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The annual SPS/IPC/Drives Fair in Nuremberg in Germany, November, 2009, attracted over 48,000 visitors. More than 1,200 companies exhibited, including PI with a very large booth. Among its many displays, the booth included the latest PA Asset Management developments and a PROFINET 'wall' (below) showing greatly increased vendor support.

The booth also provided fuller details of the PROFenergy concept, which has the potential to



change the way energy is managed across industry. There may be no end to the benefits it could bring (see story below). Other news included the announcement of the

'FDI Cooperation' (see Page 2), which is focusing on the creation of a single engineering tool combining the benefits of FDT and EDDL!

THE TRULY 'GREEN' NETWORK

Norbert Brousek (right), shown alongside the PROFenergy display at SPS/IPC/Drives and the engineer responsible for the new PROFenergy profile for PROFINET, told PROFINEWS that the specification is now close to being finalized. When complete, it will ensure a harmonized procedure for energy management in manufacturing.

PROFenergy was requested by AIDA companies (the Automation Initiative of German Automobile Manufacturers, comprising Audi, BMW, Mercedes, Porsche and VW) as a means of cutting energy costs and helping meet growing regulatory requirements.



The solution covers situations ranging from total switch-off during known idle times, to partial switch-off during pauses. It allows devices to be switched into 'sleep' options that can take into account production needs and even equipment interdependencies.

PROFINET, (which has always been green!), handles the communication of PROFenergy data between a controlling PLC and its end devices. Equipment vendors will embed small software 'agents' in their devices that respond to these commands.

High power devices such as robots, lasers, controllers and drives are the prime target and up to 80% savings PER CELL are being mentioned. But even Remote IO devices could benefit, says Brousek, because there are so many in use today.

A standardized networked solution will bring even more cost savings by eliminating hard wiring. And, the ability to transport energy measurements back to the controller means that PROFenergy can also support the intelligent management of peak demand.

See Page 4/5 for more about this potentially crucial 'green' development.





PI News

IDENT FUNCTIONS FOR PROFINET

PI is making the 'Identification Systems – Proxy Ident Function Block' profile available for PROFINET. It's been available for PROFIBUS for some time and means that the benefits of advanced Asset Management are now available via PROFINET too.

Product tracing and optimization of logistics processes are playing a more and more important role. These tasks are well supported by the Ident Function profile. The interoperability between the controller and identification systems is based on communication events, basic application services and the programming language.

With the extension of the profile, both PROFIBUS and PROFINET modules can be addressed via a single interface. It is now possible to use the same PIB block to integrate both PROFIBUS and PROFINET devices. The new profile version is also backwards compatible.

Through the profile, users can make use of identification devices of different providers via a standardized interface. This can result in significant time savings during commissioning, which reduces costs for system integrators and ultimately also for operators.

CERTIFICATION FOR PA V3.02

Effective immediately, certification is available for the PROFIBUS PA profile V3.02. PI views this quality measure as very important, since error-free communication between

devices of different manufacturers is only guaranteed when products are certified.

The test cases required for the new profile have already been implemented at PI Test Laboratories. The profile meets user requests for enhanced version management of devices, device files and software platforms, to minimize maintenance costs over the life cycle of production equipment as well as user requests for device replacement during operation. It facilitates device integration and makes it easier for 4-20mA users to upgrade to fieldbus technology.

ANNIVERSARY BOOK

On the occasion of the 20th anniversary of PROFIBUS, PI has published an anniversary book describing the background and history of PROFIBUS.

In addition to accounts of contemporary witnesses, partners



and experts, the founders of the RPAs (Regional PI Associations) report on their experiences.

The book makes it clear that PROFIBUS relies on more than just technology. Rather, it was greatly influenced by the people who worked on its development, quality assurance and marketing.

The book presents where the

MAJOR VENDORS UNITE AROUND FDI

To accelerate deployment of Field Device Integration (FDI) in the process industries, key suppliers have agreed to join the organizations already engaged in the evolution of this new tool, which unifies the benefits of FDT and EDDL technologies for device engineering and integration.

ABB, Emerson, Endress+Hauser, Honeywell, Invensys, Siemens and Yokogawa will join the FDT Group, Fieldbus Foundation, HART Communications Foundation, OPC Foundation and the PROFIBUS Nutzerorganisation to become the 'FDI Cooperation'.

