applications
- **Device Hardening:** Adjusting out-of-the-box device configurations in areas such as change management and restrictive access
- **Policies:** Defining security technologies and how they are implemented; shaping processes and procedures for employees

Rather than being tacked on after the fact, your DiD security should be holistically developed to serve as a natural extension to your manufacturing processes.

Similarly, using an open network architecture, such as EtherNet/IP™ versus closed proprietary networks, will enable you to easily incorporate more security solutions from more vendors. That means you can integrate commercially available antivirus software, patches, intrusion-detection tools and other hardware or software to create a more dynamic network – and better stay ahead of threats.

Step 3: Employ a Risk-Based Preventative Control Program

With your operations connected and secured, you need to be able to access and act on your process control data to initiate a proactive approach to managing your food safety program. Replacing slow and outdated paper-based information gathering with software can automate the collection and visualisation of process control data to give you deeper insights into your manufacturing processes.

Each year, contaminated food sickens 48 million Americans, of whom 128,000 are hospitalised, and 3,000 die.

One-quarter of consumers indicate they are willing to pay 10 percent or more for a product that is new or innovative, and one-third will do so for a craft version of food or beverages.


With the right technology, you can apply a more proactive approach to your food safety program. This preventative approach can help comply with regulations, as follows:

- **Real-Time Monitoring of Critical Points in Your HAACCP Plan:** Get real-time process control information on parameters such as temperature, pressure, flow rate, cook time, line speed and clean-in-place (CIP). Create food safety dashboards to have a holistic view of critical control point performance across the plant.
- **Data Trending and Statistical Process Control:** Obtain early warning when certain thresholds are met or before the process is out of spec for a more proactive approach.
- **Corrective Action Logs:** Use "monitor" and "alarm" functions to gain visibility if certain process parameters are out of spec. Record when the required corrective action was taken. Leverage this information to meet regulatory rapid response requirements, such as the U.S.’s Food Safety Modernisation Act (FSMA).
- **Records Management and Verification:** Visualise real-time data and access historical data. Leverage trends and correlations. Also, generate time-stamped reports quickly – without having to dig through paper-based reports.

**Step 4: Implement Product Traceability**

Implementing a risk-based preventive controls program enabled by the right technology is only one piece of the food safety puzzle. Employing product traceability is also of critical importance and essential to your recall plan.

Globally, the pressure is on to increase traceability in the food supply chain. In China, for example, new regulations require greater traceability for infant formula. The latest British Retail Consortium (BRC) food-safety standard also includes stronger traceability requirements, and it is required for certification in all Global Food Safety Initiative (GFSI) standards. In the U.S., increased traceability requirements are expected in upcoming FSMA revisions.

Implementing a supply chain track-and-trace system can help you comply with these emerging regulations and help protect your products against potentially dangerous counterfeits and supply chain diversions. Doing so also can offer business benefits, such as conducting more efficient product recalls and supporting customer-targeted marketing programs.

Consider an out-of-the-box system that can be easily integrated into your lines. To ease the integration process and minimise production disruption, consider using a standardised system that was designed at the manufacturing execution system (MES) level. This can help confirm interoperability down to the machine level and up to the enterprise and cloud levels.

**Step 5: Improve Operational Efficiency**

A secure, connected infrastructure can play a critical role in strengthening your food safety program and can help with regulatory compliance. But the benefits do not end there. It can also be used to improve product quality, asset utilisation, yield and energy usage.

Manufacturing intelligence tools such as metrics applications and data-rich dashboards can report on how your machine is performing, as well as why it's performing at a certain level. This can help improve overall equipment effectiveness (OEE) while also delivering more consistent batches, even as raw materials or processes vary.

A process automation system that delivers predictable batch processing consistency between batches and event-based information can be critical to helping you reduce process variability and achieving consistent product quality.

Mixing optimisation solutions can help manage process changes and ingredient variability to improve product consistency for applications ranging from single repeatable processes to large processes that have complex batch and sequencing requirements.

In addition, to help manage a growing number of product varieties, packaging options and new products, a configurable line-control solution can enable easier integration of discrete production lines and user production analysis to help monitor key quality metrics.

