

# PROFINEWS

## PROFINET and PROFIBUS News for North America

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## Migrating from PROFIBUS to PROFINET

<http://profinews.us/2014/07/migrating-from-profibus-to-profinet/>



The time is right, since the technology is perfected and PROFINET is already integrated into many newly developed devices and components. In particular, PROFINET presents many opportunities for production optimization through higher performance, use of PROFIenergy, or integration of wireless networks. At the same time, the migration has been made as easy as possible for users.

### Easy migration:

## Users benefit from the changeover from PROFIBUS to PROFINET

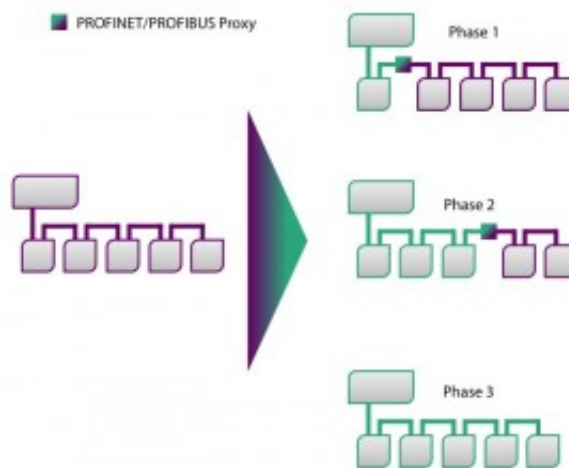
Users don't always jump up with enthusiasm when a new technology comes on the market. "Is the new technology already perfected for real-world use? Are there really benefits? How long will it take to change over?" Such are the questions that no doubt many companies deliberate. All the more amazing then is the growth of PROFINET in recent years. In 2012 alone, it grew by 35%. This growth is much more dynamic than that of PROFIBUS when it was introduced on the market. In particular, PROFINET has experienced much stronger growth when compared with the general Industrial Ethernet market. Experts estimate that in just a few years there will be more new PROFINET nodes than PROFIBUS nodes. One reason for this success can be attributed to the fact that the technical requirements for migration or introduction to the PROFINET world are not overly demanding. There are also numerous ways to optimize costs. Moreover, many are using PROFINET in order to benefit from PROFI-safe or PROFIenergy.

### Gradually or all at once?

Existing systems based on PROFIBUS DP can be easily ported to the new standard either gradually in logical, reasonable steps or all at once. With a step-by-step strategy, it is also possible to give optimal consideration to operational requirements (changeover during lower production times, several machines/lines in succession, etc.). In the simplest case, a higher-level PROFINET IO controller is installed in place of the previous controller, the head modules of the distributed I/O are replaced in the field, and the system components are networked together by PROFINET cable.

The key advantage of PROFINET is that process, safety, diagnostic, and IT data, such as standard TCP/IP frames, are transmitted over the same cable, which drastically simplifies installation and management.

For connection of other fieldbus systems (e.g., CAN-Bus, Interbus, DeviceNet), there are a variety of proxies that act as a representative of a PROFINET IO device in PROFINET. These are explicitly defined in the PROFINET specifications as well as standardized. Individually customized solutions and their



associated costs are eliminated.

It is just as possible to use PROFIBUS components on new PROFINET-based machines without any restrictions, if individual PROFIBUS DP slaves are not yet available with a PROFINET connection. This enables a smooth migration in line with the requirements of the respective applications. Special gateways for actuators and sensors are made available by providers for this. Although further development of PROFIBUS technology can no longer be anticipated, the fieldbus system and components will continue to exist in a large number of applications. When it comes to new technological development and innovation, priority is naturally being placed on PROFINET. For new components, PROFINET will be the standard interface, while PROFIBUS will remain optionally available.

### **What will be different after migration?**

The key difference between PROFIBUS and PROFINET is most assuredly the network concept. Users now have many different options for designing their automation landscape, perhaps by introducing new network structures, using PROFIenergy, or integrating wireless applications. Of course, this new freedom should be exercised carefully. For large networks in particular, detailed network planning will provide for

a stable, high-performance network.

A comparison of PROFIBUS and PROFINET installations reveals definite differences. This starts with the number of devices. A PROFIBUS application in machine construction typically has 50 to 100 devices. Thus, PROFIBUS users generally operate in a manageable world. In PROFINET networks, this can look completely different. For example, networks with 5000 nodes already exist in the automotive industry today. But, it's not just the number but also that type of networks that is completely different. There are different network structures (Class C networks, Class B networks) and dynamic network structures, for instance in robots with frequent tool changeover. Moreover, networks are changed and expanded during operation. The networks are oriented vertically as well as horizontally and don't always have to be purely a PROFINET network. Integration of existing PROFIBUS networks is a daily practice, just like operation of standard Ethernet devices with simultaneous integration of a multi-axis system requires real-time communication.