The FDI project was kicked-off in 2007 with the aim of harmonizing EDDL and FDT/DTM solutions. Since then the project has been carefully shaping the technology direction of a converged solution. The addition of key equipment vendors strengthens this effort by extending the resources available for the completion of the project. The vendors have also agreed to support FDI in their systems and products.

The finalization of the FDI specification is scheduled for mid-2010. The scope of the Cooperation will cover common design and test tools, common binary formats and interpreters across the HART, FF and PROFIBUS protocols.

The intent is to assure a uniform device integration solution for process industry users across all host systems, devices and protocols.

PI Chairman Jörg Freitag said: "We, as PI, support the effort to expand the consortium because the direct involvement of system suppliers will greatly accelerate the integration of FDI into process control systems. The step will also create confidence and investment protection for users who, for a long time, have been calling for a single standard for device integration."

open communication concept came from, why China was responsible for the breakthrough of PROFIBUS technology in Japan, and why a defective fax machine might have decided a different fate for PROFIBUS!

The volume includes much more besides, including PROFIdrive, PROFIsafe and PROFINET, plus an outlook on PI's future.

PROFINET USER WORKSHOPS

The new series of half-day German workshops entitled 'PROFINET Workshops for Users', had a successful start this fall.



The first two were held in Gummersbach and Esslingen, Germany. Well over 100 participants attended the workshops and their associated micro-fairs.

The workshops are geared towards decision makers and manufacturing and technology experts. Participants get concise information about the use, handling and cost benefits of PROFINET. Topics include diagnostics and the use of PROFINET in pneumatic systems.

With more than 2 million nodes, PROFINET is the market leader, mainly because of its synergies with the office world and its investment protection capability. PROFINET enables seamless integration of existing fieldbus systems such as PROFIBUS, for example.

The workshops will be expanded in the near future. Participation is free. WWW.PROFIBUS.COM



Member News

PROFINET CERTIFICATE FOR GATEWAY

The PROFINET-IO/CAN gateway from esd has successfully passed the PI certification procedure.



The module CAN-PROFINET can link any PROFINET IO controller to a CAN network. The gateway operates as a PROFINET IO device with a maximum of 1440 bytes input and output data on PROFINET. With the CAN gateway you can connect CAN modules with CANopen (CiA DS 301) or layer 2 (ISO 11898-1) implementations e.g. a SIMATIC S7. The number of CAN participants is not limited by the gateway. [ESD](#).

FIBER OPTIC APPROVAL

ABB, global supplier in power and automation technologies, has granted the sought-after certification 'Industrial IT-enabled' to the PROFIBUS fiber optic system PSI-MOS from Phoenix Contact. Products that have



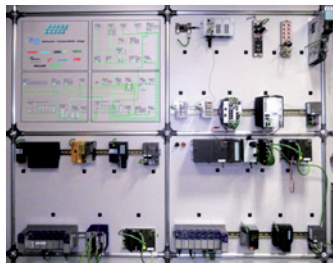
passed the stringent testing standards are guaranteed to be fully compatible with the complete ABB automation architecture.

PSI-MOS is the only modular fiber optic system worldwide. Via the integrated system bus, data and power is automatically cross-

wired to all devices. The unique diagnostics, with permanent monitoring of the optical link quality and pre-shutdown alarming, guarantees maximum system availability. PSI-MOS is available in 660, 850 and 1300 nm versions. [PHOENIX CONTACT](#).

PROFINET IO CONTROLLER CERTIFICATION

An extended version of the PROFINET certification test is now available from itm. The certificate has a 3-year validity, as is the case with existing PROFINET IO devices. The test is based on the multivendor interoperability plant shown. This is a test platform with a wide variety of certified PROFINET IO devices from different vendors, and devices representing all available stacks.



To pass, the controller under test shall work well with the certified devices of the multivendor interoperability plant. The aim of the test is to check for correct implementation of the defined state-machines, alarm handling, IO data transmission, acyclic data transmission, mandatory PROFINET services like auto crossover, auto negotiation, correct addressing and so on. There are a few automated tests, but apart from these, the testing personnel mostly perform manual tests for the certification.

All PROFINET IO products must pass certification prior to product launch. There are two accredited

test labs for PROFINET IO Controller certification - ComDeC and itm. Each use identical processes. [ITM](#).

