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Fieldbus Facts Online

Your Global Source for FOUNDATION™ Technology News

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Featured This Month



**FOUNDATION Fieldbus ...
we put the pieces in place**



Endress+Hauser 
People for Process Automation

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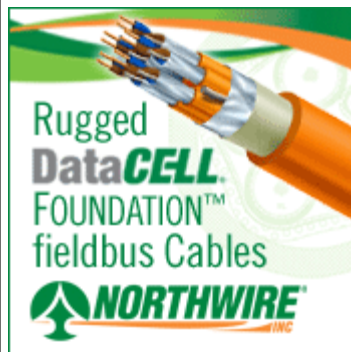
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Foundation Briefs

Fieldbus Foundation names new members to its board of directors

The Fieldbus Foundation today announced that Dr. Gunther Kegel, president, Pepperl+Fuchs GmbH, has been elected chairman of the foundation board of directors. Dr. Kegel replaces John Berra of Emerson Process Management, who is retiring after serving 16 years in his foundation leadership post.

Other executives named to the foundation's board include: Daniel Huber, senior group



Gunther Kegel

vice president, business unit manager—open control systems, process automation division, ABB; Takuji Hosoya, managing executive officer—advanced automation company, Azbil (Yamatake); Peter Zornio, chief strategic officer, Emerson Process Management; and Ralph Carter, president, Rockwell software business, Rockwell Automation.

The remaining board members include: Farshad Amir, DuPont; Timm Madden, ExxonMobil; Masatsugu Tomotaka, Fuji Electric Systems Co. Ltd.; David Eisner, Honeywell Inc.; John Eva, Invensys/Foxboro; Fred Cohn, Schneider Electric; Hans Georg Kumpfmüller, Siemens AG; and Kimikazu Takahashi, Yokogawa.

Fieldbus Foundation President and CEO Rich Timoney congratulated the new members on their selection to the foundation's board of directors. "On behalf of the Fieldbus Foundation, I would like to welcome the latest additions to our board. These professionals will bring valuable experience to our organization and help us to serve the needs of the global automation industry," said Timoney. "During this period of rapid growth for FOUNDATION fieldbus, we are fortunate to have the support of key executives with the world's leading control system and instrumentation suppliers, as well as major end users companies."

In recognizing the new board members, Timoney also thanked Berra for his many years of service to the Fieldbus Foundation. He said, "John Berra has been a dedicated supporter of the foundation since it was established in 1994. As chairman of the board, he helped to guide our organization in reaching many key milestones over the years, and has been tireless in his efforts to promote FOUNDATION technology within his own company and throughout the marketplace. The entire fieldbus community owes John a significant debt of gratitude."

Dr. Gunther Kegel studied electrical engineering at the Technical University of Darmstadt in Darmstadt, Germany. After completing his doctoral thesis on the topic of "Integration of Sensor Signals into Robotic Controls," he became a freelance engineering collaborator for several small-sized engineering companies. In 1990, Dr. Kegel was employed by Pepperl+Fuchs Mannheim, a manufacturer of electronics for factory and process automation, as head of its Pre-design Department. He was subsequently named head of Pepperl+Fuchs' Development Department/Factory Automation and Division Factory Automation, and later served as its deputy managing director. In 2004, Dr. Kegel was chosen as chief executive officer of Pepperl+Fuchs Mannheim. He currently serves as the company's president and chief executive officer (CEO).

Prior to his current position with ABB, Daniel Huber served as the company's global technology manager for process industry products and oversaw product roadmaps and forward evolution for ABB's control systems portfolio. Huber joined ABB in 1987 and has held numerous positions in research and development, product management, marketing, sales, service, and business development, as well as corporate research. He has also held similar positions at Adtranz and General Electric.

Takuji Hosoya is a 33-year veteran of smart transmitter marketing and development, and the process automation solution business. He is currently executive director of Advanced Automation Company, Yamatake Corporation, in charge of field instruments/automation solution system marketing.

