

CONTENTS

PI NEWS

(PAGES 1, 2)

- ▶ ROAD SHOWS IN CHINA ATTRACT 600+ DELEGATES
- ▶ IEC 61158-2, AS-Interface CONNECTIVITY COMING SOON FOR PROFINET
- ▶ ETHERNET SECURITY INITIATIVE ADVANCES
- ▶ PROFIsafe EXTENDED
- ▶ RESEARCH AND EDUCATION GROUP
- ▶ NEW DIAGNOSTICS SERVICES ENHANCE PLANT ASSET MANAGEMENT CAPABILITY OF PROFIBUS

MEMBER NEWS

(PAGE 6)

- ▶ ProfiTrace SELECTED

AROUND THE WORLD

(PAGE 6)

- ▶ SOUTH EAST SIA
- ▶ USA
- ▶ UK
- ▶ NETHERLANDS
- ▶ CHINA

APPLICATIONS

(PAGE 3, 4)

- ▶ AUSTRALIA/ WATER
- ▶ PARAGUAY/ BREWING
- ▶ USA/ TOBACCO
- ▶ USA/ GASES

PRODUCT GALLERY

(PAGE 5)

- ▶ MOBILE PANEL
- ▶ MASTER IS CAPTAIN
- ▶ DISPLAYS
- ▶ SEGMENT CHECKER
- ▶ SCOPE FOR TROUBLE
- ▶ WIRELESS GATEWAY
- ▶ I&M PACKAGE
- ▶ USEFUL THREE
- ▶ SAFETY SERVOS
- ▶ TRANSCIEVER
- ▶ COMPACTLOGIX I/O

Click any item above to visit the relevant page

ITEMS IN GREEN
REFERENCE INDUSTRIAL
ETHERNET AND PROFINET

ROAD SHOWS IN CHINA ATTRACT 600+ DELEGATES

TV monitors PROFIBUS press conference!



“A massive success” was how PROFIBUS International Chairman Edgar Küster described his recent experiences in China, when PROFIBUS and its Chinese PROFIBUS Organization (CPO) went ‘on the road’ to take the PROFIBUS PA



and PROFINET messages to engineers and

politicians in key industrial centers.

Over 600 people attended the events, which were held in Beijing, Changchun and Shanghai. Mrs Wang Jun (pictured left) was present to introduce the speakers.

A special press conference in Beijing held before the main presentations attracted more than 60 journalists from across the country, including three TV stations.

Intensive Question/Answer sessions demonstrated the high level of interest that Chinese engineers have for PROFIBUS and its Ethernet-based sister technology PROFINET. In the Fall, PROFIBUS International and CPO will repeat the road shows in the southern region of China at Kunming, Guangzhou and Chongqing.

Based on the success of the Road Shows and the continuing demand from Chinese customers, CPO and CPCC with its Competence Center for PROFIBUS PA will expand activities to support Chinese customers and suppliers regarding their need for process automation technology.



IEC 61158-2, AS-Interface CONNECTIVITY COMING SOON FOR PROFINET

With the project to integrate Interbus into PROFINET completed, PROFIBUS International has turned its attention to the integration of AS-Interface and the IEC 61158-2 based PROFIBUS PA solution for process automation.

The IEC 61158-2 project will offer process automation plants an easy way to connect PROFIBUS PA process devices into a PROFINET environment. It will mean that PROFIBUS PA process instruments can be connected directly to PROFINET without need for an intermediate network. Proxy technology will be

used to create transparent connectivity from field instrumentation right up to enterprise level IT systems.

The IEC 61158-2 proxy will incorporate the link device needed to power the bus and support IS operations. PROFIBUS International Chairman Edgar Küster said: “Currently, PROFIBUS leads in process automation with well over 2.1 million installed devices, because we made our PROFIBUS DP solution fully transparent with PROFIBUS PA, enabling process instruments to co-exist with discrete devices. That is what

most process plants need. Shortly, we will offer the same kind of connectivity for PROFINET. No changes to existing PROFIBUS PA slave devices will be necessary.”