Depending on the application and existing infrastructure, it is appropriate to use different types of networks structures. However, up to now a uniform tendency of the type of network to be implemented by users in the future has not been solidified. Is the preference to work with multiple small manageable networks or one large network? Still, like for PROFIBUS for which installation instructions for easy commissioning have been available for years, the working groups at PI have already created comparable documents for the use of PROFINET. However, these no longer cover just the installation by itself, such as branches, connectors, and the like. Rather, additional aspects such as layout variants and security measures are also emphasized. (See the [Design Guideline](#), [Installation Guideline](#), [Commissioning Guideline](#), and [Security Guideline](#).)

## **More performance for the future**

What are the benefits to users from migration to PROFINET? This can be divided into three categories: flexibility, efficiency, and performance. A key benefit of PROFINET is its significantly higher performance, especially with regard to node count, transmission speed, and diagnostics. Up to 256 nodes on one controller are already possible today. The size of networks is virtually unlimited. And the speed at 100 Mbps and full duplex mode of PROFINET is faster than that of PROFIBUS at 12 Mbps in the best case by an order of magnitude. The two real-time transmission modes of PROFINET – RT (Realtime) and IRT (Isochronous Realtime) with clock synchronization – enable highly dynamic applications with deterministic cycle times. The latter pertains to clock-synchronized motion control applications, such as distributed drive links with cycle times down to 250  $\mu$ s. Such applications are only possible with PROFINET. In addition, with cycle times as short as 31.25  $\mu$ s, PROFINET provides even greater performance reserves for even more stringent requirements. The resulting increased control accuracy yields more consistent product quality and/or higher output.

## **Diagnosis makes commissioning easier**

Another reason that migration to PROFINET is such a smooth process is that any errors that occur are indicated immediately thanks to sophisticated diagnostic tools. Typical errors that occur over and over during commissioning and operation are incorrect address configurations and out-of-date firmware versions. It is also common for there to be discrepancies between configured devices and the devices that

are actually installed. Undefined network loads caused by mixed networks may also pose problems. This happens more often in the case of vertical integration by MES and ERP systems or integration by OPC servers, engineering systems, and webcams. PROFINET already delivers information regarding such discrepancies or errors to your door. Expanded, local, and intranet- and Internet-based diagnostic options, e.g., using web servers on the controllers, simplify commissioning and are also a key factor in maximizing the availability of a machine, system, or factory.

## **Exploiting the benefits**

As a general recommendation, for each pending automation project the individual requirements should be compared with the many different possible PROFINET solutions before making a decision. In most cases, the advantages will outweigh any disadvantages – even for projects with a limited scope. For example, the investment costs are amortized faster over the service life of a PROFINET installation due to the shorter commissioning time and the higher availability, productivity, and quality of production. Energy savings that can be achieved during production pauses with PROFIenergy also contribute to this. With continued growth of device counts and (as with PROFIBUS) broader dissemination of additional functionalities, the Total Cost of Ownership (TCO) of PROFINET systems will decrease even more.

PI (PROFIBUS & PROFINET International) offers comprehensive support for migration, ranging from technology workshops and Competence Centers to manufacturers and users that have accumulated a wealth of experience. In the end, this is one of the greatest strengths of PROFINET: Behind the technology stands a large community whose common goal is efficient production.

*Author:*

*Karsten Schneider, Chairman of PI (PROFIBUS & PROFINET International)*

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## News from South East Asia

<http://profinews.us/2014/07/news-from-south-east-asia/>

Ladies and Gentlemen, allow me to give you a short review of what has been happening in South East Asia.

The past month was full of activities. Most importantly, we had the great pleasure of hosting the 26th Global Chairmen's Meeting in Singapore. In total we welcomed 16 of the 27 Chairman from Regional PI Associations (RPAs) around the world and we had some interesting and fruitful discussions.

One of the key topics was the continued growth of PROFINET and the focus on process automation - which is a very good sign for our region since we are "process driven". Of course we also discussed our other successful standards including PROFIBUS and PROFIsafe, and we could see that in these areas we still have very nice growth.

Because we had Karsten Schneider (PI Chairman) and Xaver Schmidt (PROFINET Marketing Group Leader) with us we also conducted a PI Seminar for Singapore which was attended by around 100 people. Karsten Schneider gave us a deeper look into the news and what is going on in the world market, while Xaver Schmidt gave us a great insight into the activities of the PROFINET marketing working group. Presentations can be found [ON OUR WEB PAGE](#).

The Seminar was supported by Anixter, Leoni Kerpen, Pepperl + Fuchs, Phoenix Contact, Posital Fraba, Siemens, and Turck. These companies provided live demonstrations of their products and solutions at a microfair, giving participants the chance to discuss detailed aspects face to face with experts.

The PROFINET multivendor demo was introduced, showing the wireless integration of PROFIBUS DP/PA into PROFINET, also the integration of different products and protocols. The live engineering of an IO-System was demonstrated along with PROFINET's web diagnostic functions and remote services. Watch our short video:

For now I would like to thank you for giving me the chance to say a few words about our South East Asia activities.

