

# Read-out



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## US Industry use Irish developed world-class calibration solution

The US customer base of **Endress+Hauser** and **CompuCal Calibration Solutions** will benefit from their co-operative arrangement providing a comprehensive, compliant and secure world-class calibration management solution

Endress+Hauser, "providing best in the world process instruments," and CompuCal Calibration Solutions, "providing best in the world calibration management software," have teamed up to provide their U.S. customers with a world-class comprehensive calibration management solution with access via a scalable architecture. Customers now have the option to implement CompuCal on their server or as a secure cloud service.

CompuCal can interface with mobile platforms and integrate seamlessly into customers' IT infrastructure such as SAP. It can also integrate calibration data with the Endress+Hauser Web Asset Management architecture (W@M). This calibration solution comes at a cost-effective price with minimal effort for the customer. Set-up is quick and the program is simple to use providing all requirements for technicians and managers. The



program provides a full audit log, history, and KPI's - significantly reducing customer's running costs. CompuCal is fully validated with protocols and reports with no need for extra validation resources. Web based technologies allow operation for any location. Users can access their safe and secure data anywhere in the world and at any time via the cloud based calibration system. Real time access helps users to increase visibility, control and efficiency with just a browser - overall reducing costs. This joint co-operation provides highly regulated industries striving for quality and compliance, provide

customers with world class calibration management solutions ensuring quality compliance with all FDA and ISO requirements, making auditing easy with simple and quick access to history and reporting. CompuCal's connector tools will link to SAP or other ERP systems, delivering integrated workflows. The Irish developed CompuCal platform, ensures complete management of a customer's calibration processes. This puts customers in charge of their calibration data ensuring they are always ready for an audit.

[www.ie.endress.com](http://www.ie.endress.com)  
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# What do IoT and smart home device makers need to know in order to connect their devices to the web

asks Cees Links, Founder and CEO of GreenPeak Technologies

Worldwide, thousands of technology companies are viewing the Internet of Things and the Smart Home as the Holy Grail for their products and profits. Most industry analysts and leaders are predicting that hundreds of millions of homes will want these new technologies.

However, before the device makers begin to design and develop new solutions, they need to understand that this market is rapidly changing and evolving, especially when looking at the Smart Home and the consumer electronics market. This is a moving target that manufacturers need to understand.

First off, the Internet of Things – especially for the Smart Home, is not about things, but instead, is about services that will make consumers' lives more comfortable, more secure and more efficient. Energy control, security, improving the efficiency of daily life, etc.

Unfortunately, the label of the IoT with the word “things” puts many people on the wrong path of thinking.

Things are the necessary enablers, but the complete solution includes data analytics, smart phone apps and billing/support systems as well. There is an entire ecosystem at play, in which things play a (minor) role.

Also, many people confuse IoT things with connected devices. It is not enough to just web connect a device – it needs to be able to speak to other devices and systems in the home, as well as to be able to become smart – to utilise web intelligence, so that is more than just a remotely operated sensor or actuator.

If a manufacturer wants to be successful in the new and highly competitive Internet of Things market, it needs to understand two important concepts:



The Family Lifestyle system uses sensors, connected devices, cloud intelligence, and social media to combine a variety of important services into a simple to use app that enables service providers to make their customer's lives easier and more secure.

1. The Internet of Things and the Smart Home is not about pushing products (“things”) out of the door, but it is about reinventing products into services. Internet of Things business models are about recurring services and recurring revenue streams, not (only) about paying for a product at the check-out register.
2. Customers are buying solutions for problems, real or perceived. They are looking very specifically for things like “security”, “energy control”, “assisted living”, etc. And they want to be able to monitor and control these different solutions from the same place – a single dashboard. They don't want to have to use a variety of different apps with different user interfaces (UI) to manage their homes and their family's life.

Manufacturers and service providers need to work together – to bring all the different home equipment and services together under a single umbrella with a common UI – a single app (Smart Home Butler) that lets the family members, understand what is happening in their home and enable them to manage it, if not managing it for them.

The Smart Home is a wonderful concept, but concepts alone do not solve immediate customer needs. For example, no one is looking for a refrigerator that can talk with the toaster – but if these kinds of kitchen appliances can help make the home shopping task simpler, if the connected appliances can make it easier to schedule and prepare meals, then maybe this really is an effective solution that people are interested in. Device makers need to be very precise in what problem they are solving for their customer, and evolve away from simply marketing the “concept” of connected devices.

