

Automation

September 2018 Issue 57

South East Asia

TODAY

Inside

Using Industrial IoT data

Transforming Physical Operations with Digital Technologies

How to Improve your IIoT Deployments

Global Food Leader Journeys Towards The Connected Enterprise

Digitalization: *Driving Profitability*

Rockwell
Automation

Contents

04 News & Events

The latest news and events from Rockwell Automation Asia Pacific

06 Cover Story – Using Industrial IoT Data to Make Better Business Decisions

Leveraging data and analytics is key to improving enterprise-wide productivity.

10 Case Studies

14 Technology Watch

Transforming Physical Operations with Digital Technologies

16 Application Profile

How to Improve your IIoT Deployments

18 Product & Solution Focus

Introducing the latest and updated technologies and solutions for smarter operations

Automation Today Asia Pacific

September 2018, Issue 57



This magazine is published 4 times a year by ROCKWELL AUTOMATION Inc. for Asia Pacific

This magazine is produced and printed by

Regional Headquarter in Singapore
Rockwell Automation Southeast Asia Pte Ltd
No. 2 Corporation Road,
#04-05/06, Corporation Place,
Singapore 618494
Main Telephone Line : (65) 6510 6688
Main Fax Line : (65) 6510 6699
Website: http://www.rockwellautomation.com/en_SEA

**To subscribe or unsubscribe,
visit :**

http://www.rockwellautomation.com/en_SEA/go/ATAP

Rockwell Automation

Copyright© 2018 Rockwell Automation Inc. All rights reserved. The contents of this publication may not be reproduced in whole or part without the consent of the copyright owner.

Allen-Bradley, Automation Today Asia Pacific, CompactLogix, ControlLogix, FactoryTalk, Integrated Architecture, IntelliCENTER, LISTEN.THINK.SOLVE, PanelView, PartnerNetwork, PlantPAx, PowerFlex, Rockwell Automation, Studio 5000, VantagePoint are trademarks of Rockwell Automation, Inc.

EtherNet/IP is a trademark of ODVA, Inc.

Microsoft Azure is a trademark of Microsoft.

All other trademarks are the property of their respective owners.

Digitalization is More Than Just a Buzzword



●●● Digital technologies bring enormous opportunities to industrial companies. There is no doubt that digital transformation is a popular topic in many industries and one that poses just as many questions as answers, such as; what is digital transformation? How can it improve my productivity? What are the risks? And the list goes on.

In fact, by 2020, industrial producers are on track to exceed 50 billion connected devices across their enterprise, along with multiple IIoT applications that depend on them. With this growth in networked devices comes a significant increase in the volume of data that industrial companies must be able to manage and leverage for business outcomes.

To help customers leverage the benefits of The Connected Enterprise, Rockwell Automation has recently released a new portfolio of scalable, flexible analytics. These analytics contextualize your information and deliver value incrementally in devices, the plant and the enterprise.

Too many opportunities have been missed because data management is difficult and creating analytics can be even more taxing, but a scalable analytics platform can provide an effective way to distribute actionable intelligence across all levels of the organization – on the edge, on-premise or in the cloud.

This issue of Automation Today shares the latest technologies and industry insights related to digitalization and scalable analytics to help drive efficiencies and improved business outcomes.

It covers a wide range of topics related to digital transformation including, using IIoT data to make better business decisions; how to transform physical operations with digital technologies; the latest products and technologies; recent company news and events; and case studies revealing how digitalization delivers benefits and continues to improve profitability for our customers.

What stage are you in on your digital transformation journey? I invite you to review this issue of Automation Today and continue the conversation about how digital transformation can help you address your unique business challenges and achieve your business objectives.

Joseph Sousa, President
Asia Pacific Region, Rockwell Automation



The smart technology driving the next digital frontier for industrial industries in Asia

In today's highly competitive and digitally connected business environment, there's very little room for operational error. And in the industrial industries, the effects of not having access to real-time data, coupled with any form of downtime, negatively impacts productivity, financial performance, and brand reputation. Data that requires real-time processing for improved productivity and operating efficiencies now needs to reside closer to the 'edge' of the network, where the work is taking place. Edge devices are typically deployed outside of the controlled environments of data centers to provide real-time processing and to deliver results faster.

As innovative edge computing solutions enter the market, businesses need to ensure that they prioritise a simple, yet robust technology implementation approach. A system that delivers smart, self-monitoring edge computing and enhanced performance is key. Forward-thinking and leading organisations in the industrial automation sector are the ones who are taking the steps now to ride the next digital frontier.

Five key areas that organisations must pay attention to in the search for the right-fit edge technology include:

- Operational simplicity that provides low-touch to zero-touch operation, serviceability, and usability – all critical since IT resources are scarce at the edge or on the plant floor.
- Uninterrupted production for no unplanned downtime, plus the assurance of data integrity, since newer edge applications either hold large volumes of data or stream data to remote locations (such as the cloud).
- Virtualization and reliability capabilities that enable manufacturers and IA organizations to deploy highly available – yet highly efficient – business-critical systems and databases.
- Interoperability designs that leverage current standards (e.g., operating systems) as well as emerging standards that will enable devices and systems to operate with each other.
- Cyber security, including built-in protection of all components of the edge computing system, the data they handle, and their communications with each other and externally.

The Stratus ztC Edge: Edge computing made easy

There is a real struggle in industrial environments today. On one hand, most companies are under pressure to get more done with fewer resources. Yet at the same time, powerful, hyper-connected industrial technologies are being deployed where there are little or no IT resources. The influx of data from these technologies and connected devices is driving the need for new edge computing infrastructure.

The Stratus ztC Edge is an ideal solution to all of these challenges. The ztC Edge is a zero-touch computing platform – automated, self-protecting, virtualized – that is specifically designed for industrial edge environments. Purpose-built for OT, the ztC Edge is easy to set up, operate, and service, and is rugged enough to be deployed outside of traditional control rooms or data centers.

With the Stratus ztC Edge, resource-constrained manufacturers can increase operator efficiency, and lower downtime risk. It also helps them reduce their reliance on IT and enable OT to focus on the business of running their plant.



Availability +
Virtualization Built In



Self-protecting +
Monitored by Stratus



No IT or Data
Room



Installed in under
30 minutes

Read more about the rights and wrongs of edge computing in our white paper:
Transformation of the Edge - Architecting your computing infrastructure for performance and reliability
<https://www.stratus.com/en-us/lp/ia/transformation-of-the-edge-ty/>

Rockwell Automation Connected Services Centre Opening

●●● The Rockwell Automation Connected Services business is expanding its remote support and monitoring business in the Asia Pacific region. This expansion includes the creation of a state of the art contact and remote monitoring centre located in the existing Rockwell Automation Dalian facility.

This centre will showcase the Rockwell Automation Connected Enterprise strategy, including advances made in IoT and cloud based analytics technologies. By utilizing these innovative technologies, the facility will become a strategic centre providing 24 hours a day, 7 days a week, 365 days a year technical support and remote monitoring services to customers in China.

The requirement for a facility of this kind is being driven by the growing global focus on initiatives such as smart manufacturing, Industry 4.0 and China Manufacturing 2025. Stable, secure networks and the push for increased remote monitoring and data analytics to support smart manufacturing is accelerating the need for a modern remote support and monitoring facility.