Bernd Lieberth  
Chairman, RPA South East Asia

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## Specialty Fats and Oils

<http://profinews.us/2014/07/specialty-fats-and-oils/>

Oleo-Fats in the Philippines is the number one supplier of specialty fats and oils to the country's food industry. Their site is essentially a refining process for the feedstock, which comes as "crude" coconut oil as well as other vegetable oils. The processing steps include degumming, neutralization, bleaching, and deodorization. "Straight" oil is then sold as a frying product, or undergoes further processing to realize other products such as ice cream and soft candy, hamburger buns, and other baked products.

Three years ago the company started to look at automation as a way of achieving improved ease of operation. Instead of staff going up and down the floors looking at gauges and opening valves, the company wanted to remotely monitor and control from a single location. For plants PRP 1 and PRP 6, the decision was taken to use digital PROFIBUS PA devices for the process instruments. PROFINET controllers were deployed, with SCADA OS redundant servers and clients, and proxies for fieldbus integration.



The extensive use of PROFIBUS PA for the likes of mass flowmeters, radar level transmitters, pressure transmitters and modulating valves makes the Oleo-Fats site one of the most significant PROFIBUS implementations in South East Asia. And while PROFIBUS PA instruments are more expensive Oleo-Fats believes that the lower installation costs and the longer-term asset management benefits are well worth the investment.

Modernizing plant automation reduces risk of failure and standstill and PROFINET enables easy communication setup at higher performance with enhanced diagnostics. Operational functions now include automatic ratio control for more consistent product quality and lowered costs. There's real-time monitoring of critical process parameters, such as pressure, temperature and flow rate, with alarms actuated automatically. As Oleo-Fats plant manager Gerry Guanlao





articulates: “Now, if something is wrong, you know about it straight away just by looking at the operator screen. Having that information right before you has really been the number one benefit, I believe.” Roughly 12 million pesos was invested into automating PRP 3 and PRP 5. This was recouped in just nine months through greater product consistency and less plant downtime. Next steps include implementing manufacturing execution system to provide a level of management information.

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## **Training Class PROFINET FAQ**

<http://profinews.us/2014/07/no-clue-issue-67/>

In our One-Day Training Classes throughout the year, there seem to be a handful of questions that we receive from the audience relating to PROFINET that crop up time and again.

### **PROFINET Frequently Asked Questions**

1) "Do PROFINET IRT messages have some sort of higher priority?"

The answer to this question is: no. PROFINET IRT (Isochronous Real Time) is used when multi-axis motion control is needed. Instead of using 'priority', IRT messages have a certain portion of the bandwidth reserved just for them. They are sent during this time-frame. This ensures that these time-critical messages are delivered with the highest determinism. Watch this 1-minute video for more:

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2) "Do I need a managed switch for Simple Device Replacement?"

First of all, many PROFINET devices these days come with an SD card that stores the device's configuration on non-volatile memory. If the device needs to be replaced, the user only needs to swap in the existing SD card; there's no need to connect an engineering tool for configuration. For those without an SD card, 'Simple Device Replacement' allows the user to again swap in a replacement without using an engineering tool. Here's how it works:

Since Simple Device Replacement leverages protocols like LLDP and SNMP, if dedicated switches are used in the network they'll need to support these protocols. Typically, only managed switches have these features.

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3) "Does PROFINET play nicely with wireless encryption?"

The answer is: absolutely. Wireless encryption is just another protocol. And since PROFINET is also built on unmodified Ethernet, the two play very nicely together. That being said, using wireless encryption (or any encryption for that matter) can lead to time delays or jitter. If your automation network can handle these, then it's something to take into account during the network planning phase.

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For a complete list of free training classes, visit our [one-day training page](#).

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## Brazil's Sugar-energy Sector benefits from PROFIBUS

<http://profineews.us/2014/07/brazil-benefits-from-profibus/>



The Brazilian agro-business is increasingly standing out with new bio-energy plants, which produce 26.52 billion liters of ethanol, making Brazil the second largest worldwide exporter. Throw in 37.76 million tons of sugar produced and you have the world's biggest exporter. The installed capacity of 9.339 MW for generating electric energy from the incineration of sugar cane bagasse after the juice extraction, represents annual revenues of 43.36 billion dollars. With these figures the sector is gaining prominence all over the world, as it is a highly strategic “green” industry for the government and is strongly positioned in Brazil’s energy matrix.

"By this time there were massive investments in new plants and the update of the existing ones, highlighted by the adoption of Industrial Networking technology with the PROFIBUS protocol adopted in **6 out of 10** automation projects."

### Benefits of PROFIBUS seen in Brazil's sugar-energy sector



One of the sector's major challenges is how to manage industrial costs. Only automated plants can surmount these challenges. Peak productivity capacity occurs during the 8-month crop season. Automated plants are responsible for high scale gains, by controlling the process

oscillation caused by load variations during the long production period. This includes highly operational safety systems. The sugar-ethanol sector underwent a wide investment phase before reaching these figures by 2006. By this time there were massive investments in new plants and the update of the existing ones, highlighted by the adoption of Industrial Networking technology with the PROFIBUS protocol adopted in 6 out of 10 automation projects. Why did PROFIBUS networks stand out and continue to stand out as the de-facto standard in the sugar-energy sector? One of the main features that characterize the industrial process in agro-business mills is that the plants require production information be provided to asset management systems. This information comes from discrete signals at the lowest command levels through redundant control systems with intelligent field instrumentation, and from the MCCs (Motor Control Centers).