The end game is connected solutions that make our lives easier, safer and more efficient. Device makers and service providers need to look at the BIG picture, not just the components and the individual machines and devices.

[www.greenpeak.com](http://www.greenpeak.com)



## Flow & pressure with IO-Link



Festo has launched two new easy-to-use sensors with IO-Link output that enable engineers to check the status of their processes readily and increase production efficiencies. Developed in response to the trend for increased monitoring and diagnostics, SFAW is the first flow sensor from Festo for sensing liquid media and the SPAU is a new modular system designed for the monitoring of pressure and vacuum in process and factory automation applications.

They are available with IO-Link output options and the modular electrical output concept makes the sensors extremely flexible and open, allowing simple integration into numerous control systems. They are also available with switchable PNP / NPN output, which means users can simplify their stock management and make cost savings associated with reduced warehousing.

*“IO-Link is increasingly being used in the UK for point-to-point serial communication protocol to communicate with sensors and/or actuators in new automation systems,”* said **Steve Sands**, product manager at Festo. *“Remote maintenance and parameterisation as well as simpler sensor change are made possible via IO-Link, which means set-up and changes can be made faster and with less opportunity for errors.”*

The new pressure and flow sensors are easy to set up and

use, combining functionality with simplicity. They have an intuitive menu guidance with a large high-contrast back-lit blue/white/red LCD so users can clearly check the flow and pressure of their systems.

The SFAW sensors are ideal for monitoring the flow rate, consumption and optionally, temperature of liquid in cooling circuits, for example in welding guns in the automotive industry or in front-end applications in the semiconductor and other electronics industries. The sensors offer two flow measurement ranges of 1.8 to 32 l/min and 5 to 100 l/min and are suitable for use with liquids that have a viscosity up to 2 mPa. Temperature of liquid media can be measured 0 -90°C.

The new SPAU sensor for pressure measurement, monitoring and sensing is designed to keep pressure levels under control, ensuring greater productivity and process reliability as well as faster system commissioning. Pressure indication, pressure switch outputs and analogue value output are all possible in one device and the sensor can reliably measure from 0-16 bar. It has a wide range of functions for non-corrosive gases including network, regulator and vacuum monitoring, leak tests and object detection.

The sensors are quick and easy to mount in all installation scenarios. The modular concept enables the sensor and connections to be purchased separately, ensuring maximum flexibility during assembly - screw, flange and tubing connection options are available. In addition, the sensor can be changed quickly and easily without the need for specialist tools, minimising downtime.

Both the SFAW and SPAU sensors are sealed to IP65 making them suitable for use in harsh process environments.

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## SWIMMING POOL FLOWMETER



Summer is on the way and thought turn to swimming! Blue-White's engineers have taken the iconic F-300 Series flowmeters, for pipe sizes 1" and 2", and enhanced both the features and accuracy.

In addition to improved accuracy (+/- 5%), these F-300 models now require far shorter pipe runs, making them more suited to installation in cramped equipment rooms. Also, Float "bounce" has been eliminated. New, high contrast red float comes standard with a magnet for use with alarm accessory, which detects flow/ no flow.

The NSF listing is in progress.

Additional F-300 features include: Easy to read dual scale (SCH40 GPM / SCH80 GPM for US PVC models), screen printed on both sides of the meter body; Acceptable for outdoor installations (direct sunlight okay); One piece, machined acrylic meter body, annealed for added strength and chemical resistance; ships with Stainless Steel clamps and gasket seal.

[www.blue-white.com](http://www.blue-white.com)

## Manotherm Limited

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dependant upon effective process monitoring. Failure can mean expensive product recalls or damage to sophisticated equipment. Customers are increasingly looking to effective sensing solutions to close the loop in their automation processes through monitoring and diagnostic technologies," continues Steve. "These new sensors are optimised not only for cost but for the quickest possible commissioning and with their versatile electrical connectivity and mounting system approach they will fulfil the needs of many applications."

