

# PROFINEWS

PROFINET and PROFIBUS News

## Table Of Contents

<b>Mission Accomplished!</b> .....	3
<b>FDI Primer</b> .....	5
<b>Network of the Future</b> .....	6
<b>Tech Tip: What Is PROFINET DCP?</b> .....	9
<b>IO-Link: Did You Know?</b> .....	13
<b>PROFINET in Process White Paper</b> .....	14
<b>Training and Events</b> .....	15
<b>PROFIBUS and PROFINET Success in Brazil</b> .....	16
<b>Member News</b> .....	18
<b>New Products</b> .....	20

## Mission Accomplished!

The past five years have been exciting for process automation. It was clear to everyone involved that a turning point was at hand. And, thus, with the development of FDI (Field Device Integration) technology, an important signal was sent. For one thing, because the technology will make future device integration in process automation significantly easier. For another thing, because the collaboration with users, fieldbus organizations, and manufacturers was exceptional. All participants pulled together and wanted to see the project succeed.

And, thus, at AICHEMA in mid-June, the FDI Cooperation LCC was able to mark the end to the project – the development of FDI technology was successfully concluded. Using proven elements of existing EDDL and FDT technologies, something new emerged that consistently simplifies device integration through optimum vendor neutrality.

The specification and the first version of the development tools and standard host components have been available since March. The FDI specification is available on the website of the FDI Cooperation as well from the FieldComm Group and PROFIBUS & PROFINET International (PI). The International Electrotechnical Commission (IEC) has published FDI as an international standard (IEC 62769). With this step, automation providers can now develop FDI-compatible products and host systems. The first components along these lines were exhibited at the AICHEMA trade fair. Now, it is up to manufacturers to implement the specifications in their products, and likewise, it is up to users to include this integration technology in new or expansion projects.

And what happens next? To successfully establish FDI in the market, we have to stay on the ball. While the FDI Cooperation was disbanded, as per agreement, after successful completion of its work, its successors are already in the starting blocks. The work results are being transferred to new owners: FieldComm Group, FDT Group, OPC Foundation, and PROFIBUS & PROFINET International. The maintenance and further development of the FDI technology will take place in the FieldComm Group in close cooperation with FDT Group, OPC Foundation, and, in particular, PROFIBUS & PROFINET International. Some of the topics that are currently being worked on intensively are conformity tests for FDI host systems and device packages as well as expansion of FDI for use of mobile devices.

And the project is also forward-looking in another way. In the early stages of FDI, the term "Industrie 4.0" had not yet been invented. Now, however, it appears that FDI technology fits seamlessly in the reference architecture model for Industry 4.0 (RAMI), which the German trade associations BITKOM, VDMA, and ZVEI describe in their implementation strategy for Industrie 4.0. The reference architecture model names the FDI technology for the integration layer and functional layer. With its device information model (set forth in IEC 62541-100), the client/server architecture of FDI technology provides all functions for modeling real devices as virtual objects for the Industrial Internet of Things. The first mission is accomplished but further tasks already await.

From my point of view, FDI – the single cross-protocol device integration technology – fits perfectly into the strategy of using PROFINET as a backbone to integrate various communication networks.

I am looking forward to completing the FDI technology development and seeing the technology being applied to PROFIBUS and PROFINET products.

Achim Laubenstein  
Executive Director, FDI Cooperation  
Manager Fieldbus Standardization for ABB

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## FDI Primer

With the completion of its goals, the FDI organization is dissolving. But the technology is just beginning its solving of user and vendor requirements. FDI presents a common successor to FDT/DTM and EDDL. These two disparate approaches now give way to a single solution.

FDI was developed by major industrial automation foundations, including PI, and major automation vendors with input from user organizations. FDI is designed to cover the entire lifecycle of process devices including configuration, commissioning, diagnosis, and calibration. Because FDI models physical devices in the virtual world, it fits neatly into the Industrie 4.0 and Industrial Internet of Things strategy.

