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The official email newsletter of the PTO in North America

Issue 9 July 2006

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ISSUE 9

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DEBUNKING THE MYTHS

Once again we get our teeth into a myth being circulated about PROFIBUS and/or PROFINET! A compilation of previous 'debunks' is [available here](#).

MYTH: PROFINET is 'proprietary'!

RESPONSE: This was originally used against the PROFINET realtime solution for Motion Control known as IRT, but it's increasingly manipulated to cover all PROFINET. You only have to glance at a dictionary definition to see how silly the claim is. Something like 300 separate companies support PROFIBUS and PROFINET and, since both technologies are managed by the PI - a totally independent body - anyone can freely use them. It's true that PROFINET for Motion Control (one of the three domains PROFINET excels in) uses an ASIC switch with additional capabilities, but that's to enhance standard Ethernet with some fabulous advantages that our competitors are envious of. That's been achieved without compromising Ethernet or the underlying TCP/IP communications ... or the rest of the PROFINET specification for that matter! Even the ASIC is second sourced! PROFINET is open, fully Ethernet-compliant and **absolutely non-proprietary** - don't let anyone fool you into thinking otherwise.

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PI MEETS IN SONOMA: The close cooperation between PROFIBUS and PROFINET organizations around the world - which many people believe is our real differentiator - was brilliantly demonstrated by the June meeting of PI (that's the international organization for PROFIBUS and PROFINET) at the Sonoma Lodge. The two-day formal meeting was attended by delegates from around the world 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 Kuester, PI Chairman. Among the subjects discussed were the long term strategic direction of PI, especially taking into account its broadening automation focus, and various new developments - which will appear here in more detail shortly. Over 1400 companies make up PI, which has 25 regional support offices in key global markets. The latest office scheduled to open is in the Middle East.

MID YEAR IN CLASSES TOUR: It's mid-year and PTO is midway through its one-day training event schedule: thirteen down and at least thirteen to go! Phew! This week it's Columbia, SC for a PROFIBUS event and Burr Ridge, IL (Chicago area) for PROFINET. Next week is PROFIBUS in Process in Appleton, WI. Attendees continue to be excited about these classes. They are indeed classes; there are no vendor sales pitches except when delegates visit the exhibit tables during the breaks, lunch, and the hosted bar. It's the vendors' willingness to sponsor these events that allow PTO to offer them at no charge. An average 80-ish registrants are attending per event with a best-ever of 150 or so. At the recent [international meeting](#) of all the Regional PROFIBUS/PROFINET Associations (RPAs), PTO reported on these 'numbers'. The China RPA reported they do 15-20 events per year with an average attendance of **200** and a peak of **350**! So please register for PTO events and make the North American numbers better! Or better yet, attend so you can discover how a fieldbus will help your company save money, and why PROFIBUS and PROFINET are the best choices. You will learn a lot and also have an opportunity to ask specific questions of the experts. [Watch the website](#) for added classes. There's a possibility that PROFINET one-day training events will be added in Puerto Rico

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and Montreal. If you have suggestions for other locations, please [email us](#).

Keep track of Road Show progress round North America, and other matters, [via PROFIBLOG](#).

More information about North American PROFIBUS and PROFINET Training Classes [here](#)

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PROFINET DEVELOPER WORKSHOP: To meet the demand for information about creating PROFINET compliant products, the PTO will host a FREE PROFINET Developer Workshop this fall. Tentatively scheduled near Chicago O'Hare airport for [October 5](#), the workshop will provide an overview of PROFINET, the PROFINET market, and the specific development tools from major tools suppliers. Running from 9:30am to 5:00pm, the workshop is timed to allow attendees to fly in and out on the same day. It's targeted at developers, development managers and product marketers at manufacturers of control devices and the workshop will help them choose the best tools to use for their devices. Solutions range from commercial chips through commercial boards to custom solutions. [Register](#) and obtain additional information on the [us.profibus.com](#) website. ARC Advisory Group will provide a market overview. The PTO will present an introduction to PROFINET. Exhibiting and presenting their development solutions will be: Hilscher North America; HMS Industrial Networks; Real Time Automation; Siemens Energy & Automation and Softing North America.

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PROFISAFE REACHES 190,000: The number of PROFIsafe-enabled systems in operation around the world has passed 20,000, making PROFIsafe the leading Safety fieldbus technology by a wide margin. In terms of safety devices, this represents nearly 190,000 nodes. The automotive industries are one of the main users of PROFIsafe, with drives being the fastest growing market sector. However, almost 10% of the installed base is in process automation, where PROFIsafe is used for tasks such as stopping pumping systems and initiating shut downs. The first PROFIsafe-enabled PROFIBUS PA instruments are expected around mid-2006, to further expand penetration in this critical sector. PROFIsafe is now being used in WLAN systems too. PROFIsafe is an established protocol for the transmission of safety related signals over standard fieldbus systems, The specification was extended last year to include PROFINET.