The PROFIBUS technology allows all signal and control levels to be addressed by PROFIBUS DP for remote MCCs and connections, as required by the sector's network architecture. PROFIBUS PA allows intelligent instrumentation to meet all the process control requirements, including the classified areas' needs, mainly in the ethanol distilling sector.

### **The multiple benefits from PROFIBUS networks include:**

- Easy to install large command and control systems
- Decreased time for installing new plants
- Ability to provide elaborate logic for standard systems with communication blocks
- Access to additional information from devices and instruments for the configuration and management of on-line assets
- Simplicity
- Robustness



The PROFIBUS protocol stands out because it encompasses all requirements. The PROFINET protocol opens even further layers of applications and generates even more possibilities in terms of operational control.

The PROFIBUS protocol changed the model for the operational control of the sugar-energy sector, which became a world reference in the production of energy with a high level of safety. The production and management automation methods employed here have allowed the sector to become among the most important ones in Brazil and the top ranked all over the world.

Márcio Venturelli, DLG Automação Industrial Ltda

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## **Social Media (Issue 67)**

<http://profinews.us/2014/07/social-media-issue-67/>

Sharing. Mom and Dad encouraged you to share your toys with your siblings. PI North America encourages you to share PROFINEWS. Every article in PROFINEWS North American Edition includes a couple opportunities to share content that you have found interesting. Just click one of the buttons at the end of this article, for example.

### [Twitter](#)

The week of June 16 saw a Tweet a day pointing to a PROFIBUS video, like this one (and four more):

Follow [@AllThingsPROFI](#) for your daily dose of news about PROFINET and PROFIBUS.

### [PROFIblog](#)

News, application stories, and reports from trade shows appear first on the [PROFIblog](#). Occasionally there is opinion and rarely an off-topic post, often starting with “An engineer went on vacation and...” (“[Engineer’s Holiday](#)” is one such.)

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## Member News: Phoenix Contact Opens CTC

<http://profinews.us/2014/07/member-news-phoenix-contact-opens-san-jose-customer-technology-center/>

### Phoenix Contact opens its new San Jose Customer Technology Center (CTC)

*New training and demo facility brings the company closer to its Silicon Valley customers*

The CTC gives the company a local presence to better serve the 5,600 customers who live within a four-hour drive of Silicon Valley.

The CTC is located at 181 Metro Drive, San Jose, Calif., just a two-minute drive from the San Jose airport. Phoenix Contact will host training classes, customer meetings and other events at the CTC. Jack Nehlig, president of Phoenix Contact USA, and Spencer Bolgard, vice president and general manager, hosted more than 100 customers and about 25 employees at a ribbon-cutting ceremony and open house on Thursday, June 5.

Bolgard stated: “We are very happy to open our new Customer Technology Center (CTC) in the heart of the electronics and renewable energy industries. This CTC, our third, represents Phoenix Contact's continued service and education commitment to our customers and our channel partners. We believe the San Jose Tech Center will continue to help us get closer to our partners and help them experience how we inspire through innovation.”

The 8,900-square-foot facility features a training room, demonstration room and office space. When configured as a classroom, the training room can accommodate up to 32 people seated at desks. Thanks to moveable tables and adaptable configuration options, the room can host up to twice that number in a lecture setting.

In the demonstration room, customers can get a look at Phoenix Contact products and solutions for high-tech applications, such as:

- Industrial and process controls: Device connectors and connection solutions
- Solar power: Junction box connectors and string monitoring
- Building automation: Device connectors and controls
- Electric vehicles: AC and DC charging plug systems
- LED lighting: Easy connections and control solutions
- SCADA control: Devices for critical infrastructure industries (oil and gas, water/wastewater, the electric power grid, transportation)
- Network security: Devices and services designed to keep unwanted traffic off industrial networks
- PROFIBUS and PROFINET products are featured

Phoenix Contact also operates CTCs in Ann Arbor, Michigan, and Houston, Texas. Its U.S. headquarters are located just outside of Harrisburg, Pennsylvania.



[Phoenix Contact](#)

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## **Editors' Note: Farewell to Geoff**

<http://profineews.us/2014/07/editors-note-farewell-to-geoff/>

Twenty years ago, Michael Bryant and Geoff Hodgkinson sat in a pub and, on the back of a cocktail napkin, scribbled the plans for a new newsletter to share the news about PROFIBUS, the new fieldbus. The newsletter became PFOFINEWS. It was printed and mailed. (How quaint that seems now.) We celebrated that a bit when [Issue 100](#) was published. Geoff has been the editor for every issue. More recently, since March 2005, Geoff also began editing PROFINEWS North American Edition starting with its inaugural issue.