The Dalian centre is the largest overseas Rockwell Automation software development facility and is responsible for many award winning, key Rockwell Automation control and visualization business (CVB) products, including FactoryTalk View Site Edition (SE), FactoryTalk Machine Edition (ME), RSLogix Architect, FactoryTalk Linx, FactoryTalk AssetCentre, and Connected Components Workbench.

Working closely with centres in the United States, Canada, Singapore, Poland and Germany for the development and testing of products, the Dalian management team has an average of more than 20 years industrial experience. The centre has won the Dalian Top 10 Best Employer award for two years in succession.



Automation Fair Event Returns to Philadelphia

●●● The 2018 Automation Fair® event will offer the latest in control, power and IT/OT technologies and trends for industrial automation that are driving innovation on November 14-15 in Philadelphia. Automation industry professionals from around the world will gather for the industry's premier event showcasing the latest trends, sharing current best practices and offering hands-on educational opportunities. When the Automation Fair event was last held in Philadelphia, smart manufacturing was still in its infancy. Now, big data and The Connected Enterprise have taken a strong hold as more manufacturers see the benefits such technology offers: faster time to market, asset optimization, lower total cost of ownership and mitigating risk.



Visitors will see the latest control system network infrastructure based on standard, unmodified EtherNet/IP™, safety, power and information technologies that support The Connected Enterprise. In more than 90 sessions, including forums, technical sessions and hands-on labs --- all offered for free --- Rockwell Automation specialists, partners, customers and other industry professionals will share what they've learned – industrial solutions that provide working data capital for better collaboration and more profitable decisions across enterprises and supply chains.

The Process Solutions User Group (PSUG) event will be held just before to the Automation Fair event November 12-13, with more than 800 professionals from diverse process industries worldwide. This year's event offers 10 hands-on labs, 30 technical sessions and more than 25 customer application sessions showcasing real results using the process solutions available from Rockwell Automation. Learn more at www.psug.rockwellautomation.com.

Visit www.automationfair.com for registration information, or contact your local Rockwell Automation representative.

Control Design Readers Award Rockwell Automation 21 First Place Finishes

●●● The results are in from Control Design's 2018 Readers' Choice Awards: Rockwell Automation was named a top company in 40 categories and placed first in 21 categories, the most out of any company. Winners are selected by Control Design readers who submit their first, second and third preferences in different categories, including control, hardware, motion, networking, safety, sensing and software.

power supply; relay; stack light tower motion; industrial electric motor drive; servo motor; motor starter networking; input/output systems; machine-mount input/output safety; machine safety components; programmable safety controller; safety network components; safety relay sensing; encoder/resolver measurement software; integrated development platform software; software; motion control; software and plc programming.

The winners are: control; motion controller; programmable automation controller; programmable logic controller; embedded computer system hardware; operator interface;



Rockwell Automation Takes Part in Manufacturing Industry Digitalization Events in South Korea and Thailand

The opportunities for innovation and digitalization in manufacturing are growing exponentially. Rockwell Automation recently participated in two leading industry events addressing how digitalization can help manufacturers increase productivity.

In May, Cisco's Digital Manufacturing Summit brought together Asia-Pacific's top industry leaders to discuss how to achieve innovations in their businesses through digital transformation. As a global partner of Cisco, Rockwell Automation participated in the summit by sharing our Connected Enterprise journey and best practices working with key global manufacturers such as General Motors (GM) to improve overall equipment effectiveness (OEE).

"This event was a great place to share how digital capabilities revolutionize manufacturing sites by increasing productivity, energy management, security, and OEE, which Rockwell Automation addressed as smart manufacturing initiatives," said Joseph Bartolomeo, regional vice president, Asia Pacific, Rockwell Automation, who participated in a panel discussion with representatives from GM and FANUC.

Rockwell Automation was a platinum sponsor of the Asia Drink Conference held in Thailand. This event took place along with Propak Asia, one of the largest packaging shows in Asia Pacific in June. The company showed its digital manufacturing capabilities in the food and beverage industry by delivering a keynote presentation and demonstrating key solutions onsite.

The event had a strong focus on helping customers implement The Connected Enterprise in their organizations and revealed techniques and technologies to identify where information is located, how to connect it securely, and how to analyze and present it where it's needed. Attendees were also able to explore the networks, architectures, intelligence and power devices to increase productivity and efficiency.

Several products were launched at the event, namely the ControlLogix Parallel Redundancy Protocol Module and CompactLogix 5380 Controller, to help accelerate high performance production.

Additionally, RAOTM 2018 offered three different sets of technical sessions, addressing a comprehensive set of industry insights and updates on manufacturing performance, design and operation productivity and integrated power and automation. Participants also had the opportunity to listen to best practices and experiences from leading local companies such as Polyco, Pisa and Catec.

Mr. Le Van Hai, country manager, Rockwell Automation Vietnam, believes in information sharing for operations. "Leveraging the integration of control and information for manufacturing or industrial operations will be essential to improve productivity and remain competitive. RAOTM provided the opportunity for attendees to witness firsthand how knowledge-enabled strategies, made possible by our contemporary integrated control, power, safety and information portfolio of products, services and solutions are helping end users accelerate smart, safe, sustainable business performance."



RAOTM in Ho Chi Minh City

RAOTM: Bringing Connected Enterprise to Life

●●● The recent Rockwell Automation on the Move (RAOTM) events in Vietnam (Hanoi & Ho Chi Minh City) were well attended and revealed how The Connected Enterprise opens new worlds of opportunity through greater connectivity. With a strong focus on Vietnam's food and beverage, life science, water/wastewater, consumer packaged goods, oil and gas and OEM industries, the event brought together industry professionals including end users, system integrators, distributors, partners and machine builders.

Rockwell Automation hosted the event in collaboration with key global strategic alliance partners, authorized distributor and Encompass product partners. With a variety of technology exhibits and discussion forums, RAOTM provided a venue for attendees to learn about the latest techniques and technologies to maximize their manufacturing and production operations.

Customer Events Calendar Upcoming in September - December 2018

Event	City/Country	Date
Industrial Transformation Asia Pacific Booth/Hall Number: R06	Expo, Singapore	16-18 October
Process Solutions Users Group Pennsylvania Convention Center	Philadelphia, Pennsylvania United States	12-13 November
Automation Perspectives	Philadelphia, Pennsylvania United States	13 November
Automation Fair Pennsylvania Convention Center	Philadelphia, Pennsylvania United States	14-15 November

* Each event is subject to change

For more details, visit :

www.rockwellautomation.com/global/events/events.page



●●● Industrial organizations must be able to quickly identify ways to tighten production schedules and maximize revenue. Time is of the essence in industrial operations, so it's critical that workers are able to consume data as close as possible to where it's produced. Gaining insight into operations and production capabilities to make informed decisions has often involved time-intensive IT projects and a highly specialized skillset.

Reducing the complexity of the operations environment for manufacturers and producers and their employees who are driving operations is a constant challenge. To help customers make informed decisions quickly and confidently, Rockwell Automation has expanded their **FactoryTalk Analytics** portfolio. This article reveals how using Industrial IoT data enables organizations to transform their business and gain a competitive edge.

Analytics for Industrial Productivity

Leveraging data and analytics is key to improving enterprise-wide productivity. Making decisions when and where they matter most requires access to information in real time to allow for ad-hoc analytics and perform advanced analysis by pulling structured and unstructured data from virtually any existing source in the enterprise.

At the heart of a data-driven approach is software that takes advantage of the smart devices and connected systems spreading across industrial enterprises. Software lets users explore their operations, using and fusing data from any existing source — be it controllers, historians, enterprise resource planning (ERP) systems and everything in between.

