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**December 2009**

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## Foundation Briefs

### Fieldbus Foundation spotlights CIF, other key topics at SPS/IPC/DRIVES press event



Important developments in FOUNDATION fieldbus technology in the Europe, Middle East and Africa (EMEA) region, and in other areas of the world were the focus of a recent Fieldbus Foundation press briefing, held Nov. 25 at SPS/IPC/DRIVES 2009 in Nuremberg, Germany. On hand were several Fieldbus Foundation representatives, including Marc Van Pelt, vice president, Fieldbus Foundation EMEA Operations; and Dr. Raimund Sommer, chairman, Fieldbus Foundation EMEA Executive Advisory Council, to describe the benefits of control-in-the-field (CIF) using FOUNDATION fieldbus.

According to the ARC Advisory Group, a manufacturing research and advisory firm based in Dedham, MA, USA, CIF strategies supported by FOUNDATION technology improve process control performance by allowing for superior reaction to deterministic disturbances in industrial plant operations. The new ARC whitepaper, "The Business Value Proposition of Control in the Field," describes the incorporation of a function block structure and other supporting functions in FOUNDATION fieldbus, providing a complete automation infrastructure for operational excellence. Embedded control functionality in FOUNDATION devices is a key enabler for achieving high availability control and a stepping-stone towards single-loop integrity. Results from testing and real-world applications demonstrate that CIF with FOUNDATION technology can potentially to deliver a 30% improvement in control performance with very fast, fast, and medium-speed process dynamics. CIF can also provide up to three times higher control loop availability than a distributed control system (DCS).

In other press briefing announcements, the Fieldbus Foundation outlined its recent copyright agreement with Prolist ® International. The agreement allows Prolist, a not-for-profit organization of automation manufacturers, end-users, and university representatives, to publish FOUNDATION fieldbus parameter names and definitions in its standardized process control device/system specifications and database. Prolist is the successor organization to the Project Group "Lists of Properties" supported by NAMUR, the international process industries' end-user group, and Zentralverband Elektrotechnik- und Elektronikindustrie e.V. (ZVEI), the German electrical and electronic manufacturers' association. NAMUR and ZVEI have collaborated to define and record properties and lists of properties (LOPs) for process control/automation devices and systems.

The foundation also announced that University of Miskolc, Hungary, has begun the rigorous process of becoming a training site able to offer fieldbus training courses certified under the Foundation Certified Training Program (FCTP). The program establishes uniform standards for fieldbus educational curricula around the globe, and defines acceptable levels of learning for students of the technology. Once the University of Miskolc successfully completes the FCTP accreditation process, it will become the preferred site for Fieldbus Foundation training for the Central & Eastern Europe region.

For more on EMEA activities, visit the Fieldbus Foundation [Website](#).

The ARC whitepaper on analyzing CIF may also be downloaded from the Fieldbus Foundation [Website](#).

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## Tappan Wire and Cable joins Fieldbus Foundation



Tappan Wire and Cable, a leading supplier of specialty wire and cable for the communications and computer industries, is the newest member of the Fieldbus Foundation.

The company offers cable products using various insulating and jacketing materials, in compliance with UL, NEC, and CSA standards. It has four U.S. stocking locations: New York, Atlanta, Dallas, and Los Angeles, and specializes in standard and custom cable designs; competitive pricing; fast lead times; and high levels of quality, service, and technical support.

Tappan joined the foundation to better serve the factory automation industry, helping to educate and exchange knowledge about the importance of quality interconnecting cables and the advantages of deploying a standardized protocol using components with proven interoperability. Automation customers will now find sanctioned cables from new distributors, and established distributors will have an additional cable manufacturer to present to end users, noted Tappan. The company's goal is to help companies and their factories become more efficient and competitive to increase the value of their products to the automation supply chain and the industries they serve.

Tappan Wire and Cable began operation in 1978 in a 25,000-sq-ft plant in Tappan, NY and has grown into a modern, 200,000-sq-ft manufacturing and stocking facility in Blauvelt, NY. It continues to meet increasing market demands for wire and cable in the industrial, security, and communications sectors by developing new products and specialty designs.