As chief strategic officer for Emerson Process Management, Peter Zornio has responsibility for group-level coordination of technology programs such as PlantWeb and Smart Wireless, as well as the group-level marketing team. He also has direct responsibility for the product definition and development organizations for DeltaV, Ovation, and AMS Suite. Zornio has been at Emerson for four years. Prior to that, he spent 21 years at Honeywell, most recently as director of product marketing.

Ralph Carter joined Rockwell Automation in November 2007 through its acquisition of Pavilion Technologies, where he served as president and CEO, and sat on the company's board of directors. He brings more than 25 years of automation industry experience to his current role with Rockwell, having worked for corporations such as Datastream, Honeywell, and Measurex.

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

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First devices with advanced field diagnostics technology are registered



The first FOUNDATION fieldbus devices incorporating advanced field diagnostics technology have been registered, the Fieldbus Foundation announced recently. Yokogawa (field indicator) and FCI-Fluid Components International (thermal mass flowmeter) are the first FOUNDATION fieldbus H1 (31.25 kbit/s) device suppliers to pass the field diagnostics registration process. The new registration requirements help standardize how fieldbus devices communicate diagnostic data to the host and asset management tools within a plant automation system.

Advancements in field diagnostics support a structured approach to asset management, simplifying plant operators' tasks and increasing their confidence in using equipment diagnostics and asset software. This, in turn, will improve process performance and reliability, increase uptime, and lower operating costs.

Using the power of FOUNDATION fieldbus, and considering the NAMUR NE107 recommendations, the Fieldbus Foundation developed a profiles specification enhancing the organization and integration of device diagnostics within FOUNDATION fieldbus systems. The new diagnostic profile includes a standard and open interface for reporting all device alarm conditions, and provides a means of categorizing alert conditions by severity. The technology facilitates routing of alerts to appropriate consoles based on user-selectable severity categories. It also provides recommended corrective actions and detailed help, and indicates the overall health of the device.

The FOUNDATION fieldbus Diagnostics Profile Specification (FF-912) was defined to allow any Electronic Device Description (EDD)-based system to access and configure the diagnostics in fieldbus devices. The field diagnostics profile makes no changes to the existing FOUNDATION fieldbus stack specifications. However, it does introduce a new field diagnostic alert type. System updates will provide more extensive integration capabilities (such as wizards for configuration) that will enhance diagnostics performance.

Instead of introducing significant changes to the current FOUNDATION protocol, the new diagnostic profile specification builds on existing powerful diagnostic capabilities of FOUNDATION fieldbus equipment. At the same time, it adds a greater degree of organization so that field instruments can represent their diagnostics more consistently.

FOUNDATION fieldbus devices submitted for field diagnostics registration must pass interoperability test kit (ITK) test cases, which exercise the bit alerts generated for fail alarms, check alarms, off-specification alarms, and maintenance alarms. They must support multi-bit alert reporting, as well as the new alert object designed for field diagnostic alarms. In addition, they must support new field diagnostics parameters in the resource block.

"In the FOUNDATION fieldbus automation infrastructure," said Stephen Mitschke, Fieldbus Foundation Manager-Fieldbus Products, "field diagnostics is a way of standardizing how all fieldbus devices communicate their diagnostic data to the host and asset management system—regardless of the vendor. This technology streamlines the way data are presented to take advantage of the rich diagnostic information available in FOUNDATION fieldbus devices. For end users, the largest benefit is that advanced field diagnostics enable role-based diagnostics," continued Mitschke, "meaning the right information is sent to the appropriate person when they need it. FOUNDATION technology has always utilized push diagnostics, allowing the user to receive alerts much quicker, instead of the traditional method of requesting diagnostic information from devices. Field diagnostics technology will now enhance user control and distribution of messages between field devices and host/asset management systems. This will allow for faster response times as each message is presorted according to criticality, whether it is a process alarm or a maintenance alarm."