**The Right Recipe**

Unsafe food and beverage products can have devastating and long-term consequences. The most significant toll is human. That toll can extend to your operations in the form of worker layoffs. Financial impact can be wide-ranging, from wasted product, recall efforts and plant shutdown to drawn-out litigation costs.

Taking action to mitigate any shortfalls will require investments. But those investments are likely minuscule compared to the full scope of costs that would result from a major product recall.

Remember that your brand and business are represented in every food or beverage item that rolls off the line. A comprehensive approach to protecting product safety and quality can strengthen your reputation, satisfy increasingly scrutinising customers and regulators, and ultimately boost your bottom line.

For more information on food and beverage solutions, visit: [www.rockwellautomation.com/global/industries/food/overview.page](http://www.rockwellautomation.com/global/industries/food/overview.page)
Pastry Maker Leverages Production Intelligence to Increase Output

Country Maid moves from manually collecting production data to automating the process – and doubles product output.

Country Maid, a U.S. pastry manufacturer with operations in Iowa, is known for its hand-braided baked goods. The company was founded in 1991 when the owners, Ken and Marlene Banwart, began making pastries in their basement for the local farmers’ markets. The pastries became a local hit, and the couple realised their pastries could have a wider appeal. They began freezing the raw pastries and creating new varieties to be sold to nonprofit organisations and school groups for fundraising activities.

The pastries are popular because they have a homemade taste and warmth. People let the frozen dough rise over night, put it into the oven to bake and then enjoy it. Not surprisingly, the process for turning the ingredients into tasty pastries is far more complicated.

Adding Automation to the Mix

Inside the Iowa facility of the now 100 percent employee-owned company, ingredients like dry milk, flour and sugar are stored in multiple holding bins and are transferred into an industrial mixer, where they are combined with water. The mixture then goes into a rotary dough feeder that transfers it down a conveying line.

Much like a rolling pin, a machine then spreads and layers the dough, which is then topped with butter and filling. Just before it is moved to the freezer, a worker puts the final touch on the 12-layered pastry, intertwining the top layers to create the signature look of the Butter Braid® pastries.

Prior to automating the process, workers were far more involved in production – from hand batching and scaling every pastry to cutting open each bag of flour to pour into the mixer. Operators also collected and reported basic production data manually, leaving room for human error and inconsistency. This fully manual process was also time- and labor-intensive.

By adding automation to this process, Country Maid wanted to gain advanced data-collection capabilities to be sure each batch would retain the same high-level quality as the previous one. The company also wanted to improve overall operational efficiencies throughout the facility.

To help meet demand, Country Maid added an additional line. It had two options when it came to designing the mix room: It could either replace the mixer with a larger one (which would require expanding the facility to accommodate its size), or it could install a smaller new mixer with the new additional automation line.

Marc Banwart, Country Maid systems integration specialist, says, “We found that if we automated a new larger mixer, we could reduce the size of the mixer and avoid having to expand the facility. This option was less expensive and would achieve the same goal. We knew the change would help us meet growing production requirements and give us access to data that would allow us to make better operating decisions.”

Pinpointing Production Trends

Along with the new second line, Country Maid wanted to automate the existing line. It selected the PlantPAx® process automation system from Rockwell Automation as the core system for the two lines. Country Maid collaborated with Interstates Control Systems Inc., a Solution Partner of the Rockwell Automation PartnerNetwork™ program.

The PlantPAx system includes a...
visualisation, analysis and reporting portal, along with a process historian. This allows operators to view production trends and make adjustments to recipe rations.

As part of the PlantPAx system, FactoryTalk® VantagePoint EMI software was implemented to track and record data to pinpoint production trends. The software collects information from disparate sources throughout the production line so operators can view data on dashboards in real time on a variety of role-based dashboards. Operators use this data as a discovery and analysis tool, strategising improvements for each batch based on various parameters, including temperature and dough consistency.

Previously, Country Maid faced issues with consistent dough development and did not know why. With VantagePoint software, operators were able to locate the source of the problem: the plant’s flour silos located outside the building can be problematic due to climate changes. Operators can now monitor each batch based on the changing temperature conditions within the holding bins.