Tappan currently manufactures Fieldbus Type A and Type B cables, including Fieldbus High Speed. It offers the cables with standard industrial grade PVC jackets or CPE jackets. Other jacket options include polyethylene, polyurethane, and FEP. Aluminum interlocked armor versions are also available.

Learn more about the company by visiting the [Tappan Website](#).

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[Global News & Events](#)

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## More than 200 attend FOUNDATION technology seminar in Beijing, China



More than 200 representatives from various process industries attended a Fieldbus Foundation seminar in Beijing, China recently. The event, held Nov. 5, 2009 at the Oriental Bay Hotel, was hosted by the Fieldbus Foundation China Marketing Committee (FFCMC) and organized by the Chinese FOUNDATION Fieldbus Committee (CFFC). It featured presentations by leading Chinese end users and EPCs describing the operational advantages and business benefits of implementing the FOUNDATION plant automation infrastructure.

CFFC chairman William Zeng opened the seminar with an update on current FOUNDATION fieldbus developments around the world. Zhang HuaPing, instrument manager, Fujian Refining and Petrochemical Co. Ltd. followed with the presentation "FOUNDATION Fieldbus Application in Fujian Refining and Ethylene Project (FREP)." The talk described how nearly 9,000 FOUNDATION devices were installed in this large refining and ethylene integrated project, and noted that FOUNDATION technology and asset management systems will reduce commissioning and maintenance labor significantly.

The presentation also stated that although the new facility is five times the size of the existing refining operation, its instrument labor will not increase. The predictive maintenance features of FOUNDATION fieldbus and asset management solutions will allow the refinery to use the same team to operate and maintain a much larger facility. The presentation also indicated that installation quality is critical to reliable fieldbus communication.

Lin Rong, deputy chief instrument engineer, Sinopec Engineering Inc., spoke on "FOUNDATION Fieldbus Application Status and Trends in the China Petrochemical Industry." According to his presentation, FOUNDATION fieldbus is proven in major projects such as SECCO, CSPC, and FREP. The technology can reduce project capital, operation, and maintenance costs. The presentation also noted the increasing adoption of FOUNDATION technology in large petrochemical projects.



In addition, Wang XiTing, technical manager, Pepperl+Fuchs, updated seminar attendees on new FOUNDATION products. Liu Kuan, product manager, Pepperl+Fuchs, discussed FOUNDATION fieldbus economic benefits. Chen Peng, technology director, Yokogawa Electric, described FOUNDATION technology engineering guidelines.

Harold Lin, marketing director, Emerson Process Management, presented "Predictive Maintenance Helps to Improve Plant Reliability," citing examples of how predictive maintenance can help end users reduce operational and maintenance costs and improve safety, compliance, and reliability.

Seminar sponsors included ABB, Azbil, Belden, CBC, Emerson Process Management, Endress+Hauser, Fluke, Mettler Toledo, MTL/Relcom, National Instruments, Pepperl+Fuchs, Rockwell Automation, Samson, R. Stahl, Turck, and Yokogawa.

Visit the *Fieldbus Foundation Website* for updates on future FOUNDATION Fieldbus events in China.

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## Annual Hungarian DCS conference and exhibition—another successful year



The Fieldbus Foundation Central & Eastern European Marketing Committee (FFCEEMC) was delighted with the success of the recent 15th annual Distributed Control Systems (DCS 15) conference and exhibition held at the Hotel Palota, Miskolc-Lillafüred, Hungary, on October 26-28, 2009. Over 280 engineers, end users and representatives of the world's leading suppliers of process control and automation equipment attended the three-day event, which was organized by the Research Institute of Applied Chemistry, the University of Miskolc and the Miskolc Organisation Society for Measurement, Automation and Informatics.

The extensive conference program included a day dedicated to Process Control & Safety Systems which included a presentation by Thomas Kasten and presented by Tibor Farkas, chairman – Fieldbus Foundation Hungarian Marketing Committee, titled "NAMUR Recommendation NE 97 and FOUNDATION Fieldbus for Safety Instrumented Functions (FF-SIF)."