Permanent establishment of the FDI technology on the market requires continuing development and support. To this end, PI and the FieldComm Group (formed by the merger of Fieldbus Foundation and HART Communication Foundation) are joining forces under the framework of a long-term cooperation agreement. The platform and infrastructure for this will be provided by the FieldComm Group. This includes the establishment of working groups for support of the specifications and management of development projects. PI will also actively participate in the further development of FDI and will provide Profibus- and Profinet-specific parts in developer tools, as well. Another example is the handling of devices for mobile automation and handhelds in order to integrate FDI in an application-compatible manner. PI's own experts will be represented in all relevant activities. Users urgently want the certification process, which should include interoperability in particular, to be carried out through user tests in test labs, similar as for Profibus and FF. This is also how PI sees it. The certification tests of Profibus and Profinet products with FDI will be performed in accredited vendor-neutral PI Test Labs and the certificates issued by the PI certification body.

Users all over the world can be sure that a device that has been tested in PI test labs is tested to the same specifications with the same test procedures. For Profibus PA devices, it is certainly appropriate to perform the Profibus and FDI certification in one step. This means that the Profibus PA test will have a test environment for testing the functions of the FDI package. We will also arrange with our colleagues in the FieldComm Group about offering the same test procedures.

PI catalyzed the formation of an FDI cooperation before the organization was even founded and will continue to shape, support, promote, and test FDI into the future.

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## Network of the Future

Though there's no way to tell exactly what the network of the future will look like under the effects of the Industrial Internet of Things, there are three universal network aspects worth focusing on to prepare yourself—and your network—for the future.

What will automation networks look like in the next 5-10 years? Wherever the Industrial Internet of Things trend leads us, the underpinnings of future industrial networks that are universally beneficial to adopters will focus on Connectivity, Uptime, and Innovation.

### Connectivity

Using open standards in an automation network allows manufacturers of all sizes to realize similar benefits compared to proprietary network solutions - with the added benefits of increased ease of use, and critical future-proofing. Using open standards also enables a transition to future networking requirements since the engineers who install these systems today might not be same ones working on them tomorrow.

Since companies want to get started implementing Industrial Internet of Things technologies right away, these solutions need to be future-proof. By adopting the widely used open standards of today, they can enable the network of the future for tomorrow. Future networks will need to selectively expose data to higher level IT systems for Analytics and Big Data applications to act upon. Control engineers and plant managers presently don't know where/how/when these connections will be made. But with well-defined data access protocols, they can ensure that these applications will be able to access that selectively exposed data much more easily.

One of the biggest challenges facing manufacturers today is the aging workforce and retirement of the baby boomer generation. There will soon be a knowledge gap that needs to be overcome by future control engineers. Under the thumb of a proprietary solution, the potential for know-how loss is high. On the

other hand, with open standards, a new engineer has many resources to learn the protocol. PROFINET is one such open protocol, and furthermore has well defined Application Profiles for extended data format standardization.

## Uptime

What good is a manufacturing environment if it isn't up and running? In the network of the future 0% downtime will be taken for granted. How do we maximize productivity by ensuring network uptime? Again, two features stand out as solutions to these issues, and are fortunately already available today: scalable redundancy and scalable security.

The most basic way to ensure uptime is at the physical level: by using a ring shaped network. This topology creates two connections for every device. However, don't try this at home! Doing so would cause Ethernet packets to go around in circles, eating up bandwidth and causing major headaches. Technologies like MRP (Media Redundancy Protocol) account for this by managing traffic, and in the event of a broken connection in the ring, convert the ring to a line topology. Such recovery can take tens or a hundred milliseconds. Going further, in PROFINET 'bumpless redundancy' the failover time is zero milliseconds. In bumpless redundancy, a sender uses two frames, going in opposite directions around the ring. So, even with a failure, a frame will still arrive at the receiver. To ensure 100% uptime, redundant devices and even redundant controllers can be installed, thus expanding upon simple network redundancy.

The single biggest perceived challenge to a converged network is security. In business systems, security objectives are typically ranked in terms of priority as follows:

1. Confidentiality
2. Integrity
3. Availability

In many automation systems, the ranking of security objectives in terms of priority is completely opposite:

1. Availability
2. Integrity
3. Confidentiality

To achieve scalable security, IT and OT need to agree on a security architecture that should be:

- As simple as possible but not simpler (Albert Einstein)
- As uniform as possible – if a rule is applicable in one case, it must also be followed in comparable cases
- Understood and supported by all parties involved
- A daily activity and not a one-time-only task

If these can be reached, the network of the future can be a reality by allowing automation and business

systems each to maintain their security objectives.

