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SUMMER 2011

News and products from Rockwell Automation

Integrated Architecture capabilities expanded with ControlLogix® redundancy

New capabilities for industry-leading Allen-Bradley® ControlLogix® programmable automation controller include faster scan rates and redundant I/O on EtherNet/IP.

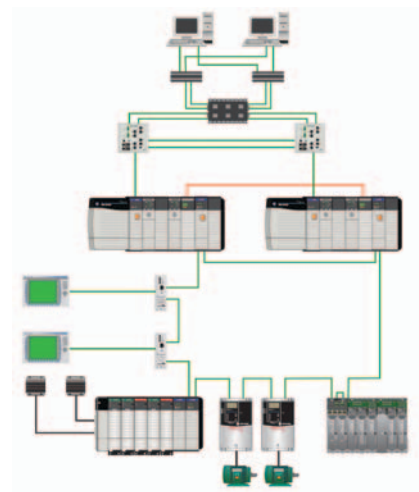
We have added new capabilities to our Allen-Bradley ControlLogix Programmable Automation Controller (PAC) to provide users with high availability and increased performance for our scalable Integrated Architecture system. New features of the ControlLogix PAC include faster processor scan rates and redundant I/O on EtherNet/IP.

With our scalable Integrated Architecture system, manufacturers and machine builders of all sizes need only one control platform for discrete, process, batch and drive-based applications. The new redundancy features increase overall plant productivity and further strengthen the advantages of using ControlLogix for both critical and non-critical control applications.

Redundant I/O on EtherNet/IP – Using the latest ControlLogix PAC, machine builders can – for the first time – benefit from I/O on the EtherNet/IP network. This gives manufacturers the ability to achieve high availability on a network that seamlessly integrates with ERP systems and third-party components.

Higher performance through L7 controllers – The firmware also adds support for Allen-Bradley ControlLogix L7 controllers. When using our new Redundancy Module, manufacturers can achieve 100 percent faster scan times. With faster scan rates, manufacturers can experience more consistent performance.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: V19.50



ControlLogix Redundant Architecture over EtherNet/IP

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Next-generation Safety Relays

We have introduced the next generation of our Allen-Bradley Guardmaster safety relays, comprising just six products (and six catalogue numbers), which may fulfil the majority of the requirements needed for safety related applications.



This doesn't mean the existing portfolio will become obsolete, just that for customers who wish to simplify their inventory and usage, they will have a choice to select the smaller family of next-generation, newer technology safety relays.

With the ranges ability to be function configured for simple logic tasks and having universal inputs, this much smaller family of relays can support a broad range of safety devices for a variety of applications. The universal input feature allows devices such as safety-interlock switches, emergency-stop switches, pressure-sensitive mats and OSSD devices such as safety light curtains to use the same set of terminals. This removes the requirement for a specific safety relay for a specific type of input device and fosters simplified system design, inventory management and maintenance in the lifecycle of a system.

Simple logic tasks can also be achieved. The DI and DIS units both have two dual-channel input circuits within a 22.5mm housing. These inputs can be set for AND/OR logic within the safety relay itself, or from relay to relay by the use of a single-wire. This simple single-wire link between the units uses transistor technology and offers monitoring via dynamic signals. This removes the need for dual-channel connection between the relays and offers SIL 3, PLe safety rating.

With this logic functionality, applications can be configured to offer flexible AND/OR

functional control. For example: if interlocked guard door 1 and guard door 2 are closed, then interlocked guard door 3 can be opened without stopping the machine. Other options can be configured for requirements such as regional and global e-stop functions.

The following safety relays are available now from the Central European Distribution Centre (CEDC):

- Safety relay with two dual-channel inputs and two solid-state outputs
- Safety relay with two dual-channel inputs and two relay outputs
- Safety relay output expansion module with four instantaneous relay outputs
- Safety relay with a single dual-channel input and two relay outputs
- Safety relay with a single dual-channel input and three relay outputs
- Safety relay output expansion module with four delayed relay outputs via adjustable rotary switch

With this family of next generation Guardmaster safety relays, we are confident that our customers will welcome a smaller family with increased functionality to help them with their machine safety requirements.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: LSR

New Drives and Motion Accelerator Toolkit



Our new Drives and Motion Accelerator Toolkit (DMAT) is a DVD containing a collection of design tools, which helps users reduce the time and cost of developing a new application using PowerFlex® AC drives, Kinetix® servo drives and other Rockwell Automation equipment.

