

Freedom to Choose

Power to Integrate



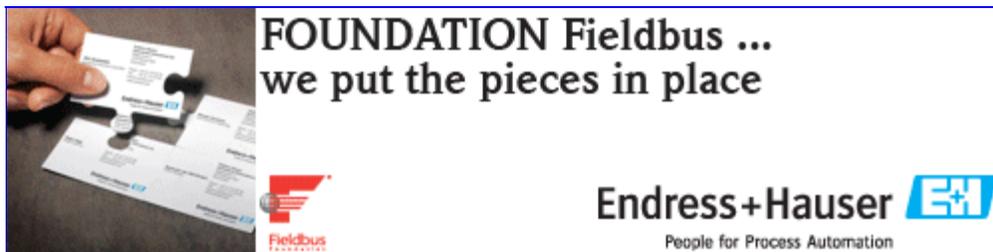
Fieldbus Facts Online

Your Global Source for FOUNDATION™ Technology News

October 2010

Fieldbus Facts Online is brought to you by the Fieldbus Foundation, an international, not-for-profit corporation consisting of automation industry leaders dedicated to providing the "Freedom to Choose" and the "Power to Integrate."

Featured This Month



In This Issue...

Foundation Briefs

[Pilot projects reflect growing demand for FF-SIF solutions](#)

[Help wanted: Middle East Marketing Committee seeks additional members](#)

[New member: Cords Cable Industries joins Fieldbus Foundation](#)

Global News & Events

[Last fieldbus end-user seminars of 2010 planned for Gulf Coast](#)

[FOUNDATION technology seminar scheduled in South Africa](#)

[Autumn fills with educational events around the globe](#)

PlantPAX
Process Automation System

True cost recovery starts with cost discovery.

Rockwell Automation

Sponsors

ABB

Power and productivity for a better world™

azbil



EMERSON
Process Management

Endress+Hauser **EH**
People for Process Automation

Honeywell



中科博微
Microcyber

Relcom

Products & Solutions

[MooreHawke solutions card describes fieldbus physical layer devices](#)

[Pepperl+Fuchs gateway enhances diagnostic module performance](#)

[R. Stahl flexible space savers connect up to 16 fieldbus devices](#)

[Yokogawa integrated fieldbus engineering tool available for Stardom system](#)



Foundation Briefs

Pilot projects reflect growing demand for FF-SIF solutions



Recent experiences of pilot projects at two companies reflect the growing demand for FF-SIF solutions. Representatives of Shell Project & Technology and Saudi Aramco took time to discuss their work with FF-SIF technology for *Fieldbus Facts Online*.

FOUNDATION fieldbus, with its industry-proven distributed function blocks and open communications protocol, is an ideal platform for advancing standards-based safety instrumented functions (SIFs). FOUNDATION technology enables process end users to realize significant CAPEX and OPEX benefits by extending fieldbus benefits into plant safety systems. The SIF protocol was approved by TÜV Anlagentechnik GmbH to meet the requirements of IEC 61508 up to and including safety integrity level (SIL) 3.

Automation equipment suppliers are taking the lead in designing devices to meet the growing market demand for fieldbus-based SIFs. Certifying agencies such as TÜV will provide certification for use of the equipment in a safety instrumented system (SIS) environment.

At Shell Project & Technology:

In May 2008, the Fieldbus Foundation successfully demonstrated its FOUNDATION fieldbus for SIF (FF-SIF) solution at Shell's technology center in Amsterdam. The live technology demonstration, which attracted process automation end users and equipment suppliers from

around the world, evaluated FOUNDATION fieldbus-enabled safety valves with partial stroke testing (PST) capability; various pressure, level, temperature, and diagnostic devices; and system integration capabilities with asset management and basic process control system (BPCS) platforms.

"By implementing FOUNDATION for SIF, Shell expects enhanced diagnostics through a fully integrated asset management system," said Audun Gjerde of Shell Project & Technology, who conducted the SIF pilot demo. "We also anticipate less testing of final elements thanks to smart testing and diagnostics, as well as online testing and partial stroke testing. This will result in early detection of dangerous device failures and fewer spurious trips."

Shell Project & Technology recently determined that FF-SIF would be specified for use on a Nederlandse Aardolie Maatschappij (NAM) project in The Netherlands. This is the first of a number of identical projects expected to utilize the technology, said Gjerde. "We are in discussions with several leading automation suppliers for commitments on the logic solver side. When the instrument scope is complete, we will be talking to various device vendors about providing us with safety-approved products for the initial installations. The Shell Project & Technology Group Process Automation Control and Optimization (PACO) will monitor the development and QA together with our NAM project organization."