Through the years the content increased, PROFINET arrived, the frequency increased, and printing gave way to electronic publication. Now Geoff has decided to set aside the green editor's eyeshade and leave the editing to a new generation. We will miss him. Through the years, he has not just been an editor, he's been a writer, reporter, photographer, videographer, marketer, confidante, and friend.

Enjoy whatever comes next, Geoff!

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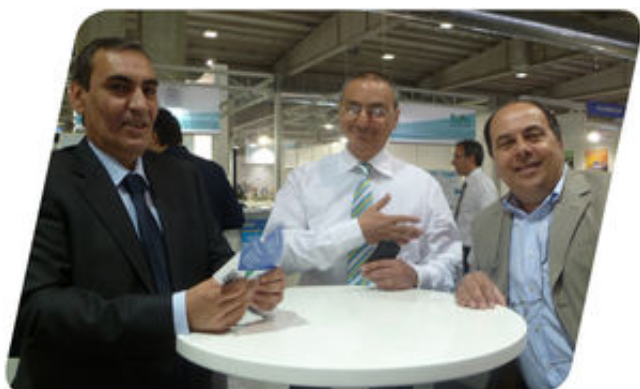
## World News (Issue 67)

<http://profineews.us/2014/07/world-news-issue-67/>

### The Value of Automation:

#### PROFIBUS at SPS/IPC/Drives Italia 2014

It was a great success for the Consorzio Profibus Network Italia's (PNI) participation at the leading trade fair for automation in Italy: SPS IPC Drives Italia.



This year saw a sharp increase in the number of visitors, reaching the 21,000 mark. The PNI booth itself received a large portion of that traffic. PNI members were extremely pleased with the great turnout at the booth and at their exhibition panels. The 9 representatives – Cavitec, Camozzi, CSMT, GFCC, Laumas, Lika, GE, Phoenix Contact and Siemens – affirmed that the number of contacts they acquire grew in comparison to the previous year.



Furthermore, university students in engineering expressed great interest in the PNI presentations. Twice per day, PNI experts held speeches related to PROFIdrive, PROFIsafe, and security at the booth. Many students, together with some visitors, took a break from the fair to hear the talks.

Therefore, the SPS/IPC/Drives Italia was an excellent opportunity to meet new people and establish business relationships, all the while increasing knowledge of PROFIBUS & PROFINET.

PNI is looking forward to next year's show already!

[www.profi-bus.it](http://www.profi-bus.it)



## **New Products (Issue 67)**

<http://profinews.us/2014/07/new-products-issue-67/>

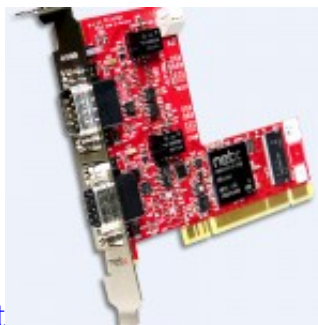
### **New Products:**

New safety I/O, a dual-PROFIBUS PCI card, revamped gateways, improved PROFIBUS error detection, PROFIBUS PA indicators, Industrial Wireless LANs, high availability control platforms, and a new PROFIBUS hub with diagnostics can all be found in this month's New Products section. Click the headings for additional details.



[I/O for Safety Applications](#)

Phoenix Contact's Axioline F I/O system modules now enable implementation of safety applications based on PROFINET and PROFIBUS, using the PROFIsafe profile.



[Double PROFIBUS with just one PCI slot](#)

With Hilscher's CIFX 2-channel cards users have the possibility to realize two independent fieldbus (PROFIBUS et. al.) communications in just one PCI slot.



[New Anybus X-gateway](#)

These popular “network translators” are now modernized as HMS Industrial Networks introduces a new version of Anybus X-gateways, designed to meet the future of the automation industry.



[Improved Error Detection and GSD support for PROFIBUS](#)

New functions for threshold monitoring and expanded GSD support simplify maintenance and the diagnostics of PROFIBUS production networks, simultaneously reducing the risk of production downtime.



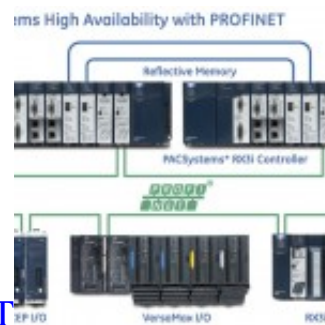
[Field Indicator line includes PROFIBUS PA](#)

Endress+Hauser, has officially introduced new products to their field indicator portfolio for PROFIBUS® PA instrumentation and networks.



[IWLAN access point for harsh environments](#)

Siemens has added the new Scalance W774-1 M12 EEC to the company's industrial wireless LAN portfolio enabling the use of wireless PROFINET real-time communication.



[PACSystems® High Availability with PROFINET](#)

GE Intelligent Platforms has added one more solution to the company's high performance connected automation architecture with the expansion of its high availability control platform.