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PROFIsafe DEVELOPER CLASS: The PROFI Interface Center (PIC) of Johnson City, TN in cooperation with the PTO is offering a one day introductory PROFIsafe Developers Class at the PTO [General Assembly Meeting](#) in August in Scottsdale, AZ. The class is targeted at developers and managers who want to design Safety devices using PROFINET or PROFIBUS. This class will cover PROFIsafe technology, development processes, efforts, safety assessments, and conformance testing, enabling the developer to plan the necessary steps to develop failsafe field devices. This includes learning about the planning and development prerequisites for safety devices (IEC 61508), the development kits available, and how to implement the PROFIsafe driver software in such a safety device. The PROFIsafe Developers Class will begin in the afternoon on July 31st and conclude on August, 1st at noon in Scottsdale, AZ. Register for [just this class](#), or if you will be attending the PTO General Assembly Meeting, please register [over here](#).

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PROFIsafe USER CLASS: The PROFI Interface Center (PIC) of Johnson City, TN in cooperation with the PTO is offering a half day PROFIsafe Overview Class at the PTO General Assembly Meeting in August in Scottsdale, AZ. The seminar is targeted at application engineers, end users, device vendors, and managers who want to learn more about Safety devices and the PROFIsafe technology on PROFINET and PROFIBUS. Register for just this class using [this link](#), or if you will be attending the PTO General Assembly Meeting, please register [over here](#).

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PROFItech CLASSES CERTIFY 51 THIS YEAR: PROFIBUS Certified Network Engineering Classes continue to fill up. We've graduated 51 certified PROFIBUS engineers so far this year. And our first PROFINET Certified Network Engineering Class was filled as well. All 12 attendees passed the certification test. Not everyone passes these certification tests so our first class deserves commendation for their achievement. We still have a few seats left in the July 24th PROFINET Certified Network Engineering Class, so if you are interested, [register now!](#) For those who just need to know about installing PROFIBUS or PROFINET, the five-day certification class may be more than needed. For those we've added two one-day installer classes - one for PROFIBUS and one for PROFINET. We also continue to offer the PROFINET IO Developer Class. You will find information about this class (and all the others) [on the web](#).

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PIC CONNECTION : The PTO and the PIC (PROFI Interface Center) cooperate to promote PROFIBUS and PROFINET in North America. The PIC handles all technical aspects. It is financed by Siemens but serves the whole PROFIBUS/PROFINET community here. You may have read some [background about the PIC](#) in Issue 6. But, did you know that the PIC also publishes a newsletter for users of PROFIBUS and PROFINET? To provide broader circulation of articles, PROFInews North American Edition occasionally reproduces an article from the PIC Connection, like the '[Gravel Mining with PROFINET](#)' article in this issue. The Spring 2006 Issue of Connection is now available for [download here](#). This focuses on wireless connectivity, especially with PROFINET. There are also application stories and FAQs on technical issues.

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GENERAL ASSEMBLY MEETING IN AUGUST: Attention all PTO members! It's time to register for the PTO General Assembly Meeting. The deadline just passed, but we can squeeze you in if you register today. We have some great user presentations lined up this year. One is a unique and unusual automation application - don't miss it! Vendors are invited to sign up for a free exhibit table throughout the meeting starting with the Tuesday evening welcome reception. And don't miss the safety training on Monday and Tuesday. [More information and registration here](#)



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TECHNOLOGY UPDATE

PUMP PROFILE ASSISTS PLANT MANAGEMENT: PI has specified a PROFIBUS/PROFINET profile for vacuum and hydraulic pumps, in collaboration with the VDMA (Verband Deutscher Maschinen- und Anlagenbau - German Engineering Federation) and NAMUR (User Association for Automation in Process Industries). An implementation of the profile for both PROFINET and PROFIBUS is planned for the spring of 2007. Pumps are a key component in process automation but commissioning and maintenance can involve excessive time and costs. Pumps can also provide valuable data for operational and asset management. The new profile will lead to specifications that span type and application on the one hand and, on the other, specify profile extensions for mapping the functionality of pump types in various application areas. Interoperability and interchangeability of pumps from different manufacturers will be ensured, leading to easy deployment of multi-vendor systems, as expressly requested by users.