The system also provides a view into parameters that could affect production. “Operators can view how long downtime lasts as well as when and where it occurs on a line,” says Raymond Berning, lead control systems developer, Interstates Control Systems Inc. “This level of insight tightens control of production.”

Mining the Data

Country Maid wanted to gain quality data and tighter control on processes as well as be able to make better decisions based on data from each batch. It achieved this – and more.

The facility doubled product output, achieving one of the company’s main goals. It also saw a 14 percent line-speed increase and a reduced mix time of 23 percent.

After implementing the PlantPAx process system, Country Maid had a wealth of information available to review, beyond how much water or sugar was added to a batch. Operators now know when to adjust parameters for a batch, and they know why adjustments need to be made. It’s no longer an assumption or a guess.

By choosing to implement one highly automated mixer instead of a larger one and modifying the facility, Country Maid saved US$120,000 on equipment and avoided extensive production downtime. It was also able to utilise labor more efficiently because of the new data-collection capabilities, reducing batch labor by over US$45,000 per year.

The process solution improved reporting capabilities and production efficiencies beyond what Country Maid had anticipated. For now, the only part that its production process cannot handle is the hand-braiding component for each pastry – a task no machine has been able to duplicate with as much precision as a worker’s hands.

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**Powerohm Resistors**

- **Type PW Series Modules for Powerflex Drives**
  - AC Voltage: 208 – 720V
  - Amps RMS: 50 - 1200A

- **Type PK Series**
  - Voltage: 208-15,000
  - Amps: 0.5 - 25

- **Type HRG Grounding Systems**
  - AC Voltage: 208 – 720V
  - Amps RMS: 50 - 1200A

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**Powerohm Part Number**

- PKA005
- PKA010
- PKB005
- PKB010
- PKC005
- PKC010
- PKC050

**MFG Part Number**

- 1336-MOD-KA005
- 1336-MOD-KA010
- 1336-MOD-KB005
- 1336-MOD-KB010
- 1336-MOD-KC005
- 1336-MOD-KC010
- 1336-MOD-KC050

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**Powerohm Part Number**

- PWA018
- PWA070
- PWA115
- PWB009
- PWB035
- PWB110
- PWC009
- PWC035
- PWC085

**MFG Part Number**

- WA018
- WA070
- WA115
- WB009
- WB035
- WB110
- WC009
- WC035
- WC085
As products age and give way to new technologies, the need arises to proactively plan and manage the transition from existing equipment to leading-edge products and technologies.

Automation components, software and systems represent major capital investments that are instrumental to the success of industrial operations. In the face of rapidly changing markets and technologies, the industrial enterprise must keep step to remain competitive.

Today’s contemporary automation systems offer unprecedented advancements in performance, flexibility, and security, with the potential to provide a competitive edge. Technology continues to advance at a rapid rate, accelerated by the emergence of the Industrial Internet of Things and advances in enabling technologies, including data analytics, remote monitoring and mobility.

Rockwell Automation continues to incorporate these latest technologies in control and automation platforms and although the PLC-5 programmable logic controller has been a valuable part of their portfolio for more than 30 years, no technology can last forever. Modern control systems provide a higher level of integration, driving improved asset utilisation, increased system flexibility and easy access to information.

The high performance, Rockwell Automation ControlLogix platform delivers the capabilities to converge production disciplines (discrete, motion, process and safety), including extreme environments and high availability applications, into an integrated plant-wide architecture enabling a connected enterprise.

Information shared between Information Technology (IT) and Operations Technology (OT) across a secure network enables:

- Greater production visibility, for quicker response to customer demand
- Higher profit margins through improved inventory management, cycle times and quality control
- Improved capacity and asset utilization, leading to greater Overall Equipment Effectiveness (OEE)
- Regulatory compliance and reduced exposure to security risks

Migrating to the ControlLogix family of programmable automation controllers (PAC) provides the platform to leverage advancements in technology, including improved access to information, more informed business decisions, faster performance for more throughput and increased memory. This platform improves ease-of-use and enables scalability via a common control engine in a single development environment that helps eliminate the need for multiple discrete control systems.

Whether a decision is made to migrate all at once or use a phased approach, Rockwell Automation provides migration tools for hardware selection, code conversion and hardware conversion that eliminate the need to modify any field device wiring.