Gjerde indicated that Shell Project & Technology is eager to see industry progress in the area of FF-SIF implementation. "By launching these projects where we are seeking approved and certified productsâ€”not prototypesâ€”we hope to kick start FF-SIF development in companies that have committed to work with us," he said. "In September, we will have a meeting with NAM to agree on scope, and maybe we will have a timeline for the first projects as well. Our message to the vendors is that we want to employ the technology, and by launching this project based on FF-SIF, we are proving that we are willing to do so," he concluded.

At Saudi Aramco:

Patrick Flanders, engineering consultant with Saudi Arabian Oil Co. (Saudi Aramco), has been actively involved in his company's comprehensive FF-SIF pilot projects, which are intended to show how increased information delivered by FOUNDATION fieldbus communications enables significant benefits in the deployment of plant safety systems.

"At Saudi Aramco, we have demonstrated how a new control architecture is emerging that will allow both conventional safety system I/O and fieldbus communications to be utilized to monitor valve diagnostic information within the asset management system while meeting safety critical application risk reduction targets," said Flanders.

Saudi Aramco has launched two FF-SIF pilot projects successfully thus far. The company staged the pilot systems in 2005 for "proof of concept" at its Research & Development Center in Dhahran, Saudi Arabia. The systems were subsequently advanced to an exhibition-style demonstration at the Saudi Aramco Process Automation Technical Exchange Meeting in Dhahran in November 2008. This demonstration was so successful that plans were initiated to install working FF-SIF systems within operating oil and gas facilities. An initial project is planned for the Juaymah gas plant in Saudi Arabia in late 2010. A second installation is in the planning stage.

According to Flanders, Saudi Aramco's target SIF application (known as "Smart ZV") involves emergency isolation valves with automated functional testing and diagnostics. The system combines a safety logic solver and two valve controllers with local control panels, along with a pressure transmitter to measure differential pressure across each valve. The Smart ZV installation will replace existing emergency isolation valves with new valve bodies and pneumatic valve actuators fitted with FOUNDATION-compliant smart valve controllers. FF-SIF technology will provide safety "critical" and safety "related" communications between the safety logic solver, valve controller, and local control panel using proven H1 (31.25 kbit/s) equipment.

"The first operating, plant-level FF-SIF installation at the Juaymah gas plant will show how the use of fieldbus communications results in lower costs due to reduced hardwired I/O to the safety logic solver, as well as enhanced local testing and diagnostic capabilities," said Flanders. "Once the advantages of FF-SIF are demonstrated on a small scale, Saudi Aramco will seek expanded deployment of this technology to exploit its benefits on larger, mega scale projects."

Flanders indicated Saudi Aramco has demonstrated opportunities to use a combination of conventional safety system I/O and FOUNDATION fieldbus communications in plant safety applications. This includes the study of FF-SIF communications over common H1 segments and the way information (safety critical and safety related) is managed within the field-mounted valve controllers, safety logic solver, and asset management system.

He added, "We are evaluating how FF-SIF Smart ZV technology compares with existing solutions offered by HART communications for improving integration of the plantwide asset management system, safety logic solver, valve controller, local control panel, and other peripheral instrumentation."

According to Flanders, limited-scale deployments will allow Saudi Aramco to work closely with automation suppliers to finalize its Smart ZV design template. Once commercial FF-SIF products are available from safety logic solver and valve controller suppliers, the company will update its standards and specifications to allow "mega" projects to specify the technology and capture significant performance and economic benefits.

"As a major end user of FOUNDATION fieldbus, Saudi Aramco looks forward to expanding the deployment of this proven technology to include safety instrumented systems," said Flanders. "We are ready to work closely with our suppliers to introduce new Smart ZV solutions offering improved functional testing and diagnostics made possible through the use of fieldbus communications."

For more on FF-SIF technology, read the whitepaper, "*FOUNDATION Fieldbus Safety Instrumented Functions Forge the Future of Process Safety*," recently issued by ARC Advisory Group, Dedham, MA, and which can be downloaded from the [Fieldbus Foundation website](#).

[Return to Top](#)

Help wanted: Middle East Marketing Committee seeks additional members



The Fieldbus Foundation would like to add members to the Fieldbus Foundation Middle East Market Committee (FFMEMC). Foundation members and their subsidiaries/ agents are eligible to join the committee, which was created to further the adoption of FOUNDATION technology throughout the Middle Eastern industrial automation market.