The presentation outlined the NAMUR 97 recommendation, the Fieldbus Foundation's FF-SIF development program, and results of the four demonstrations undertaken by Shell Global Solutions, Amsterdam, the Netherlands; BP, Gelsenkirchen, Germany; Saudi Aramco, Dharhan, Saudi Arabia; and Chevron, Houston, USA. Of particular interest to the audience were details of the end user field trial installations and the benefits experienced by users through the implementation of FF-SIF technology.

Other sessions addressed new products and solutions, FDT solutions and applications, DCS and cooperating systems, and DCS applications. Speakers included several end users and industry experts—including representatives from several of the Fieldbus Foundation's member companies.

In addition to the speaker program, attendees were also able to visit the exhibition and poster presentations and participate in several social events.

Jürgen George, chairman FFCEEMC commented, "The continued high attendance levels of the annual DCS event is a clear indication of the increasing level of interest in process control technologies and plant optimization within the Eastern European area and reflects ever increasing project activity. I'm delighted that members of the Fieldbus Foundation and end users in the area were able to participate significantly in the conference program and share their knowledge and experiences with other users and potential users of the FOUNDATION technology."

For more information, visit the [Fieldbus Foundation Website](#).

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### UK marketing committee schedules half-day supplier training sessions

The Fieldbus Foundation UK marketing committee (FFUKMC) will hold a series of training events across the UK to meet the ongoing need for FOUNDATION fieldbus education within the Fieldbus Foundation’s own member companies.



The half-day events will target employees within the supplier community and offer a basic overview of FOUNDATION fieldbus technology, its implementation, applications, and overall plant integration. The training is intended in particular for sales representatives and engineering staff who interact with users or potential users of FOUNDATION technology and their companies’ fieldbus systems, devices, or interfaces.

Each event costs £10 per person and includes lunch. The agenda will cover:

- An introduction to FOUNDATION fieldbus
- Making FOUNDATION fieldbus work
- Making FOUNDATION fieldbus reliable
- Asset management
- Business intelligence
- Future developments

John Hartley, chairman of the FFUKMC, expressed enthusiasm about the new training events. “It’s vital that companies do all that they can to support their sales and engineering staff,” said Hartley. “The greater the knowledge employees have about fieldbus products and the technology behind them, the more effectively they can perform in front of current and prospective customers. Workforces can be very fluid with new staff coming through on a regular basis—employee training must be a constant consideration for management. With courses scheduled across the UK, all interested parties have an opportunity to attend.”

A number of supplier community training events have already taken place. One remaining session on the schedule is set for:

- Scotland: Feb. 2, 2010 at Honeywell, Newhouse

For more information about the training sessions, or to make a reservation for the February event, contact Charlotte Gear by telephone at +44 (0)161 286 5000 or by [email](#).

For more information about the Fieldbus Foundation UK marketing committee and its activities throughout the UK, visit the UK section of the [Fieldbus Foundation Website](#) or [email](#) the committee.

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### Fieldbus Foundation plans educational events worldwide

The Fieldbus Foundation is planning a variety of informational and educational events around the world for the remainder of 2009 and into 2010. Make plans now to attend an event in your area.

LOCATION	DATE	EVENT and CONTACT INFORMATION
<b>EMEA (EUROPE, MIDDLE-EAST, AFRICA) EVENTS</b>		
Frankfurt, Germany	Jan. 28, 2010	5th Fieldbus Foundation Conference More information to come

SEMINARS IN SOUTH EAST ASIA		
Thailand	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Malaysia	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Jakarta, Indonesia	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Vietnam	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
The Philippines	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
SEMINARS IN INDIA		
Surat, India	Q2 2010	ISA / FOUNDATION Fieldbus Event More information to come
Mumbai, India	Sept. 16-19, 2010	Automation 2010 More information to come
SEMINARS IN EAST ASIA		
Osaka, Japan	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Korea	To be determined	FOUNDATION Fieldbus End User Seminar More information to come

For more information, visit the [Fieldbus Foundation Website](#).