[www.festo.ie](http://www.festo.ie)

### Ethernet line extenders



Westermo has released two additions to its range of Wolverine advanced industrial Ethernet line extenders. These rugged, reliable and compact devices are used to establish long-distance, high-speed remote connections between simple or complex Ethernet networks using existing copper cables, thereby reducing installation time and cost. The DDW-242 and DDW-242-485 include a range of features that deliver secure and resilient networking, even in extreme industrial environments, which makes them suitable for mission-critical applications. The line extenders enable Ethernet networks to be

connected over distances of up to 15km, at data rates up to 15.3 Mbit/s on a single twisted pair cable. Using two pairs bonded, the rate can be doubled to support applications requiring larger bandwidths. An integral switch allows two Ethernet devices to be attached, and a choice of either 232 or 485 serial port enables legacy equipment to be incorporated into the IP network.

To help improve cyber security they both include full layer 3 functionality and unique IP security provided by the Westermo WeOS operating system. The devices include a built-in port-based firewall securing data between trusted and un-trusted networks; NAT rules - a way to make systems that are configured with private IP addresses appear to have public IP addresses; and VPN tunnels for encrypting data on the 'last mile' section of the network, which is particularly susceptible to security risk.

The WeOS operating system also provides advanced switching and routing functionality enabling the management of complex industrial networks. With no software configuration needed for basic installation the DDW-242 and DDW-242-485 are extremely easy to set up. A web interface and command line interface support configuration of large and complex networks. Should maintenance be required, a back-up and restore facility enables configurations to be quickly downloaded from a USB stick.

To enable installation in harsh industrial environments and rail trackside applications the devices offer a wide operating temperature range of -40 to

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+70 degrees C, and have been tested to meet EMC, isolation, vibration and shock standards. In the event of link or hardware failure, Westermo's unique FRNT (Fast Recovery of Network Topology) technology enables network reconfigura-tion, whilst an extensive diagnostics function allows the quality of the line and connec-tion status to be analysed.

[www.westermo.co.uk](http://www.westermo.co.uk)

### Level in extreme process



With the new OPTISWITCH 5300 C, Krohne, represented in Ireland by **DWN Instrumentation**, presents a vibration level switch for liquids that can withstand extreme process conditions such as hot or cryogenic temperatures and high process pressure. The application area ranges from chemical or oil & gas related industries, marine (LNG) tankers to steam generation.

The unit provides overflow prevention, high/low level alarm, or dry run protection for pumps in liquid applications with a temperature range from -196... +450°C and pressure range from -1...160 barg. Insertion lengths are available up to 3 m with a wide variety of sensor materials and process connections. The wetted

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www.calibrate.ie



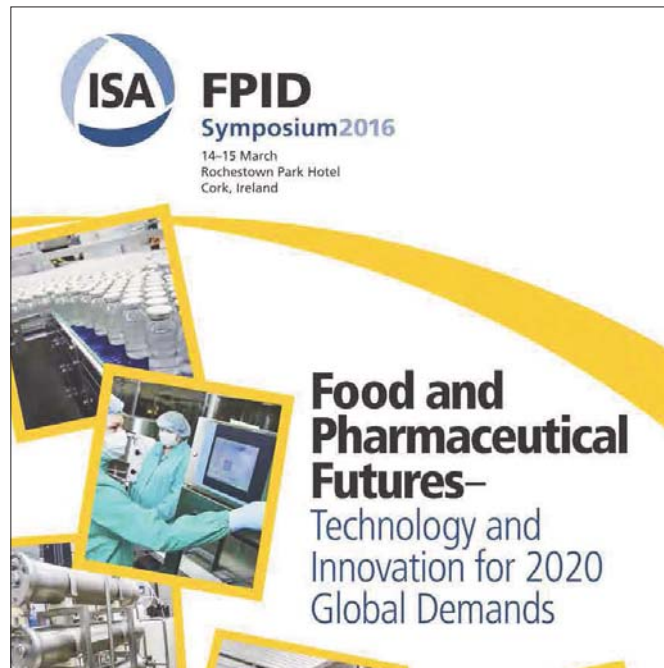
# First international symposium outside of North America is adjudged a success.