Established in 2004, the FFMEMC plays an important role in promoting the primary value propositions of FOUNDATION technology, which include process integrity, business intelligence, and open and scalable integration of information across process manufacturing plants. Committee members have an opportunity to influence new technology developments and the acceptance of fieldbus-based control strategies among their customer bases.

The group meets regularly throughout the year and organizes three or four major events annually. These include Multaqa, the biennial end-user council conference, and evening and half-day fieldbus educational seminars. Combining an agenda of technical updates, application presentations, and discussion sessions, the seminars illustrate the operational and economic advantages of FOUNDATION fieldbus to end users and engineering contractors considering implementation of the technology. The FFMEMC also supports the Fieldbus Foundation EMEA Steering Committee in the implementation of the EMEA Executive Advisory Council's directives and strategy for the region.

The establishment of the FFMEMC indicates the strong demand for FOUNDATION fieldbus in one of the world's fastest growing industrial areas. The market for the technology is expanding across the Middle East with more than 120,000 fieldbus devices now in service. Surveys show that more than a quarter of fieldbus devices are installed in the Middle East in refinery, chemical, and gas plant applications.

For more information on the FFMEMC, the benefits of membership, and its upcoming regional events, [email](#) the committee or visit the global section of the [Fieldbus Foundation Website](#).

[Return to Top](#)

New member: Cords Cable Industries joins Fieldbus Foundation



Cords Cable Industries, a leader in the specialty cable market, is the latest industrial equipment supplier to join the Fieldbus Foundation. The company is seeking to develop new cable products for its customers' FOUNDATION fieldbus applications, which are found in the oil and gas, power generation and distribution, building automation, refining/ petrochemical, transportation, and cement industries worldwide.

Headquartered in New Delhi, India, Cords Cable manufactures a wide range of cables for electrical connectivity requirements. Products include low-tension control cables (up to 1.1 kV), low-tension power cables (up to 1.1 kV), instrumentation cables, signal and data

cables, thermocouple extension/ compensating cables, panel wires/ house hold wires/ flexible cables, and specialty cables. The company plans to launch a new manufacturing facility for control, instrumentation, and specialty cable applications by the end of October.

Established in 1987, Cords Cable Industries serves major customers including Siemens, PDO, Areva, Alstom, GAIL, Cairn Energy, NTPC, PGCIL, BHEL, IOCL, BPCL, TOYO, EIL, RIL, TISCO, ABB, and L&T. It has obtained approvals from various leading inspection agencies, including EIL, Mott MacDonald, Lloyds Register Industrial Services, Uhde India, Tata Consulting Engineers, DNV, BVQI, and Certification Engineers International Ltd. The company's quality system is ISO 9001:2000 certified. Cords Cable also holds ISO 14001:2004 and BS OHSAS 18001:2007 certifications.

For more information on Cords Cable Industries, visit the company [website](#).

[Return to Top](#)

Global News & Events

Last fieldbus end-user seminars of 2010 planned for Gulf Coast



The last FOUNDATION fieldbus end-user seminars for this year will be held in October 2010. Based on the theme "Asset Management Made Easy," these free programs show attendees how to use FOUNDATION technology, a supplier-neutral, standards-based process automation infrastructure, to achieve operational excellence in process plants and other industrial facilities. The events are set for Oct. 19 at the Embassy Suites Hotel in New Orleans, LA; and Oct. 21 at the Holiday Inn & Suites, Beaumont Plaza, in Beaumont, TX.

Directed at process control end users and engineering firms, the one-day seminars cover all aspects of FOUNDATION automation infrastructure management. They address core technology topics such as "open, scalable integration/ segment design and layout"; "process integrity/safety integrity

levels (SIL) and safety instrumented functions (SIF)"; and "business intelligence/ maintenance and troubleshooting." Each topic is discussed in detail for 45 min. to an hour; a 15 to 20-min. hands-on demonstration follows immediately to reinforce the subject matter. Local end-user speakers also present case studies about their fieldbus applications. The seminars conclude with a demonstration of Electronic Device Description Language (EDDL) technology.