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## Technology News

### Updated FOUNDATION Fieldbus host test kit now available



The Fieldbus Foundation has released an updated FOUNDATION fieldbus Host Test Kit (HTK) DD Application Module (Version 2.0.0). The powerful test kit, driven by the foundation's End User Advisory Council (EUAC), includes hardware and software for testing the functionality of a fieldbus host and its conformance with FOUNDATION host profile specifications.

The HTK is designed to validate host applications implementing DD Services, files for persistent storage of functional parameter data, and grids for vector data visualization and manipulation. Hosts successfully completing the Fieldbus Foundation's test requirements are authorized to bear the official FOUNDATION fieldbus product registration symbol.

HTK 2.0.0 has been updated with field diagnostics capabilities according to the FOUNDATION fieldbus Diagnostics Profile Specification (FF-912) which was defined to allow any Electronic Device Description (EDD)-based system to access and configure the diagnostics

in fieldbus devices. The field diagnostics profile introduced a new field diagnostic alert type and supports more extensive integration capabilities (such as Wizards for configuration) to enhance diagnostics performance.

The diagnostic profile specification, rather than introducing significant changes to the FOUNDATION protocol, builds on the existing, powerful diagnostics capabilities of fieldbus equipment, while adding a greater degree of organization so that field instruments can represent their diagnostics in a more consistent way. The specification also allows for common tools and engineering procedures, which will reduce costs and deliver actionable intelligence from the field level to the end-user.

In addition to field diagnostics, the revised test kit incorporates profiled custom function blocks as well as a COMPATABILITY\_REV parameter for future testing against the AN-007. This feature assists with sudden device replacements by ensuring compatibility between an existing device and its replacement.

According to Stephen Mitschke, Fieldbus Foundation manager, fieldbus products, the updated HTK with field diagnostics offers fieldbus equipment suppliers a robust solution for implementing role-based diagnostics, meaning the right information is sent to the appropriate people in the plant—when they need it—without flooding others in alarms. “This technology,” said Mitschke, “per the NAMUR 107 recommendation, allows fieldbus end users to specify the diagnostics most important for a given operation or process area. They can also determine the priority of the diagnostic information and identify all appropriate recipients for particular data.”

Thanks to the Host Test Kit DD Application Test Module, end users have significantly improved host-to-device integration. FOUNDATION fieldbus host suppliers benefit from standardized test requirements and test cases for all hosts within a profile tested to the same requirements; standardized DD and CF files assuring hosts can parse files; and standardized test devices for all basic I/O function blocks and specialized test transducer blocks.

The Host Test Kit DD Application Test Module is designed to validate host applications implementing DD Services 4.2 or greater, including DD Services 5.0 constructs such as charts, graphs, images, and waveforms for visualization; files for persistent storage of functional parameter data; and grids for vector data visualization and manipulation.

The HTK was developed in cooperation with the Fieldbus Foundation's EUAC and System Integration and Maintenance team, and driven by end users to bring about consistent interoperability between hosts and devices regardless of the host supplier. Specifications now include profiles for functionally different hosts and the appropriate features that apply to each profile.

To purchase a licensed copy of the Host Test Kit DD Application Test Module, contact the Fieldbus Foundation by [email](#) or by phone at 512-794-8890.

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## Products & Solutions

### ABB releases new version of plant asset management software

A new version of Asset Vision Professional (DAT801), version 5.0 SP2 software for managing and monitoring plant assets, is now available from ABB. The upgrade to, and replacement for, Asset Master, the package is part of the company's Scalable Device Management suite of products.



Asset Vision Professional provides an entry-level device configuration capability.

Product improvements include reduced installation time (approximately 30 min. less than earlier versions) and several additional reporting features.