## **Innovation**

In the network of the future, OT and IT need to share the same foundation (Ethernet) while exposing their data for vertical integration. The beauty of Ethernet is it allows enterprises to use the right protocols for the right task.

There will always be different protocols used for different tasks. As network architectures continue to evolve, these protocols will begin to share the same infrastructure. That common infrastructure is standard unmodified Ethernet. So long as an automation protocol uses standard unmodified Ethernet, the benefits ‘come for free’ as Ethernet matures. For example, the IEEE has continually updated the 802.3 Ethernet specifications to increase the bandwidth from 10 Mbit/s to 100 Mbit/s, to 1 Gbit/s, and beyond. PROFINET is one such protocol that uses standard unmodified Ethernet. As higher bandwidth Ethernet is installed to accommodate multiple protocols, this speed increase happens automatically.

It is not just the infrastructure that needs sharing to further innovation in the network of the future; it’s also the platforms. If Ethernet is the ‘how’, then protocols for the data are the ‘what’. PROFINET handles the controlling and gathering of data from devices within production systems. Via proxies, it also gathers data from non-Ethernet devices. Meanwhile, standards like OPC UA enable the communication between, within, and from production systems. When used in tandem, they complete the clear path from shop-floor to top-floor and into the cloud where analytics can be applied.

*This article originally appeared in Automation World.*

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## Tech Tip: What Is PROFINET DCP?

DCP is part of the PROFINET protocol suite and stands for “**D**iscovery and **C**onfiguration **P**rotocol”. It is used by the engineering tool and controller to discover devices, identify device information, and configure device settings such as PROFINET device name and IP address on a PROFINET network. PROFINET DCP is an Ethernet link layer protocol and offers multiple services. It is normally used in PROFINET systems to handle the network address and name management as each PROFINET device is assigned a unique device name (ex: “filler-cab1”) based on **D**omain **N**ame **S**ystem (DNS) naming conventions and an IP address (ex: 192.168.1.2).

PROFINET DCP offers services such as ‘Identify All’, ‘Identify’, ‘Set’, Set - ‘Flash’, Set - ‘Reset to Factory’, ‘Get’ and ‘Hello’ as the main functions. Some of these services use a multicast message which means it goes to a group of PN devices and some use a unicast message which goes only to a specific device. DCP services are integrated into PROFINET engineering tools, diagnostic tools, controllers, and devices. Usually there is an area in the tools, such as a menu where DCP functions can be performed. For example in the tool you might see an option to “Browse the network” or “Assign a Device name”, or “Flash device LEDs”, and once the option is selected the DCP messages are then sent and received by the configuration tool over the network 'under the hood'. This is similar to the IT protocol **A**ddress **R**esolution **P**rotocol (ARP) which works to resolve an **E**thernet **M**edia **A**ccess **C**ontrol (MAC) address when your PC knows the IP address of a remote host, but not the MAC address. Next we’ll talk about each service in a little more detail.

See the overview below to see how each DCP function is typically used with PROFINET:

*DCP ‘Identify All’ (multicast service / group):*

DCP ‘Identify All’ service is a way to identify/browse the PROFINET network and find all the attached PROFINET devices. By using this function in the configuration tool you can quickly find all connected PROFINET devices and get a device list of all their information such as current device name, IP address, subnet mask, router address, MAC address, device type, vendor and more.

Once you have the device list it’s easy to determine if there is a network management issue such as device:

- not connected
- has the wrong name / IP address
- has a duplicate IP address or duplicate name with another device
- device name is not set
- has an incorrect device type or vendor

There might be other options in the tool to filter the device list for devices with no name set, devices with a wrong name, only work with project specific devices, etc.