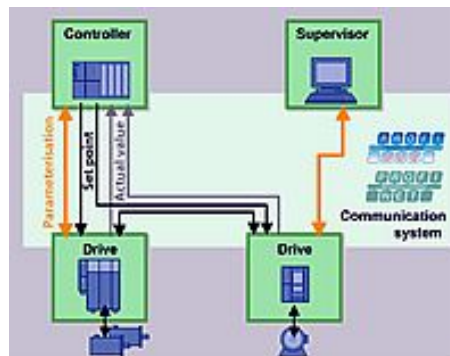
TOOL CALLING INTERFACE: A PI Working Group is specifying a new interface for integrating open and proprietary device operating tools. Called Tool Calling Interface, or TCI, it is implemented in the central engineering tool of an automation system (PLC, Soft PLC). Parameters are passed to the TCI in a common file structure to allow the uniform but still simple integration of existing operating tools. This is particularly relevant for variable-speed drives and components of machine safety (e.g. with PROFIsafe) which both need efficient operating tools to fully realize customer benefits. TCI also supports open standards such as FDT and EDDL. The PROFIBUS TCI specification is now available for review. Adoption is scheduled for September 2006. Mapping for PROFINET will follow soon after. [Read more here.](#)

FIELDBUS INTO LABORATORIES: PROFIBUS International (PI) is the first of the large fieldbus organizations to specify a device profile specifically for lab devices! The profile opens the door to seamless integration of labs into PROFIBUS networks, and into other automation worlds by means of OPC. The profile was specified by a PI working group consisting of manufacturers of lab devices and LIM systems, and supported by organizations such as Spectaris and the DIN standards committee. Following a review phase it will be available as an official standard for PROFIBUS and subsequently for PROFINET. As labs and their workflows move ever closer to the production processes, users have a growing interest in seamlessly integrating lab data into the dataflow of the enterprise. In other words, labs must be moved towards state-of-the-art open automation technology such as fieldbuses, OPC and Ethernet, and be networked with company data systems. PI is creating the environment for seamless communication through its 'LabDevices' profile.

PROFINET FOR MOTION CONTROL

RAMPS UP: More and more Motion Control products based on PROFINET IRT (Isochronous Real Time) technology are reaching the market. Companies such as Danaher, Danfoss, ESR, HMS, Lenze, Mesco, SEW and Siemens are developing PROFINET IRT devices now, or offering development services. Products were shown at the recent Hanover Fair and more will be introduced during 2006.

PROFINET ensures high-performance, real-time communication with unrestricted IT communication in a single network. PROFINET can synchronize remote, distributed automation systems in real-time by reserving bandwidth for



the real-time synchronization of Ethernet switches by which a stable deterministic communication cycle is set. The performance has been proven in prototypes and production machines. Development kits are available for rapid implementation. [Read more here](#)

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APPLICATION

GRAVEL MINING/ ITALY: PROFINET with CBA provided good integration of PROFIBUS networks to make this Italian gravel mining enterprise greatly more productive while reducing costs. The working conditions for transportation drivers were greatly improved too, using wireless networking. [Read more here](#)

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IN BRIEF

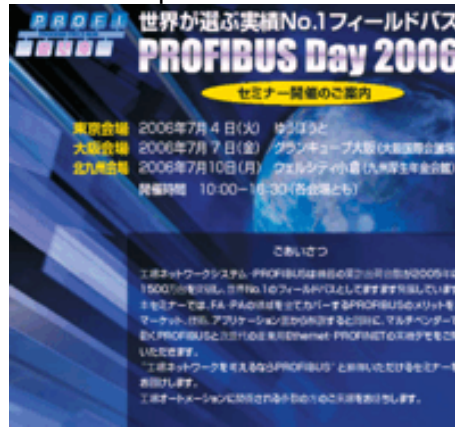
PROFINES SURVEY: PI conducted an an electronic survey of 17000 readers around the world recently and discovered that it's global newsletter PROFINEWS is highly successful, both in its pdf electronic format ([subscribe here](#)) and in its [on-line html version](#). Subject areas of main interest include 'new products' and 'applications'. The survey concluded that since half of the interviewees were non-members it's clear that PROFINEWS is of prime importance for announcing news and promoting the PI organization. The global PROFINEWS is sent to 17,000 readers. By contrast PTO's own newsletter (you're reading it now) is first sent to 8000 recipients in html format and then in html format to over 30,000 other readers via the mailing lists of *Control Engineering* magazine. For interest, there's also a [Brazilian newsletter](#) and a [Chinese newsletter](#).