Contemporary equipment can lessen the burden of maintaining spares for aging parts, while at the same time providing access to leading-edge technologies that allow your business to grow and innovate, opening the door to new opportunities and an expanding global presence.

For further information, please visit: http://www.rockwellautomation.com/global/solutions-services/capabilities/migration-solutions/plc-5-controllogix-migration.page
Pre-engineered Machinery Safety Application Examples

Machine safety can be developed by combining blocks of safety functions to provide a complete safety solution. These documents provide detailed information that outlines the functionality, performance and products that are required for each safety function. They also come with a produced SISTEMA Performance Level calculation as outlined in EN ISO 13849 1.

For more information, visit: www.rockwellautomation.com/en_AU/solutions-services/capabilities/safety-solutions/safety-functions.page

Compact I/O - Future proofing your system and enabling your Connected Enterprise

The Compact I/O™ system continues to expand performance capabilities with the 5069 Compact I/O platform. It is the ideal distributed I/O solution for use with the ControlLogix® 5580 controller and users with high processing requirements.

The Compact I/O system future-proofs your system and enables the Connected Enterprise, allowing machine builders to bring added value to their customers through a single, unified architecture, using EtherNet/IP™ for increased overall productivity.

For more information, visit: ab.rockwellautomation.com/io/chassis-based/5069-compact-io#overview

Our partners, your success.

Distinguished system integrators who know your business.

Solution Partners and System Integrators, as part of our PartnerNetwork™ offer differentiated skills and experience in the areas of control, process, power and information. They can help design, implement, manage and maintain your automated systems and keep your facilities operating at optimum efficiency.

Put our advanced technologies together with the expertise of our Solution Partners, and you have a unique resource to call on.
New PlantPAx System Reduces Time to Market

The latest release of the PlantPAx® distributed control system (DCS) from Rockwell Automation helps industrial producers across multiple industries modernise their plants and reduce time to market.

New system capabilities include the following:

• **Increased automation productivity.** To provide operators with reliable and accurate system configuration, the PlantPAx system now includes expanded estimation, design and development guides. The updated documentation and design capabilities help increase automation productivity; decrease the time required to deploy a maintainable and modern system; and reduce life-cycle costs.

• **Improved user experience.** Leveraging network improvements and built-in mobility, the PlantPAx system delivers an improved, reliable user experience. Expanded industrial Ethernet switches support Layer 3 topologies, enhancing scalability for a variety of applications. Smaller control systems can now be integrated into larger enterprise networks with a common, fully supported network infrastructure.

  The PlantPAx system now also includes a mobile component that enables users to create displays and interact with process data across any HTML5-compliant mobile platform. Users can access and view performance metrics and data analytics in their preferred format.

• **Enhanced control.** New built-in control features – such as integrated PlantPAx model predictive control (MPC), alarm management and batch management – now operate in a common environment, helping to improve plant efficiencies and operational performance. Control-based PlantPAx MPC provides the ability to predictably manage external and complex process disturbances and maximise process performance up to process constraints. This allows continuous improvements within the process while reducing waste and variability.

  The updated system also leverages the recently introduced batch application toolkit to help reduce the risk, time and cost of implementing batch control systems. Containing documentation, application examples and sample code, the toolkit gives engineers a starting point to build and maintain a consistent batch control system.

For more information, visit: www.rockwellautomation.com/global/news/process/process-talk.page?

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Speed Development of Automation Systems for The Connected Enterprise

New applications added to the Rockwell Software® Studio 5000® help reduce time to market, costs and risk by integrating multiple functions into one environment.

The new Studio 5000 Architect™ application is the central point within the Studio 5000 environment where users can view the overall automation system; configure devices such as controllers, HMIs and EOs; and manage the communications between the devices. It also exchanges data with other Studio 5000 applications and third-party electrical design tools.

The Studio 5000 Logix Designer® application simplifies the design process by providing an application-centric view of code; enhanced work flows for more efficient re-use of content; and collaborative tools that make it easier for multiple people to work together.