FIRST PITC IN FRANCE



After a successful audit in August, AGILiCOM has become the first PI Training Center (PITC) in France. The audit was performed by Max Felser of Switzerland, shown above (center), with Frédéric Bahaud (left), training manager at AGILiCOM and Julien Auger. Certified training sessions covering PROFIBUS and PROFINET are regularly run by AGILiCOM, delivered in French. "Gaining the PITC label guarantees the quality of the training," said Bahaud. [WWW.AGILICOM.FR](#)

SINGAPORE PICC ACCREDITED

PROCENTEC Singapore has been accredited as a PI Competence Center (PICC) for South East Asia.

After inspecting the 'know how' and facilities auditor Michael Ulrich from the PICC at Endress+Hauser came to the conclusion that PROCENTEC Singapore complies with all

Dennis van Booma, Dominique Chabauty, Michael Ulrich (E+H auditor), Henk Schaake



requirements to independently operate as a PROFIBUS DP and PA Competence Center. PROCENTEC will thus form a technology hub and knowledge base for PROFIBUS to support the region's industry, offering help desk functions and various technical services.

One of the key objectives for PROCENTEC as PICC is to bring more knowledge to the local supply base. For this purpose PROCENTEC will roll out a program to accredit engineering, integration and installation firms who are involved in design, implementation and servicing of PROFIBUS systems.

A series of regional technical seminars will be organized in 2010 in conjunction with the Regional PI Association to maximize interaction between suppliers and users.

PROCENTEC has a team of certified engineers available in Singapore, with many years of experience with PROFIBUS technology. These engineers travel on a regular basis in the region to assist customers with their PROFIBUS installations. [WWW.PROCENTEC.COM.SG](#)

DO YOU HAVE A STORY TO TELL?

PROFINews is published 6 times a year and distributed widely. IT is an excellent way to promote your company and its products. If you are a PI member then you qualify to have your stories published here free of charge. [SUBMIT THEM HERE.](#)

Technology Update

PROFlenergy: WILL YOU CUT IT?

There's nothing new about cutting energy consumption. Plant managers have been trying to do it for ever.



Automation users are achieving it where they can, but with varying degrees of success. The trouble is there's never been a consistent, standardized, approach for automation users to take. No single direction that everyone - vendors and users - can focus on. But why not, when the answer is blindingly simple. Use the network to manage things!

Introducing PROFlenergy

The idea for a standardized energy management strategy sprang from the AIDA group in Germany. AIDA - comprising Audi, BMW, Mercedes, Porsche and VW - represent a major part of the European automotive industry. Their energy consumption is eye-wateringly high. Think about all those robot cells; all those powerful motors and their drives; all those paint lines and metal presses, and all ...

Although acting competitively in the marketplace, AIDA companies collaborate extensively over areas of common interest, generally those related to manufacturing technologies. For example, they agreed several years ago on a single Industrial Ethernet (PROFINET as it happens) as the preferred approach to next-generation networking in their plants, in an effort to eliminate the 'choices' that arose from earlier fieldbus experiences. By focusing on a single technology, they reasoned, life would be made

easier and less costly for everyone.

Energy is one of the biggest costs in automotive manufacturing. It's also under various threats - for example security of supply. Governments are also becoming increasingly concerned about climate change and are putting more pressure on manufacturing industries to reduce their 'carbon footprints'.

Could there be a special profile of PROFINET that might standardize an approach to energy saving? AIDA asked. Would PI, with its multi-vendor support and vast experience in developing automation standards, be willing to help?

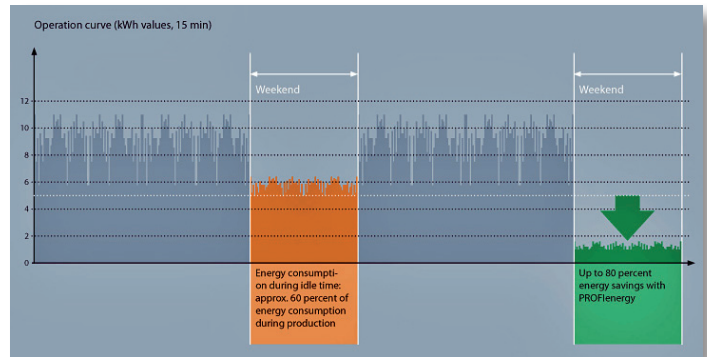
The response was almost immediate. A Working Group was set up early in 2009 and a specification is nearing completion. Its supporters are shown below - a mix of major vendors, OEMs and service suppliers. Once the specification is approved (expected in early 2010) first products are likely to follow quickly.