PROFIBUS International also plans to integrate AS-Interface, the actuator/sensor protocol optimized for low-level devices such as pneumatics and ON/OFF devices. By integrating AS-Interface PROFIBUS International will open up the possibility of direct connection of low level field device networks to PROFINET. The proxy will act as an AS-Interface master, enabling field devices to appear as remote I/O.

ETHERNET SECURITY INITIATIVE ADVANCES

PI, together with GMA, NAMUR, VDMA and ZVEI, has set up a new security initiative for Ethernet-based automation systems, called 'Security in Automation'. Its objective is to establish a practical and cost-effective data security concept for new and existing systems and devices.

PI has been working on IT Security for some time and published the 'PROFINET Security Guideline' document in November 2004. During a 2 day workshop in May 2005, over 50 experts worked in 4 Working Groups on various Security topics and compared the Guideline against latest goals. The directions in which the PROFINET guidelines should be developed and expanded were identified.

Now the results of the working groups are being introduced to relevant standardization groups, including IEC and DKE. Results will also be presented to ISA for possible inclusion in their work on Ethernet-based security in the automation environment.

RESEARCH AND EDUCATION GROUP

A new Working Group has been established to forge improved educational and research contacts with universities and technical colleges. Prof. Dr. Karl-Heinz Niemann of the University of Applied Sciences and Arts, Hanover, and Prof. Dr. Frank Schiller from the Technical University Munich have been appointed joint chairmen. Companies, institutions and non-members interested in collaborating should contact info@profibus.com.

PROFIsafe EXTENDED

Another piece of the PROFINET jigsaw has dropped into place with the news that the PROFIsafe profile has been extended to cover PROFINET as well.

The PROFIsafe profile has been available for PROFIBUS for some time as Version 1.3 and is already widely used. The new Version 2 has been developed to bring similar functionality to PROFINET and take advantage of the capabilities of Ethernet.

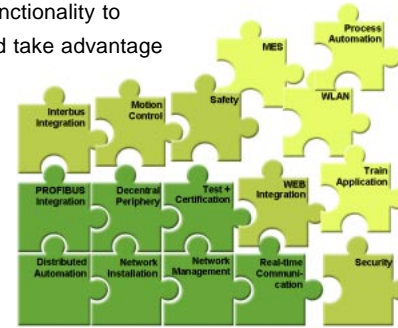
Version 2, which is also applicable to PROFIBUS, enables a wider spectrum of devices to be accommodated. These range from secure input and output modules of remote I/O via light curtains, laser scanners and

transmitters up to drives with integrated safety functions, and robots.

Ethernet-based communication not only provides greater address space and more user data but the use of active network components (switches, etc.) can be effectively employed in safety functionality.

Harmonization of the new profile with the approval offices of TÜV and BGI is currently taking place. First products can be expected in the fall of 2005 and pilot applications are expected by the end of this year.

More than 80,000 PROFIsafe enabled devices are installed in over 8,000 safety systems.



NEW DIAGNOSTICS SERVICES ENHANCE PLANT ASSET MANAGEMENT CAPABILITY OF PROFIBUS



PROFIBUS International (PI) has adopted an amendment to the PROFIBUS 'PA Devices' profile, defining an important diagnostics concept developed in cooperation with NAMUR. The NAMUR recommendation 107 (VDI guideline 2650) calls for a classification of diagnostic