Previously, building a dashboard started with a data-

Using Industrial IoT Data to Make Better Business Decisions

Leveraging data and analytics is key to improving enterprise-wide productivity

integration plan that detailed how raw data would be transformed into production intelligence. It required manually mapping out current data sources, key performance indicators (KPIs) and other details.

A data-driven approach automatically discovers and indexes structured or unstructured data. This process saves time and reduces the risk of human error compared to the manual process. It also provides access to more details than you would get from manually mapping a device's name, line location, facility location and other specifics.

Using data modelling, machine learning, predictive analysis and third-party analytics tools to manage and

analyze data, software can create relationships among indexed data sets and calculate answers across billions of data points.

In other words, with minimal setup, you can access real-time, situation-relevant analytics that can address questions the moment they arise.

That flexibility is a tool for better understanding your operations. On a single screen, workers can access all their favourite 'storyboards'. Storyboards present operational data in a preferred format and can include predefined dashboards plus any storyboard shared by a colleague. The storyboard helps team members begin to understand or investigate analytics.

Analytics on Demand

A data-driven approach shouldn't limit teams to static storyboards. Beyond their preferred information, they can open the reporting environment to reveal the data behind whatever is being monitored.

In that open environment, they can sort the data however they want. A few clicks are all it can take to dig deeper into a specific data point, aggregate historical values against current performance, filter by different variables, apply different chart styles and more.

As changes are made, the software can process and remind them to create a dynamic report. For example, an employee who wants to understand a batch system's performance based on which operator is managing the process can simply select the relevant variables such as shift or employee ID. The software will then mash the data together and build a report with the correlated data.

Managers can then act based on the findings they receive.

They can also share the report with colleagues or save it as a default storyboard on their home screen.

Scalable Computing Delivers Industrial IoT Data to Where Decisions Are Made

Industrial companies that want to use Industrial IoT data to make better business decisions must first make sure workers can access that data as and when they need it.

Data is in smart devices, on machines and across plant floors. The closer you get to the data when decisions are made, the more valuable the data becomes. You can then drive efficiency through the production process in real time to get more from your machines and equipment, on the machine, where the decisions can be made.

Decision-makers need access to real-time data to solve analytical challenges and adapt to changes at every level of an organization. This helps make better business decisions and improve productivity and efficiency.



Decision-makers need access to real-time data to solve analytical challenges and adapt to changes at every level of an organisation

Leveraging Industrial IoT for Digital Manufacturing

A recent 'Analytics that Matter' survey by LNS Research and MESA Manufacturing reported that Digital Transformation is a "must" for industrial organizations to survive and succeed today and into the future.

Analytics capabilities are growing quickly, and the number of vendors selling IIoT platforms and the apps and analytics to go with them is rapidly accelerating. One clear outcome of their analytics that matter study is that there are gains to be had just by using analytics. Applying analytics within a digital framework means the benefits will continue to multiply.

Industrial IoT data delivers new insights throughout an enterprise and can help reduce downtime, implement demand-based decisions and improve maintenance. It is the foundation for achieving a Connected Enterprise for greater connectivity and information sharing. It leverages embedded intelligence within machinery and equipment and provides insight into operations and production capabilities to make informed decisions.

"Smart manufacturing promises to remove blind spots between organizational silos, putting users directly in touch with information," said Blake Moret, chairman and chief executive officer, Rockwell Automation. "Our deep experience in production applications, coupled with technology that integrates control and information, provides outcomes of increased productivity for both existing and greenfield sites. Importantly, our partners are taking advantage of these solutions to enhance the value of their own offerings." 



Proven Expertise For Your Success

Leverage In-depth Experience to Achieve for Smart Manufacturing

Solution Partners, as part of our PartnerNetwork™, are comprised of global system integrators with differentiated skills and industrial experience in your domain.

Our growing community of system integrators in Asia Pacific understands your challenges, combines new technologies and simplifies system deployment with their application expertise.

This is how we bring your Connected Enterprise to Life.



Experience the power of our PartnerNetwork:
www.rockwellautomation.com/global/sales-partners

Rockwell Automation

 Allen-Bradley • Rockwell Software

Arkansas Steel Raises the Bar With Continuous Improvements

Railway track accessories company integrates control and manufacturing analytics to achieve process improvements

●●● On the Right Track

Stretched across the U.S. is over 150,000 miles of rail, across which moves more freight than any other system worldwide. The vast majority of the system is managed by private organizations responsible for maintenance and improvement projects.

Central to these projects is the railroad tie plate – a thick, steel panel that sits on the track between the rail and its support. Tie plates help to hold rails upright and stabilize their position, extending the lifetime of tracks.

All major North American railroads depend on tie plates, and most turn to Arkansas Steel Associates.

In order to produce these plates, scrap steel arrives daily at the Arkansas Steel receiving dock. Scrap steel is then melted, casted into a particular length and shape, finished according to the customer's recipe, then delivered to the customer from the shipping yard. Each stage of the process relies on heavy-duty industrial equipment – such as the 50-ton per hour arc furnace, 100-million BTU gas-fired reheat furnace, and a 1,000-ton press – that require an operator's full attention.

Losing the Train of Thought

In 1994, Arkansas Steel began to overhaul their plant control systems. Hardwired relay controls were too difficult to maintain and nearly impossible to modify – single changes took a number of hours to complete and were prone to human error. The Allen-Bradley® family of controllers was selected for their plant. By 2006, Arkansas Steel was running the advanced Allen-Bradley ControlLogix® controllers from Rockwell Automation.

While updating the plant's control layer, IT teams at Arkansas Steel began considering additional opportunities to improve operations. What they found was an issue with workforce utilization: Operators' attention was divided between the process of creating tie plates and handling data.

"Thousands of hours were lost each year while employees manually created reports for their supervisors' morning meetings," said Chet Pinkerton, senior IT manager at Arkansas Steel. "And during the process, attention was split between the steel and collecting data. Everyone needed to drop their pen and paper so they could focus on the task at hand."

Arkansas Steel began to investigate the impact of this issue across their process, starting with the melt shop. Operators were struggling to accurately track data while simultaneously supervising the melting steel and adjusting for proper chemistry. Too frequently, the quality of the reports suffered.

Another opportunity to improve the process was identified around transferring the steel from the melt shop to the ladle metallurgy-control system (LMS) and then to the caster area. Reliable, live process data was not available to operators downstream. Taking the time to contact operators in the area preceding their process for information was too slow for the time frame set by molten steel.

Operators at the caster, for instance, lacked real-time insight into the steel's temperature. At times, this led to the temperature dropping enough that the caster couldn't use the steel and would send it back for a reheat. Transporting and reheating the steel would take time and energy that could have been spent on the next batch.



Removing Tunnel Vision

Once opportunities at the plant's melt shop, LMS and caster were identified, Arkansas Steel selected a manufacturing analytics platform to improve workforce utilization by automating data collection, analysis and reporting. And to automate these time-consuming, manual processes, the IT team selected the company that had already helped to simplify their control layer: Rockwell Automation.

"We trusted the data coming from the ControlLogix controllers, so our challenge was to automatically put actionable information into the hands of operators, supervisors and maintenance when it was most useful," said Pinkerton. "The services team from Rockwell Automation became an extension of Arkansas Steel, deploying the solution, and integrating the control and information layers."