PROFlenergy in outline

PROFlenergy is an application profile of PROFINET. In essence, it relies on the collaboration of three automation elements: the controlling device of an automation network (usually a PLC, but it could be a higher level supervisory system), the network itself (in this case PROFINET), and the Energy Consuming Unit, or ECU (which could be a single piece of equipment, a production cell or even a larger production unit). It's the interaction of these three elements that makes PROFlenergy so powerful.

The role of PROFINET is simple - it's to transmit a set of standardized commands to the ECU under guidance from the controller device, and to receive back, when required, measurement data from the ECU

concerning energy consumption. It does this using the acyclic sections of the PROFINET communications protocol and therefore does not interfere with normal automation processes.

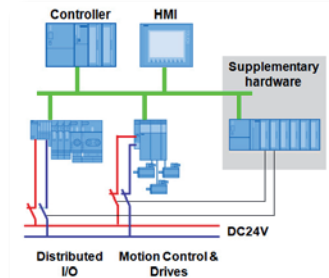


Experts suggest that up to 80% energy savings are possible with PROFlenergy. Based on a typical robot cell, some sources believe that annual savings could reach €60,000! Multiplying that by the number of robot cells involved indicates the kind of impact PROFlenergy could be having on manufacturing in the near future.

With PROFlenergy, users can more effectively manage energy in their automation systems. By intelligently switching off unnecessary ECUs, energy demand and energy costs can be drastically reduced.

Why has this not been done before?

Well it has ... but only half-heartedly. The motivation however is clear. During the idle period of a weekend for example, ECUs can often consume about 60 percent of the energy used during production (see top diagram). These consumers are typically not switched off, mainly because additional hardware has to be installed outside the machine to do this (see below) and many users are reluctant to put



Existing energy management systems are external, hard-wired and are unable to support 'smart' energy strategies.

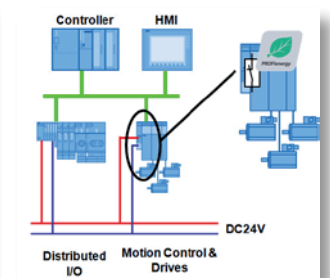
in the extra engineering effort. Such installations are usually proprietary and always hard-wired. The control task and the energy management procedures are often combined. To make things worse, a complete manual 'switch-off' by disconnecting the power is about the most that can be achieved. Nothing about the system itself, or the interdependencies between components, can be taken into account.

Understandably, crude, expensive and hard-to-manage systems like

these are not popular. PROFlenergy, by contrast, requires no additional wiring or hardware but it allows energy consumption to be managed dynamically and intelligently, device by device if necessary. Above all, PROFlenergy delivers a common solution that vendors and users can support together, delivering the familiar benefits of 'openness' that we are all familiar with.

How does PROFlenergy work?

The PROFlenergy functions AND the switching mechanisms reside inside the ECUs themselves, which 'speak and understand' the PROFlenergy commands. At appropriate times - pre-determined during original



PROFlenergy embeds intelligence in network devices, to allow intelligent management of energy consumption.

configuration, or dynamically decided according to the circumstances of production - the network controllers send data to the ECUs stating when production pauses or stops are to happen. These can be at pre-determined times, or they can occur at random. It is then up to the ECU to decide how this information is handled. Software 'agents' within each ECU react to the 'start pause' and 'end pause' times to initiate the actions required to reduce power consumption.

The PROFlenergy team.



Incorporating PROFenergy's functionality in end devices means that manufacturers themselves can decide how to optimize the energy management strategy in each ECU.

This approach recognizes that vendors themselves probably understand better than anyone exactly what is the right course of action to take for particular combinations of equipment and pause times. Perhaps a drive can be run down to idle over a 30 second period, or perhaps a production cell requires that a conveyor be slowed down first before a robot can be put into 'sleep' mode. If the duration of a pause is long enough, perhaps the ECU can be completely disconnected ... but it can also be instantly ready to re-start so long as its conveyor is re-started far enough in advance. This kind of flexible timing strategy is depicted in the diagram top right.

Further possibilities for managing energy usage across the plant are opened up if PROFenergy's ability to measure actual consumption and feed that back to the controller can somehow be integrated into an energy management architecture. In this way PROFenergy could even permit the use of a load-dependent machine control system and help avoid peak load conditions. It is equally possible for secondary processes to be paused during production when not needed.