Yokogawa's registered field indicator offers standard field indicator functions and PID function block, link master, and software download capabilities. It enables users to switch and display up to 16 indicated values for FOUNDATION fieldbus devices. No complex operation is needed in the field to observe the indicated values. A self-diagnostic function based on the NAMUR NE107 standard detects failures in the ambient temperature limit, communications, and hardware such as the LCD and amplifier assembly.

Fluid Components International's registered thermal mass gas flowmeter is industrial process and plant grade, suitable for all air and gas flow measurement applications. It provides direct gas mass flow measurements, including flow rate, totalized flow, and temperature. Specialized versions also include pressure measurement. The meter has no moving parts to clean or maintain, and is offered in a variety of process connections. The electronics/transmitter can be integrally mounted with the flow sensor or remote mounted up to 1000 ft (300 m) from the sensor element.

Review a complete list of registered FOUNDATION fieldbus products on the Fieldbus Foundation's Website at www.fieldbus.org/registered

Global News & Events

Fieldbus seminar, demo attract crowds at Hungarian DCS16 conference



The Fieldbus Foundation Central & Eastern European Marketing Committee (FFCEEMC) and Fieldbus Foundation Hungarian Marketing Committee (FFHMC) were pleased with the success of the recent 16th annual Distributed Control Systems (DCS 16) conference, held at the Hotel Palota, Miskolc–Lillafüred, Hungary, Oct. 25-27, 2010. More than 260 engineers, end users, and representatives from the world's leading suppliers of process control and automation equipment attended the event, organized by the Research Institute of Applied Earth Sciences, University of Miskolc.

The extensive three-day conference program included a half-day seminar dedicated to FOUNDATION fieldbus. Presentations delivered by representatives of the FFCEEMC and FFHMC addressed five FOUNDATION fieldbus topics:

- Introduction to the University of Miskolc and its role as a certified training center;
- A review of industrial automation with fieldbus;
- FOUNDATION fieldbus and DCS world and beyond;
- Explosion protection for FOUNDATION fieldbus High Speed Ethernet (HSE); and
- DART becomes reality.

Of special interest was a live demonstration of FOUNDATION technology using the demonstration systems assembled by the University of Miskolc.. The session proved so popular with DCS16 attendees that a repeat of the live demonstration was added to the agenda the following day. More than 110 delegates attended the Fieldbus Foundation's sessions, a clear indication of the high level of interest in FOUNDATION technology throughout Hungary and its neighboring area.

"I'm delighted that such a significant part of the conference program was dedicated to the implementation of FOUNDATION technology," said Juergen George, chairman—FFCEEMC. "The high level of attendance at the seminar, and the demand for an extra demonstration session, clearly shows the significant level of interest in process control technologies and plant optimization within the Central & Eastern European area and reflects ever-increasing project activity. We are looking forward to the University of Miskolc's successful accreditation under the FOUNDATION Certified Training Program (FCTP) and towards a mutually beneficial partnership with the Fieldbus Foundation," he added.

The University of Miskolc has reached a significant milestone in its application to become an accredited training site that offers fieldbus training courses certified under the FCTP. A license agreement has been signed that recognizes the site as a certified training center that is undergoing the rigorous process of auditing its educational curriculum and instructors to achieve full certified training center status. Once it has successfully completed the accreditation process, the University of Miskolc will become the preferred site for Fieldbus Foundation training in the Central & Eastern European region.

Other sessions during the three day DCS16 event included keynote speeches on process control trends; presentations addressing industrial communication networks, DCS applications, and DCS new technologies and solutions; and the first International Scientific Workshop on DCS. Speakers included several end users and industry experts, including representatives from Fieldbus Foundation member companies.

In addition to the speaker program, attendees were able to visit the exhibition and poster presentations and participate in several social events, including a welcome reception sponsored by the FFCEEMC and FFHMC.

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

Another UK sports venue, another FOUNDATION fieldbus roadshow!