This year's event draws nearly twice as many attendees as previous year

From the time it was first mooted for Ireland in 2015 the planning for the 3rd ISA Food & Pharmaceutical Symposium was embraced with enthusiasm by the local Ireland Section. This was in Philadelphia early in 2015 and since then the ISA's Food & Pharma Division under the able directorship of Canadian **Andre Michel** has ploughed forward overcoming setbacks and the not inconsiderable distances between North America and the capital of Munster. Chair of the symposium and former Ireland Section President, **Dave O'Brien** directed a strong committee charged with ensuring the this, the first such international symposium organised by the ISA outside of North America would be a resounding success.

## And it was.

Nearly 240 professionals within the automation and control field and the pharmaceutical and food industries gathered last week in Cork, Ireland to explore solutions to automation challenges in food processing and drug manufacture and distribution. The 2016 ISA Food and Pharmaceutical Industries Division (FPID) Symposium, outlined best-practice approaches in automation to leaders of pharmaceutical and food



processing companies seeking to improve quality, safety, reliability, profitability, cost control and production throughput. The turnout nearly doubled the attendance of last year's event, which was held in Philadelphia (PA USA)

## Relevant Programme

The technical program featured 40 technical presentations and the perspectives of 33 subject matter experts. Particular attention was given to how automation can help solve key, front-and-centre challenges - such as meeting regulatory requirements, reducing manufacturing costs, and countering security threats - and the role of automation technology and

innovation in addressing longer-term global dynamics and demands.



Andre Michel - Director FPID

*"This was truly an internationally focused event because it tackled the significant issues and trends in automation affecting the food and pharmaceutical industries on a global scale,"* emphasised Andre Michel, President of Efficient Plant, Inc., and the

Director of ISA's Food and Pharmaceutical Division. *"The technical presentations and content honed in on the vital concerns of attendees and how they can be overcome."* Michel added that ISA's Ireland Section played a key role in promoting the event locally and attracting a large base of attendees.

**Billy Walsh**, chair of ISA's Assembly of Operational Department Vice Presidents and a member of the Society's Executive Board, said the event brought together a wide range of global experts—across end user and vendor communities and from industry research and development—that were eager to *"exchange leading-edge viewpoints and ideas."*

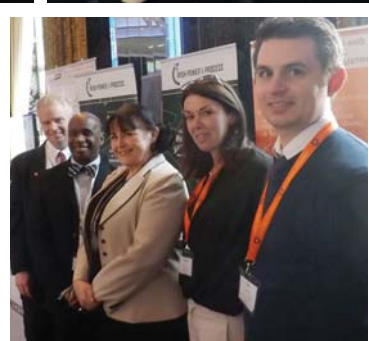
Fuller report here: [bit.ly/1odd6cZ](http://bit.ly/1odd6cZ)



Dave O'Brien, Chair 2016 FPID Symposium with ISA President Keaveney



Billy Walsh, Chair ISA Departmental VP & ISA Board Member with President Keaveney



parts are made of Inconel Alloy 718 with 316L or Hastelloy C-22. Communication options include 2-wire 8/16 mA output, relay (DPDT) and transistor PNP/NPN electronics.

The new level switch features Ex, WHG, various ship approvals and fulfils the requirements for use in boilers and auxiliary installations according to EN 12952-11 (water tube boilers) and EN 12953-9 (shell boilers). OPTISWITCH 5300 C is designed for use in safety loops: as a single device for a single safety function (1oo1), it meets SIL2 architecture, in a homogeneous redundant setup, it meets SIL 3 (1oo2) architecture.

[www.dwn.ie/](http://www.dwn.ie/)

### Ex-protected Thin Clients



R. Stahl HMI Systems has optimised their Series 500 Thin Clients for flexible and safe operation of virtualised decentralised control systems. The slim terminals come with Windows Embedded Standard 7 (WES7) pre-installed and support the DeltaV Remote Desktop Connection (DRDC) by Emerson. The DRDC protocol reliably prevents conflicts due to simultaneous access to individual virtual machines by disconnecting all active or interrupted sessions before granting access. The safety features EWF (Enhanced Write Filter) and HORM (Hibernate Once / Resume Many) provided by the Windows operating system cause the Thin Clients to revert to a clean, safe starting configuration not only after a full reboot, but also when

waking from sleep mode. To ensure optimum system integrity, the Thin Clients also bar all hotkey access to the BIOS, and require a password for parameterisation. As an optional extra, the SK-LAN module provides a second Ethernet interface for redundant network architectures.

