PROFINEWS
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PI WELCOMES EMERSON/SIEMENS COOPERATION

PI has welcomed the joint announcement by Emerson Process Management and Siemens Automation and Drives that both companies are exchanging technology and providing each other with engineering support. Siemens will be adding interfaces to its SIMATIC PCS 7 process control system and Process Device Manager (PDM) tool to support FOUNDATION Fieldbus (FF) standards in addition to the PROFIBUS and HART standards they support today. Emerson will be similarly expanding its Delta V and Ovation control systems as well as its AMS Suite with an interface for PROFIBUS DP and PROFINET in addition to the FOUNDATION Fieldbus and HART standards.

PI Chairman Edgar Küster said that the development is especially important for PROFINET and PROFIBUS DP, particularly in view of the global process automation market in which the American company Emerson plays an outstanding role, as it provides an ideal starting point for further disseminating open technologies.

In addition, collaboration will serve to speed up the use of open technologies, expand the compatibility of automation products and thus provide the customer with greater functionality. It will also give PROFIBUS and PROFINET an ideal opportunity to demonstrate their greatest asset, namely closely-coupled implementation in both continuous and discrete automation processes. It's in 'hybrid' applications that the fieldbus combination of PROFIBUS DP and PA offers an especially decisive advantage.

PI will continue to develop its own technologies under one roof. For PROFINET, work will continue on the communication-specific requirements of process automation within the newly-founded 'DCS Requirements' working group and the findings will influence the PROFINET specifications. PI member companies will continue to consolidate the market position of PROFIBUS PA above all in connection with PROFINET.

In an ARC Wire newsletter of early July, ARC Advisory Research Director Larry O'Brien said: "*The two companies are complementary in many ways ... and there should be several opportunities to take advantage of. Both companies, however, directly compete in many ways so this is truly the biggest example of cooperation in the automation market we have seen in some time.*"

Read the joint press announcement here and here

FIRST STEPS FOR QUALITY ASSURANCE OF NETWORK COMPONENTS

The Working Group 'Fiber Optic Components' had a meeting at PROCENTEC in The Netherlands recently to investigate the testing of Network Components for PROFIBUS and PROFINET.

Dennis van Booma and Fedor Meyer gave a presentation and demonstration on how the Dutch test lab already tests active Network Components for PROFIBUS. At this moment only test cases for masters and slaves are defined.

When Network Components can also be tested by an independent test lab, PROFIBUS and PROFINET will be the only industrial communication standard that can really give a quality statement on the products being deployed worldwide.

PROCENTEC already has most of the test cases available to test repeaters, fiber optic components, wireless components and other medium converters for PROFIBUS. The next logical step would be to follow up on cable and connectors.

The companies who participated at this meeting were: Avago Technologies, Harting Electric, Leoni Fiber Optics, Phoenix Contact, PROCENTEC, Siemens, Souriau, Weidmüller and of course PI. **Contact dbooma@procentec.com**

PI News

PROFINEWS ACHIEVES EXCELLENT RESULTS IN SURVEY

Who reads PROFINEWS? How often and how intensively is PROFINEWS read? What importance do our readers attach to PROFINEWS in their professional work?

Our on-line survey on PROFINEWS, undertaken in April 2006, helped us find answers to these questions. The results were very positive and PROFINEWS passed the test with distinction.

The response rate of 2% was excellent, and the feedback gave very favorable results.

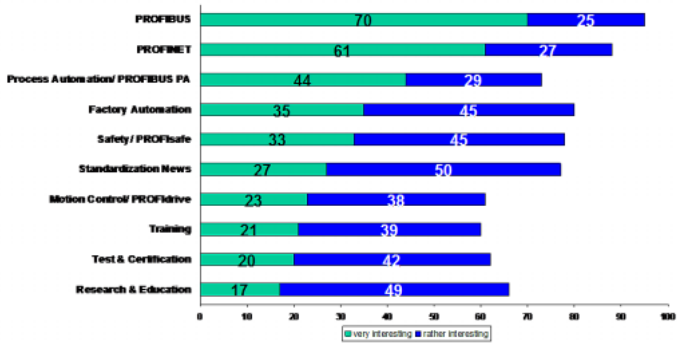
PROFINEWS is read intensively and on a regular basis – with the readers being mainly end-users (25%), system integrators (22%) or manufacturers (35%). Half of the respondents read almost every issue, 75% read more than half of all issues.