The easy-to-use tools and templates assist users with a wide variety of design tasks, from selecting components and developing drawings, to writing code, laying out human-machine interface (HMI) screens, starting up a machine and troubleshooting. This allows users to concentrate on developing the unique features of their application, rather than on routine tasks that add to overhead costs.

The DMAT uses a modular format that greatly simplifies the work needed when building applications with multiple product lines. Users can select the products and common tasks that are needed to start a machine design with a solid foundation of functionality and features.

The DMAT provides sets of modules that are combined to produce:

- An initial Bill of Material
- A beginning set of CAD drawings for wiring diagrams and panel layouts
- An initial logic program written around the specific products used by the application
- Initial HMI screens designed around the specific products used by the application

The Drives and Motion Accelerator Toolkit DVD is available free of charge from sales representatives or distributors.

Many of the individual resources can also be downloaded from: <http://www.rockwellautomation.com/solutions/integratedarchitecture/resources5.html>

MCCs with Embedded EtherNet/IP Capabilities

Allen-Bradley NEMA & IEC CENTERLINE® low-voltage motor control centres provide seamless information exchange between plant floor devices and business-level systems to help increase productivity and worker safety.

We have recently announced the addition of EtherNet/IP to our CENTERLINE motor control centres (MCCs). With the features of an integrated EtherNet/IP network, manufacturers now have access to production information throughout the enterprise and can take advantage of simplified device programming with Premier Integration.

With EtherNet/IP integrated into our CENTERLINE MCCs, customers can access more detailed production data, allowing plant engineers to predict potential problems and guard against equipment failures – ultimately resulting in higher asset availability, improved productivity and reduced maintenance costs.

Leveraging a single, standard network simplifies communication for the entire enterprise and provides users with the flexibility to control, configure and collect data from any point in the system. In addition, by taking advantage of Premier Integration,

users can configure and commission their MCC faster with RSLogix5000 software, reducing the risk of errors associated with redundant programming.

Furthermore, the Ethernet connection allows CENTERLINE MCC users to access information remotely. This allows personnel to monitor, troubleshoot and diagnose the MCC without exposure to potentially dangerous conditions and power equipment. Knowing how a motor control centre is performing from anywhere also saves time by minimising the need for maintenance personnel to enter the motor control centre. This saves time associated with suiting up with personal protective equipment and helps protect personnel from exposure to hazardous conditions.

Designed to meet global standards, CENTERLINE low-voltage MCCs offer a rugged, high-performance packaging solution to meet all of a manufacturer's motor control needs. With embedded

IntelliCENTER technology, CENTERLINE MCCs use a pre-configured and pre-tested network with integrated hardware and software. This level of integration helps reduce installation time with its plug-and-play set-up, and can help minimise facility downtime by quickly providing intelligent diagnostic and predictive failure information.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: Centerline



Power Option Bay provides a cost-effective solution

Our Allen-Bradley PowerFlex 755 frame 8 high-power AC drive is now available with a Power Option Bay, which provides customers with a cost-effective solution for power disconnects and input or output reactors. More specifically, the Power Option Bay supplies a pre-engineered solution based on a customer's specifications for these options.

Correctly sized circuit breakers, disconnects and contactors provide a convenient means of disconnecting the drive while reactors offer additional protection from power line disturbances. Because parts are based on specific customer input and correctly sized for the appropriate duty rating, the Power Option Bay can help eliminate potential customer errors and consequently help customers save time and reduce costs.

Customers have a choice of Power Option Bay configurations, including the wiring-only bay which allows for almost any cable type in a 600mm deep enclosure. Optional integration into a CENTERLINE MCC lineup is also available.

The PowerFlex 755 frame 8 has the same control pod as the lower horsepower PowerFlex 755 drives with an embedded Ethernet port and five option slots for additional communications, I/O, feedback and safety options. With a power range that reaches from 315 to 450kW (400 to 700HP) at 400/480V AC input, the PowerFlex 755 packaged high power drive with Option Bay provides robustness, ease of use, flexibility and high performance.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: PF 755 Power Option Bay.



New HART modules simplify commissioning, operation and maintenance

Three new ControlLogix HART modules provide process automation systems with full analogue capability and the benefit of the HART protocol in I/O modules that can be used locally or mounted remotely.