*DCP ‘Identify’ (multicast service):*

The DCP ‘Identify’ service is used when a device needs to be found using a particular/known device name. This is typically used by the PROFINET controller at startup to identify each device and check its

IP address settings, name and if it has the expected device before parameterization. Another use might be in the engineering tool; for example, let's assume that we already have setup a device with the meaningful name "filler-cab1". You can then check if the name has been set on the device by using a check name service in the engineering tool (or by using the previous function: 'Identify All'). In this case, the tool is using a DCP 'Identify' service basically to say "Device filler-cab1 are you out there?" If the device is there and has the name, the check is successful as the device responds. If not, you can set the name with the DCP 'Set' service.

*DCP 'Set' (unicast service):*

The DCP 'Set' service is used to set the name or IP of the device. It also has some other special functions we'll mention next such as resetting a device to factory settings and flash of device LEDs.

In the engineering tool the typical way of setting up a PROFINET device initially is to configure it using the manufacturer supplied GSD file, then setting the parameters and device name offline. Once this is done the device name must be written to the device using a naming function in the engineering tool. You can read about how to name devices in a previous [tech tip](#). When the tool writes the name it uses a DCP 'Set' command.

A DCP 'Set' can be permanent or temporary. A permanent set (retentive, the default) means that the name is stored on the device permanently in memory (even across a power cycle); temporary means the name is used until a power cycle and then returned to the default value (Ex: "", no name set).

Normally when a controller starts up a device, it attempts to find the device by its configured device name using a DCP 'Identify', then the controller checks the configured IP address which the engineer setup in the PROFINET project. If the IP address is not set or wrong, the controller will write the IP address to the device using a DCP 'Set' command (see Figure 1). If the controller finds that a different device / or different node already has the IP address it cannot set a duplicate. In that case the user would either need to change the device IP in the engineering configuration or on the conflicting node. The IP can also be set permanent or temporary. In the case of temporary after a power cycle the IP is typically returned to zero settings (0.0.0.0), if retained the IP address is kept.

Figure 1: Excerpt of PROFINET startup sequence using DCP from the IO controller

*DCP 'Set / Reset to Factory' (unicast service):*

The DCP 'Set / Reset to Factory' service is a special set command that can be sent to the device after a user confirmation which sets the device to a PROFINET factory (default) state which is empty name ("") and IP settings of 0.0.0.0.

*DCP 'Set / Flash' (unicast service):*

The DCP 'Set / Flash' service is another optional special set command which can be used to identify a device by flashing LEDs somewhere on the device. It makes it easier if necessary to visually identify a device if you have multiple devices of the same type that you are working with.

*DCP 'Get' (unicast service):*

The DCP 'Get' service can be used to get information from a device. For example, depending on the configuration or diagnostic tool, you can readout the name, IP address and manufacturer information. Other information that can be requested for example is the vendor ID, device ID, type of device, MAC address, device role (ex: controller / device), and others.

*DCP 'Hello' (multicast service):*

The DCP 'Hello' service is used when Fast startup is also employed and enabled on a device. It allows a device to notify the controller (or controllers) after a power cycle that it is back online rather than waiting for the controller to find it which may extend the startup time.

In conclusion, we hope this expanded your knowledge of what PROFINET DCP is and how it is used. DCP really makes network management easy and is the ideal method to use with PROFINET. If you want

to play around with DCP functions, you can also get our free DCP browser at [www.profinetcommander.com](http://www.profinetcommander.com) or attend one of our upcoming PROFINET Certified Network Engineer classes. This information was brought to you by the [PROFI Interface Center](#), a PI support center in Johnson City TN, USA.

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## IO-Link: Did You Know?

### Did you know that IO-Link has an incredible number of parameter assignment methods?

This article takes a look at five different use cases for accessing IO-Link devices and how configuration settings can be transferred to them.

Example 1: How are parameters assigned for an IO-Link device that is simply lying on the table? Several manufacturers offer IO-Link masters for this purpose, which are connected to a PC via USB or a wireless connection. Each IO-Link device has an IODD (IO Device Description-file). The device tool takes the IODD, which enables it to present the device on the screen and to read, write, and edit process data, parameters, and diagnostics.

Example 2: Parameter assignment for an IO-Link device already installed in the machine can be carried out using the engineering tool of the controller. The basis for this is again the IODD as well as a PCT (Port Configuration Tool) or a device tool called up via a TCI ([Tool Calling Interface](#)).

