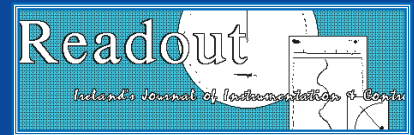


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INSERTS

Techno-Trauma and the Rise of Donald Trump

*This article appeared as editorial in the January 2017 edition of Industrial Automation and Process Control Insider published in the USA. The writer is **Walt Boyes** (pictured) the doyen of commentators in the field of automation and control.*

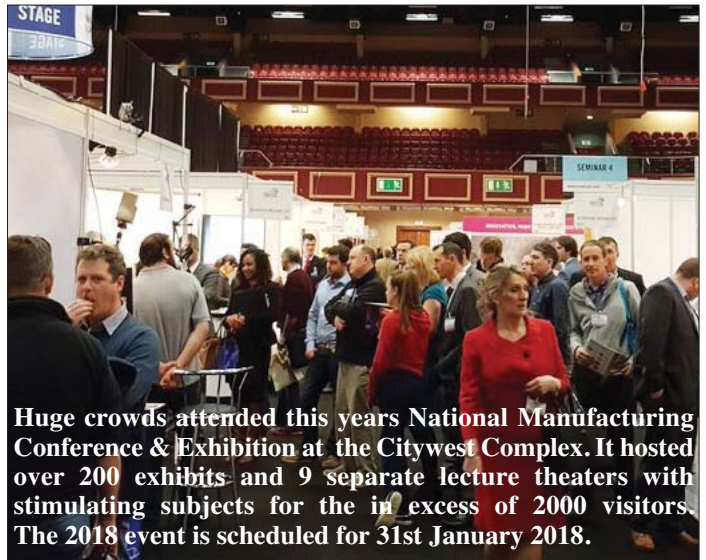


For a while now, I have been a sometime guest lecturer at Webster University here in Saint Louis. I am lecturing as a professional futurist, which I am (it says so right here on my Association of Professional Futurists membership card). The students are valiantly trying to keep up with the technological advances that are sweeping away modern culture and replacing it on a nearly daily basis. I asked the 25 twenty-somethings in the class who felt they were on top of the wave of change. Only a handful raised their hands. Most of them said that they were barely hanging on.

This is the generation that is supposed to be “digital natives.” Apparently even the digital natives are having trouble with the rapid rate of change of technology and society.

Interviews with Trump voters since the election have found that many of them voted for him because he said he would bring back the good old days. He would

To page 3



Huge crowds attended this years National Manufacturing Conference & Exhibition at the Citywest Complex. It hosted over 200 exhibits and 9 separate lecture theaters with stimulating subjects for the in excess of 2000 visitors. The 2018 event is scheduled for 31st January 2018.

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Cybersecurity at the heart of the Fourth Industrial Revolution

A technical evolution has taken place, which has made cyber threats more potent than at any other time in our history. As businesses seek to embrace Industry 4.0, cybersecurity protection must be a top priority for Industrial Control Systems (ICS). These attacks are financially crippling, reduce production and business innovation, and cost lives.

In years gone by, legacy ICS were developed with proprietary technology and were isolated from the outside world, so physical perimeter security was deemed adequate and cyber security was not relevant. However, today the rise of digital manufacturing means many control systems use open or standardised technologies to both reduce costs and improve performance, employing direct communications between control and business systems. Companies must now be proactive to secure their systems online as well as offline.

This exposes vulnerabilities previously thought to affect only office and business computers, so cyber attacks now come from both inside and outside of the industrial control system network. The problem here is that a successful cyber attack on the ICS domain can have a fundamentally more severe impact than a similar incident in the IT domain.

The proliferation of cyber threats has prompted asset owners in industrial environments to search for security solutions that can protect their assets and prevent potentially significant monetary loss and brand erosion. While some industries, such as financial services, have made progress in minimising the risk of cyber attacks, the barriers to improving cybersecurity remain high. More open and collaborative networks have made systems more vulnerable to attack. Furthermore, end user awareness and appreciation of the level of risk is inadequate across most industries outside critical infrastructure environments.

Uncertainty in the regulatory landscape also remains a significant restraint. With the increased use of commercial off-the-shelf IT solutions in industrial environments, control system availability is vulnerable to malware targeted at



Ray Dooley, Product Manager Industrial Control at Schneider Electric Ireland

commercial systems. Inadequate expertise in industrial IT networks is a sector-wide challenge. Against this backdrop, organisations need to partner with a solutions provider who understands the unique characteristics and challenges of the industrial environment and is committed to security.