Data about each batch is sent directly from the controller to a historian. FactoryTalk® VantagePoint® EMI software from Rockwell Automation then transforms the data from disparate sources into digestible information. Freed from handling data, operators can now focus on the process while gaining a real-time view into the batch that arrives next. And each morning, managers automatically receive a heat sheet report detailing the work that took place the previous day.

The heat sheet report has been quickly adopted by supervisors as a reliable tool for confirming production quality. The report provides a single view into the melt shop, LMS and caster. By contextualizing multiple data sources, the report provides comprehensive information about the process, and any additions of chemistries and alloys required by specific recipes.

Supervisors quickly realized this manufacturing analytics platform has powerful continuous improvement capabilities. The software's system-level analytics tools allow users to drill down into specific trends, check production data and track batch progress. And customizable dashboards simplify reviewing data from different sources, helping identify solutions to any issue that arose.

Pinkerton knew reducing manual reporting alone would be of value across the plant, but the ability to more easily analyze plant-level data solidified his commitment to extend the platform.

"Once we saw the success of operators, supervisors and maintenance teams who used FactoryTalk VantagePoint software, there was no afterthought about applying our learnings to the rest of the plant," continued Pinkerton. "Productivity gains from automated reporting are important, but the trustworthy, easy-to-access analytics help us meet our real KPI yield."

Much like the supervisors who were involved early in the

process, those in the shipping yard also needed access to the information solution. Their operators were physically taking a bucket full of tie plates, and calculating the weight and recording features.

By extending the information solution to the shipping area, managers can now check every piece of information relevant to delivering products at the rate and quality promised to customers. Operators no longer need to manually track data. Each morning, supervisors immediately know the details of tie plates that move through the yard.

Tracking Results

When Arkansas Steel first deployed the manufacturing intelligence platform, annual yield was between 86 to 87 percent. By reducing the manual collection and reporting of data, and gaining the ability to quickly identify issues, yield has increased to an average of between 89 and 90 percent.

"Thanks to the VantagePoint software, we've been able to focus an operator's attention on important information and gain insight into our process," concluded Pinkerton. "What started out as a workforce utilization platform has transformed into our go-to continuous improvement resource, helping us boost yield by 3 percent already. Rockwell Automation will continue to be our information solutions ally, and to provide services and support for the continually evolving platform."

The morning heat-sheet report has been a major contributor to the improved yield. Managers take the analysis of what happened during the previous day and identify issues or where there is room for improvement. Nearly every week a new opportunity area is identified.

One such opportunity, which alone ended up saving the company thousands of dollars, was specifying where a batch didn't meet a customer's recipe. Casting supervisors found the discrepancy and worked with the quality team to identify precisely where and when chemical additions took the steel off formula. They were able to modify the process by the very next batch to limit scrap.

Arkansas Steel is also finding that improved communication between operators is reducing downtime. For example, when the caster calls for a batch at a specific temperature, they can easily verify that the steel is at the required temperature. By having access to this information, operators reduce the risk of reheats, and when a reheat is required, it can be requested before the transfer is even complete.

The results mentioned above are specific to Arkansas Steel Associates' use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers. 

Global Food Leader Begins the Journey to The Connected Enterprise

Converging IT and OT to align multiple processes, people and geographies for greater productivity and sustainability

●●● When a noted and iconic food and beverage company with a global reputation of being a trusted producer of delicious foods puts its trust in Rockwell Automation, there's every chance that this is a good recipe for success.

The challenges experienced with information sharing over a number of manufacturing sites around the world would require an innovative solution to align multiple processes, people and geographies - laying the foundations for their journey towards a Connected Enterprise.

Given the size of the organization, converging the plant floor operational technology with the office layer IT infrastructure globally was not a small undertaking, but it was certainly a very important one to meet growing production and business goals. Smart manufacturing drives productivity and profitability. It requires highly connected plants so devices and processes can be continually monitored and optimised.

Through **The Connected Enterprise**, Rockwell Automation helps food and beverage manufacturers offer a more agile response to changing manufacturing and consumer demands. The company works with customers to help them converge plant-level and enterprise networks, and securely connects people, processes and technologies.

Digital Manufacturing

Leveraging data from the Industrial Internet of Things is the basis of a Connected Enterprise approach. "It was important for us to gain an understanding of the existing IT layer and applications as well as considering the future roadmap and requirements," explained Sean Doherty, Food & Beverage account manager, Rockwell Automation.



"In the first instance, it was vital to create a back up of the control layer of the plant so if there were any issues, the disaster recovery would seamlessly take place. The IDC provides a complete back up of the control system layer using **FactoryTalk® AssetCentre** and was built offsite in our facility in Auckland," he added.

The majority of the commissioning was performed remotely and was a seamless process. The engineers were onsite for a week but once it was connected to the plant's network, the remote support centre did the rest of the commissioning process remotely.

Combined IT and OT Support

Rockwell Automation was responsible for delivering the complete solution, converging IT and OT to help reduce downtime through remote monitoring.

"This provided several advantages to the customer as they were able to benefit from our expertise in cyber security and patching, and also from the fact that we have a greater understanding of the operational environment than a typical IT provider - providing a complete solution - combining IT and OT technical support in the same number rather than having to bounce between providers and thus getting operations back into production more quickly," explained Doherty.

"As a result of the service level agreement in place, the processes at the plant are monitored remotely and each filter or alarm is responded to every 10 minutes, with the average response time being only four minutes. In actual fact, every 2 minutes there's a 'heartbeat' sent to the technical support team in Melbourne which then goes to the support team in UK, then US and then back through Melbourne. This means that they are supported end to end with any required patching supported remotely," he said.

To increase manufacturing uptime at the plant, the customer invested in an **Industrial Data Center (IDC)** (PDF) from Rockwell Automation. The IDC is a pre-engineered solution providing the hardware required to run multiple operating systems and multiple applications from virtualised servers.

The Rockwell Automation IDC provides industry-leading technology from partners including **Cisco**, **Panduit**, **EMC2** and **VMWare**. It delivers high availability and fault tolerance, while reducing server footprint.

The IDC is a key component for The Connected Enterprise vision. It provides the capability to bring data from the plant floor and monitor performance for local strategies.



The Connected Enterprise lays the foundation for seamless connectivity and greater collaboration among the many people, processes and technologies that impact product safety and quality. Additionally the digitisation of your operations removes paperwork from the plant floor reducing complexity and compliance costs. Smart operations are connected operations.

The ability to access relevant, real-time and role-based information can enable more informed decision-making at every level and create nearly endless opportunities for manufacturers to improve processes. Additionally, advances in equipment, control systems and information systems can help establish more flexible and more responsive operations.

The benefits of smart manufacturing extend far beyond operational improvements. A secure network infrastructure, greater connectivity and access to actionable information also create opportunities to enhance quality, food safety and worker safety.

“Alongside new technology, the process is about creating a culture of continuous improvement. The Connected Enterprise promotes seamless collaboration and integration enabling the power of real-time data to help make better, more profitable business decisions,” concluded Doherty. **At**

Data Visibility

Peace of mind came from knowing that the Rockwell Automation remote control centre was responsible for proactively monitoring the plant, while complete remote access was also provided from both the plant and from the corporate network, offering real time data visibility.

“This is the first step towards establishing a Connected Enterprise at the plant. The next stage of the project will establish the ability to gain process improvement through the whole organisation by providing the capability for both corporate and engineering to create reports based on real time information from the control system,” said Doherty.