Real-world situations
PROFenergy use cases (UC) have been defined in collaboration with end users. They serve as the basis for the PROFenergy specification.

> **Brief pauses** - the system selectively stops the equipment, e.g., during lunch breaks, and switches off those ECUs that will save energy during brief periods but that can be powered up again on time. Accordingly, only individual devices or equipment components are addressed. Important safety-related functions are retained. When production operation starts, the system activates the consumers in a defined switch-on sequence and checks whether all consumers have started up correctly. The system then starts the production process.

> **Switching off and on during long pauses** - this use case is very similar to the first one. Because the pause is longer, however, additional devices can be switched off, and the

devices internally switch off more consumers.

> **Switching off and on during unscheduled pauses** - In contrast to the two previous cases, the pause timing and duration are unknown. Interruptions due to equipment malfunctions are a typical example of this. For this reason, the energy demand is reduced initially as if for a brief pause. If it turns out that the repair work will take longer, the possibility exists to place the equipment into an even more energy-saving state.

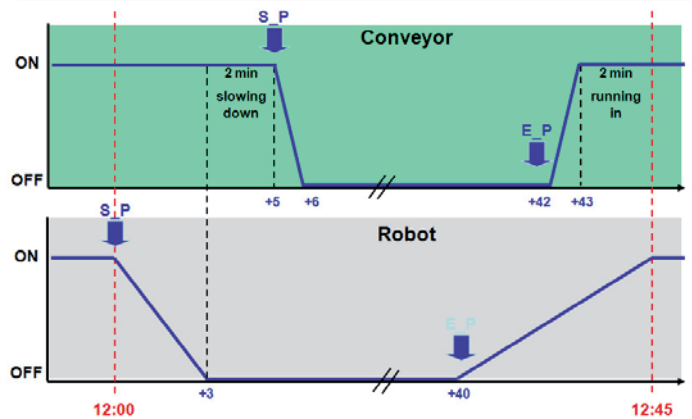
> **Acquiring measurement data**
- An additional use case is the acquisition of measurement data from the ECU, either directly or implicitly. Frequency converters are an example of this.

Implementation
PROFenergy requires only a simple set of commands to be used and, at the 'entry' level where most PROFenergy systems are likely to fit in the short term, the controls engineer has little additional work. There is strict separation between the actual control logic of the process and the energy management system. Device and system manufacturers are expected to support users by embedding software 'agents' into their equipment, so detailed knowledge of the energy management procedures is not necessary; only the 'start' and 'end' commands need to be set.

To take into account the user's desire for upgradability and compatibility, PROFenergy commands have been mapped onto existing PROFINET acyclic services, which do not occupy additional addresses in the process image. So, the volume of user data in a PROFINET device is not altered and the new PROFenergy commands can be used in existing program libraries without repercussion.

Likewise, device manufacturers can use a firmware update to expand their existing components to include the new functionality. This enables fast implementation, even in existing products.

Life Cycle Value-Added
The new profile provides an economical solution since the switching functions are already integrated in devices. Furthermore,



With PROFenergy, equipment can be switched into sleep or off modes in a flexible way that suits the installed devices and systems.

the separation of energy management and control functions means both sections of the program can be tested and commissioned independently. Structured programming greatly simplifies the updating and maintenance of the user program over the long term. PROFenergy guarantees a uniform interface for energy management. The user is thus free to choose devices from different manufacturers. He can look

for the device that is best suited to his application and which saves the most energy. The end user benefits from the competition among device manufacturers and system manufacturers to create value-added energy-saving solutions. With consumer pull and vendor push in such conjunction and the cost saving potential so obvious, it's likely that PROFenergy will take off fast during 2010.

PROFIsavings

Although PROFenergy is a fundamentally simple profile, its effect on production plants could be dramatic. Here's why:

- **Installation:** conventional energy savings systems - when used - are hard wired, unsophisticated and proprietary. Networking eliminates all these disadvantages since PROFenergy comes 'built in'. This could be particularly significant in high labor cost countries.
- **Asset protection:** instead of clumsy 'ON/OFF' manual switching, equipment will be powered up and down intelligently, resulting in longer life and fewer breakdowns.
- **ROI:** As cost savings could be high, rapid ROI can be anticipated. Any higher up-front costs can easily be offset.
- **Operation:** short and long pauses are managed by the interaction of IO controller (PLC), PROFINET and the software in the Energy Consuming Unit (ECU). As experience grows, OEMs and device vendors will learn how to use this interaction more and more intelligently.
- **Load Management:** measurements of energy consumption from the ECU can be fed back to the IO controller (PLC) or supervisory system to allow consumption to be reduced and peak demands limited.
- **Competition:** a standardized, 'open', solution will be supported widely by vendors, OEMs and end users. Interoperability and choice will lead to competition, with performance and functionality rising as costs fall.
- **Regulatory pressures:** cutting power consumption reduces carbon footprints and helps support 'green' strategies.