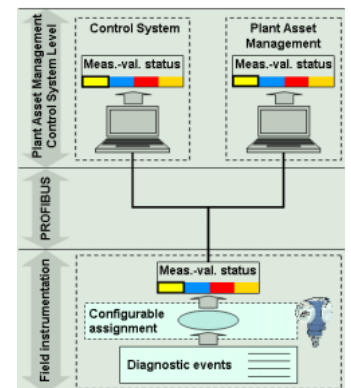
events into their status signals. PROFIBUS PA devices have the following status signals: *Function Check* (invalid output signal through malfunction in the field device or its periphery), *Maintenance Required* (valid output signal, but exhausted wear reserves), *Outside of Specification* (operation outside of specified operating conditions), and *Failure* (invalid output signal due to a malfunction in the field device or its periphery). In addition to the listed classification, detailed diagnostic information can be made available. By using functions in the control system or Plant Asset Management

system, individual addressees (such as operator and maintenance personnel) can be notified. PROFIBUS PA uses the measured value together with its status - which was redefined as part of the specification work - for the transmission of the current status signal.

A novel concept is that the effect of a certain diagnostics event can be set according to the status signal in the device. This is because diagnostic events are often subjective and may be evaluated differently in various applications and so should lead to different status signals. Detailed information about diagnostics are transferred via

the PROFIBUS diagnostics or via readable diagnostics parameters.

The diagnostics concept contributes to more powerful asset management services.



» APPLICATIONS

AUSTRALIA/ WATER



The new AU\$28 million Water Corporation-owned Kwinana Water Reclamation Plant (KWRP) is not only Australia's largest municipal wastewater reuse plant, but also the site of the country's most comprehensive application of PROFIBUS to date. PROFIBUS DP and PA communications are integral to the plant's success in improving both water efficiency in the Perth basin, and environmental management in the Kwinana industrial area.

Water Corporation has been implementing PROFIBUS DP and PA networks for over four years in its water and wastewater treatment plants. It will become an integral part of its planned networking of all the metropolitan water treatment plants over the next five years.

Contractors John Holland Engineering engaged Veolia to undertake the process design and commissioning of the plant; electricals and instrumentation were contracted to PCT, and maintenance is handled by KBR Water Services.

"We chose PROFIBUS because we wanted a fieldbus technology that would enable us to optimize our management decisions, and support our long-term aim of networking our major plants -

initially in the Perth area, and ultimately, across the whole state," comments Dennis Yovich, Principal Engineer, Electrical, in the Corporation's Mechanical and Electrical Services Branch.

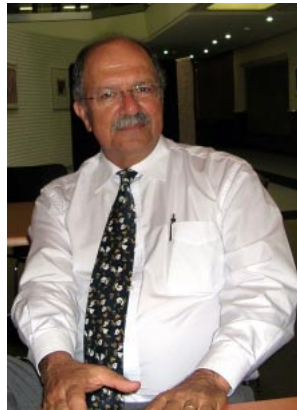
The plan is to intelligently connect the 5 largest water treatment plants within a 50km radius of Perth and have after hours operation from a centralized operations room at Leederville. Operators in Leederville must be able to perform detailed diagnostics of any instrumentation or control problem, and then decide what action is required.

"We need to maximize the information we obtain from remote sites," says Yovich. "Measurement and control equipment is becoming more sophisticated, there are less and less people available in the remote sites, and the time and distances to reach some of the plants are excessive. In the event of a problem, we need to know what, where and how so we can match skills and spares to the issue. PROFIBUS represents the ideal solution.

"We use AS-Interface combined with PROFIBUS PA, making all analogue measurement homogeneous. This is a unique advantage of the PROFIBUS system, and makes so much more data available," says Yovich. "The more information we

have, the better management decisions we can make - enabling us to boost our management and maintenance efficiencies and pass on big savings.'

KWRP is located in WA's main heavy industrial belt south of Perth. It treats about 24 million litres per day of secondary treated wastewater and has a daily output of about 17 million litres of high-quality (350 mg/L TDS average) industry-grade water which is sold to industrial customers. Since these



Yovich: "We chose PROFIBUS because we wanted a fieldbus technology that would enable us to optimize our management decisions, and support our long-term aim of networking our major plants"

represent some of the largest users of water, the KWRP is playing an important role in helping the WA Government achieve its goal of 20% state-wide re-use of wastewater by 2012. At the same time, the KWRP is helping to reduce industry demand for scheme water by approximately 6 GL/year - about 2% of Perth's total unrestricted scheme water use.