A main goal of this project was to develop a roadmap that addresses all aspects of the operation, while also preparing for technology advances and meeting operational and corporate objectives such as reduced downtime and improved productivity.

Meeting Global Performance and Environmental Strategies

The icing on the cake was the reduction of greenhouse gas emissions, energy and water usage, and waste. By analysing data the customer is now able to drill down and identify areas that could be improved to help meet these objectives. The new solution also helps with the move towards a paperless environment, with information being stored in the cloud and IDC.

ROSS **ROSS CONTROLS**
A Global Leader in Fluid Power Safety Products and Solutions

Pneumatic Control Reliable Double Valves

- Safety Exhaust
- Safe Cylinder Return
- Safe Load Holding

Hydraulic Valve Systems

- Energy Isolation
- Block & Bleed Block & Hold
- Cat. 4 PLe

ROSS Automation Encompass Product Partner

rosscontrolschina.com rosscontrols.com



Transforming Physical Operations with Digital Technologies

●●● By 2020, industrial producers are on track to exceed 50 billion connected devices across their enterprise, along with multiple IIoT applications that depend on them. This rapid proliferation comes with challenges. Companies need a better way to integrate devices, applications and systems in their industrial enterprise before they can maximize key benefits such as accelerated productivity, improved asset management and reliability.

Rockwell Automation and PTC recently announced a strategic partnership to accelerate growth for both companies and enable them to be the partner of choice for customers around the world who want to transform their physical operations with digital technology.

The partnership leverages both companies' resources, technologies, industry expertise and market presence, drives technical collaboration across the organizations as well as joint global go-to-market initiatives.

In particular, PTC and Rockwell Automation have agreed to align their respective smart factory technologies and combine PTC's award-winning ThingWorx® IoT, Kepware® industrial connectivity, and Vuforia® augmented reality (AR) platforms

with Rockwell Automation's best-in-class FactoryTalk®MES, FactoryTalk Analytics and Industrial Automation platforms. The result will be an unparalleled integrated information solution that will enable customers to achieve increased productivity, heightened plant efficiency, reduced operational risk and better system interoperability.

Blake Moret, Chairman and CEO, Rockwell Automation, said, "We believe this strategic partnership will enable us to accelerate growth by building on both companies' records of innovation to extend the value of the Connected Enterprise and deepen our customer relationships. As IT and OT converge, there is a natural alignment between our companies. Together, we will offer the most comprehensive and flexible IoT offering in the industrial space."

Enabling Digital Transformation

The integrated Rockwell Automation and PTC platform provides users across industrial companies with insight into operations from a 'single pane of glass'. For example, a food processor that switches between recipes often has many different requirements for quality control, measuring out ingredients and managing process speeds. The platform

can provide insight into any operational detail – from the original order to the assessment of a flow meter- by extending visibility to systems inside and outside the facility.

The platform allows producers to build IIoT applications quickly and connect to data from automation devices and applications spread across the enterprise. That also facilitates the ability to build a complete site overview showing the status of assets from raw material tanks to packaging machines.

A plant manager at the food processor, for instance, can review a single line at a facility to better understand how the process has been running. The manager can also add insights to the overview, such as a process alerts or the status of a current batch.

Combined with advanced analytics, visibility into operations is enhanced with insights that improve how individual users understand and respond to opportunities in real time. From the site overview, for instance, the plant manager can perform a self-serve drill down into the line, searching an automation asset to determine if there is a risk of unplanned downtime.

During their drill down, the manager can access advanced analytics based on what



information the manager expects to see. Through intelligently fused data, the platform creates any number of intuitive dashboards – called storyboards – that can be shared and viewed from anywhere in the enterprise. A storyboard then provides a deeper understanding – in context and real time – of the asset by analyzing how it has performed to date and if that has impacted order fulfilment.

Benefits of Connecting

Digital technologies provide a wealth of opportunities for industrial companies right where their information is born. However, too many opportunities have been missed because data management is difficult and creating analytics can be even more taxing. What is turned into useful information is a fraction of what is in your enterprise.

The benefits of connecting an enterprise's IIoT applications go beyond providing complex analytics and valuable insights on a single screen. Predictive analytics help to solve issues before they arise. For example, should the food processor enter a work order that involves a tank with a nearly faulty asset, the order would trigger further actions, prompting a maintenance user to resolve the issue as well as providing work instructions to guide the repair process.

Integrating augmented reality (AR) technology also allows users to simplify their interaction with operations. Any user, such as the food processors maintenance engineer, receives instructions that are visualized with 3D animations. Upon arriving at the tank, the engineer will see instructions specific to the situation, such as the asset with a potential issue and the steps they should take to fix it. Not only does this help keep the process running, but it also reduces the potential for workforce error.

Combining accelerated IIoT application deployment, advanced analytics and AR puts the user in charge of innovating on the job as the individual systems become almost invisible. The strategic partnership of Rockwell Automation and PTC takes the next step in IIoT, minimizing the time to value for industrial producers with multiple systems across any number of facilities.

A Tool That Grows with You

As connectivity and computing power continues to spread throughout the industrial enterprises, availability of data has revolutionized how companies solve issues and adapt to changes.

Your analytics platform should be able to grow with your business. After all, your business is constantly changing, and your digital-transformation journey is an ongoing one that regularly brings modern technologies into operations.

To make decisions when and where they matter most, new capabilities offered through FactoryTalk Analytics reduce hurdles to unleashing information. These capabilities open up access to ad-hoc analytics and performs advanced analysis by pulling structured and unstructured data from virtually any existing source in the enterprise. The FactoryTalk Analytics platform is scalable, processes data from edge devices where the data is created and can intelligently fuse related data.

This new advanced analytics platform from Rockwell Automation can grow with your hardware and software ecosystem. All these capabilities — greater flexibility, simple searchability and scalability — work toward the same goal: To make sure your team always has access to relevant data to solve challenges as they arise. And isn't that how analytics should be in the era of big data and connectivity?

Learn about the **new generation of analytics software** from Rockwell Automation. [AT](#)

Data Transfer for the

Connected Enterprise

Ultra High-Speed

OFDM 2X2 MIMO Technology

HSM800E

RF Speeds Up to 4 Mbps

2.4 GHz License-free

WiFi Compatible

Long-range Up to 6.4 km

IP65 Weatherproof Enclosure

Passive PoE

High-levels of Security

Competitive Pricing

Questions?

Ask us:

HSM@data-linc.com



How to Improve Your IIoT Deployments

Learn key strategies that can help maximize successful, scalable networked deployments, including how to manage data and achieve holistic security.

●●● As the Industrial Internet of Things (IIoT) shifts from a buzzword to a business priority, many companies are increasingly eager to learn how it is being used in tangible ways. They also want to know how the latest technologies can help them make the most of the IIoT in their own operations.

Today, organizations are progressing from pilot or proof-of-concept IIoT projects to scalable IIoT deployments, according to the Global IoT Decision Maker Survey from the International Data Corporation (IDC). About one-third (31%) of those surveyed said they have already launched IIoT solutions, while another 43% said they are looking to deploy solutions in the next 12 months.

To this end, here are some key strategies to help improve the success of IIoT deployments.

Answers Hiding in Analytics

The number of IIoT devices in industrial control systems continues to grow at a rapid pace. With this growth in networked devices comes a significant increase in the volume of data that industrial companies must be able to manage and leverage for business outcomes.