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AROUND THE WORLD: In May in **CHINA**, the Chinese PROFIBUS Organization ([CPO](#)) conducted Roadshows in Beijing and Xi'an. Over 450 people from the petrochemical and regular process industries participated. A panel discussion saw presenters bombarded with more than 100 questions about cabling, grounding, EMC and testing. >>> At Hannover Fair in April, a PI meeting introduced Pregs Naidoo to the global PROFIBUS community. Based in the United Arab Emirates, he plans to establish a new RPA and Competence Center in the **MIDDLE EAST**. Contact Pregs at: +971 4 366 0180 or middle.east@profibus.com. >>> In the **NETHERLANDS** PROFIBUS will be at Aquatech Amsterdam 2006 (26 - 29 September). Also in Netherlands, PROCENTEC, the PROFIBUS Competence



Center, is now officially accredited as a PROFINET Competence Center. >>> In [JAPAN](#) PROFIBUS and PROFINET were presented during Japan PROFIBUS Organization's PROFIBUS Days on July 4th, 7th and 10th. The invitation flyer can be [downloaded here](#). JPO has also translated the [ARC White Paper](#) called 'PROFINET: an all-encompassing Industrial Ethernet Solution'. >>> In [ITALY](#), INN.TEC S.r.l., a PROFIBUS Competence Center since 2004, is now also a PROFINET Competence Center. PROFILAB, the PROFIBUS laboratory of INN.TEC, is run jointly with the Department of Electronics for Automation at the University of Brescia. It offers educational, development and support services for PI technologies. Recent events included a 'Hands-on PROFIBUS & PROFINET' one-day course in March and a PROFINET Day held in Milan. >>> In June PROFIBUS [Switzerland](#) organized an 'Industrial Networks Forum' on topics such as automation with PROFINET, the benefits of safety bus systems and PROFINET in process automation. The connection of maintenance data between field and MES with PROFINET was also covered, along with the PROFIdrive motion-control interface of PROFINET.



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NEW PRODUCTS

DIAGNOSTIC D-SUB CONNECTORS:

BradConnectivity diagnostic D-Sub connectors for PROFIBUS are now available in 0°, 90° and the newly introduced 45° formats, making the physical connection to PROFIBUS devices that much easier. Through their unique design, they effectively reduce installation, connection and troubleshooting time. There's a dual entry cable guide and an LED display pinpoints power, bus, device and termination errors. An integrated port is also included for field diagnostic monitors or analyzers. [Woodhead](#)



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AS-i GATEWAY: A PROFINET to AS-Interface gateway has been introduced by Bihl + Wiedemann. It's believed to be the first conforming to the new AS-i V3 M4 profile and incorporates advanced diagnostics. It also has an earth fault detector and a noise and over-voltage detector for checking the analog signal. [Bihl +Wiedemann](#)



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DP-V1 MASTER: Smar's PROFIBUS DP controller DF73 treats discrete and analog signals in a single, integrated and transparent environment for engineering, operation and maintenance. Besides easy connection to PROFIBUS DP slaves such as Variable Speed Drives (VFDs), PROFIBUS PA devices are also connected to the controller, using commercial-off-the-shelf segment couplers. Additionally, the controller accesses conventional signals from a variety of discrete and analog I/O cards. It also has redundant Ethernet ports for High Speed Ethernet connection and a Modbus connection. [Contact smar](#)

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COMPACT IO: The new IM 151-1 COMPACT interface module comprises a terminal module and an electronic module and is available in two versions: Purely digital input module 32DI or Digital mixed module 16DI/16DO. The block contains 32 channels and can be expanded with fine modularity up to 80 channels (analog and digital mixed) or a maximum of 12 modules. The station is expanded simply and quickly by means of the integral backplane bus. In the event of a fault, load groups can be shut down individually and selectively on the block. [Siemens](#)



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CONTROL UNIT A new Control Unit CU310 PN for Sinamics S120 AC Drives has been launched, specially designed for use with PROFINET in Sinamics S120 single-axis applications. It contains the motion control intelligence for the drive, including positioning functions. PROFINET is now supported by Sinamics S120 in all types of application. [Siemens](#)



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PROFINET DEVELOPER 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](#)



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WIRELESS SOLUTION: Siemens has unveiled a wireless LAN solution delivering a complete industrial wireless solution by providing access points, client modules, varying types of antennas, power supplies, cables, and connectors. SCALANCE W includes patented data reservation for critical clients, and a high level of security. It also features deterministic control for client modules and is the only industrial wireless LAN product offering three wireless protocols in one system. [Contact Siemens](#)

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INTO BLOGGING?

Stay better connected by reading [PROFIBLOG](#), CARL HENNING'S take on the world of PTO. As well as news and event information, Carl talks about his travels and includes thought-provoking comments about our industry. It's an ideal way to keep up to date with things almost before they happen, and you can get RSS-connected for immediate updates too. Read Carl's latest summary page [here](#)



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