[PROFIBUS hub with diagnostics](#)

Procentec's ProfiHub B5 comes with a built-in PROFIBUS DP slave to forward diagnostic data to a PLC. With this unique function the ProfiHub B5+RD is able to optimally monitor PROFIBUS DP installations.

## I/O for Safety Applications

<http://profinews.us/2014/07/io-for-safety-applications/>

Axioline F I/O system modules now enable implementation of safety applications based on PROFINET and PROFIBUS, using the PROFIsafe profile.

### Axioline F I/O system

They feature low-stress, delayed switch-off irrespective of bus faults due to integrated stop category 1.



Channel-based

diagnostic messages ensure high system availability and resistance to interference. Being integrated with the controller manufacturer's engineering tool, the devices speed up the engineering process and simplify start-up.

The modules are compliant with specification V2 and can meet safety integrity requirements up to SIL CL 3 and performance level PL e.

[PHOENIX CONTACT](#)

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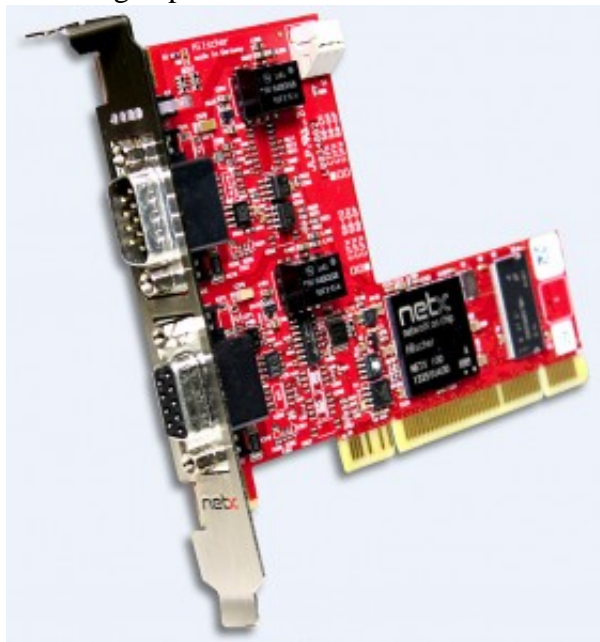
## Two times Fieldbus with just one PCI slot

<http://profinews.us/2014/07/two-times-fieldbus-with-just-one-pci-slot/>

With Hilscher's CIFX 2-channel cards, users have the possibility to realize two independent fieldbus communications in just one PCI slot. Especially in compact Box-PCs, the number of PCI slots is rather limited and a 2-channel card has significant advantages.

### Hilscher CIFX

Common to the cards is an extended temperature range up to +70°C as well as a reliable address



allocation at the PCI bus via a rotary switch.

The user can choose from any combination of the leading fieldbus systems: PROFIBUS, CANopen, or DeviceNet. Due to loadable firmware and software licenses, the same hardware can alternatively be used as Double-Master or as Double-Slave.

All 2-Channel cards use the same application interface and data exchange will be done via Dual-Port-Memory or DMA. A complete software package is always included in the scope of delivery.

More information about PC-Cards can be found at [www.hilscher.com](http://www.hilscher.com).

## New Anybus X-gateway

<http://profinews.us/2014/07/new-anybus-x-gateway/>

*The Anybus X-gateway family has been upgraded to make industrial networking even easier.*

Anybus X-gateways are used in thousands of industrial applications all over the world to enable communication between two industrial networks (fieldbus or industrial Ethernet). These popular “network translators” are now modernized as HMS Industrial Networks introduces a new version of Anybus X-gateways, designed to meet the future of the automation industry. The new version contains several new features, but is fully backwards compatible meaning that existing users can easily upgrade to the new version without hassle.

## HMS Industrial Networks

### USB interface and new configuration software

The new X-gateway comes with a USB interface, enabling the users to easily connect the gateway to a PC and configure the network communication via the Windows-based tool “Anybus Configuration



Manager.” No programming is necessary.

### New design for easier installation

The new housing with upright design requires less rack space and enables easier installation in the switching cabinet. The flexible design also allows mounting on the side (flat) similar to the previous version of the X-gateway. Additionally, X-gateway now offers even lower power consumption.

### Ethernet focus

As part of the new release, several of the industrial Ethernet versions now include integrated dual-port Ethernet interfaces with an integrated switch, removing the need for external switches. Profinet, Profinet IRT, and Profinet IRT Fiber Optic are supported.

## **Making system integration easier**

“This new version of the Anybus X-gateway will provide machine builders, system integrators, OEMs and end users with a modern communication gateway that is very easy to use when it comes to configuration and integration,” comments Markus Bladh, Product Manager at HMS. “The X-gateway product family is a proven and trusted solution already in place in thousands of industrial automation plants. For these existing users, HMS ensures backwards compatibility within their industrial automation systems – keeping the same high performance, reliability and low latency“.

[HMS Networks](#)

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## Improved Error Detection and GSD support for PROFIBUS

<http://profinews.us/2014/07/improved-error-detection-and-gsd-support-for-profibus/>

*New versions of PROFIBUS diagnostics solutions TH SCOPE and TH LINK are released*

### Softing TH SCOPE & TH LINK

New functions for threshold monitoring and expanded GSD support simplify maintenance and the diagnostics of PROFIBUS production networks, simultaneously reducing the risk of production downtime.