In addition to DRDC, the systems also support other established access protocols such as RDP, VNC and Net@.

They are available as a pure touchscreen version as well as with a keyboard. Displays are LED-backlit and range in various sizes and resolutions. The devices are also suitable for operation in cleanrooms and in very rough environments due to their extremely robust design. They tolerate ambient temperatures from -30 °C to +55 °C (+50 °C in permanent operation). Accessories such as card readers and barcode scanners are

optionally avail-able.

Stahl products are marketed in Ireland by **Douglas Controls & Automation**.

[Douglas-esl.ie](http://Douglas-esl.ie)

### First wireless pressure gauge



**Emerson Process** has introduced the industry's first WirelessHART® pressure gauge. The Rosemount Wireless Pressure Gauge enables remote collection of field data, keeping operators updated on changing field conditions and improving personnel safety by reducing manual operator rounds and field exposure.

Mechanical gauges are plagued with quality and reliability issues. These issues are commonly associated with overpressure, vibration, corrosion, extreme temperatures, and accidental damage. Additionally, mechanical gauges are unable to communicate a device status.

This Wireless Pressure Gauge uses field-proven piezoresistive sensor technology to deliver reliable pressure readings. With the flexibility to accommodate changing process conditions, the Wireless Pressure Gauge also gives up to 150X overpressure protection compared to traditional gauges, which provides for a safer field environment by using two layers of process isolation.

Bourdon tube gauges have traditionally been a mainstay for taking pressure readings in the field, but are limited to visual indication of process conditions when an operator is present. Bourdon tubes also use moving

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### Improving Temperature Measurement Accuracy

One method to eliminate 85% of the interchangeability error in a measurement system is to use a Burns PRT in conjunction with a transmitter that has matching capability. The Burns T-Series Transmitters with matching capability allow a specific R vs. T relationship to be entered into the transmitter software. In the case of an analog transmitter, the potentiometers for zero and span are adjusted to match the unique PRT resistance at the end points of the range. This method will nearly eliminate the interchangeability error, however, errors due to calibration and some external influence effects will still be present.

When the matched calibration option is specified there is no need to select a PRT with a tight interchangeability because the actual R vs. T relationship, which is determined by a comparison calibration, is used to calibrate the transmitter. A less expensive Grade B sensor can be specified. The table below shows the improvement in accuracy that can be achieved using this method.

Example of system accuracy for a process with a critical temperature of 121°C using a transmitter with .10°C accuracy.

	Grade B Sensor <sup>2</sup>	Grade A Sensor <sup>2</sup>	Calibrated Sensor
Sensor Tolerance at 121°C	± 0.76°C	± 0.34°C	± 0.05°C
Transmitter Accuracy	± 0.10°C	± 0.10°C	± 0.10°C
Combined System Accuracy <sup>1</sup>	± 0.77°C	± 0.35°C	± 0.11°C

As can be seen, the matched sensor and transmitter accuracy of ± 0.11°C is over three times better than a standard grade A sensor with ± 0.35°C accuracy and seven times better than the grade B sensor. This differential gets larger as the temperature increases or decreases from 0°C.

If higher accuracy is required in the process measurement a matched calibration of a Burns PRT and transmitter is certainly a method to consider. Burns Products are marketed by **Irish Power & Process**.

[www.irishpowerandprocess.com](http://www.irishpowerandprocess.com)





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parts, which can break or wear over time due to use and vibration, causing inaccurate readings or process to spill.

The unit eliminates mechanical gauge common weak points by removing the components that inhibit the device from reporting/displaying pressure and providing up to a 10-year life, which reduces maintenance cost and time. The large 4.5 inch (11.5cm) gauge face provides easy field visibility.

"As part of our Pervasive Sensing™ portfolio, this new gauge design fundamentally changes how customers use pressure gauges by helping them make better business decisions," said **Bob Karschnia**, vice president and general manager of wireless products at Emerson. "Real-time insights provide actionable

information that improves personnel safety while reducing facilities' costs and time."