The new ControlLogix 1756-IF8H, -OF8H and -IF16H HART Modules offer 8 or 16 channels of analogue input or output data with accompanying HART digital information. With a dedicated HART modem on each I/O channel, the 1756-IF16H offers high-performance and functionality in a high-density form factor.

The ControlLogix HART modules help maximise system performance by combining real-time HART data with standard analogue data – at a fraction of the cost. This simplifies commissioning, operation and maintenance, with additional insight to device status and the digital data can be used as the foundation of an asset-management system.

Users with a process application that contains HART field devices, can use the ControlLogix HART modules to leverage their existing

instrumentation investment by: connecting directly to HART devices, without the need for external HART multiplexers or additional wiring; providing access to more field device data, such as HART Primary Variable, Secondary Variable, Third Variable, and Fourth Variable, as well as device status information; individually managing HART devices connected directly to the modules; and documenting the device wired to each channel.

Users can see HART device configuration and diagnostic information in RSLogix 5000 and can view device information and verify which device is wired to an analogue channel. The HART device tags, manufacturer and descriptor are also visible for each channel. Additionally, to aid maintenance and troubleshooting activities, the device status and diagnostic code is available all without the need to grab a handheld, locate the



device in its mounting position and directly connect to the device.

Our FactoryTalk® AssetCentre includes all you need for effective asset management of HART field devices. Because it is based on the open FDT standard (IEC-62453 and ISA103), users can configure and manage any HART device. Simply load the software onto a PC residing on the control network and you're ready to go.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: CLX Hart

EtherNet/IP connectivity offers seamless and transparent data flow and sharing



Endress+Hauser is helping its users address the future needs of their processing systems with the introduction of EtherNet/IP communication capability into two of its most popular and widely used process meters.

Thanks to EtherNet/IP's transparent connectivity, the company's Promass 83 mass flow meters and Promag 53 volume flow meters can now provide both operational and Overall Equipment Effectiveness (OEE) data from field level all the way up to enterprise

level, without the need for additional gateways or data translation solutions.

According to Dion Bouwer, Product Manager Platforms responsible for System Integration and Fieldbus Systems at Endress+Hauser Flowtec AG: "This data, which can be collected manually or automatically, is vital for companies wishing to accurately and effectively assess the long-term Overall Equipment Efficiency (or OEE) of their plant and installations; while also having easy access to day-to-day operational data at the enterprise level. With Ethernet being the backbone of virtually all contemporary IT infrastructures, this also helps the units address any future-proofing concerns that customers may have."

Both units can connect seamlessly with RSLogix 5000 via Level 3 Add-On Profiles (AOPs), making programming, integration and commissioning easier as well.

The Promass 83 sensors – the world's first

Coriolis flow measurement system with this output option – allow multiple process variables to be measured at the same time, including: mass flow, density, temperature and even viscosity. Proven in real-world applications, the sensors offer long-term stability and easy fit-and-forget installation. They are insensitive to pipe vibrations and external pipe forces and do not require inlet or outlet runs. Measuring accuracy is typically $\pm 0.1\%$, optionally $\pm 0.05\%$ (mass, liquids).

The company's Promag 53 sensors – the world's first electromagnetic flow measurement system with this output option – can measure most liquids with a minimum conductivity of $5\mu\text{S}/\text{cm}$. Like the Promass 83, they offer easy, fit-and-forget installation, long-term stability and are proven in real-world applications. Measuring accuracy is $\pm 0.2\%$ o.r. $\pm 2\text{ mm/s}$ and repeatability is $\pm 0.1\%$ o.r. $\pm 0.5\text{mm/s}$.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: E+H Mass Flow meter

PlantPax Process Automation System Release 2.0 offers multiple enhancements

We are pleased to announce System release 2.0 of our PlantPax Process Automation System, which further strengthens your ability for plant-wide optimisation.

PlantPax System Release 2.0 improves on existing capabilities across multiple disciplines: system high availability, device integration, asset management, design productivity, batch and sequencing control and operations productivity.

In addition, we've also introduced a focused programme to help process equipment builders reduce their overall cost and minimise their time to market; all the while simplifying the integration of their equipment into an end users' PlantPax Process Automation System.

High availability is nothing new to PlantPax; indeed it is a critical attribute of any DCS. However, with PlantPax System Release 2.0 we've added significant flexibility and scalability – allowing you to achieve the necessary availability without unnecessary investment.