Scalable, flexible analytics can contextualize your information and deliver value incrementally in devices, the plant and the enterprise.

We are learning when it makes the most sense to analyze the data in real-time at the source or store it in the cloud for more long-term examination. Conditioning raw data into contextualized data, preferably at the source, is becoming an increasingly valuable best practice.

More companies and industry groups are focusing on edge computing. Companies realize now that if they store every bit of unstructured data with the hope of finding patterns and business value, they will need to spend significant resources to clean up and organize the data later. A scalable analytics approach can help prevent data overload by solving problems that exist at different levels of your enterprise.

Local maintenance analytics, for example, can use device-level data to produce real-time alerts about critical device and machine health. This can help implement faster decision-making closer to the process, where time is critical.

Machine-level or plant-level analytics implemented in edge devices such as controllers and plant-floor servers can be used to optimize machines, processes and plants. They can also be used to implement predictive-maintenance strategies.

Enterprise-level analytics integrate plant-floor information with business intelligence. This can help improve operational productivity or compliance efforts across several sites.

Security Must Be Holistic

The top IIoT challenge cited by respondents in the IDC survey is security (26%).

This is not surprising. Security can seem like an overwhelming burden given the challenges faced, from legacy equipment that was not designed for security to more easily accessible information that can be vulnerable to both malicious and non-malicious threats.

To face the challenges, taking a holistic approach to industrial security can put your organization in line with best industry practices for protecting intellectual property and other assets.

A holistic security approach begins with conducting a security assessment to identify risk areas and potential threats using free security assessment tools. Upon completing of the assessment, you should understand your security posture and the specific mitigation techniques needed to bring your operation to an acceptable risk state.

From there, your industrial security program should adopt a defense-in-depth (DiD) security approach. DiD security adheres to the principle that any single point of protection can and probably will be defeated. It uses physical, electronic and procedural safeguards to create multiple layers of protection throughout your enterprise.

Industrial firewalls, for example, should be implemented at the cell/area zone level to help detect, prevent and respond to potentially malicious traffic between devices. However, these should only be one part of a multifaceted security program. Companies today are utilizing reference architectures, an ecosystem of partners and industry best practices to implement secure IoT systems.

Finally, make a point to only work with trusted vendors. Request their security policies and practices, and make sure they help — not hurt — your ability to meet your security goals. **AI**



Driving on the Edge: Using Digital Transformation for Greater Profitability

Tire producers are blessed with a healthy market outlook. Unfortunately they face unprecedented challenges too. In fact, global tire demand is expected to increase about four percent each year through 2019. At the same time, manufacturers increasingly compete in a global marketplace – and must produce more variations to address the automotive landscape that includes internal combustion, hybrid and full-electric vehicles.

How Can Tire Makers Best Address Market Conditions?

Dominique Scheider, strategic account team leader at Rockwell Automation explains, “To ramp-up productivity and agility, leading manufacturers have embraced smarter plant-floor technology. But many are challenged to create an information-enabled production environment from the patchwork of digital assets on their manufacturing floor.”

True digital transformation requires not only collecting relevant data from intelligent assets. It also includes converting that data into information that enables people at all levels of the organization to work smarter and more productively.

Expanding Beyond Conventional Cloud-Based Platforms

As smart assets began to proliferate on plant floors in recent years, so did cloud-based analytics platforms designed to transform generated data into useful intelligence.

Conventional cloud-based platforms can aggregate data from multiple sources. However, gaining manufacturing and business insights from that data takes time – and may require data architects, business intelligence engineers and other in-house data management expertise.

In addition, sending data to the cloud and back is not practical for every application. A traditional cloud-based approach simply cannot provide contextualized information quickly enough to immediately impact plant processes – and people as they go about their work each day.

How can tire makers optimize quality and profitability? Get smarter with data

A Cost-Effective, Pragmatic Approach to Distributed Intelligence

A scalable analytics platform can provide a cost-effective and pragmatic way to distribute actionable intelligence across all levels of the organization – on the edge, on-premises or in the cloud.

This can have an immediate impact in many areas of tire manufacturing. Moreover, will become increasingly important in complex applications like mixing and curing, where machine learning can have a dramatic effect on product quality, manufacturing agility and energy efficiency.

But that’s just part of the solution. The scalable platform extends beyond the edge to compute engines and tools that automatically orchestrate data from multiple sources – and allow users to see commonalities and gain operational and business insights faster.

The bottom line? A scalable approach enables tire producers to more deeply engage with each level of the organization in optimizing its manufacturing process – from local engineering and maintenance to the top levels of the company. And from the device to the cloud.

Learn more about **scalable analytics** and **solutions for tire manufacturers**.

New Application Content Speeds Up and Future-Proofs Machine Designs Expanding Scalable MES Applications Capabilities

●●● *Rockwell Automation code libraries and device objects save time when designing machines and replacing devices*

Rockwell Automation continues to release new **application content** to help OEMs and process skid manufacturers create state-of-the-art machine designs faster and at a lower cost. The latest content includes device objects and two machine builder code libraries, one for converting print and web (CPW) machines and one for process skids. This new release complements the already available content for packaging applications.

Machine builder libraries provide standardized, application-specific code that can help engineers design CPW machines and process skids faster, while still achieving best-in-class performance. The libraries also include application-specific features. For example, the process-skid library includes a state machine engine, which engineers can use to develop custom behaviors that match the features of their specific skids.

The device objects are code and visualization objects that provide a common interface for connecting a specific device to other library objects in a machine. This can drastically reduce programming rework when migrating a device. Engineers can simply add the object for a new type of device instead of rewriting the machine’s entire engineering cycle to accommodate the change. The first set of device objects are for starter, drive and motion devices. They also provide faceplates for the new line of Allen-Bradley PanelView 5000 operator interfaces.



“Our modular application content helps simplify managing the vast amount of coding used in today’s smart machines,” said Achim Thomsen, senior manager application IP, Rockwell Automation. “Machine designers can use these new libraries and device objects to create machines in a more efficient and cost-effective manner. And we will continue to release new content for more applications and devices in the future.”

The new application content is available as a free download from the Rockwell Automation Product Compatibility Download Center (PCDC). Once downloaded, users import the content into the Studio 5000 Application Code Manager application.

ControlLogix Compute Module Enables Real-Time Decisions and Improved Productivity

●●● *Logix performance and a commercial operating system in a single hardware platform*

The new **Allen-Bradley ControlLogix Compute module** from Rockwell Automation delivers data at the source to help customers make real-time decisions and increase productivity. The module provides in-chassis, high-speed computing functionality with access to the ControlLogix processor via the backplane.

The compute module offers the flexibility to create custom applications within the Windows 10 IoT Enterprise or Linux operating systems. Additionally, the module utilizes off-the-shelf applications to enhance automation systems and leverage the value of the existing data across the plant floor. This in turn provides

access to real time operational information.

The ControlLogix Compute module allows customers to take advantage of Rockwell Automation design and visualization software, along with third-party Windows 10 applications. Available in in-cabinet, in chassis or in-controller computing to meet specific application needs.

In addition, the module provides an Integrated DisplayPort for direct communication to a high definition VersaView industrial monitor. The module combines industry leading automation technologies with the robust Windows 10 IoT Enterprise and Linux operating system, for real time decisions and increased productivity.