Assess the risks

A Defence-in-Depth approach is recommended. This starts with risk assessment – the process of analysing and documenting the environment and related systems to identify, and prioritise potential threats. The assessment examines the possible threats from internal sources, such as disgruntled employees and contractors and external sources such as hackers and vandals. It also examines the potential threats to continuity of operation and assesses the value and vulnerability of assets such as proprietary recipes and other intellectual properties, processes, and financial data. Organisations can use the outcome of this assessment to prioritise cybersecurity resource investments.

Develop a security plan

Existing security products and technologies can only go part way to securing an automation solution. They must be deployed in conjunction with a security plan. A well designed security plan coupled with diligent maintenance and oversight is essential to securing

modern automation systems and networks. As the cybersecurity landscape evolves, users should continuously reassess their security policies and revisit the defence-in-depth approach to mitigate against any future attacks. Cyber attacks on critical manufacturers in the US alone have increased by 20 per cent, so it's imperative that security plans are up to date.

Upskilling the workforce

There are increasingly fewer skilled operators in today's plants, as the older, expert workforce moves into retirement. So the Fourth Industrial Revolution presents a golden opportunity for manufacturing to bridge the gap and bolster the workforce, putting real-time status and diagnostic information at their disposal. At the same time, however, this workforce needs to be raised with the cybersecurity know-how to cope with modern threats.

In this regard, training is crucial to any defence-in-depth campaign and the development of a security conscious culture. There are two phases to such a programme: raising general awareness of policy and procedure, and job-specific classes. Both should be ongoing with update sessions given regularly, only then will employees and organisations see the benefit.

Global industry is well on the road to a game-changing Fourth Industrial Revolution. It is not some hyped up notion years away from reality. It's already here and has its origins in technologies and functionalities developed by visionary automation suppliers more than 15 years ago. Improvements in efficiency and profitability, increased innovation, and better management of safety, performance and environmental impact are just some of the benefits of an Internet of Things-enabled industrial environment. However, without an effective cybersecurity programme at its heart, ICS professionals will not be able to take advantage of the new technologies at their disposal for fear of the next breach.

www.schneider-electric.com/ww/en/

bring back the good jobs for high school graduates, and the society of "Leave it to Beaver," and "Father Knows Best."

One respondent I remember vividly said, "I can't keep up with all the changes. I just want it to stop!"

In her soon-to-be-released book, Why Trump Happened: A Path Forward, INSIDER columnist Joy Ward coins a phrase to describe this issue:

Techno-Trauma. Techno-Trauma is when you simply can't keep up, and stop trying. It's when you start entering a fugue state, looking for a time in your past when things were simpler and more understandable.

This makes voters vulnerable to the person (like Trump) that promises to take away their worries. The problem with this is that Mr. Trump has to deliver, or if we think we have seen angry voters, we have not seen anything yet.

What does this have to do with automation? Quite a bit. If you think about what one of the biggest societal change engines automation has become, it is certain that automation is in for a lot of the blame by people surplussed and out of work. If you have nothing to do, and no prospects for future employment because the auto plant

you used to work for closed, and then reopened fully automated and there are only 300 jobs where there used to be 3000, you can imagine what the future looks like for many people.



We need to look at the entire picture, as we in-crease productivity by automating plants. Yes, if we want to be globally competitive we have to automate our plants even more than we have in the past. But we need to look at what the social costs of doing that are, and decide if our society can afford

those costs.

Some of those costs clearly include increasing anger and rage, increased expressions of hatred and racism, Narcissism, too, is a common reaction, as are fugue and magical thinking. Not the best things for workers in our plants, that's true.

So what do we do? Many people are doing what IEEE president Karen Bartleson has done: take a stand. "IEEE is committed to the realization and maintenance of an environment in which scientists and engineers, regardless of ethnicity, religion, gender, or nationality, have the right to pursue their careers without discrimination. Science, engineering — and humanity — prosper where there is freedom of movement, association, and communication. "We all need to take a stand".

The Automation INSIDER is an independent monthly e-mail newsletter and editorial report on the continuing evolution, development and convergence of industrial automation, instrumentation and process control technologies worldwide for automation and process control system users, designers, installers and suppliers.