They include:

- Asset Condition History (lists all conditions active over a selected period of time);
- Asset Calibration (lists all calibration events for all devices with the current state at the top); and
- Asset Running Time (lists assets with a runtime asset monitor, including hours of operation, remaining time of operation until limit is reached, and if the runtime limit is reached).

To learn more, visit the [ABB Website](#)

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## Emerson introduces Fieldbus interfaces for remote oil, gas, and water applications



Emerson Process Management expands the benefits of digital field technology and asset management in remote SCADA applications with its new FOUNDATION Fieldbus interfaces for [ControlWave RTUs](#) (remote terminal units) and [ROC800-Series](#) remote operations controllers. The interfaces combine the benefits of FOUNDATION technology with proven RTUs to reduce costs and increase efficiency in a wide range of oil and gas and water and wastewater applications.

The FOUNDATION fieldbus interface extends the power of PlantWeb digital architecture beyond traditional plant walls where environmental demands on power consumption, temperature range, physical size, and mounting footprint are important system design considerations. Operational performance is improved through the increased accuracy of digitally retrieved process data and diagnostic information provided to decision makers. Integrating the RTUs and remote operations controllers into PlantWeb architecture provides enterprise-wide optimization, instrument diagnostics, and predictive maintenance scheduling, calibration, and reconfiguration.

The interface also allows ControlWave and ROC800-Series controllers to access multiple variables over a single pair of wires in a point-to-point or multi-drop configuration. It eliminates the need for technicians to cover hundreds of miles configuring and diagnosing instrument problems in wide-area SCADA networks. Installation and wiring costs are also reduced as centralizing with fieldbus eliminates the need for extra hardware.

For more information, visit the Emerson [Website](#).

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## Fieldbus Center to review calibration practices for Fieldbus transmitters



The Fieldbus Center at Lee College, Baytown, TX, has begun research to discover what occurs if a FOUNDATION fieldbus transmitter is subjected to a variety of ranges, including the range for which it was calibrated.

A differential pressure (d/p) transmitter today may have a wide turndown ratio, which allows an engineer to use it for a many measurement applications. It also may, at some time, need to have a range applied to it other than the range for which it was originally calibrated. If a transmitter is calibrated for its maximum range (for example: 0-400 in. H<sub>2</sub>O at 68° F), what happens to its measurement accuracy if it rescaled to a range of 0-4 in. H<sub>2</sub>O without subsequent calibration? Similarly, how is accuracy affected if the same d/p cell is calibrated to 0-4 in. H<sub>2</sub>O and then applied to a 0-400 in. H<sub>2</sub>O process?

The goal of this unfunded research is to determine if the use of FOUNDATION fieldbus transmitters calls for modifying plant calibration practices, and if so, to offer suggestions about such practices to the industry.

“As a third-party provider of FOUNDATION fieldbus training,” said Chuck Carter, the Center’s director, “we are always looking for ways to help the industry get the greatest return on their Fieldbus investment and our initial research may do just that. In light of potential labor and related savings, this is exactly the type of study an organization such as ours is suited for. Of course,” he went on, “we would love input from any users or manufacturers involved with this topic; all they need to do is drop a message to me.”

[Email](#) comments and input for the research to Chuck Carter, director, Fieldbus Center at Lee College.

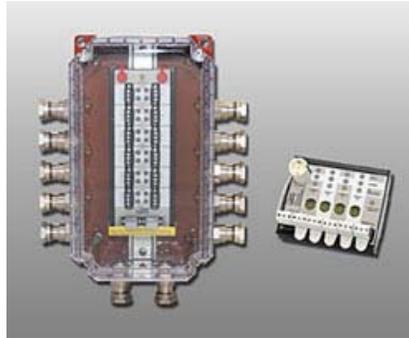
For more information about the project, visit the Fieldbus Center [Website](#).

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## MooreHawke Trunkguard Series among first registered device couplers

TG200 and TG300 Trunkguard Series Fieldbus device couplers from MooreHawke, the fieldbus division of Moore Industries-International Inc., are among the first to successfully complete the FOUNDATION device coupler registration process for the Fieldbus Foundation.