[www.EmersonProcess.com](http://www.EmersonProcess.com)

### Moisture sampling system



The ES20 Compact Sampling System from Michell marketed here through **Instrument Technology**, now has the option of an Easidew PRO XP dew-point transmitter. This makes the system suitable for a range of moisture measurement applications in hazardous areas where explosion-proof certification is needed, in addition to

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## Events

[read-out.net/signpost/expo.html](http://read-out.net/signpost/expo.html)

### MICRO-FLO DIGITAL PADDLEWHEEL FLOWMETER

**EASY ACCESS TO FLOW DATA**


Micro-Flo displays flow rate and total accumulated flow, a clear viewing lens gives visual confirmation of flow, while the LCD display indicates operating mode and battery status. The memory is non-volatile, and the meter can be factory programmed or programmed in the field. Tamper Proof and Weather Resistant.



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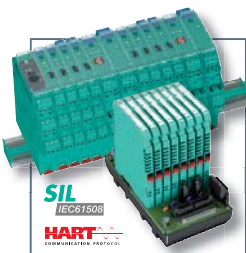


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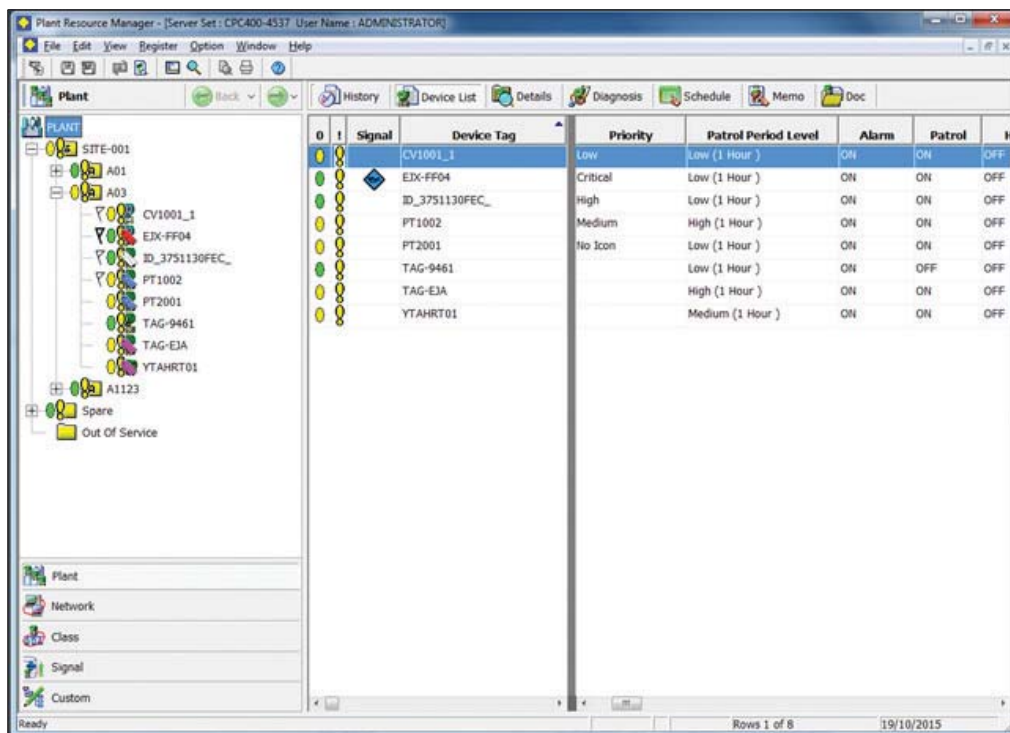
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the existing intrinsically safe options.

The ES20 system was designed to offer several standard configurations suited to typical industrial and gas process applications, such as monitoring moisture in compressed air or natural gas. These standard configurations enable short lead times and fast delivery of orders. Sample conditioning is vital when monitoring moisture levels in gas, not only to ensure that the pressure and temperature of the sample gas is consistent, but also to prolong the life of the sensor by removing contaminants such as dust or molecules of oil carried in the gas stream. The ES20 Compact Sampling System offers a choice of particulate or coalescing filters with a maximum pressure of 20 barg. Three mounting options are also offered to suit various indoor or outdoor locations: the system can be either mounted on a base plate, within a GRP enclosure or with a stainless steel enclosure, to provide IP66/NEMA 4X protection.