Endress+Hauser Australia was selected as the preferred supplier of process instrumentation. Over 150 devices, were linked up on PROFIBUS PA segments in the microfiltration feed system, CMF-S trains (Continuous Micro Filtration-Submerged), RO feed systems, RO CIP systems etc.

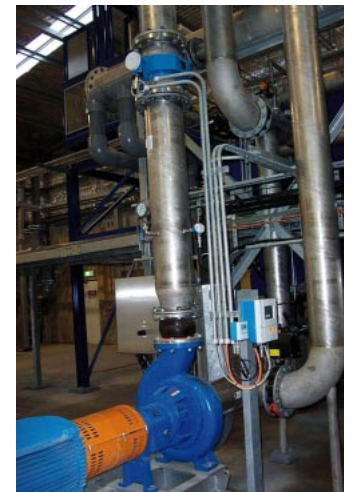
Endress+Hauser was involved in the system design, system integration and commissioning.

FieldCare, used as the plant asset management system, couples the installed instrumentation fieldbus to a single PC based acts as Plant inventory, Device configuration, Device documentation and Storage of device parameters.

Used in conjunction with Fieldgate, the operators are able to perform detailed troubleshooting of each measuring instrument from any internet-linked site in WA. Already, FieldCare has provided useful information to assist with optimizing processes.

"The future-proofing of the Kwinana Water Reclamation Plant using PROFIBUS technology, in conjunction with FieldCare and FDT/DTM tools, will bring us close to our centralized ops room vision", said Dennis Yovich.

Endress+Hauser: +61 1300 363 707 or info@au.endress.com or www.endress.com.au or www.aus.profibus.com



» APPLICATIONS

PARAGUAY/ BREWING

Cervepar is a Beer Company from Paraguay located in Assunción City, South America. Smar PROFIBUS PA devices are integrated in the Beer Fermentation Application, performing output signalling and control information. These devices are working at the same level as Endress+Hauser transmitters, interfaced by link Devices (IM157) and DP/PA couplers from Siemens. They are integrated into Simatic Software (STEP 5 and STEP 7) and performed by Siemens PLC host. An important point is the integration between PROFIBUS PA devices and 4-20mA devices using the PROFIBUS PA to



current converter from Smar (FI303). All configuration of field devices was done using Simatic PDM and Commuwin. Despite the presence of different manufacturers' products on the bus, the system interoperability and startup was excellent and the plant is operating fine after 4 years of installation. The cost reduction and the simplicity of PROFIBUS were confirmed.

Smar: cesarcass@smar.com.br

USA/ TOBACCO

As part of a pilot project, Philip Morris International has implemented PROFINET Component Based Automation (CBA) at its facility in Neuchatel, Switzerland. By consistent modularization, Philip Morris International expects to achieve more efficient control of the complex processes involved in cigarette manufacturing and create a more flexible response to changing production requirements.

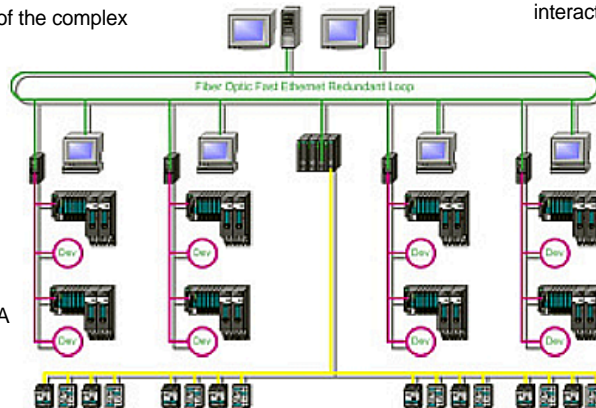
In the PROFINET CBA pilot new tobacco blends and conditioning processes will be developed and tested. The facility comprizes stations from various manufacturers for storage, weighing, moistening, cutting, blending, flavorizing, refining and drying, all linked by conveyor and vibration belts.