MooreHawke received a registration certificate for five models in the Trunkguard TG200 series: TG204, TG208, TG20X, TG20Y, and TG20W, and two models in the TG300 series: TG304 and TG308. They are now all registered as FOUNDATION Device Couplers. According to the Fieldbus Foundation, the new device coupler registration process provides automation end users with greater assurance of the interoperability of independently manufactured fieldbus physical layer components.



Trunkguard TG200 and TG300 Series Fieldbus device couplers deliver a fast and easy way to connect multiple fieldbus devices to a main fieldbus trunk in FOUNDATION fieldbus H1 networks. Trunkguard is the first fieldbus device coupler to provide fully automatic segment termination. The patented technology prevents fieldbus segment failure from under- or over-termination, a major problem in fieldbus startups.

For more information, visit the MooreHawke [Website](#).

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## R. Stahl advanced power supply provides integrated physical layer diagnosis



A new, innovative power supply for FOUNDATION fieldbus H1 applications from R. Stahl features a wide range of additional diagnostic functions for monitoring fieldbus segments. Advanced Fieldbus Power Supply generates a warning message if the transmission quality in the bus deteriorates, thus allowing users to intervene before the segment fails. The product joins R. Stahl's ISbus Fieldbus Power Supply System, introduced earlier.

Featuring a completely new, integrated physical layer diagnosis concept, the Advanced Fieldbus Power Supply System allows integrated, cost-efficient monitoring of fieldbus installations, making complex and costly separate diagnosis modules unnecessary. Attractive pricing (only about 10% percent above the simple Fieldbus Power Supply) enables this high-performance unit to provide complete, continuous plant monitoring without a significant increase in cost.

The Advanced Fieldbus Power Supply continuously reads the physical parameters (physical layer) of the fieldbus, such as voltage and current on the trunk, communication level, noise level, asymmetries, and jitter. If these parameters deteriorate by a value that can be freely adjusted on the device, the system signals a warning via a yellow LED and simultaneously transfers the warning message to the control system through a potential-free relay contact. Situations completely exceeding or falling below the fieldbus specification are signalled via a red LED and the relay contact.

The Advanced Fieldbus Power Supply can be connected to a PC using a serial interface to read out data if detailed information about physical layer parameters is required. As with the basic version, the Advanced Fieldbus Power Supply System supplies the fieldbus with 28 V and 500 mA and enables a 1 A supply via a parallel connection of two devices in "boost" mode.

An optional redundant supply ensures redundant diagnosis, an additional advantage of the new product. The units can be installed on a DIN rail or on bus-carriers, and can be operated in mixed installations with basic models.

For more information, visit the R. Stahl [Website](#).

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## Yokogawa offers enhanced Centum VP system

An enhanced version of Centum VP, R4.02, is now available from Yokogawa Electric Corp. The new system provides better information visibility, a more intuitive operator interface, improved consolidated alarm management, enhanced FOUNDATION fieldbus engineering tools, and tighter integration with the ProSafe-RS safety instrumented system (SIS). The enhanced functions establish a foundation for VigilantPlant, Yokogawa's vision for the ideal plant, to bring higher levels of stability, reliability, and productivity to plants.



Features of the enhanced Centum VP R4.02 include:

1. Tighter integration with the latest Yokogawa SIS. With the release of Yokogawa ProSafe-RS SIS, version R2.03.00, the safety system and the Centum VP production control system can now be operated and monitored through the same operator interface. The integration of the two systems improves plant safety and efficiency.
2. Improved consolidated alarm management. With version R4.02, the engineering environment for configuring the monitoring and notification of alarms is the same as that used to configure the operator interface and other control and monitoring functions. This consolidated engineering environment improves the efficiency of alarm configuration by applying configuration data from the control and monitoring application.
3. Enhanced FOUNDATION fieldbus engineering tools. R4.02's new tool set can check the configuration of FOUNDATION fieldbus compatible field devices and final control elements such as valves, improving the quality and efficiency of engineering and commissioning work.

For more information, visit the [Yokogawa Website](#).

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