Example 3: When the machine is networked via an Ethernet-based fieldbus, parameter assignment is very easy. Modern device tools or web servers integrated in masters allow access to all IO-Link devices over the Ethernet network.

Example 4: Automatic parameter assignment for a device is needed after replacement during service? IO-Link V1.1 supports so-called data storage, i.e., the IO-Link master saves the parameters of all connected IO-Link devices. The IO-Link master recognizes a replaced IO-Link device during power-up and automatically assigns it the parameter data of its predecessor.

Example 5: Controller manufacturers support PLC programmers with system function blocks that allow acyclic data transfer. This enables the programmer to assign parameters for the entire system in an automated manner.

[IO-Link](#)

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## **PROFINET in Process White Paper**

This white paper reports – oriented to the timeline of the technology development – which functions and capabilities of PROFINET are currently meeting the demands of process automation and which can be implemented and then used in products in the future based on specifications that are complete or in progress.

Industrial communication is one of the key technologies for modern automation. It serves the control and monitoring of machines and manufacturing and productions processes, the connection of insular solutions and the linking of neighbor areas such as logistics, quality assurance, and maintenance and to higher-level company systems. In the Industry 4.0, Internet of Things, and Big Data environment, industrial communication is of central importance. Easy-to-handle solutions with high performance capability for real-time, availability, flexible topologies, and integration – even over great distances – are needed that also make use of the many possibilities of the digital world.

[Read the White Paper](#)

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## Training and Events

There are three different training classes being offered specifically for PROFIsafe in October. All three take place in Germany with the first intended for end-users and machine builders and the remainder for device manufacturers. In North America, the second half of the year's one-day training classes kicks off in Chicago on August 27.

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PROFIsafe User Workshop (German language)

Oppenweiler, Germany | September 29, 2015

[Registration / Details here](#)

PROFIsafe has an installed base of over **4 million nodes** with huge growth in recent years. The workshop is aimed at users, machine builders, planners, systems integrators and original equipment and component manufacturers. Practical demonstrations and a micro-fair will accompany the discussions.

PROFIsafe Certified Designer Refresher (English language)

Karlsruhe, Germany | October 8, 2015

[Registration / Details here](#)

PROFIsafe Certified Designer Training Course (English language)

Karlsruhe, Germany | October 13 - 15, 2015

[Registration / Details here](#)

The quality of PROFIsafe products and systems depends on the quality of the know-how of the development teams and on the deployed methods and procedures. The responsible PI working groups, in cooperation with TÜV, developed a Certified Designer Training Course (Oct 13-15), which is available to all employees in charge of PROFIsafe and safety. The Refresher Seminar (Oct 8) is targeted toward existing Certified Designers needing an update within 3 years to prolong their certificate according to the PROFIsafe policy.

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As the summer comes to a close, PI North America returns to the road with six PROFINET one-day training classes to round out what is shaping up to be a banner year for the program.

CITY	DATE	
Chicago, IL	8/27/15	<a href="#">Details / Registration</a>
Tampa, FL	10/6/15	<a href="#">Details / Registration</a>
Louisville, KY	10/20/15	<a href="#">Details / Registration</a>
Detroit, MI	11/5/15	<a href="#">Details / Registration</a>
Raleigh, NC	11/17/15	<a href="#">Details / Registration</a>
Seattle, WA	12/2/15	<a href="#">Details / Registration</a>

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## **PROFIBUS and PROFINET Success in Brazil**

It has been a busy year for *Associação Profibus Brasil* thus far. PROFIBUS and PROFINET already enjoy wide adoption in Brazil and the Association has been there to support users with training and seminars. Through new events and meetings, the Association is expanding the already large PROFIBUS and PROFINET footprint in the country's automation, process, and energy sectors.

The Caetité, BA plant of *Indústrias Nucleares do Brasil (INB)*, hosted a technological event of the *Associação Profibus* on January 22nd. It was attended by professionals from automation, local Maintenance and Engineering and one plant specialist from Caldas, MG who was present via videoconferencing. INB is a state enterprise under the Ministry of Science, Technology and Innovation. The company operates in the uranium production chain, developing the mining, processing, enrichment, conversion, production of pads and mounting fuel element which supplies the Brazilian nuclear power plants.