PlantPax also has a broad portfolio of connectivity options for the traditional process communications protocols including HART, Profibus-PA, and Fieldbus. System Release 2.0 expands on these offerings for an even more scalable portfolio.

Another important tenet of PlantPax, which is reinforced in System Release 2.0, is the integration and asset management of other devices in the system. These include intelligent motor control centres, variable-frequency drives, condition monitoring and power control components.

We also recognise that not all batch applications are created equal. A spectrum of solutions must be provided, based on the diversity of both the physical architecture, (the number of units and recipes, distribution of control and visualisation and the functional requirements) and items such as interfaces to an ERP system or validation and track and trace needs. PlantPax System Release 2.0 addresses the entire spectrum.

At the most complex level, new batch server software adds key capabilities such as intelligent recipes, improved runtime user control, expanded data collection and reporting, and enhanced material management.



For simpler sequencing requirements (packaged process equipment or simple start-up sequences), our new Logix Batch and Sequence Manager, an S-88 compliant engine, offers simple configuration and execution and minimises costly and risky design and maintenance aspects associated with custom code. This unitscale sequencer also easily integrates into a higher-level batch strategy, helping ensure that packaged solutions such as clean-in-place process equipment easily plug in to plant-wide production operations.

PlantPax users tell us that a significant amount of their automation investment – up to 60% in some cases – is spent integrating equipment from various vendors into their DCS. PlantPax System Release 2.0 takes steps to help customers with this non-value add expense as well by introducing a programme for process equipment builders.

This initiative introduces a set of architectures and efficiency tools to not only help equipment manufacturers deliver their scope quicker, but also offers the end users simpler integration to, and more consistency with, their PlantPax Process Automation System.

To facilitate this we've characterised a set of packaged equipment architectures leveraging more scalable controller and I/O systems typical of single unit-sized applications. We've also delivered our PlantPax library in a configuration that can be deployed in these packaged applications, ensuring consistency and common interfaces with the larger DCS applications, giving end-users plug-and-play integration.

For more information, please e-mail us at: info_update@ra.rockwell.com,
ref: PlantPax 2.0

Process solutions set the standard

It used to be that to get optimal production output you had to make sacrifices elsewhere... maybe line speed or product quality. But today, modern process solutions such as PlantPAX, minimise the need for such trade-offs and give engineers far greater control, efficiency and opportunities to optimise production.

PlantPAX is the next generation of plant-wide control that can seamlessly integrate with suppliers' equipment, while meeting the needs of the entire manufacturing enterprise in a single, open, universal control platform. It provides a single, scalable, plant-wide platform for process control, packaging and high-speed applications.

Providing seamless information flow from plant-floor instrumentation up to MES Systems, it's a flexible, expandable, affordable all-in-one solution for process automation applications. It helps users maximise productivity, improve quality and reliability, optimise flexibility and speed-to-market. It also helps them reduce the cost of implementation while minimising life cycle costs and achieving regulatory compliance.

By using a single, open, industry standard control platform you can reduce maintenance

costs through cost-effective service contracts, reduced parts inventory and parts costs, reduced training and maintenance costs and complete scalability. PlantPAX incorporates a number of production optimisation technologies to help users achieve cost reductions, decreased emissions, consistent quality and production increases, every production minute.

It also helps to improve decision making as it utilises a distributed, data management strategy. Plant-wide data is collected, stored and analysed and an integrated set of decision-making tools and dashboards is provided. With Model Predictive Control technology – an intelligence layer on top of your core automation systems – you can utilise closed-loop improvements of your operations in real-time, compare them to desired results, and model new control targets to reduce in-process variability and improve process performance.



Visit www.emea.rockwellautomation.com/process for an overview of the significant capabilities that PlantPAX can offer.

Creating a baseline to maximise asset performance

Today's manufacturing environment poses many new opportunities – as well as challenges – towards improving business and production goals. Each day you're expected to be creative, resourceful, find innovative solutions and overcome hurdles, but where do you start?

To find answers, customers are turning to our Plant Baseline, a low-cost service that provides a baseline of installed parts and software, network health, safety and skills of plant floor personnel. After performing a Plant Baseline tailored to your needs, we'll make recommendations on solutions based on your biggest challenges or most important priorities.

A Plant Baseline consists of an Installed Base Evaluation and up to four additional services, these include: Software Inventory Evaluation, Network Evaluation, Safety Evaluation and Training Evaluation.