PROFenergy: A WIN/WIN FOR ALL, INCLUDING THE PLANET!

Product News

10 GIGABIT M12

Phoenix Contact and HARTING are pioneering a new generation of M12 connectors. The companies are launching the M12-Cat.6A connector, which can handle 10 gigabits per second data rates over 100 meter cable lengths. The M12-Cat.6A boasts a robust and compact design, including an eight-pin connector which complies with the Ethernet standard. An innovative shielding system, including the shielding of individual data pairs, enables secure transmission in environments subject to high electromagnetic stress. [HARTING](#)

PROFIBUS PA CERTIFICATION TESTER

itm has a new Certification Tester for PROFIBUS PA Version 3.02 to reduce the testing costs associated with development of PA Version 3.02 devices. The Tester supports the preparation of PROFIBUS PA certification tests and contains the automated test cases which are used for certification in test laboratories. Using the PROFIBUS PA Tester during development, vendors can easily and quickly find out if their devices meet the required standard before committing to the full Certification procedures. [ITM](#)

PROFI-safe I/O MODULES

The 757-662 input module, with eight secure inputs, and the 753-667 I/O module, with four inputs and four outputs, support safety applications up to Cat. 4 PLe and SIL 3 under PROFIsafe. Filter times, test pulses and time monitoring can be optimized and modules can be assigned to CNC control via fieldbus couplers for PROFIBUS. With the couplers as components of the WAGO-I/O-SYSTEM, users not only take advantage of safety-related modules, but also the entire spectrum of available I/O modules too. Safety and standard modules can be combined in a node, providing automation solutions with safety-related and non safety-related functions. [WAGO](#).



LOW COST ERTEC KIT

NEC Electronics Europe has introduced a low cost development kit for the ERTEC chip. It is aimed at developers who are beginning to evaluate PROFINET and ERTEC 200 for the first time and includes a soft PLC that runs on a PC. Developers can set up a controller-device pair to test the full capability of their applications. An eCOS license-free, royalty-free, real time operating system and Eclipse development tools are included, along with a JTAG debug tool. Demonstration programs and simulation software are there too. [NEC ELECTRONICS \(EUROPE\)](#).

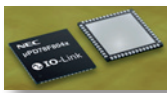


FAST DP-SLAVES

STEINHOFF is now offering PROFIBUS DP Slave boards with real time support for application cycles of 800us, using the QNX 6.4 platform. The combination of PROFIBUS DP and QNX 6.4 allows fast measurement applications to be deployed. Applications can be programmed in C or with function blocks, using STEINHOFF's 'all-in-one' programming and visualization tool, DACHSview-SDL. [STEINHOFF AUTOMATION](#) or +49 6431 570 9970 or info@steinhoff-automation.com

SINGLE CHIP IO-LINK

NEC Electronics has four new single-chip IO-Link solutions for slave applications. Jointly developed by NEC, EL MOS Semiconductor and TMG Karlsruhe they combine an All Flash 78KOR 16-bit microcontroller and IO-Link transceiver with an integrated IO-Link slave protocol stack in a single package. One advantage of using this NEC IO-Link slave stack is that minor upgrades can be incorporated later. Alternatively, designers can develop and maintain their own stacks. Samples are available now, with volume production in April 2010. NEC says they expect to reach monthly production rates of 500,000 units. NEC can also supply development kits at lower cost than most of the other kits on the market. [NEC ELECTRONICS](#)



Applications

NORWAY / TRAFFIC CONTROL SYSTEMS: Scandisign, a member of Norway's SafeRoad Group, is one of the leading suppliers of LED-based traffic signs and energy-effective illuminated signs for multi-story car parks and airports. Customers often require products which 'communicate'.

Time to market is very important for Scandisign. So, when the need came up for a lane-closing sign with PROFIBUS communications, for the 'Festningstunnelen' tunnel project in central Oslo, Scandisign had to find a solution quickly. Scandisign initiated a co-operation with AD Elektronikk, who developed a solution based on the Anybus-IC solution from HMS.