Brighter, More Flexible Tower Light Now Available from Rockwell Automation

- *Tower light accommodates seven modules in same stack for ease of use and selection*

Rockwell Automation introduces the **Allen-Bradley ControlTower 856T 70 mm Tower Light system**. This new system incorporates brighter LED illumination and a broad offering of visual and sound technologies all in a 70 mm diameter housing. The ControlTower 856T is capable of accommodating up to seven modules in the same stack, offering users the ability to monitor more machine and process conditions in a single device.

This new modular design allows the ControlTower 856T system to meet the widest range of signaling applications with a reduced number of components.

“Our new tower light helps engineers achieve faster time to market due to the reduced number of components they need to select,” said Alvaro Sanchez, product manager, Rockwell Automation. “Users may also see a lower total cost of ownership due to the scalable visual and audible options and the ability to

monitor more machine conditions with a single tower light.”

The tower light features push-in terminal blocks in the base and internal DIP switches inside the light and sound modules that enable engineers to easily configure operation modes. Engineers can choose from a range of sounds that help alert operators on a machine’s status or condition. These sound options include multi-tone piezoelectric, multi-tone transducer technologies.

The ControlTower 856T system also includes non-stackable, beacon-shaped light modules for those applications that require a low profile signaling device but want to use the same mounting infrastructure of the tower light.

The IP66/67-rated system can be used in tough environmental conditions and in an extended operating temperature (up to 70 degrees Celsius). To meet global requirements, the system is available in 24V AC/DC and 120/240V AC. The product line is available as separate components or as a pre-configured, factory-assembled stack light for optimal flexibility.



Software Reduces Design Time for Standalone Machines

- *Latest release of Connected Components Workbench software creates a more familiar and efficient design environment*

Machine builders can now get standalone machines to market faster using a newly updated design and configuration software. The latest release of the **Connected Components Workbench software** from Rockwell Automation will be more familiar to

Logix users and includes new features to help reduce programming time. It provides controller programming, device configuration and human-machine interface editing for Rockwell Automation hardware.



A new instruction toolbar organizes programming elements into tabs. This allows designers to easily search, drag and drop instructions into the ladder logic editor. For designers who prefer the keyboard, ladder logic can be quickly entered in ASCII text. Designers also can now switch instruction names from the default IEC theme to a Logix theme. This can help them be more efficient

by programming machines using their preferred terminology.

“Designers who use the RSLogix 500 or Studio 5000 Logix Designer software will now have a more familiar design environment in the Connected Components Workbench software due to a more seamless and standardized design experience,” said Thomas Sugimoto, product marketing manager, Rockwell Automation. “It also reduces training and simplifies maintenance for technicians by providing a consistent monitoring and debugging environment across a wider range of machines.”

Designers can now copy and paste code from the Connected Components Workbench software to the RSLogix 500 or Studio 5000 software and vice versa. This ability to reuse code can help designers modernize their small standalone machines from Allen-Bradley MicroLogix controllers to Micro800 controllers. It also can help them standardize larger machines that use Allen-Bradley CompactLogix controllers.

The Connected Components Workbench software supports all Micro800 controllers, including the new Micro870 programmable logic controller (PLC). This controller can be used in place of multiple micro PLCs in large standalone smart machines or systems. The software also supports the PanelView 800 graphic terminals, PowerFlex drives, SMC soft starters, Kinetix component servo drives and various safety devices such as the Guardmaster 440C-CR30 safety relay and GuardShield 450L light curtain.

VersaView Industrial Computers

●●● Modern visualization solutions for smart manufacturing
Visualization and HMI solutions are key to helping customers address their productivity, innovation, and globalization needs. The **Allen-Bradley VersaView 5000 portfolio** is a complete line of open architecture industrial PCs, thin clients, and monitors that can be used for both standalone machine level and distributed HMI applications.

The open architecture supports modern operating systems and various software applications, but the ideal deployment is to use FactoryTalk View SE software for distributed applications. The line is completely fanless and maintenance free to reduce costly machine downtime.

To meet plant floor expectations, HMI software must meet the demands of multiple stakeholders. FactoryTalk View SE provides robust and reliable functionality in a single software package – addressing challenges in process, batch and discrete applications and enabling critical visibility in real-time when and where you need it. Additionally, the VersaView 5000 computers are 21CFR Part 11 compliant when using FactoryTalk View SE software.

Featuring an edgeless, all glass, ten point multi-touch screen – the VersaView 5400 Integrated Display Computers provides Windows 7/WES 7/Windows 10 IoT Enterprise 32 bit and 64 bit operating systems with dual external display support. In addition, PlantPAX and FactoryTalk View SE templates perfectly fit the 1080p screen, allowing identical screens to be shared between the control room and the machine. The VersaView 5400 is also available in a non-display computer, offering a small footprint, dual video output and a light weight, fanless design.

The VersaView 5200 Thin Client computers are ThinManager ready for centralized management solutions for modern plants. Using the VersaView 5200 computer hardware with ThinManager software allows control and security in a sustainable and scalable platform regardless of the size of your industrial environment or number of facilities.

For line and machine application flexibility, the new VersaView 5000 industrial computers provide leading edge technology for those who are looking for an open platform to enhance their machine operator control and improve productivity.

FLEX 5000 I/O Modules Bring Greater Productivity and Flexibility to a Connected Enterprise

●●● *The next-generation FLEX I/O platform supports real-time, intelligent process control*

The new **Allen-Bradley FLEX 5000 I/O** platform from Rockwell Automation can create smarter, more productive and more flexible industrial control systems.

The platform's higher-speed connectivity and expanded bandwidth deliver increased amounts of data back to the controller. This helps future-proof control systems for a Connected Enterprise. It is built on a 1 Gigabit architecture with communications supporting Device Level Ring (DLR), linear and star topologies. A future release will support Parallel Redundancy Protocol (PRP) for a redundant network topology.

Both OEMs and process operations can also use the new FLEX 5000 I/O modules to improve productivity. Engineering time is reduced with simplified wiring and design. Installation is eased with a flexible architecture that includes vertical and horizontal mounting and copper and fiber media options. Hardware requirements can be minimized during installation because the modules are designed to operate in extreme environments – from oilfields in the arctic cold to mines in the sweltering heat (-40 C to 70 C operating temperatures).

During production, the modules can also reduce costly and

unplanned downtime, especially in continuous process-control applications. Removal and insertion under power (RIUP) allows technicians to replace existing I/O, and an online change capability allows configuration of new I/O, both while the system continues to run. In

addition, the flexibility to configure alarms, events and diagnostics at the channel level helps drive maintenance efficiency.

“We are building on the success of our popular FLEX I/O platform, and long-time users will find that flexibility and reliability continue to be its hallmark,” said Rosh Chathoth Sreedharan, product manager, Rockwell Automation. “With Logix 5000 series technology, the FLEX 5000 I/O platform allows you to choose your I/O to meet your specific application needs. And it gives you intelligent control to quickly respond to your process in a Connected Enterprise.”

The FLEX 5000 I/O family is designed for security to help companies protect their assets and their brand. The platform helps enable the secure convergence of industrial and enterprise systems when using an open, standard and IT-friendly Ethernet network. This is a result of deploying a defense-in-depth security strategy with firmware encryption, birth certificates and secure boot functionality.



Motion Analyzer Software Shortens Motion Control System Design Time

●●● Rockwell Automation has released an updated version of the **Allen-Bradley Motion Analyzer software** tool. This enhanced software offers an optimized user experience with intuitive navigation and in-workflow product selection. This can help engineers more easily and efficiently develop complete motion control systems for their machines.