Of particular interest was that 70% of the respondents describe PROFINEWS as 'important' or 'very important' to their professional work.

'Product News' and 'Case Studies' were judged as the most interesting items – an important fact for PI members who can present their PROFIBUS and PROFINET products free of charge here in PROFINEWS.

We thank all those readers who responded. The conclusions will allow us to enhance PROFINEWS to make it even more relevant to readers' daily lives. For example, in this issue you will find a new item called 'Questions Answered', (see right). Case Studies, a regular feature, can be found on Page 4.

INTEREST LEVELS IN TECHNICAL INFORMATION TOPICS (%)



HIGH SPEED MEDIA REDUNDANCY FOR PROFINET

The PROFIBUS Nutzerorganisation (PNO) in Germany has concluded a licensing agreement with Hirschmann and Siemens - co-owners of the rapid-recovery redundancy technologies for Ethernet known respectively as HSR and HiPER-Ring - to sub-license the technology to PNO member companies. The sub-license covers PROFINET Controllers (e.g. PLCs) or PROFINET field devices with integrated Controller Functionality having Redundancy Manager status. Products with a Redundancy Client are granted a free license.

The deal is significant not just because it is the first to provide a real time media redundancy service for PROFINET networks (conventional Rapid Spanning Tree is already available), but because of its relevance for automation realtime. The basic HSR/ HiPER-Ring technology delivers 200-300ms recovery time (an order of magnitude faster than RST) which is suitable for PROFINET's TCP/IP activity as used for IT connectivity, parameterization, alarms, etc. If ERTEC 200 or 400 chips are used in controller and field devices together with Isochronous Real Time (IRT), recovery times of microseconds can be achieved for motion control applications.

The solution is the first to be submitted to IEC as a Publically Available Specification (PAS). The redundancy functionality will be part of IEC 61158-5/6. In Class 2 applications, as defined by the SC65C committee which is currently considering how to standardize Industrial Ethernet redundancy, it can provide recovery times in the millisecond range, sufficient for normal automation realtime. For PROFINET Class 1 applications, recovery times in the microsecond range are possible.

The licensing conditions are only available to members of the PNO Germany at present. However, under the IEC's 'reasonable and non-discriminatory' requirements, other vendors can negotiate separate agreements with Hirschmann and Siemens.

Questions Answered

Q: Is there a PROFINET network with a ring structure? Are there any limitations regarding distance?

A: *One of the advantages of PROFINET is that it enables the creation of flexible network structures. The length, speed and topology depend on the network components you choose for your network. For example, in case of fiber optic with integrated interfaces you can reach up to 300m between devices. With external components, fiber optic distances of up to 26km are possible, depending on the type of fiber optic being used and the vendor. In an electrical network the maximum distance between any two devices is 100m.*

Q: Is it possible to connect a standard Fast Ethernet Device (let´s say, for example a Fast Ethernet Controller which supports TCP/IP) to a PROFINET network? I do not need Real Time support on these devices but I´d like to hang some standard Ethernet devices on a PROFINET network. Does a PROFINET Switch handle this? Is there something special to be taken care of?

A: *You can connect a standard TCP/IP device into PROFINET: this device can't support real time communication because it hasn't been supported by the PROFINET protocol. Any standard TCP/IP device can connect to PROFINET.*

Q: I am new to PROFIBUS. Can a slave be implemented using a micro-controller and RS-485 circuitry? Can anyone suggest a step by step approach to developing a slave device.

***A1**: For PROFIBUS-Slave-Devices you have to implement a uC communicating with additional SLAVE-ASIC (SPC3 or VPC3+C) and a physical connection to the PROFIBUS Network by optical isolated RS485 Line Driver. PROFIBUS Communication is based on the firmware you need for one of the ASICs above.*

***A2**: Search with Google for FE-TP-0405.pdf. This article from Prof. Max Felser will give you an idea what you can do.*

These are real examples from the online Forum at http://forum.profibus.com. There are plenty of other useful answers too - take a look!