The ES20 modular systems are compatible with other Michell products, and are designed around the Michell Easidew range. These dew-point transmitters provide accuracy of  $\pm 2^{\circ}\text{Cdp}$ , with a wide measurement capability of  $-100$  to  $+20^{\circ}\text{C}$  dew point, and are available with Michell's unique sensor exchange programme. With the sensor exchange programme, customers are able to order a freshly calibrated sensor to fit in to their system and, when this arrives, replace their old sensor and return it to Michell. This enables them to keep their sensor calibration up to date, with minimal shut-down.

[www.itl.ie](http://www.itl.ie)



## Plant Resource Manager

Yokogawa Electric Corporation has released version R3.30 of its Plant Resource Manager (PRM®) software tool software tool for the centralised management of large amounts of data from plant monitoring and control devices and manufacturing equipment. PRM R3.30 is an upgrade to R3.20 and includes an improved management function for HART® and enhancements to the navigation function. With this new PRM version, Yokogawa aims to capture a larger share of the plant maintenance market.

### Development Background

Manufacturers are constantly looking for ways to improve maintenance efficiency by using software tools like PRM that can centrally manage large amounts of maintenance and other types of data from plant monitoring and control devices and manufacturing equipment. Maintenance personnel use such data to reduce plant downtime and enhance safety by proactively spotting and responding to device failures. To optimise plant operations, it is essential not only to keep

devices in good working order but also to have up-to-date information on device status and maintain records on all maintenance work that is performed. Such information is most useful if operators of control and safety instrumented systems can view it on screen at their human interface stations (HIS).

With such needs in mind, Yokogawa has developed new functions for its PRM tool that facilitate the collection of information from field devices for use in optimising device maintenance /plant operations.

### Enhancements

#### 1. Quick access to HART device status information

PRM can now obtain start-up, stop, failure, and other status information from Yokogawa HART7 compliant devices in almost real time via the Network-IO field input/output (IO) device that was developed for use with the latest version (R4.01) of the ProSafe®-RS safety instrumented system, which was released to the market in November 2015. For other companies' HART5, 6, and 7 compliant devices, PRM can collect information at 1 minute intervals. With PRM

R3.20, data collection at intervals of 10 to 60 minutes was supported.

#### 2. Intuitive display of device information

Icons indicating the importance of individual devices are now displayed in the device status window of the navigation screen. If a problem occurs somewhere in the plant, operators can use this information and the self-diagnostic information displayed for the devices to make a quick, priority-based response.

#### 3. Targeted issuance of alarms

PRM has a maintenance alarm function that issues alarms for display at CENTUM® series integrated production control system HISs. Previously, alarms were issued to all HISs. With this latest version of PRM, it is now possible to specify which HIS should receive alarms from a specific device. Individual operators now only receive alarms from those devices that they are responsible for.

### Major Target Markets

Industries such as oil and gas, petrochemicals, chemicals, iron and steel, pulp and paper, electric power, and wastewater treatment.

[www.yokogawa.com](http://www.yokogawa.com)

## PEOPLE IN THE NEWS



**Jim Keaveney**, who serves as the Northeast USA Regional Manager and Key Account Director at Emerson Process Management, is the 2016 President of the International Society of Automation (ISA). He brings a strong track record in automation technologies sales and marketing and business planning to his role as Society President. He's been an active ISA member for than 30 years and has served in numerous leadership positions, including Society Treasurer, Finance Committee Chair and District 2 Vice President.

Pictures shows President Keaveney with Ireland Section President **Alan Bateman** at the recent Symposium. More on the symposium and pictures page 6 and 7.



**Iwer Baecker**, (Left), is the newly elected President of the German-Irish Chamber of Industry & Commerce and Managing Director of Bayer Ltd spoke recently at a business breakfast seminar hosted by Canada Life this: *"My main focus as president for 2016 is primarily to increase trade and investment between Ireland and Germany with a particular focus on starting discussion of important commercial topics such as the Britain's future in the EU. I would also like advise and guide Irish based multinational companies who are seeking opportunities in the German market."*

**Ken Molloy**, (right), who has joined SolutionsPT as technical manager. He will work closely with system integrators across Ireland to educate them on the latest Wonderware and hardware technical developments.



**We welcome news of appointments etc for inclusion here especially with pictures**

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