Using the Motion Analyzer software, engineers can determine a system's specifications, evaluate multiple products to find the best fit, finalize the design and create a bill of materials. The tool can also help reduce motion-system design time from a multiday process to a few hours.

"Sizing a motion system can be time consuming," said Brett McNalley, product manager, motion solutions, Rockwell Automation. "In the latest release of the Motion Analyzer software, we have simplified workflows to improve user experience. And we have added additional features that make the process of designing a motion system as efficient as possible."

Key improvements include faster axis definition and sizing, redesigned solution search and configure components features, additional application template profile support, and the ability to import from a legacy motion profile with support of more advanced motion segments.

New Field Controller Provides Simplified, Cost-Effective Solution for DC Retrofit Applications

●●● *DC motor systems can be upgraded with a reduced number of external devices*

The new **Allen-Bradley PowerFlex DC field controller** from Rockwell Automation enables customers to upgrade their DC motor application to a modern system, without the need for complex external devices. An up-to-date digital networked control system helps customers gather and leverage vital information throughout their enterprise.



The DC field controller provides three-phase, four-quadrant (reversing) DC motor or generator field control. The field controller can be used on its own or with a PowerFlex DC digital drive. In stand-alone mode, it provides power to a DC motor field with a fixed reference by using fixed I/O. The field controller can also control electromagnets and other non-motor loads.

"For DC retrofit applications that require motor reversing, the

PowerFlex DC field controller helps eliminate the need for an additional armature bridge or a complex system of external devices, saving customers both time and money," said Nancy Rivard, product manager for Rockwell Automation. "Having a single source for all automation equipment – including both AC and DC drives – also simplifies machine startup, operation and maintenance."

The field controller offers output ratings from 17 amps to 575 amps and input of 200-volts and 500-volts. It enhances the capability of the PowerFlex DC drive family, designed for demanding stand-alone and coordinated drive system applications. The PowerFlex DC drive family is well suited for DC motor applications and retrofits up to 6,000 Hp or 4000 kW.

The PowerFlex DC family has core capabilities aligned with the PowerFlex AC family of drives, including seamless integration into a Logix-based environment, flexible feedback and communication options, as well as voltage settings designed to global standards.

New CompactLogix Combines Control Performance and IoT Computing in a Single Platform

●●● The new **Allen-Bradley CompactLogix 5480 Controller** offers the benefits of Logix control with Windows-based computing. With a commercially available CPU and a Windows 10 IoT Enterprise operating system running independently of the Logix control engine, it provides a high-performance architecture with the ability to run third party applications.

End users and OEMs are inventing ways to collect data from machines and turning it into valuable information closer to the plant floor. This ability to make decisions at the machine level helps to enable our Connected Enterprise vision.

Built upon the Rockwell Automation high performance architecture, the latest CompactLogix controller provides

enhanced performance, flexibility and troubleshooting. By providing Logix real time control and an instance of Windows 10 IoT Enterprise operating system on a single platform, the new CompactLogix delivers integrated control and visualization for a variety of applications including; analytics, data gathering, and predictive computations; cloud gateway, data concentrator applications; machine line control and third party machine applications.

Connecting information across the plant floor to an enterprise network can be transformational for a business but also introduces risk. To help address this, the CompactLogix 5480 has embedded Logix security with FactoryTalk Security user authentication and authorization.

Smart Water: The power of an optimized and data driven water supply system

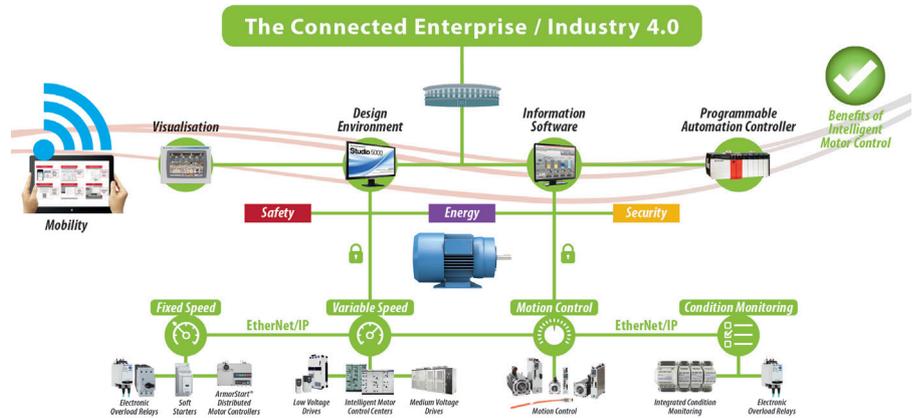
●●● The KVC Smart Pump Control, built on the technology of Rockwell Automation, made its debut in Malaysia at the largest water and wastewater event for developing Asia – the Asia Water Expo 2018, held in April at the Kuala Lumpur Convention Centre.

The pump provides operational excellence with an intelligent motor control system to optimise water delivery. This enables state water operators to maintain sustained water supply to their customers in Malaysia while cutting the cost of power consumption at the same time, thanks to cutting edge technology from Rockwell Automation.

Water operators today face numerous challenges resulting from environmental factors, increasing demand, water wastage or scarcity, as well as costs due to increased energy/electricity prices and overwhelming expenses of repair works and replacements. These factors may be a hindrance to operators who need to ensure maximum efficiency of water distribution, as they can affect the quality and the quantity of water distributed.

However, technology advancements have made possible the development of smart solutions that water operators can leverage to counter some, if not all, of these concerns. The smart pump system through its array of unique and smart features counters these pain points of water distribution companies.

This intelligent system monitors the demand of the water supply at any given time, then operates all the pumps at their most efficient speeds to meet the demand while saving on energy consumption. This control system from Rockwell Automation provides an estimated 20-30% energy savings compared to the conventional controls that are widely being used in the water industry currently.



The Rockwell Automation system is made possible by an algorithm that locates the best efficiency point of the pumps where the flow rate is maximum. The pumps are then operated within these best efficiency points to maximize the throughput and energy savings.

But that's not all. The integrated motor protection features built into this intelligent system help to ensure the pumps and the motors have a longer life cycle while advanced predictive diagnostics protect the system against downtime due to damage from motor winding, motor bearings, motor shaft or even pump cavitation.

In the long term, operators will benefit from the reduced and more effective operational cost, resulting in improved

profitability.

The smart pump comes with the added benefit of condition monitoring deployment that allows remote control of the water distribution system from a dashboard on your desktop or phone – wherever, whenever – which provides significant convenience in operational access and systems handling regardless of the plant location. Besides improved productivity, the data collected is a source of intelligence for operators.

This Smart Pump Control, which is already being used by several water distributors throughout the United States, is now available in Malaysia. The system can be customised to meet the needs of the water industry in Malaysia to enable water distribution at its best.



For more information, please visit our website!
www.kvc.com.my



LISTEN.
THINK.
SOLVE.®

The Connected Enterprise Target



Connect your Enterprise. Help secure your future.

The world's leading manufacturing and industrial companies improve asset utilization and meet their targets by deploying manufacturing intelligence tools. These drive the improved reliability and quality that helps top performers achieve 80% or greater overall equipment effectiveness.

80%

or better overall
equipment
effectiveness
achieved by top
performers*

Download the Connected Enterprise whitepaper at
www.rockwellautomation.com

**Rockwell
Automation**

 Allen-Bradley • Rockwell Software