The Fieldbus Foundation UK Marketing Committee (FFUKMC) recently added another famous sports venue to its list of “Fieldbus Goes Live!” end-user roadshow locations. The latest roadshow took place at the Twickenham rugby ground in London, England, on Tuesday, Oct. 12. The event followed a similar format to previous successful roadshows held at other key sporting venues across the UK, including Brands Hatch racing circuit, Wembley stadium, Madejski stadium, City of Manchester stadium, and the Riverside stadium.

In addition to a full presentation program, the roadshow provided attendees with an opportunity to enjoy a complimentary lunch, tour the pitch side facilities, and win a pair of match tickets for the England vs. South Africa match at the end of November.

The FFUKMC welcomed 24 delegates, including end users, systems integrators, contractors, and automation industry experts to the event. The comprehensive seminar program included presentations and practical demonstration sessions covering:

- Introduction to FOUNDATION technology—an overview, including hazardous area options;
- Process integrity and reliability—achieved through diagnostics and redundancy;
- Business intelligence—demonstrating improved plant performance;
- Open, scalable integration—linking H1, HSE, and other networks; and
- Practical systems implementation—demonstration of building, maintaining, and modifying working fieldbus segments.

Host systems were provided by ABB, Emerson Process Management, Honeywell, and Yokogawa, with devices from BEKA, Endress+Hauser, Smar, Krohne, Invensys, and VEGA, and physical layer interfaces from MTL, MooreHawke, Pepperl+Fuchs, R. Stahl, and Turck.

Dave Ineson, Vice-Chairman of the Fieldbus Foundation UK Marketing Committee, said he was pleased to add Twickenham to the list of UK seminar venues. “The UK marketing committee enjoys hosting its Fieldbus Foundation end user events at some of the major sports venues across the UK,” he said. “We know that the attendees appreciate the combination of informative presentations and practical demonstrations delivered by fieldbus experts in a unique venue—it ensures a beneficial and memorable day for all involved!”

For additional information, visit the Fieldbus Foundation [Website](#) or [email](#) the Fieldbus Foundation UK Marketing Committee.

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Dates, agenda set for 2010 Middle East end-user seminars



The Fieldbus Foundation Middle East Marketing Committee (FFMEMC) has published the final agenda for its 2010 “FOUNDATION Fieldbus—Technology Update” end-user seminars. Four roadshows will take place during December:

- December 5: Yanbu, Kingdom of Saudi Arabia
- December 6: Al Jubail, Kingdom of Saudi Arabia
- December 8: Kuwait City, Kuwait
- December 9: Al Ruwais, Abu Dhabi, UAE

The FFMEMC enjoys a close working relationship with several ISA groups across the region and is cooperating with the ISA Saudi Arabia Chapter and ISA Kuwait Chapter to host the events in Saudi Arabia and Kuwait. Similarly, the FFMEMC is pleased to be working with members of the local FOUNDATION fieldbus end-user council (EUC) in KSA, Kuwait, and UAE.

Following the format that has proved so successful over the past two years, the technical seminars will be held in conveniently located hotel venues and be followed by a complimentary meal for all delegates. The focus in 2010 is to visit regions and industrial areas in the Middle East where adoption of FOUNDATION technology may not be as established as in many other areas, but where prospective end users, including technicians, plant engineers, and contractors are seeking to increase their knowledge of the technology and may have

a greater need for information and support.

The agenda for the 2010 roadshow series will include:

- Introduction by ISA Saudi Arabia Chapter/ISA Kuwait Chapter representative and/or local Middle East End-User Council member
- FOUNDATION fieldbus technical overview
- FOUNDATION fieldbus technology update
- Control in the field—advantages
- Physical layer diagnostics for the fieldbus operator

All attendees are invited to stay for the complimentary meal that provides a valuable opportunity for questions and answers or general discussions with fellow delegates, presenters, and FOUNDATION fieldbus experts.