The new Studio 5000 View Designer® application is the design and maintenance software for Allen-Bradley® PanelView™ 5500 graphic terminals. In addition, the new Studio 5000 Application code manager speeds system development by helping users build libraries of re-usable code that can be managed and deployed across their entire enterprise.

For more information, visit: www.rockwellautomation.com/rockwellsoftware/products/studio-5000.page

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Access Key Production Data Quickly

For manufacturers, making swift use of big data just got easier. The addition of import and configure mobile-based work flows in the FactoryTalk® VantagePoint® enterprise manufacturing intelligence (EMI) v7.0 software enables the one-time configuration of a manufacturing intelligence solution.

The latest software enables users to seamlessly access their Logix-based data by providing a simple, guided work flow to store and visualise information. Everything from installation, configuration and visualisation has been enhanced and consolidated so users can interact with their Logix-based control data from their device of choice. To promote intelligent decision-making, the new work flows enable authorised users to store and visualise specific data views and trends – and share these views with collaborators across the enterprise.

For more information, visit: www.rockwellautomation.com/rockwellsoftware/products/factorytalk-vantagepoint.page?
New Controller Simplifies Machine Safety

The new Allen-Bradley® Compact GuardLogix®5370 controller provides integrated safety and motion on a single EtherNet/IP™ network. This makes it easier to design safety into a range of standard and custom machines – and results in simpler system architectures.

The Compact GuardLogix 5370 controller also helps users meet global safety standards. It achieves Safety Integrity Level 3, Performance Level e and Category 4, the highest ratings for machine safety. When used in combination with the Allen-Bradley Kinetix® 5500 servo drive or the Allen-Bradley PowerFlex® 527 AC drive, users have integrated safe torque off of EtherNet/IP.

As with other Logix controllers, engineers use the Rockwell Software® Studio 5000® software to configure the controller and develop all elements of their control system. Data can be defined once and then easily accessed and re-used across different machine types to speed system development and commissioning.

In addition, a single programming environment for both safety and standard control removes the need to manually manage separate standard and safety memory, or partition logic to isolate safety.

The Compact GuardLogix 5370, manufactured in Singapore, also includes dual Ethernet ports to support both linear and device-level-ring (DLR) network topologies. Built-in energy storage removes the need for batteries, and a removable 1-GB Secure Digital (SD) card improves data integrity.

Rockwell Automation will be releasing an on-machine option later this year, which will allow users to place the controller closer to the application or onto the machine. This eases installation, commissioning and troubleshooting.

For more information, visit: http://ab.rockwellautomation.com/Programmable-Controllers/CompactLogix-5370-Controllers

NEW at Spectrum Controls

Micro850® Expansion I/O
Highest density and best price per point!
- 4-ch Combo Analog In & Out
- 8-ch Universal Analog In
- 16-ch High-Density Analog In
- 8-ch High-Density Analog Out
- 32-ch Sink/Source Discrete Out

PowerFlex 750® Series
Enhance the functionality of your drives with our Universal Analog Option Card!
- 8-channels of analog input
- Configured with CCW
- Mix and match voltage, current, RTD and resistance

InView Full-Color Displays
Industrial indoor LED displays viewable up to 450ft away!
- Integrated with RA controllers.
- Supports Modbus TCP/IP, EtherNet/IP & EtherNet TCP/IP.
- Better viewing angle over most LCD & LED displays.

For more information, please email us or visit our website! www.spectrumcontrols.com | spectrum@spectrumcontrols.com
Focus

Design Compact Machines That Achieve Higher Accuracy and Precision

The new Allen-Bradley® CompactLogix™ 5380 controller provides more precision, connectivity and up to 20 percent more application capacity than previous CompactLogix versions.

The controller is suited for high-speed applications with up to 20 axes of motion. It brings the benefits of the high-performance Rockwell Automation® Integrated Architecture® portfolio into the CompactLogix size. When combined with the new Allen-Bradley Bulletin 5069 Compact I/O™ system, scheduled outputs improve I/O response time to as fast as 0.2 milliseconds. Event triggers from the I/O modules provide near-instantaneous task execution.

The controller is helpful in high-speed packaging applications where fast response times are critical for keeping production running smoothly. Features like scheduled outputs and event triggers, which are new to the CompactLogix family, allow engineers to design compact machines that achieve higher accuracy and precision.