On January 28th the executive board of *Associação Profibus Brasil* held a meeting with executives of *Agência Brasileira de Promoção de Exportações e Investimentos (Apex)* and *Associação para Promoção da Excelência do Software Brasileiro (Softex)*. The objective was to sign a joint working agreement for collaborative action in Latin America.

Asset management, Profibus DP/PA basics, installation best practices, and Profinet Technology were the subjects of lectures presented at the technical meeting held on February 2nd in the Suzano plant, SP, of the Nadir Figueiredo company.

Two units of Zilor Group hosted events during the month of February. On February 4th, 16 professionals from the Macatuba plant, SP, attended technical presentations, and the next day, almost 40 experts from Quatá plant, SP, deepened their knowledge about Profibus. The Zilor Group processes sugarcane to produce sugar, ethanol, anhydrous ethanol, and energy by burning straw / bagasse.

On February 25th the *Associação Profibus Brasil* presented a technological seminar on Mina of Conceição in Serra do Esmeril, Itabira, MG, of Vale do Rio Doce company, which had the participation of more than 30 employees. It is worth noting that more than a seminar, representatives of the Profibus Association succeeded in establishing an informal setting to exchange experiences and clarify questions, especially about how to best utilize industrial communication technology Profibus DP / PA, Profinet and AS-interface.

More than 70 professionals in the areas of automation, instrumentation, maintenance, information technology, engineering, and design from the Usiminas company, regional guests and systems integrators were the audience of the technology event sponsored by the *Associação Profibus Brasil* on February 26th in their facilities in Ipatinga, MG. Usiminas is a Brazilian leader in laminated steel and one of the largest steel companies in Latin America.

attended by approximately 30 employees from various sectors of the company. Suzano Papel e Celulose is the second largest producer of eucalyptus pulp in the world and a leader in the paper market in Latin America.

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From March 23 th 27 the *Associação Profibus Brasil* exhibited at the 28th International Fair of Electrical Industry, Electronics, Energy and Automation (FIEE 2015). Some member companies demonstrated their equipment with technologies Profibus DP/PA and Profinet. According to the organizers, the 2015 edition of FIEE recorded 52,000 visitors and 623 exhibitors from all sectors of industrial equipment, electronics, automation and energy.

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## Member News

We have four members' updates this month: GE Intelligent Platforms customer gets easy upgrade to PROFINET. PI and PI North America member PROCENTEC announces the opening of a new office in Italy. Softing provides a white paper on Best Practice in PROFIBUS Network Diagnostics and a success story for PROFIBUS diagnostics. Industrie 4.0 and cyber-physical systems are the topics of a position paper from halstrup-walcher.

### GE Intelligent Platforms

GE Intelligent Platforms customer DVL has been an innovative leader in applying redundant PLC systems to the most demanding critical and reliable power applications for more than two decades. Often, these applications need to be "fault-tolerant" and "self-healing". This means that a failure of any component, or disconnection or cut of any power, control or communication line would not cause a loss of power situation. They were able to easily upgrade their older PLCs to new with PROFINET. [Read the whole story.](#)

### PROCENTEC

PROCENTEC, service provider and knowledge partner in the field of PROFIBUS and PROFINET technology, today announced it is opening a new office in Brescia, northern Italy, to enter the Italian PROFIBUS and PROFINET market.

Plans to develop operations in Italy were initiated by the growth of the Italian industrial automation market. The new office, which includes Sales activities, will be PROCENTEC's third office. PROCENTEC will offer its Italian customers innovative, tailor-made solutions to allow them to operate successfully in the field of industrial automation.

According to Pieter Barendrecht, Managing Director at PROCENTEC HQ in the Netherlands: "An additional local branch in Europe is a natural choice for our international development strategy. We are investing resources in the Italian market, because of its huge potential." Italy is the second largest European market for industrial automation and this market has effectively grown by 5% in 2014, reaching an overall volume of 4 billion Euro and is still increasing.