Sponsoring companies include: ABB, Emerson Process Management, Endress+Hauser, Honeywell, Invensys, Pepperl+Fuchs, MooreHawke, Metso, MTL, R. Stahl, Turck, and Yokogawa.

Additional information and seminar registration materials are available on the Fieldbus Foundation [Website](#).

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Fieldbus educational events to be held worldwide during coming months

The Fieldbus Foundation is holding informational and educational events around the world this fall and winter. Make plans now to attend an event in your area before the end of the year.

LOCATION	DATE	EVENT and CONTACT INFORMATION
EVENTS IN EMEA (EUROPE, MIDDLE-EAST, AFRICA)		
Brno, Czech Republic	Dec. 2, 2010	FOUNDATION Fieldbus Roadshow Click here for more information
Yanbu, Saudi Arabia	Dec. 5, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Al Jubail, Saudi Arabia	Dec. 6, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Kuwait City, Kuwait	Dec. 8, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Al Ruwais, United Arab Emirates	Dec. 9, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Gdansk, Poland	Jan. 17, 2011	FOUNDATION Fieldbus Roadshow Click here to email for more information
Bayer Kasino Leverkusen, Germany	Jan. 26, 2011	6th German End User Conference Click here for more information
Linz, Austria	Oct. 4-6, 2011	FOUNDATION Fieldbus Presentation, SMART Automation Exhibition Click here to email for more information
EVENTS IN ASIAPACIFIC		
Nanjing, China	Nov. 11, 2010	FOUNDATION Fieldbus End User Seminar More information to come
Thailand	To be	FOUNDATION Fieldbus End User Seminar

	determined	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
The Philippines	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
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

Now available: Flow transducer block preliminary specification released



The FOUNDATION fieldbus *Flow Transducer Block Preliminary Specification* (FF-908 PS 1.0) is now available to foundation members. The new release provides standard definitions for flow transducer blocks, including:

- Standard flow with calibration for basic device access
- Standard flow with calibration for complex device access
- Common practice parameters for extended functionality

The FOUNDATION fieldbus *Flow Transducer Block Preliminary Specification* also introduces a new Totalizer Function Block that will work in conjunction with the Flow Transducer Block. The Totalizer Function Block is used for the time-critical procedure of totaling the different inputs used to compute flow. The specification provides a schematic of the block, parameter access, and details for handling status of input parameters.

Fieldbus Foundation members with a “member access privileges” account may comment on the document until Dec. 7, 2010. The specification may be accessed and downloaded from [Fieldbus Forums](#) under “Member Forums—Preliminary Specification Forum.” To sign up for an account, visit Fieldbus Foundation [Forums](#) and click on “register,” or contact [Member Service](#) to activate your member privileges.

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Products & Solutions

Emerson gas chromatographs now available with Fieldbus interface

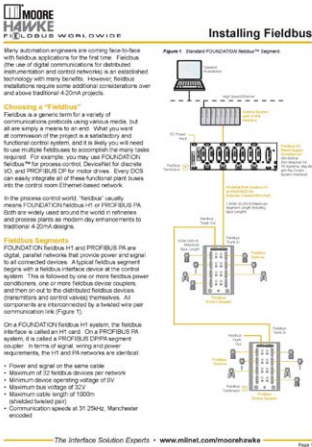


Emerson's Rosemount Analytical 700XA and 1500XA gas chromatographs now include an optional FOUNDATION fieldbus H1 interface. Featuring a stable, rugged design and unique airless oven construction, these products are used in a wide array of remote area and harsh climate applications, and in critical processing facilities such as refineries, chemical plants, and power plants.