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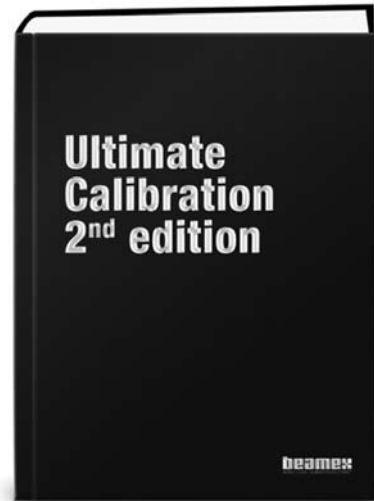
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The second edition of the Ultimate Calibration, a calibration book by Beamex, provides answers to these and many other questions.

ULTIMATE CALIBRATION, 2ND EDITION

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- <http://resources.beamex.com/usa-campaign-lp-ultimate-calibration2>

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Wireless innovation



Yokogawa has received a Technology Award from the Society of Instrument and Control Engineers (SICE) for its achievements in the development of industrial wireless technology. Encouraged by this, Yokogawa will continue working to develop and popularise industrial wireless technology.

The Technology Award is in the highest rank of awards conferred by SICE. It is given in recognition of the development of a technology or methodology within the past five calendar years that represents a significant advance in any one of the science & technology fields or industries in which SICE is involved. Yokogawa received this award for the development of a "Highly reliable industrial wireless communications infrastructure."

The citation went on to say: "As interest in the Internet of Things (IoT) continues to grow, industrial wireless networks are being introduced for industrial automation applications where there is a need to improve the monitoring of production facilities.

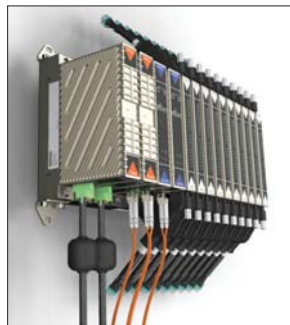
Yokogawa has greatly expanded the possibilities for wireless instrumentation by releasing the industry's first fully duplex wireless system based on the ISA100 Wireless international standard (IEC 62734), which was developed for plant applications requiring highly reliable wireless technology. With its

ability to update data every second, capability to collectively manage up to 500 devices, and dual redundant communication paths and system devices that prevent the loss of data, this wireless system achieves the high reliability required in process automation."

More recently they have announced that they will work with Microsoft Corporation, FogHorn Systems, Inc., Bayshore Networks, Inc., and Telit IoT Platforms, LLC to integrate their technology into an industrial IoT (IIoT) architecture for the delivery of new services. With this architecture, Yokogawa aims to transform its business model, expand its business scope, and help its customers run their businesses more efficiently.

www.yokogawa.com

Cooperation



Bedrock Automation, the maker of secure industrial control system (ICS), has signed a memorandum of agreement with **Jacobs Engineering Group** one of the world's largest and most diverse providers of full-spectrum technical, professional and construction services. Under the agreement, the companies will pursue selected projects with automation system requirements for potential implementation of the Bedrock Open Secure Automation (OSATM)

system.

"Our clients are increasingly concerned about both cyber security and advanced automation and we have been creating innovative service packages to meet these needs. Bedrock Automation has excellent experience and superior designs in this area."

said Jacobs' Mission Solutions Chief Technology Officer **Dr. Tommy Gardner**. The Bedrock™ control system is known for its patented Black Fabric™ Cybershield architecture, which provides an intrinsic cyber secure automation platform to protect user hardware, software and applications. Unlike other conventional industrial control systems, Bedrock was designed from a clean sheet of paper with advanced components and architecture to be simple, scalable and secure.

Bedrock Automation President **Bob Honor** said "We see this as a tremendous opportunity to bring our technology and our vision of holistic cyber security to a much larger audience. We look forward to an exciting and mutually beneficial relationship with Jacobs."

www.bedrockautomation.com

www.jacobs.com

Scada strengthened

SolutionsPT has become the Ireland & Britain distributor for Citect, thus strengthening its SCADA product portfolio. The Citect brand is owned by Schneider Electric, and its range of products includes CitectSCADA, CitectHMI and CitectHistorian.

Schneider already has a longstanding relationship with SolutionsPT, which has been the sole distributor for its

Wonderware suite of products in both territories since 1991. As a result, SolutionsPT was seen as the logical choice to take on the distribution of Citect software because of its existing focus on, and technical expertise in, the automation sector.

Martin Walder of Schneider Electric, said: "Collaborating on sales and utilising SolutionsPT to support our Citect product will allow us to improve the service to Citect customers and enhance the breadth of our software offering. This deal will allow us to offer Historian, Batch Management and MES functionality as well as our targeted SCADA and HMI offerings."

solutionspt.com

Sensors in space!