All elements were integrated onto an existing printed circuit board which was sent to Scandisign's own manufacturer for production. More than 500 circuit boards using Anybus-IC and PROFIBUS have now been deployed in the tunnel.

Flexible options

A few months later Scandisign had a new request from their customer: it now needed



connectivity over Ethernet/Modbus TCP as well as PROFIBUS!

AD Elektronikk achieved this by designing a second circuit board that was placed on top of the existing board - a so-called 'piggy back' carrier solution - again using Anybus-IC. It, and the Ethernet RJ45 connector, were placed on the carrier and then connected to the main board. AD also made minor firmware updates to handle both PROFIBUS and Ethernet so the same main board can be used for both requirements.

Anybus-IC is a family of interchangeable single chip interfaces for industrial networks, optimized for small size and multiple network connectivity. Everything required by Anybus-IC is integrated into a standard DIL32 chip socket. Ethernet versions contain industrial IT functions, including a dynamic embedded web server, FTP server and Email client. [HMS](#) or [AD ELEKTRONIKK](#)



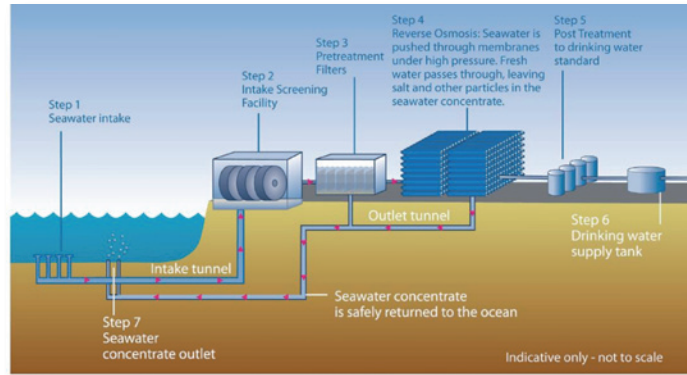
AUSTRALIA / WATER

DESALINATION: The construction of Sydney Water's new desalination plant at Kurnell, south east of Sydney, has recently been commissioned. All automation and control is based on PROFIBUS, and Endress+Hauser was selected to supply all general instrumentation.

The plant provides Sydney-siders with 250 million liters of water a day, satisfying 15% of daily consumption. It is designed to have minimal environmental impact and has the option to be expanded to a capacity of 500 million liters later.

The project is a joint venture between Veolia and John Holland - jointly known as the Bluewater Consortium - and has already recorded a number of engineering 'world firsts'. It has been heralded as one of the largest, 'smartest' and most sophisticated desalination plants in the world.

Bluewater's Electrical, Instruments & Control Manager, Charles Markotter, was responsible for the installation and commissioning of everything electrical, including the facility's automation and instrumentation systems. A seasoned project manager and engineer, with over 30 years



of international experience on projects of this size, Charles says: "I have only seen this level of automation on oil refineries, never on a water plant. Every single thing around here is monitored: it's unique!"

Endress+Hauser supplied 1400 instruments for deployment plant-wide, from the intake of sea water at the start of the process to the final dispatch of fresh water to the consumer. Critical process measurements include water level, pressure, temperature, pH, ORP, turbidity, conductivity and the concentration of minerals such as nitrates. Ultimately the instrumentation is there to make sure that the plant is as safe as possible, and that it supplies high quality drinking water.

Automation and instrumentation plays a vital role in the plant's day to day operations. An

important consideration was the interoperability of the plant's 8500 field devices within the system's communication networks.

Working closely with Bluewater and the control system supplier, Schneider Electric, Endress+Hauser were able to prove the compatibility of all of their instruments with the PROFIBUS networks during the bidding process.

Knowing that communications would work from the start, Charles said "That just took a lot of stress off everyone from the beginning."

Endress+Hauser worked with the electrical contracting firm Heyday Electrical to ensure the correct installation of all system components. The plant was built and commissioned exactly according to its pipe and instrumentation diagrams. These

show the process measurement points as numbered 'tags', representing anything from a single instrument to a complex measuring system. With limited storage on-site, Endress+Hauser consolidated the equipment required for every tag at their own storage facility and then delivered them in either kit form or as pre-assembled analysis panels, just in time for installation.

The plant is run by eight permanent operators, supported by key service providers who are able to diagnose problems off site via secure web interfaces.