Evelyn Mario, the new Managing Director of PROCENTEC Srl, is enthusiastic about this new challenge: "I have known PROCENTEC for many years and I've always been impressed by their technological innovations and their robust network of experts and distributors. Their strength is the enduring research and development of new products, along with an outstanding level of expertise combined with the human factor." The new Italian branch will be responsible for developing and supporting the PROFIBUS and PROFINET market in Italy and Italian Switzerland for the entire range of PROCENTEC products and services. Brescia has been chosen for its significant location, being well positioned in the northern Italian industrial region.

## Softing

Softing's whitepaper "Best Practice in PROFIBUS Network Diagnostics" talks about ways to detect PROFIBUS malfunctions at an early stage to ensure smooth network communication. PROFIBUS is the digital fieldbus technology with the highest distribution worldwide, providing advantages for all types of applications. Register and download the paper [here](#).

"Due to intermittent issues I was forced to stop the production line multiple times, sometimes for hours. The resulting cost in lost revenue was substantial." Paul Hall, Process Control and IT Manager, N.R. Spuntech Industries. Read how he solved the mystery shutdown issues [here](#).

## halstrup-walcher

Positioning systems have their place in Industrie 4.0 and IIoT. As a component of cyber-physical systems they help to achieve small lot sizes. [Read more](#).

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## New Products

New products this month include protocol gateways from ProSoft, CNC controllers and switches from Siemens, connectors from Helmholtz, RFID controllers from Balluff, and intrinsically safe IPCs from Nexcom. (Click the headlines for details.)

### [Bringing PROFINET & Modbus Together](#)

ProSoft Technology's PROFINET to Modbus or Modbus® TCP gateways allow your PROFINET-based controller to connect to any Modbus or Modbus TCP-compatible device. With millions of PROFINET nodes worldwide and even more Modbus/Modbus TCP devices, the need for a gateway that will allow these two widely used protocols to communicate is self-evident. ProSoft offers four versions to give you the best solution for your application.

### [Set-up of automated cells made simple](#)

With the Sinumerik 828 controllers, Siemens is now offering a simple solution for connecting robots to machine tools. This represents an integral part of automated production cells set-up. Sinumerik Integrate Run MyRobot/EasyConnect is based on a standard defined by the VDW and VDMA for connecting robots or handling systems to machine tools. To make it as easy as possible to use the interface, Siemens has merely taken over the main elements of the comprehensive standard. The robots are connected through PROFINET or using I/O signals.

### [RJ45 industrial connectors for PROFINET applications](#)

The field-assembled RJ45 connectors from Systeme Helmholtz for PROFINET are easy and quick to install. The industrial-grade metal housing provides the necessary ruggedness so that the plug can be used in many industrial applications. To save the user time in wiring, the RJ45 connector can be assembled in a single step using the EasyConnect® fast connection technology. Solid single wires and strands can be used, and the color-coded contact elements help prevent connection errors.

### [Ethernet switches permit flexible communication](#)

Siemens is expanding its range of managed Industrial Ethernet switches with a new product line. The cost-effective Layer 2 Scalance XB-200 switches provide high data rates up to 100 Mbps and a multitude of functions. They support, for example, both the Profinet standard and other standards. Users can choose between them using a switchover function. As a result, the devices can be used for real-time communication in a variety of automation environments.

### [New Flexible RFID System](#)

Balluff has completed the release of their latest industrial RFID system, the BIS V. Capable of reading three different frequencies of RFID tags, this system is designed to address the challenges of a flexible manufacturing environment. With four dedicated RFID ports and one IO-Link master port, RFID can now be mixed with sensors, hubs, actuators, and even SmartLight tower lights all in one processor. The BIS V has interfaces available for both PROFIBUS and PROFINET.

### [C1D2 Certified Panel PC Ensures Safe Operation for Hazardous Environments](#)

NEXCOM's panel PC, IPPC 1560TE, has been certified by UL for class 1 division 2 (C1D2) hazardous locations (HazLoc). Addressing corresponding safety requirements with intrinsically safe designs, the UL C1D2 certification ensures that the panel PC is ignition and explosion proof. Coupled with two PCI slots and two mini-PCIe slots available with PROFINET and PROFIBUS interfaces, the panel PC can integrate with PLCs and field devices to give accurate flow monitoring and control for oil and gas gathering and production operations.

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