In addition, a dual-configurable, 1-gigabit Ethernet port supports device-level-ring (DLR) topologies or the use of multiple IP addresses. The ability to create multiple IP addresses is especially useful for manufacturers seeking to establish network separation between plant-floor and enterprise-level traffic.

Diagnostic indicator lights display the status of communications, module health and I/O module activity. This allows operators and technicians to immediately understand problems without connecting the controller to a computer. In addition, built-in system and field power terminals reduce wiring to I/O modules.

The CompactLogix 5380 controller supports enhanced security as part of a defence-in-depth approach to help protect facilities, assets and intellectual property. The controller incorporates advanced security technologies and software features, including digitally signed and encrypted firmware, controller-base change detection and audit logging. It also provides role-based access control to routines and add-on instructions.

For more information, visit: http://ab.rockwellautomation.com/Programmable-Controllers/CompactLogix-5380-Controllers

New solution offers real-time interface to batch control for mobile-enabled workforce

The new FactoryTalk® Batch View software from Rockwell Automation® addresses this demand, offering an intuitive and scalable, browser-based interface that adapts across smartphones, such as iOS and Android, to tablets and PCs. Users can access real-time information and interact with their process from the plant floor to the production office through a consistent user interface.

This is a significant change from the conventional, costly and time-consuming approaches that enable desktop or mobile access to production data. User-specific configurations or remote desktop sessions managed by IT staff are no longer required, enabling plants to quickly onboard more users and deliver value that increases productivity.

Key capabilities of the solution include:

- Simple architecture – A modern web interface offers easy adaptation to new or existing platforms and environments with backward compatibility to previous versions of FactoryTalk Batch software; single-server architecture allows for new features and functions to be added with minimal impact to operations.
- Information-enabled and secure – Uses common system security policies for access control similar to any workstation, as a node on the plant network.
- Versatile – Interfaces support multiple mobile devices and are easily integrated with HMI screens onto workstations.

FactoryTalk Batch View software is well-suited for large industrial facilities that have workstation infrastructure limitations, and require multiple access points across the plant. With personalised user profiles that are tailored to the user, such as language switching options, workers at different levels of the organisation can stay mobile, yet connected to their process operations.

For more information, visit: http://www.rockwellautomation.com/rockwellsoftware/products/factorytalk-batch.page
Quality Management App Connects Plant-Floor and Business Quality Systems

The Quality Management fit-for-purpose application (app) is an out-of-the-box, stand-alone application that is scalable to include other fit-for-purpose apps within the FactoryTalk® ProductionCentre® manufacturing execution system (MES) from Rockwell Automation. It collects and exchanges data quickly, so nonconformance issues can be identified before product leaves the plant.

Using a built-in notification engine, the fit-for-purpose app quickly alerts personnel when a quality check needs to be completed. If the check fails, a configurable escalation work flow drives operations into additional quality sampling and corrective action plans, creating the potential to salvage product still on the line. This also gives plant and operations managers insight into the total number of completed, suspected and wasted batches.

The Quality Management fit-for-purpose app has the ability to run as a true thin-client application on desktops and on a variety of devices. This further reduces the cost and complexity of the quality system.

Sensors Provide a Continuous Flow of Diagnostic Information

The new IO-Link master for the Allen-Bradley® POINT I/O™ system and IO-Link-enabled sensors simplify configuration, monitor machine health, and communicate data and diagnostics in real time via the global IO-Link communication protocol.

IO-Link-enabled sensors provide a continuous flow of diagnostic information from the production line, helping better predict maintenance needs.

The new sensors featuring embedded IO-Link act the same as standard I/O sensors until connected to a master. Once interfaced with an IO-Link master, users can access advanced data and configuration capabilities while using the same three-wire cables.

When applied as a complete system, Rockwell Automation® controllers, IO-Link master and IO-Link sensors provide simplified integration plus enhanced features and functionality. The IO-Link master streamlines communication from sensors to the controller. The sensors talk via simple IO-Link protocol to the master, and the POINT I/O system communicates with the controller via EtherNet/IP™.

For more information, visit: http://ab.rockwellautomation.com/networks-and-communications/io-link
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