It is often necessary to replace entire stations with new and improved solutions. For the drying process in particular, innovation cycles are short and process results vary greatly, requiring frequent replacement. Moreover, plant components from different production sites are often interchanged in order to utilize investments as long as possible. All these factors suit a distributed component based approach.

PROFINET defines a cross-manufacturer communication and engineering model and also specifies how the engineering of communication connections takes place. PROFIBUS DP, which integrates easily into PROFINET, can be used for real-time tasks enabling conventional

PROFIBUS devices or sub-systems to be integrated 'as is' in PROFINET networks.

The centerpiece of the component-based approach is the iMap engineering tool. This enables the user to import software components and place them in a library. Components are then drag-and-



dropped into a configuration diagram, and their inputs and outputs linked by drawing lines between them to define the communication relationships.

Components are displayed independently of the bus system. Thus, the configuring engineer can concentrate on the process. Devices

are connected to the bus in a separate network view. Once downloaded, the communication connections are activated. HMI stations can also be integrated via drag-and-drop operations.

The plant is commissioned online. Adjustments can be made without limitations by optimizing the interaction of modules, rather than changing the software of individual devices.

A major advantage of PROFINET CBA is that it enables sub-systems to be preassembled and ready-to-use components can be acceptance-tested in advance. Once a program has been

optimized, it can be transferred to other machines or adapted. PMI estimates the savings to be at least 25% - not including more efficient implementation of resources.

PROFINET CBA translates to consistent mechanisms, greater plant transparency and improved system diagnostics.

USA/ GASES

The Air Products plant in Wichita, Kansas, has reduced material, labor and field installation costs by installing a SIMATIC PCS 7 control system from Siemens using PROFIBUS for field device integration.

Installed at the site's North Plant in early 2004, this is Air Products' largest implementation of fieldbus technology in the United States. "We are pleased with the improvements and cost reductions," said Dean Kerr, senior engineer at the Wichita Air Products plant. "The project was completed on schedule and

below budget. PROFIBUS gives us the broadest choice of field devices from a large pool of name-brand suppliers and we can seamlessly integrate all of them on our network."

The PROFIBUS devices continually monitor their own health, notifying operators when they sense degradation and enabling improved asset management and proactive maintenance.

PROFIBUS devices from various suppliers are used, including Endress+Hauser, Micro Motion, Emerson, Mettler-Toledo and Siemens. **Siemens: www.sea.siemens.com**

▶ PRODUCT NEWS

MOBILE PANEL

The Simatic Mobile Panel 177 has a 5.7" display panel and is available in three PROFIBUS and 3 PROFINETS versions. All have acknowledgement keys designed for right handed or left handed personnel. Options include stop pushbuttons, handwheel, key operated switch and an illuminated pushbutton, a touch screen and fourteen membrane keys are incorporated. **Siemens: +49 911 895 7945 or www.siemens.com**



MASTER IS CAPTAIN

Working with PROFIBUS is a lot easier, faster and more fun, claim the producers of the new ProfiCaptain, a PROFIBUS DP master and controller platform specially designed for applications such as I/O tests, installation, commissioning, parameterization, education and demonstration. "It fills a gap that others leave open", apparently! **PROFIBUS Center Netherlands: www.profibuscenter.nl/proficaptain**



DISPLAYS

This range of PROFIBUS PA instruments can display up to eight variables plus units of measurement and tag information. The range includes IP66 field mounting and IP65 panel mounting models, plus FISCO compliant intrinsically safe models with ATEX certification. Front panel pushbuttons select the displayed screen and may also be used for acknowledgements. All models have optional isolated alarm outputs. **BEKA associates: +44 (0) 1462 438301 or chris@beka.co.uk**