The new threshold monitoring function improves error detection in PROFIBUS networks. TH LINK



PROFIBUS now also

reveals critical telegram

repetitions and as soon as a critical value for telegram repetitions is reached (the so-called "threshold"), users are automatically informed via email of possible error sources.

The threshold level can be configured according to local conditions. Error messages can also be forwarded to higher-level systems (such as process control systems) via OPC or SNMP.

As a result of improved error detection, corrective measures in PROFIBUS can be initiated sooner, and planned production system maintenance intervals can be better utilized.

Telegram repetitions are considered an important indicator for errors in a PROFIBUS network. TH SCOPE now presents error messages from PROFIBUS devices in a user-friendly manner based on GSD files (electronic device data sheets). Device-specific diagnostic messages now contain specific information from the respective device manufacturer on correcting the error, eliminating the time-consuming look-up of error codes in device technical manuals.

This makes it even easier for users, particularly those from maintenance departments, to take rapid action and keep production systems permanently available.

Softing [THSCOPE](#) [THLINK](#)

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## Endress+Hauser Expands Indicator Portfolio

<http://profinews.us/2014/07/endresshauser-introduces-new-products-to-their-indicator-portfolio/>

*Process automation supplier completes its field indicator line with the addition of new products designed to maximize visibility of multiple process values.*

### Endress+Hauser PROFIBUS PA Indicators

Endress+Hauser, one of the world's leading suppliers of measurement instrumentation, services, and solutions for industrial process engineering, has officially introduced three new products to their field indicator portfolio.

Both products are immediately available to order online via E-direct, allowing for quick and simplified



ordering.

The indicators the RID14 and RID16 with PROFIBUS® PA Indicators, feature multiple benefits that include:

- Excellent and easy visibility due to large characters with height up to 1.02", backlit display, and simple to read bar graphs
- Wire protection prevents unauthorized or accidental parameterization change
- Up to eight values can be displayed, reducing number of indicators needed
- Compatible with PROFIBUS® PA profiles 2.0, 3.0, 3.01, and 3.02
- Available with FM and multiple international Ex approvals; both have protection class IP67 and NEMA 4X

Visit the Endress+Hauser E-direct website at <http://endressdirect.us> to learn more about the RID14 and RID16 field indicators.

[Endress+Hauser](#)

## Siemens updates IWLAN portfolio

<http://profinews.us/2014/07/siemens-iwlan/>

### IWLAN access point for harsh environments in the industry and transportation sectors

Siemens has added the new Scalance W774-1 M12 EEC to the company's industrial wireless LAN portfolio: This compact WLAN access point allows the realization of reliable indoor and outdoor wireless networks. Thanks to its rugged design, it is not only suitable for use in automation systems but also in harsh environments like those found in the field of transportation. This device meets the relevant requirements of the EN 50155 standard for railway applications as well as those for E1 certification for



use in motor vehicles.

Its resilient aluminum housing makes the new access point highly resistant to malfunctions even in harsh environments (dirt, shock and vibration). Conformal coating of the printed circuit boards (PCBs) and electronic components provide the module with additional moisture protection. M12 connectors ensure a stable connection to the network. The device's extended temperature range from -30 °C to +65 °C means it is able to provide a reliable wireless connection and high availability even under extreme conditions. Being so compact, the Scalance W774-1 M12 EEC access Point is also particularly suitable for installation in small spaces, for example in vehicles or in control cabinets. Furthermore, the Simatic design allows fast and flush mounting, for example directly adjacent to the Siemens Simatic S7-1500 controllers.

The new IWLAN access point represents an extension to Siemens' Scalance W770 product line launched in fall 2013. Like all the products in this Scalance W range, the new Scalance W774-1 M12 EEC also supports transmission rates of up to 300 Mbit/s. It also contains MIMO antenna technology (multiple-input, multiple-output) in accordance with the IEEE 802.11n standard, which ensures a high level of reliability in data transmission. Thanks to the optional Key-Plug W780 iFeatures swap medium, special supplementary features (so-called iFeatures) can be added to the access point, for example to enable use of wireless PROFINET real-time communication.

Please go to [www.siemens.com/iwlan](http://www.siemens.com/iwlan) for further information on industrial wireless LAN.





## **PACSystems® High Availability with PROFINET**

<http://profinews.us/2014/07/pacsystems-with-profinet/>

GE Intelligent Platforms has added one more solution to the company's high performance connected automation architecture with the expansion of its high availability control platform. PACSystems® High Availability with PROFINET System enables companies with mission critical applications across a broad range of industries including Power, Transportation, Water & Wastewater, Mining, and Oil & Gas to maximize uptime, capitalize on flexible configurations no matter the distance between CPUs and I/O drops and fully utilize the intelligence that exists in their systems for faster decision-making. The new system's high availability architecture includes PROFINET communications to dramatically lower total cost of ownership and simplify configuration, maintenance and operation of mission critical facilities and operations.