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

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MooreHawke updates whitepaper on installing fieldbus



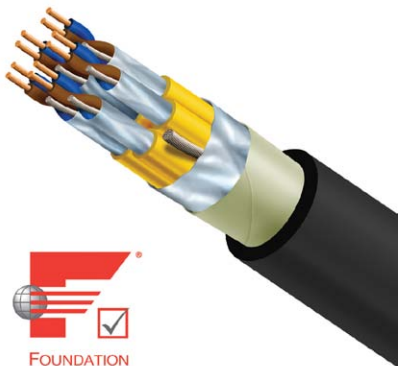
Learn about the fundamentals to watch for when installing fieldbus in your plant from a newly updated whitepaper from MooreHawke.

Fieldbus is an established technology with many benefits, but fieldbus installations require additional considerations over and above traditional 4-20mA projects. For many automation engineers coming face-to-face with fieldbus applications for the first time, this report can help provide practical advice on fieldbus segments, fieldbus power supplies and device couplers, short circuit protection, segment termination, creating redundant fieldbus segments, hazardous area installations, and much more.

[Download](#) the updated whitepaper from the MooreHawke Website now!

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Northwire cables offer superior ground integrity



DataCell Foundation fieldbus M-EZ (Marshal-EZ) cables from Northwire are performance guaranteed and custom-configured to specified requirements. They feature up to 24 individually foil-shielded pairs with an extruded binder over each pair—all contained within a single cable. This characteristic allows for fast, simple installation into marshaling cabinets without shrink tubing and ensures superior ground system integrity, eliminating the potential for cross-continuity between shields.

Northwire offers no-cost wire design and prototyping services, no minimum length or quantity requirements, and fast delivery. The FF-844 certified cables are ITC/PLTC rated for exposed-run applications, and they pass the crush and impact tests for metal-clad cable, eliminating the need for conduit.

The DataCell line includes arctic-rated and marine shipboard-listed versions suitable for -60 deg C. CSA armored cables are also offered. Options include single-pair or multi-paired bus cables; individually or overall foil-shielded pairs with drain; overall tinned copper braid for low-frequency noise immunity; 16 AWG for longer runs and 18 AWG in single-shielded, twisted-pair spur or multipair cable; and several jacket and inner-conductor colors with optional ground wire. The characteristic impedance Z0 is 100 Ω ± 10 Ω at 31.25 kHz. Other versions are available off the shelf in bulk quantities.

For complimentary samples, contact the company at 715-294-2121; or visit the Northwire [Website](#) for more information.

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Pepperl+Fuchs diagnostic module DTM software simplifies troubleshooting

A new version of Pepperl+Fuchs Advanced Diagnostic Module DTM software is now available. Advanced diagnostic modules (ADMs) monitor the quality of fieldbus communication for FOUNDATION fieldbus H1 and Profibus PA networks, and Diagnostic Manager software includes a



number of updates to dramatically speed fieldbus commissioning and take the guesswork out of troubleshooting for ADM users. This smart software tool translates information provided by the ADM into actionable information and can run on a server in the control room, turning the complete fieldbus infrastructure into an open book that can be read even without expert knowledge.

“The most significant improvement to the new Diagnostic Manager is a built-in expert system that automatically learns the communications behavior of a segment during commissioning, and over time is able to intelligently diagnose any situation on the basis of past experience,” says Brian Traczyk, product manager, Pepperl+Fuchs. “Users are provided with specific warnings as soon

as the software detects any condition that might lead to a critical situation. Such warnings are complemented by incident-related information in clear text that points to possible causes and recommends remedies.”

Having this information helps field technicians determine what needs to be done before they arrive on site; they no longer face the sometimes-time-consuming task of searching for the actual cause of a problem. Time spent on troubleshooting is minimized, plant shutdowns are largely avoided, and the availability of the complete system is improved considerably.

Additional improvements include:

- Automated tag reading: the ADM is now able to read and document tags and device IDs in combination with any FOUNDATION fieldbus host; and
- Improved oscilloscope: the device offers more trigger events and automatically captures up to 10 shots in a row; each bit and telegram is identified with type and value, as well as source and destination address.

For more information, visit the Pepperl+Fuchs [Website](#).

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