SEGMENT CHECKER

Segment Checker is a new open software tool that lets users build, validate, edit and save fieldbus projects while significantly reducing network design time. It supports centralized and distributed architectures and is unique in its ability to help users to validate fieldbus segments, evaluate potential problems and display, archive and print the entire design. Field devices can be imported from a library, or new ones created. A demonstration is at www.SegmentChecker.com and for a limited time the software can be downloaded free. **Pepperl+Fuchs: +49 621 776-2222 or www.pepperl-fuchs.com or pa-info@de.pepperl-fuchs.com**



SCOPE FOR TROUBLE

The PROFIBUS Scope is an indispensable tool for commissioning, Factory Acceptance Test, training and acute troubleshooting. Regular or permanent network monitoring allows identification of failures at an early stage. The Scope automatically generates reports. The latest release includes advanced diagnostic features, data export into MS Excel (CSV file) and an email notification of network problems. **Trebing & Himstedt: www.t-h.de**

WIRELESS GATEWAY

The 105U-G-PR Wireless PROFIBUS Gateway provides wireless extension of PROFIBUS DP LAN's, providing secure Firewall isolation and security data encryption. Available with PROFIBUS Master and Slave functionality, the gateways will connect to PROFIBUS DP LAN's at speeds up to 12 Mbs. Gateways can extend a PROFIBUS LAN to multiple remote devices, link separate LAN's with



data encryption and Firewall protection, link multiple slave into a wireless LAN without need for a master and link devices to other protocols. The products are used in applications ranging from brewing to self navigating work trolleys. **Elpro: sales@elprotech.com**

I&M PACKAGE

MESCO is offering a shortcut to I&M functionality, an important new feature of the PROFIBUS world. Their package includes the C-Code library with access mechanism and state machine, the documented source code, a developer's guide and examples. It is compatible with PROFIBUS PA and DP-V1. The I&M function set is a standardization of the data characterizing a device (e.g. manufacturer, order No., serial No., hardware and software revision). It makes this information easily available to users and also points them to a web-based information hub hosted by PROFIBUS International, from where service data and updates can be retrieved. **Mesco: www.mesco-systems.com or +49 7621 89031-0 or info@mesco-engineering.com**

USEFUL THREE

Softing has introduced three new products. PROFiusb is a new interface for PROFIBUS fieldbus networks, supporting PROFIBUS DP-V0 and DP-V1 as a Class 1 or Class 2 Master, powered from a USB port. Their new Diagnostic Interface is ideal for applications in process monitoring and diagnosis, asset management, plant maintenance and error logging. A status monitor watches communications while the Diagnostic Library supplies parameterization data, device diagnostics and comprehensive timing information. Finally, the new PB-T3 Tester is a universal measuring instrument for analysis, monitoring, error finding and maintenance. PB-T3 provides an overview of signal conditions, helping find and correct errors. It can also determine network topology and localize faults. **Softing: +49 (089) 45656-321 or www.softing.com**

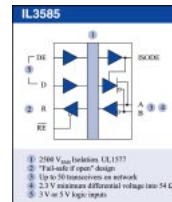
SAFETY SERVOS

TrioDrive D/PS and MidiDrive D/PS are two new compact servo drives designed for use in a PROFIBUS DP network. For CAT 3 safety according to EN 954-1, an integrated wear-free electronic concept supports local 'Safe Standstill', the two-channel design meaning evaluation is not required on the controller side. Up to 10 kW power is supported across the torque range 0.4 to 40 Nm. **ESR Pollmeier: www.esr-pollmeier.de or +49 6167 9306-0 or info@esr-pollmeier.de**



TRANSCIVER

The IL3585 is an RS-485 transceiver meeting latest PROFIBUS requirements. It features a 'fail safe if open' design which ensures a logic high on R if A/B lines are floating. A minimum driver differential output voltage of 2.3V is guaranteed over the supply voltage range 4.5V to 5.5V on the bus side. **NVE Corporation: +1 952 829 9217 or www.nve.com**