Fieldbus Foundation Marketing Manager Bill Tatum stressed the importance of the end-user seminar program. "Technology education is a key initiative for our organization in North America and around the world," he said. "End users want to know more about the advantages of FOUNDATION fieldbus, and they're seeking help in putting fieldbus to work in their plants and factories. Successful fieldbus operations require the ability to effectively design, install, service, and operate a new breed of process automation system. Fieldbus is not more difficult than traditional automation technologies, but it is different, affecting the planning, implementation, and operational aspects of a project. Once learned, fieldbus is actually simpler than conventional control strategies in many respects."

Each seminar participant receives a certificate from the Fieldbus Foundation that can be used for PDH hours, plus hard copies of presentation materials. Lunch is included. Seminar attendees also receive discount certificates good for 10% off regular course pricing at any North American Certified FOUNDATION Training Center.

For more information about the FOUNDATION fieldbus seminars, or to register for an event, visit the Fieldbus Foundation [website](#).

[Return to Top](#)

FOUNDATION technology seminar scheduled in South Africa

The Fieldbus Foundation Southern Africa Marketing Committee (FFSAMC) has been participating in



a series of CONTROL Roadshows in 2010. One more event is scheduled for this year. It will be held at Vaal, South Africa on October 21.

For more information about this event, or to learn more about future South Africa events, visit the Fieldbus Foundation [website](#).

[Return to Top](#)

Autumn fills with educational events around the globe

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

LOCATION	DATE	EVENT and CONTACT INFORMATION
EVENTS IN NORTH AMERICA		
New Orleans, LA, USA	Oct. 19, 2010	FOUNDATION Fieldbus End User Seminar Click here for more information
Beaumont, TX, USA	Oct. 21, 2010	FOUNDATION Fieldbus End User Seminar Click here for more information
EVENTS IN EMEA (EUROPE, MIDDLE-EAST, AFRICA)		
Vaal, South Africa	Oct. 21, 2010	Control Roadshow Click here for more information
Miskolc-Lillafured, Hungary	Oct. 25-27, 2010	DCS 16 Conference Click here to email for more information
Milan, Italy	Nov. 2010 (TBD)	ENEL-FOUNDATION Fieldbus End User Seminar Click here to email for more information
RDM Campus, Rotterdam, Netherlands	Nov. 11, 2010	FOUNDATION Fieldbus Roadshow Click here to email for more information
Brno, Czech Republic	Dec. 2, 2010	FOUNDATION Fieldbus Roadshow Click here to email for more information
Jubail, Saudi Arabia	Dec. 5, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Yanbu, 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
Ruwais, United Arab Emirates	Dec.9, 2010	FOUNDATION Fieldbus End User Seminar/Roadshow Click here for more information
Gdansk, Poland	Jan. 2011 (TBD)	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 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
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](#).

[Return to Top](#)

Products & Solutions

MooreHawke solutions card describes fieldbus physical layer devices

MOORE HAWKE
FIELDBUS WORLDWIDE

FOUNDATION Fieldbus™ and PROFIBUS PA Device Couplers and Power Supplies

Connect, Protect, Power and Terminate. We've Got You Covered.

TRUNKGUARD™
Fieldbus Power Supplies and Device Couplers
(General Purpose and Redundant Installation)

TRUNKSAFE™
Fault-Tolerant Fieldbus System
(General Purpose and Redundant Installation)

ROUTE-MASTER™
Fieldbus Power Supplies and Device Couplers
(Intrinsically Safe Installation)

Fieldbus Device Couplers, Fieldbus Power Supplies, Host

Fieldbus Device Couplers and Power Supplies deliver a fast and easy way to connect, protect, power and terminate multiple fieldbus devices in FOUNDATION fieldbus™ and PROFIBUS PA segments.

The Interface Solution Experts • www.mhnet.com

Fieldbus Solutions Line Card from MooreHawke describes the company's complete line of fieldbus physical layer devices that allow users to connect, protect, power, and terminate fieldbus networks simply and easily.

Included is information about the company's industry-first redundant fieldbus physical layer: the Trunksafe fault-tolerant fieldbus system. Trunksafe provides a cost-effective, highly reliable strategy for maintaining continuous communications between field devices and a DCS should any single point failure (such as an open- or short-circuit) occur on a fieldbus segment.

Also included are data on Trunkguard device couplers, the first to provide patented automatic segment termination with fully auto-resetting spur short circuit protection. They enable fast and easy implementation of fieldbus systems by connecting multiple devices to a main fieldbus trunk.