The new Installed Base Evaluation (IBE) with Lifecycle Analysis service utilises a new

software tool and competent engineers to collect data from your site in order to provide accurate hierarchical data of your installed base and a series of powerful business reports. You will be able to view the data by plant area, by product, by lifecycle status or any other similar search criteria.

The IBE begins by developing a hierarchical model to define the functional location of the installed parts and then provides a series of standard reports, including an Inventory Analysis Report, a Lifecycle Analysis Report that features a colour-coded reporting dashboard to help identify and pinpoint where product obsolescence resides within the facility to expose potential production risks and an Assets and Parts Location Report.

The true value of a Plant Baseline lies in the output of each service evaluation. With the information you receive, you can make educated decisions on where to initiate improvements and how to implement an effective maintenance strategy. The typical benefits of a Plant Baseline are cost savings by identifying issues and opportunities for improvement without large up-front investments and

improved uptime and maximised production by identifying critical equipment and parts to support production and maintenance, reducing unplanned downtime.

A few of today's common goals:

- Managing spare parts and inventory reduction
- Resolving on-site skills shortages
- Maximising your assets
- Enabling IT and plant floor convergence
- Implementing or maintaining plant floor safety and regulatory compliance
- Reducing production downtime
- How do you prioritise? Where should you invest? What kind of return should you expect? What expectations are reasonable relative to the risks you may have to take?

**Note: Rockwell Automation cannot guarantee to identify the lifecycle status or MTBF data of all 3rd party manufacturers' electrical equipment, but will endeavour to provide this information wherever it is publicly available.*



How secure is your automation solution?

The Stuxnet virus discovered in some industrial control systems last summer very rapidly raised awareness of the importance of industrial security. Although it was targeted at a very small subset of locations and applications, other users of automation solutions should not get complacent as to the security of their own infrastructure.

Even though Stuxnet was targeted at particular hardware, in certain applications in specific geographical locations, its level of complexity raises many questions when it comes to security. The emergence of open networks and operating systems in industrial environments has manufacturers assessing the risks associated with unauthorised access to factory automation control systems.

Rockwell Automation understands the importance of security and works with our customers to help them understand the risks and determine the best approach to cost-effectively meet their security needs. By assessing, designing, implementing and maintaining security, we can help to provide a high level of risk mitigation and a continued understanding of the risk in the customer's environment.

As people know, malware on home computers can do many things, but it can be protected against using specialist security software. In a similar way, in an industrial environment, the right security software and procedures can help to: protect Intellectual Property (IP); avoid malicious attacks by hackers; help ensure safe and sustainable production, maintain Overall Equipment Effectiveness (OEE), increase resiliency and robustness; help ensure compliance with industry, regulatory and international standards; and provide secure access.

Like many security programmes, prevention is better than a cure – it is best not to present an opportunity for a security breach in the first place. For this reason, Rockwell Automation recommends five simple, actionable steps to achieve industrial security:

- Control who has access
- Employ firewalls and intrusion detection/prevention
- Patch and update your system
- Manage your passwords
- Turn the processor key(s) to Run mode

Because our solutions have the capability to connect process control and discrete control systems together, and then link these into larger enterprise-level systems, we can help you address industrial security from a system

approach throughout your Integrated Architecture based plant-wide control systems. We have adopted specific design-for-security development practices into our product and system development process and we continue to expand the physical, cyber and IP protection mechanisms in control products to simultaneously advance the security and safety of the industrial control system.

Our FactoryTalk software solution includes FactoryTalk® Security, which delivers centralised authentication and access control by verifying the identity of each user accessing critical systems and then grants or denies their requests to perform actions based on their level of access; FactoryTalk AssetCentre, which helps provide security by controlling which users can access an application and what actions they can perform; and FactoryTalk® View Human Machine Interface Software, which features a security code-based system that determines each user's level of access.

Our RSLogix Programming Software also features inherent capabilities that can be configured for more security, such as the protection of control routines lockdown capabilities; while our Allen-Bradley industrial computer family offer enhanced security features to make managing security easier and more efficient.

We also think it is essential to cultivate relationships with network infrastructure vendors like Cisco and other security-enabling Encompass partners to help enhance industrial security and provide guidelines, recommendations and practical advice for reducing operational risk. Because of this we can offer experienced field consulting services to assess, recommend and help implement solutions that enhance control system security.