Using real time data from the instruments and other assets in the plant collected by Endress+Hauser's asset management software, Fieldcare, Sydney Water's IBM Maximo ERP system can also schedule maintenance procedures, and even manage spare part inventories, thus keeping maintenance costs to a minimum. All of this is possible due to intelligent field instruments and their ability to communicate seamlessly across the networks of the plant.

Now that's what you call a 'smart' plant! **ENDRESS + HAUSER**





PI World

NORWAY

PROFIBUS set the agenda at the first day of the PEA Fair in Oslo. Presentations at 'Speaker's Corner' were well received, with thanks! The 20th anniversary of PROFIBUS was



Happy "PROFijubilees" at PEA09, from left: Ivar Sørle (Chairman of PROFIBUS in Norway), Kai Atle Myrvang (PROFIBUS Competence Center in Norway / AD Elektronik AS), Lars H. Larsson (Chairman of PROFIBUS in Sweden) and Jörg Freitag (Chairman of PI)

celebrated at the Fair, supported by the PI Chairman Jörg Freitag, and the Chairman of RPA Sweden, Lars H. Larsson (see above). Lecture topics included future technology, safety, and energy saving. After the Fair a tour of the new Opera was arranged for members and the evening was rounded off with an anniversary dinner. WWW.NO.PROFIBUS.COM

JAPAN

The autumn is the season of the Fairs and the Japanese PROFIBUS Organization, JPO, attended three in three weeks, during November. These were: Measurement and Control 2009 in Tokyo (process automation); System Control 2009 (factory automation); SEMICON Japan 2009 (semi-conductors). At these events, JPO featured multi-vendor demonstrations of PROFIBUS DP/PA and PROFINET, plus the development support available in Japan. The demonstrations covered not only control data communication, but also parameterization, wireless, easy engineering, IRT and communication analysis. 26 JPO members supported the demonstrations and



NEW! SPAIN



A brand new RPA in Spain was formally established on November 16th! During the Foundation Meeting attended by 17 representatives from industry, Siemens, ABB, Phoenix Contact and Logitek agreed to form the Board. A membership structure was agreed and a formal constitution is being developed now. The first official Board meeting will be held in January. Mr. Ignacio Alvarez from Siemens is acting as coordinator. A General Assembly meeting will also be held in January. Welcome Spain!

their associated presentations. The photo below left shows the booth at Measurement and Control 2009, Tokyo. WWW.JP.PROFIBUS.COM

INDIA



The first two PROFIBUS Troubleshooting & Maintenance Training workshops took place in India in November - at PUNE and Bangalore. At Pune, participants included system manufacturers, end users, maintenance personnel and designers from automotive, packaging and cement



Participants in Pune

industries. At Bangalore, participants came from system manufacturers, end users, maintenance personnel and designers from automotive, packaging and machine building



Participants in Bangalore

industries. Both events were organized by the UL Group of Pune with help from the PI Training center (PITC) at Procentec in the Netherlands. Around 30 engineers attended the sessions. UL Group is responsible for the newly-

founded RPA in India and plans to offer more PROFIBUS courses soon. PROFIBUS@ULEPL.COM or +91 99700 06819.

BRAZIL

In November, the Association's new website was presented to over fifty professionals. The Director of the PROFIBUS Association, Adriano Oliveira, presented the benefits, and also the additional support offered to registered members. A new USERS FORUM has been created for PROFIBUS users in Latin America. This aims to facilitate the discussion of PROFIBUS technologies and solutions. Another aim of the site is to optimize information search and create a reliable knowledge base in Latin America. According to Oliveira: "This powerful tool ... aims to help users integrate PROFIBUS technology, improve the Brazilian automation community and enhance the PROFIBUS team in Latin America. WWW.PROFIBUS.ORG.BR

UK

A 2nd Call for Papers for the annual PROFIBUS Conference has been issued, with the deadline extended to 31st January 2010. Presentations are sought on applications and other user aspects of PROFIBUS and PROFINET. Proposals to UK@PROFIBUS.COM

USA

The PTO is planning its 2010 one-day training class schedule and recommends potential attendees watch [THE PTO WEBSITE](http://THEPTOWEBSITE) and/or sign up for RSS news feeds. Don't forget that the PTO also maintains an active 'PROFIBLOG' for automation users everywhere. Reports of the SPS/IPC/ Drives Fair are there now!

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