New Products

RTOS SUPPORT FOR PROFINET

STEINHOFF Automation & Fieldbus Systems has extended its product suite DACHS to include support for the PROFINET Controllers CP1616 and CP1604 using the RTOS QNX 6.3. The resource manager (driver) and API implementation for QNX 6.3 are fully compatible with the API defined by Siemens. The configuration of the CP16XX masters and its networks can be done by the SIMATIC NCM PC configuration tool from Siemens. **STEINHOFF Automation & Fieldbus Systems: +49 6431 529366 or info@steinhoff-automation.com or www.steinhoff-automation.com/Profinet.htm**

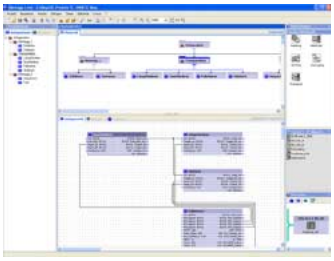
DIAGNOSTIC D-SUB

BradConnectivity diagnostic D-Sub connectors for PROFIBUS are now

available in 0°, 90° and the newly introduced 45° formats. They effectively reduce installation, connection and troubleshooting time. A high transfer rate allows the connector to perform test functions that speed up implementation and troubleshooting in PROFIBUS applications up to 12 MBaud. The connector is equipped with a dual entry cable guide. Additionally, its LED display pinpoints power, bus, device and termination errors. An integrated port is also included, for field diagnostic monitors or analyzers. **Woodhead: woodhead.com web site - http://www.woodhead.com/products/automation/diagnostictools**

NEW VERSION CBA TOOL

A new version of the CBA Engineering Tool iMap for configuration of machine-machine communication offers significantly improved ease of use. For example, users in large projects benefit from a much clearer navigation with the new 'plan view'. A very important feature is the capability to display several technological functions on a single



device. iMap V3.0 also offers greatly improved properties in terms of flexibility: in addition to the activation and deactivation of individual functions, it is easy to copy entire plant sections. Italian, French and Spanish are available, in addition to German and English. **Siemens: www.siemens.com/cba**

IRT ANYONE?

HMS is to complement its family of Anybus communications modules with embedded interfaces for PROFINET with IRT. The interfaces will have an integrated 2-Port Switch and be based on IRT ASIC Technology. The development is being carried out in cooperation between HMS and Siemens Automation and Drives (A&D). Vendors can now also get easy access to PROFINET with IRT technology for their products, says HMS. "We recognize the growing interest in PROFINET with IRT functionality among OEM's and drive manufacturers, and for us it is important to provide our customers with a solution for instant PROFINET IRT connectivity".

HMS Industrial Networks: +49 721 964720 or info@hms-networks.de or www.hms-networks.de

PROFINET TOOL

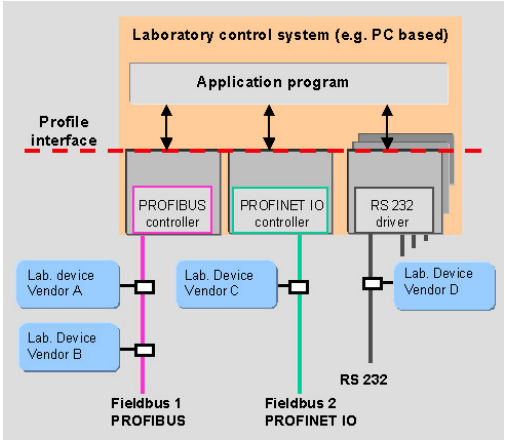
Developed by the PROFI Interface Center (PIC), ProfinetCommander runs as a PROFINET IO controller on a PC, with an easy-to-use graphical user interface for aiding test and build of a PROFINET network and the IO devices

connected to it without need for PLC programming. Added benefits include testing for correct operation and diagnostic functions of a product prior to certification and release. **PIC: More information here**

'LABDEVICES' MARKETING STARTED AT ACHEMA

The new PROFIBUS device profile 'Lab Devices' is being specified especially to allow seamless integration of laboratories into PROFIBUS networks or, by means of OPC, also into other automation worlds (see also PROFINEWS 50).