We provide many free resources to help you with your security concerns. Two websites www.rockwellautomation.com/security and www.ab.com/networks/architectures.html give guidelines and methodologies and we also offer our Network & Security Services (NSS) to help you comply with security-oriented regulations and standards www.rockwellautomation.com/services/security/

NSS is a Rockwell Automation consulting team, which provides insight, support, leadership and guidance to design and implement a complete security deployment plan.

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: Industrial Security



Assess



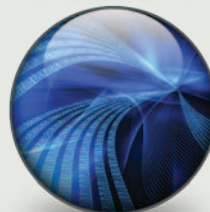
Design/Plan



Implement

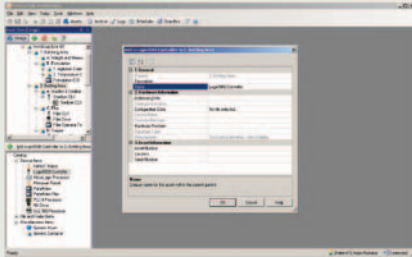


Audit



Manage/
Monitor

FactoryTalk AssetCentre V 4.0 now available



FactoryTalk AssetCentre provides a centralised tool for securing, managing, versioning, tracking and reporting automation-related asset information across your entire enterprise. And perhaps more importantly, it can do this automatically, with limited additional management oversight or work from employees.

It can impact uptime, productivity, quality, employee safety or regulatory compliance. Whatever your area of concern, FactoryTalk AssetCentre and its flexible, scalable solution can help you and your organisation meet your asset uptime goals.

FactoryTalk AssetCentre supports both Rockwell Automation and third-party assets.

New Capabilities of AssetCentre 4.0 include:

- FactoryTalk AssetCentre Disaster Recovery for Siemens S7
- p/n: 9515-ASTDRSMNS7E
- FactoryTalk AssetCentre Disaster Recovery for Siemens S5
- p/n: 9515-ASTDRSMNS5E
- FactoryTalk AssetCentre Disaster Recovery for Generic FTP
- p/n: 9515-ASTDRFTPENE

New Support Environments:

- Microsoft SQL2008
- Windows 7 (AssetCentre Client Only, 32/64 bit)
- FactoryTalk Services Platform CPR9 SR3

For more information, please e-mail us at: info_update@ra.rockwell.com, ref: FT AssetCentre

Historian now offers native connectivity to OSIsoft PI System

FactoryTalk Historian Machine Edition version 2.2 adds additional functionality to help users quickly and easily optimise machine-level data collection for manufacturing intelligence.



We have announced the release of FactoryTalk Historian Machine Edition (ME) version 2.2 software with native connectivity to the OSIsoft PI System.

PI System users who employ our Allen-Bradley ControlLogix controllers now have an off-the-shelf, machine-level historian application that can easily transfer historical data to their on-site or enterprise-wide PI System.

Scalable historian applications allow manufacturers to tap into manufacturing intelligence and improve product quality, speed time-to-market and support regulatory compliance by leveraging granular, real-time and historical production data.

FactoryTalk Historian applications build on industry-leading technology licensed from OSIsoft and include additional capabilities inherent in the FactoryTalk software suite to provide premier integration with our Integrated Architecture. We designed the FactoryTalk Historian ME application to work as a stand-alone, rack-mounted historian or to roll-up into a larger plant or enterprise historian systems. Data is accessible from different locations where users can view and analyse role-appropriate historical information.

With a modular historian, manufacturers can collect data in remote or hazardous locations and when speed and reliability is crucial, such as oil and gas, mining, pharmaceutical or water treatment applications. Additionally, machine builders can apply FactoryTalk Historian ME to pre-qualify the data collection of their machines, reducing



the time required for on-site installation, configuration and validation efforts. In highly regulated industries, the application helps machine builders provide continuous uptime and reliability. Because a machine-level historian is directly connected to the application controller, network connections are not necessary to data collection. As long as the system has a power supply, data gathering is assured.

Users also have more control over when data is transferred, which can save time and reduce costs. Transferring data can be expensive and every communications medium has usage limits. A machine-level historian can be programmed to transmit data to avoid peak-usage hours, or can be remotely directed to halt and recommence transfer if vital information needs to be prioritised. Once communication is re-established, information from the period of isolation is immediately accessible.

To learn more about FactoryTalk Historian ME software, please visit <http://discover.rockwellautomation.com/historian>

Or, e-mail us at: info_update@ra.rockwell.com, ref: FTHist ME