### **GE Intelligent Platforms expands platform with PROFINET**

- *Dramatically lowers total cost of ownership and simplifies ability to configure, maintain and operate mission critical facilities or operations*
- *Built on decades of GE expertise in high availability systems in backup power and critical cooling applications*
- *Single point of connect no matter the distance*

“In today's connected world, companies must increasingly rely on automation architecture that is redundant, flexible, operates in remote configurations, and provides for information insight to boost reliability,” said Bernie Anger, General Manager for GE Intelligent Platforms Control & Communications Systems. “With the PACSystems PROFINET System Redundancy, we have dramatically simplified the complexity and reduced the cost involved with a high availability control solution. This helps companies achieve new levels of performance and confidence in the continuous operation of critical facilities and processes.”

GE's industry-leading high availability control solutions enable companies to meet or exceed their critical facility and operation uptime requirements. The systems focus on the customer needs of simplification and speed – simple configuration and fast execution of the process.

PNSR provides a single point of connect for system configuration. All remote I/O nodes, whether they are 100 meters or up to 10kms from the controllers, can be configured from one central location. With built-in Ethernet switches and built in media conversion, PNSR provides for point-to-point plug-in connectivity. Removing the need for external media converters and Ethernet switches results in reduced cost and setup time. In addition, the user can employ their cable of choice on a node-by-node basis based on the environment and distance, which also reduces the setup time. Also essential to reducing setup time is PNSR's name based configuration. This feature allows a user to set up a system, mirror it with a command to the second CPU and then they are good to go.

“This is the ‘triple play’ of lower TCO,” continued Anger, “fewer external devices to purchase, fewer external devices to configure, and fewer spare parts to maintain. This can eliminate up to

30% of the cost of the installation with recurring savings throughout the solution's lifespan.”

Standards-based systems like PACSystems High Availability with PROFINET provide multiple levels of real time control. PROFINET delivers the broadest coverage for discrete and process applications and the best performance for mid- to heavy traffic. In addition, it boasts a high adoption rate among vendors for an ecosystem of PROFINET-enabled devices that make it the Ethernet standard of choice for mission critical purposes.

The system's high speed fail-over feature is especially important in a process where “stale data,” data that is not inclusive of everything that has happened in the process because a sensor did not read while the process was switching CPUs, could mean a breakdown that resulted in contaminated product – water, oil, gas, etc. High speed failover means that the user is running on latest system inputs, which translates to better production quality.

And, users can conduct system maintenance without taking the system offline, saving time and money. Users can schedule device checking, such as a valve not opening correctly based on flow commands, without taking the entire pipeline control down. Flexible diagnostics supply important data regarding the network topology and the status of all devices. This facilitates cross-vendor, location- specific diagnostics and connects to the Proficy Software suite for turning data into information.

“Connected machines, connected data and insights, and connected people are must-haves today,” concluded Anger. “The industry has to support this shift from hardwired legacy systems to a streamlined architecture that is easier to use and maintain, provides greater insight and ultimately delivers more value.”

For more information, see: [PACSystems High Availability with PROFINET](#)

## PROCENTEC launches the PROFIBUS hub with diagnostics

<http://profineews.us/2014/07/procentec-profibus-hub-diagnostics/>

### PROCENTEC is set to launch a brand-new product: ProfiHub B5+RD

*It is the first ProfiHub that comes with a built-in PROFIBUS DP slave to forward diagnostic data to a PLC. With this unique function the ProfiHub B5+RD is able to optimally monitor PROFIBUS DP installations. As a result, technical engineers can effectively detect PROFIBUS disruptions and find solutions more promptly. This is how maximum uptime for end users and the lowest possible costs for organisations are guaranteed.*



The ProfiHub B5+RD is a member of the famous ProfiHub family. It is a solid network component providing a reliable solution for spur lines and star-shaped structures in the PROFIBUS DP networks. The ProfiHub B5+RD is a completely new product. It includes a unique function called the diagnostic function.

#### Unique diagnostic function

The ProfiHub B5+RD is the first ProfiHub that has been provided with a built-in PROFIBUS DP slave for transferring diagnostic data to a PLC. This innovative network component is the key when it comes to maintaining the PROFIBUS DP systems. Technical engineers can now access detailed diagnostic information about communication failures and current details of retries. Diagnostic information about redundancy of the PROFIBUS channels and supply status can be identified using this unique function. In addition, the ProfiHub B5+RD generates a live list of all PROFIBUS devices connected. When configuring an alarm contact, technical engineers are warned immediately in case of disruptions inside the PROFIBUS DP installations.

#### Other innovative features

The ProfiHub B5+RD has been provided with five galvanically separated transparent channels. No less than 31 devices can be connected to each channel, bridging a 1,200 metre distance. Each channel comes with dropout protection to ensure the rest of the PROFIBUS network remains flawless. As a result, a

reliable PROFIBUS network is born!

[ProfiHub B5](#)

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