The LabDevices profile is currently being worked out. The profile was presented to the public the first time at the Achema fair (Frankfurt, Germany) in May 2006. Information was provided at the PI exhibition booth as well as at the booth of the DIN Technical Committee Laboratory Devices through information boards and an information flyer. Information was also available from several device manufacturers (Julabo, Lauda, Sartorius) who participated in the relevant TC 3 working group. Included in the information was the function block approach (see right) which makes the new profile similar to the existing 'PA Devices' profile. However, three function blocks (Human Interface, Ramp and Lab Control Unit) have been specifically developed for the LabDevices profile.



Contacts were established with potential users and device manufacturers. The responses confirmed the trend towards increased automation in laboratories and showed a positive reaction to the trendsetting activity of PI in specifying the new profile. But it became also evident that the introduction of fieldbus technology into laboratories will take more time compared with factory or process automation.

Marketing of the new profile will be continued the next months. Large chemical and pharmaceutical companies and some key manufacturers - including those of LIM systems - will be addressed.

New Products Online

More than 2000 PROFINET and PROFIBUS products can be found online here in our product guide.

Applications

FRANCE/ CHEMICALS: CLARIANT, a fluortelomers company from Gendorf,

underwent extensive modernisation and interfaced a first section of its plant to a process control system.

CLARIANT, which specializes in pre-treatment and finishing chemicals, decided to work with a remote I/O technology system called Excom, developed and manufactured by TURCK. The decision to opt for Remote I/O in an Ex area was based on the long-standing experience with TURCK and their excellent commercial and technical support. The technical advantages of the system include: availability, power and gateway redundancy, longer periods without interruption, decentralized periphery system structure based on Profibus DP-V1 functionality.

The Excom system is space saving due to elimination of the need for multiple control cabinets. Up to 128 binary or 64 analogue intrinsically safe channels can be transferred via a single bus address. It also offers installation in Zone 1 for connection of signals from Zone 0, and hot exchanges. By working with Excom, CLARIANT has reduced its planning, installation and maintenance costs by more than 23% and reduced future installation costs by 30% to 40%. Excom, in Ex area with Profibus DP-V1 functionality, was implemented within 3 weeks. **Turck Banner: +33 (0)1 60 43 60 70 or info@turckbanner.fr or www.turckbanner.fr**

NETHERLANDS/ SOAP: Cargill's brand new plant for the refinery of palm oil for the soap industry, has been fitted with ProfiHub A5s, PROCENTEC's flexible and robust spur line repeater for PROFIBUS DP installations, In the plant, located in the Rotterdam Botlek area, a backbone has been created with multiple ProfiHubs, as shown in the picture. Other ProfiHubs are scattered around the plant, and connect drives and other devices, each on their own channels. This way, it is very easy to replace or remove devices, even during operation. Quality is important to Cargill's process managers. They have chosen the ProfiHub to make their process more reliable, decrease downtime and use advanced, flexible and modern network components in the name of quality. **PROCENTEC: www.procentec.com/profihub info@procentec.com.**

Applications Online

More PROFINET and PROFIBUS case studies are online here.

PI World

JAPAN

JPO PROFIBUS Days were held in Tokyo, Osaka and Kita-Kyushu in July, with over 240 delegates attending. JPO and six member companies made presentations covering the advantages of PROFIBUS and PROFINET (including PROFIsafe, etc), with application examples and demonstration of both systems. The marketing activities in China were also discussed.

Attendees learned that only PROFIBUS can provide simple integration of factory and process networks. They also learned about the openness of PROFIBUS amongst six PLC masters, and the power of the combination of PC and PROFIBUS from a PC master demo.

Five PROFINET vendors' demos (with Ethereal) reinforced the message about multi-vendor support and world acceptance of PROFINET. We also showed PROFIsafe with PROFIBUS and PROFINET, especially the wireless capability of PROFINET.

JPO is very proud of these events, which were supported by 16 member companies and PI. Attendees recognized the many reasons why PROFIBUS reached over 15 Million installed nodes by 2005.

In Japan, people are interested in how to create the factory network system. We are sure that this event gave some good ideas to the market.