COMPACTLOGIX I/O

The RIF 1769-DPM PROFIBUS Master and RIF 1769-DPS PROFIBUS Slave expand the functionality of a CompactLogix platform to include PROFIBUS DP. They appear to the CompactLogix Controller as standard I/O and can be mapped with RSLogix5000. The Master will support up to 125 slaves or 408 Input Bytes and 496 Output Bytes with diagnostics. The slave provides 244 Input and Output Bytes. Both support PROFIBUS DP-V1. Program examples are provided. **Hilscher: pmarshall@hilscher.com or +1 630-505-5301 or www.hilscher.com**



▶ AROUND THE WORLD

▶ REGIONAL ASSOCIATIONS

SOUTH EAST ASIA



Road Shows and an international press conference held recently have proved to be highly successful. Road shows featuring PROFIBUS PA were held in Singapore, Kuala Lumpur, Jakarta, Manila, Bangkok and Rayong. Press Conferences were held in Singapore, Jakarta, Manila and Bangkok. Over 1500 people



attended the Road Shows, which featured multi-vendor demonstrations and various presentations from PROFIBUS PA experts. The success of the events demonstrate how important PROFIBUS is seen to be in the region, said Volker Schulz,

Secretary of PROFIBUS South East Asia. The events were



sponsored by ABB, E+H, Festo, Lappkabel, Mettler Toledo, P+F, Siemens, Smar, Softing, Wago and Weidmüller.

UK

The PROFIBUS Conference at Coombe Abbey, Coventry, was a success. UK Chairman Bob Squirrel reports that the event achieved its objectives of educating and informing delegates from UK and beyond. Exhibitors and sponsors include Phoenix Contact, ABB, Wago,



Endress + Hauser, Hawke Fieldbus, Burkert, BEKA Associates, IEE, Frost & Sullivan, Siemens A&D and Siemens Process Automation, MMU, and Automation and Process & Control magazines.

CHINA

A Chinese version of PROFInews has been launched. The first issue -



shown below - was published in May. To get on the mailing list contact: www.cn.profibus.com Road Shows and press conferences have been held recently - see Page 1.

USA

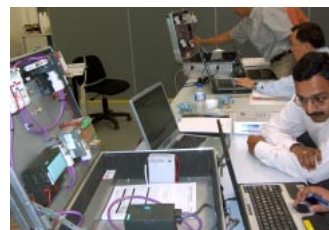
Ron Mitchell's book 'PROFIBUS: A Pocket Guide' has reached the 'best sellers' list on the ISA web site. If you've not read the book you can find the best sellers list here. PTO is now well into its series of 24 Seminars in 2005, aiming to reach 3000 delegates across North America. Eleven events have been completed. To find out where the next ones are taking place contact:



lynnne.froehlich@profibus.com. PTO will hold its annual General Assembly in Scottsdale in August and later have a large booth at ISA EXPO, right at the main entrance. Finally, a special North American newsletter has been published (see graphic). This is distributed by email but can be read on the web at www.profinews.us where you can subscribe too.

NETHERLANDS

Engineers from Yokogawa Engineering Asia have been



trained by the PROFIBUS Center Netherlands, passing the Certified PROFIBUS Engineer exam with the PA extension. In one week they were trained in PROFIBUS DP and PA disciplines such as engineering, troubleshooting and validation. The engineers will be responsible for PROFIBUS projects in their area.

▶ MEMBER NEWS

ProfiTrace SELECTED

The ProfiTrace Analyzer produced by the PROFIBUS Competence Center, Netherland, has been selected by Endress+Hauser as a standard tool for commissioning, validation and trouble shooting. Service technicians worldwide will be equipped with the tool. The tool will also be used for training, and by the Endress+Hauser Competence Center. www.profibuscenter.nl/profitrace

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