When the ESA team decided to crash the Rosetta spacecraft onto the surface of comet 67P/Churyumov-Gerasimenko ending a 12 year project, the required manoeuvre called for a three minute thruster burn. Data from two Kistler pressure sensors confirmed that there was enough fuel left in the tanks to complete the burn with a little left in reserve. The sensors had been monitoring fuel levels continually during the 12 year, 4 billion mile journey allowing mission engineers to ensure that Rosetta arrived at its destination with enough fuel to put the probe into orbit.

Thus Kistler sensors, whilst not the oldest sensors still operating, they are certainly the most travelled.

www.kistler.com



Low-pressure calibration



Classic Technology are marketing the Additel market leading range of innovatively engineered and affordably priced pressure products and accessories in Ireland.

Additel's 760-LLP automatic handheld low-pressure calibrator takes portable, low-pressure calibration to new levels - a portable, automated low-pressure calibrator in the palm of your hand! Weighing less than 1.8 kg, the ADT760's innovative design contains a built-in pump, precision pressure sensor, internal controller and a large touch-screen color display.

Their 761-LLP has a built-in high performance electronic pump and precision pressure controller that provides a turn-key solution for calibration of gauges, room and HVAC differential pressure transmitters, and switches both in the field and in the laboratory.

Classic Technology also operates Ireland's only UKAS calibration laboratory (Lab no. 0822) for Pressure, Temperature, Electrical and Mass calibration. Classic's dedicated state-of-the-art laboratory audited to ISO 17025:2005 and based in their Naas facility, is delivering the widest range of capability in the country.

www.classictechnology.ie

Cloud-based IIoT

Emerson announced at the American Emerson Global Users Exchange that it is working with Microsoft to help industrial manufacturers realise the business impact and value of Industrial Internet of Things (IIoT) with Emerson's recently announced Plantweb digital ecosystem and Connected Services, powered by the

Microsoft Azure IoT Suite.

Plantweb, their comprehensive and integrated Industrial IoT platform supports Emerson's vision to help customers leverage data, technologies and best practices to improve reliability, safety, energy management and overall operational performance across the enterprise.



Extending a more than two-decade relationship, Emerson is also broadly adopting Microsoft's Windows 10 IoT technology, both in its DeltaV™ and Ovation™ control systems and in data gateways, for local data processing and to serve data to Azure IoT Suite. Emerson chose Microsoft to power its Industrial IoT applications for its comprehensive offerings that span the intelligent edge with Windows and the intelligent cloud with Azure.

The Azure IoT Suite provides Emerson with a scalable and secure cloud application environment as part of its Plantweb digital ecosystem. Plantweb provides the technology and service framework for Emerson's Operational Certainty programme, a strategic approach to help customers break free from stagnant financial performance through adoption of industry best practices and advanced technologies.

Oil and gas, refining, petrochemical and other companies can now leverage their existing investments in instrumentation sensors and communication infrastructure to power new applications to improve reliability, energy management and safety. Today's new offerings mark an important step in Emerson's vision to provide its customers those applications deployed as

Industrial IoT services, without the need for in-house domain experts.

"Emerson and Microsoft have a long-standing relationship to deliver sensor-driven distributed applications to run plant processes safely and reliably," says **Peter Zornio**, chief strategic officer, Emerson Automation Solutions. *"By integrating Microsoft IoT offerings, including cloud-based Azure IoT Suite and smart device-driven Windows 10 IoT, we are excited to expand the Emerson Plantweb digital ecosystem to cloud applications that can also be delivered in a turnkey 'connected service' model for the entire enterprise."*

Sam George, Microsoft partner director, Azure IoT said, *"Emerson has a laser focus on helping their customers achieve their highest performance and their offerings are a great example of the transformational power of IoT."*

This combination of Emerson application expertise, hosted on Microsoft Azure, will provide a compelling suite of Industrial IoT applications to expand digital intelligence to the entire manufacturing enterprise. *"These applications will be easily and quickly deployable and have immediately quantifiable business benefits for industrial manufacturers looking for better operational performance."*

www.Emerson.com

RTUs are compliant.



Red Lion Controls, marketed here through **Instrument Technology**, have announced that the multi-carrier 4G LTE Sixnet® series RAM® 6000 and 9000 industrial cellular RTUs have earned NEMA TS2 section 2 compliance, which validates

industrial equipment for use in Intelligent Traffic Systems (ITS) applications. By providing an easy upgrade path for ITS environments without communication or unreliable landline options, Red Lion's industrial RTUs enable system integrators, municipalities, engineering firms and network integrators to benefit from easy-to-deploy cellular connectivity.