JPO would like to thank the following members who supported the event: Endress + Hauser Japan, Fuji Electric FA Components & Systems, Hilscher Japan, HMS INDUSTRIAL NETWORKS, M System, NOHKEN, PEPPERL + FUCHS, Rotork Japan, Siemens, TOKYO KEISO, Toshiba Corporation, WAGO Company of Japan, Woodhead Japan, Yaskawa Electric, Yaskawa Siemens Automation & Drives Corp, Yokogawa Electric Corp.

Separately, ARC Advisory's White Paper 'PROFIsafe: Networked Safety for Process and Factory Automation' has been translated into Japanese. JPO will put it on-line soon here and introduce it in seminars and mailings. JPO has also translated two other ARC White Papers into Japanese: 'The Value Proposition of PROFIBUS in the Process Industries' and 'PROFINET: An All-Encompassing Industrial Ethernet Solution'.

PI World

CHINA

PI's PROFINEWS 49 and 50 have been published in Chinese and are online now **here**. Previous issues are available **here** too.

BRAZIL

Cesar Cassiolato is the new President of RPA Brazil. Association PROFIBUS Brazil was founded in 1999 and today has the following members: **Manufacturers:** Altus, Atos, Coester, Incontrol, Endress+Hauser, IFM Electronic, Metso, Murr Elektronik, Parker, Pepperl+Fuchs, Pextron, Phoenix Contact, Poliron, Schneider, Sense Sensores, Siemens, Smar, WEG and Wika; **Institutional Education:** Campina Grande Federal University – UFCG; **System Integrators:** Dimensional Equip. Eletricos Ltda, Hullen Automação e Informatica Ltda, WTECH Automação Ltda; **Users:** Bayer Cropscience Ltda.

PROFIBUS is already a big success in Brazilian manufacturing and during the last four years its influence in process automation has become clear too. It's used in chemical plants, pigments and paint, brewing, food, mining, oil refinery, water treatment, paper/ cellulose, sugar and alcohol. Cassiolato is Marketing, Quality and Technical Support Director of Smar and is one of the best known PROFIBUS experts in South America. He has been part of RPA Brazil since its foundation and during the last four year he was its Vice-President. The new board also includes Alexandre Prado (Secretary Executive Vice President) and Marco Padovan – Sense Sensores (Treasurer Vice President). Silas Anchieta is the Association Executive Support. Among Cassiolato's aims are the expansion of RPA membership and make RPA Brazil the best known Brazilian association for fieldbus protocols. He also intends to form the first PICC in Latin America.

USA

The close cooperation between PROFIBUS and PROFINET organizations around the world - which many people believe is the real differentiator for our technology - was brilliantly demonstrated by the meeting of PI delegates (that's the international organization for PROFIBUS and PROFINET) at the Sonoma Lodge in California's wine country in June. The two-day formal meeting was attended by delegates from around the world (see above) including China and Japan. It was preceded by informal, though no less important, meetings between various key PI personnel, including Mike Bryant of the PTO, who is Deputy Chairman of PI, and Edgar Küster, PI Chairman. Among the topics discussed were the long term strategic direction of PI, especially taking into account its broadening automation focus and the various new technical developments that have occurred recently. The meeting was complemented by some interesting visits to nearby vineyards!

UK

More than 100 delegates and speakers gathered at Coombe Abbey in June to attend the third PROFIBUS UK International Conference, which

this year focused on end user issues. Delegates were in agreement that the new emphasis on user requirements was exactly what they needed, mentioning in particular the hands-on "primers" and the case studies presented by users such as AstraZeneca and Thamesport. Inspired by the success of the event,

the PROFIBUS Group is already planning for 2007, with another International User Conference to take place around the same time of year and probably at the same location. Already, exhibitors are signing up for next year, with Westermo and Pepperl+Fuchs leading the way.

Details of the Conference can be **found here**, while the papers can be **downloaded here**.

ABOUT PROFINEWS

PROFINEWS, the official newsletter of PI, is published 6 times each year. It's mailed to an international distribution list and is also available online. PI members can have their stories published free of charge by emailing the Editor (see right) or Petra Mayer at **profinews@profibus.com**

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