The company's Route-Master fieldbus system uses a patented split-architecture design to deliver the highest segment currentâ€”350 mA per segmentâ€”to a hazardous area of any intrinsically-safe fieldbus system. The ATEX-approved version can be installed in IIB and IIC areas connecting FISCO or Entity devices.

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

[Return to Top](#)

Pepperl+Fuchs gateway enhances diagnostic module performance



Pepperl+Fuchs FieldConnex diagnostic gateway significantly enhances interoperation between individual advanced diagnostic modules (ADM) of a fieldbus infrastructure and the diagnostic manager in the control room by allowing information to be exchanged in both directions via Ethernet and enabling additional features such as remote setup of ADMs. ADMs monitor the quality of fieldbus communication for FOUNDATION fieldbus H1 and Profibus PA networks.

By combining the gateway with the simple and self-configuring setup of the diagnostic manager, all ADMs are identified automatically and the software configures itself accordingly. Efficiency and reliability are enhanced because fewer configuration errors occur during installation and setup of the ADM infrastructure.

The FieldConnex Ethernet gateway and diagnostic manager combination results in a highly intuitive monitoring system that provides deep insight into the fieldbus physical layer directly from the control room. This technology makes the physical fieldbus layer fully transparent so that it can be managed for maximum availability without the need for detailed expert knowledge.

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

[Return to Top](#)

R. Stahl flexible space savers connect up to 16 fieldbus devices



Intrinsically safe fieldbus barriers from R. Stahl allow connection of up to 16 FOUNDATION fieldbus devices per segment with half the footprint of conventional solutions. Units are designed to support typical current applications with up to 12 fieldbus devices and potential future implementations with up to 16 fieldbus devices.

The 8-channel fieldbus barriers can be combined with various standard enclosures and cable glands, allowing users to create individual, application-specific solutions. All I.S. clamps are detachable, facilitating installation and maintenance. Equipped with an aluminum, stainless steel, or GRP housing, the coupler can be installed easily on DIN rails. Cover windows provide an overview of the fieldbus connection diagnosis LEDs so that status and failure messages can be detected immediately. Ex switches allow for easy maintenance "hot-swap" of the couplers during operation in zone 1. Optional surge protection is available for trunk and spurs.

All R. Stahl fieldbus coupler models feature unique power management in which the short circuit current is limited to one device per coupler. A soft-start function activates one field device after the other during fieldbus start-up, limiting the starting current of the fieldbus devices up to 50% and allowing for fault-proof, larger installations.

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

[Return to Top](#)

Yokogawa integrated fieldbus engineering tool available for Stardom system



A new FOUNDATION fieldbus configurator that can be integrated into an engineering tool for the Stardom system is now available from Yokogawa Electric Corp., a leader in process control and instrumentation technology. Focusing on engineering efficiency, the new tool incorporates a number of features that lead to better CAPEX for users, including:

- **Intuitive operability:** An intuitive look and feel interface makes the new tool more user friendly. IEC 61131-3-like engineering, host file downloading, and FOUNDATION fieldbus device settings are accomplished with a single click.
- **High performance and high quality:** Quick download is realized by means of multi-segment parallel download and difference download functions. With a real-time auto-error detection function, engineering error can be detected before downloading to devices. Error messages help users solve problems faster.
- **Engineering data reusability:** The tool's easy-reusability function minimizes engineering hours. FOUNDATION fieldbus segment definitions can be reused either on the controller-base by import/export host file or port-base by copy and paste of configuration data. This solution is particularly well suited for projects having a number of similar applications, such as oil and gas wellhead control, and can reduce number of total engineering hours significantly.

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

[Return to Top](#)



9005 Mountain Ridge Drive, Bowie Building – Suite 200, Austin, Texas 78759-5316 USA

Tel: 512.794.8890 • Fax: 512.794.8893 • E-mail: info@fieldbus.org

www.fieldbus.org

You are receiving this e-mail because you have requested either a newsletter or magazine from CFE Media, LLC.

SUBSCRIBE: [Click here](#) to subscribe to Fieldbus Facts Online, other newsletters, or to change your e-mail address/profile data

UNSUBSCRIBE: To unsubscribe to Fieldbus Facts Online send an e-mail with 'Fieldbus Facts' in the subject line to unsubscribe@cfemedia.com

CONTACT US: Click here for [editorial](#) or [advertising](#) questions.

QUESTIONS: If you have questions or need further assistance, please contact our [Customer Support Staff](#).

PRIVACY: Click here to view our Privacy Policy

Copyright 2010 CFE Media, LLC. All rights reserved.