ITS applications often include remotely located overhead message boards, road condition and speed zone signs, traffic lights, intersection monitors and collision avoidance systems that require around-the-clock, low-latency network access. The high-bandwidth and industrially-hardened qualities of Red Lion's RAM RTUs support reliable communication with remote sites – even those that may change in location such as mobile traffic trailers. Also supported is monitoring of multi-service applications that may include video cameras and traffic intersection monitoring. In addition, the rugged characteristics of RAM cellular RTUs support wide temperature ranges and high shock/vibration tolerance to protect against challenging outdoor environments.

"With the RAM 6000 and 9000 industrial cellular RTUs receiving NEMA TS2 compliance, ITS engineers now have the option of industry-leading communications equipment that operates reliably in outdoor environments," said

Colin Geis, Director of Product Management, Industrial Internet of Things (IIoT) at Red Lion Controls. Red Lion's industrial cellular RTUs are ready-to-deploy remote monitoring and control devices that enable customers to reliably connect, monitor and control equipment in industrial environments from nearly any location. RAM industrial cellular RTUs also feature an easy-to-use event engine that can locally trigger

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From page 6
I/O or send SMS text messages based on real-time operational data. With multi-carrier 4G LTE support, RAM RTUs provide high-bandwidth communication over cellular networks to allow customers to select the best connectivity for their applications.

www.itl.ie

Air manifolds



RCC's Air Manifold Division is primarily focused on the manufacture of high quality Air Distribution Manifolds. An expanding customer base include many of the world's leading bluechip multinational companies operating in Ireland and abroad.

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www.airmanifolds.ie

Conductivity sensor

The Memosens CLS82D conductivity sensor from **Endress+Hauser** is designed for production, process development and laboratory applications in the pharmaceutical, food, life sciences and other industries. The four-electrode sensor measures conductivity from 1 μ S/cm to 500 mS/cm and temperature from 23 to 248 °F (-5 to 120 °C) with accuracy of $\leq 4\%$ and repeatability of 0.2%.

For hygienic applications, the CLS82D has 316L stainless steel construction, electro-polished surfaces that are easy to clean, hygienic process connections and IP68 protection, and it can be sterilized in place (SIP) at temperatures up to 284 °F (140 °C) for clean-in-place (CIP) operations. The CLS82D is certified for EHEDG, FDA, 3-A and pharmaceutical applications. Typical applications include phase separations, chromatography, fermentation, CIP, monitoring and ultrafiltration.

The sensor is available in a standard PG13.5 thread size, with 1.5 and 2 inch Tri-Clamp sanitary fittings, or with an NPT fitting, making it suitable for a variety of applications. The conductivity measuring cell has four platinum electrodes housed in a ceramic sensor element. Similar temperature expansion behaviors of the materials ensure the material bond stays tight even during extreme temperature changes, allowing cleanability and aseptic hygiene.

During operation, an alternating current is applied to the outer electrode pair. At the same time, the voltage applied is measured

at the two inner electrodes. The electrolytic conductivity between the electrodes can be reliably established based on the measured voltage and the current flow caused by the liquid's resistance. The advantage of this technology compared to traditional two-electrode sensors is that electrochemical effects at the live electrodes are suppressed by the two additional voltage measuring electrodes. The sensor connects to a Liquiline transmitter that sends conductivity and temperature information to



a process control, SCADA or monitoring system via 4-20mA HART, Profibus DP, Modbus RTU or EtherNet/IP. Liquiline transmitters also have a web server that allows the CLS82D's output, status, diagnostics, logbooks and calibration information to be viewed on a handheld tablet, smartphone or laptop PC via a Wi-Fi or internet connection via any web browser.


The CLS82D is a digital sensor, so it can store a variety of data in the sensor itself including serial number, data of manufacture, calibration date, number of calibrations,

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Products from page 7

conductivity application range, cell constant, hours of operation at high temperatures, and other data quantifying operating history. These features allow “plug and play” compatibility with the Liquiline transmitter to simplify commissioning, maintenance and replacement, while also improving improves reliability.

For example, an existing sensor can be quickly replaced with a pre-calibrated sensor which automatically connects to the Liquiline transmitter via a non-contact digital connection, eliminating problems with moisture and corrosion. Maintenance intervals can be more efficiently determined based on stored sensor load and calibration data instead of simply on a calendar basis.

www.ie.endress.com/

Debug and trace

Ashling Microsystems has an advanced real-time debug and trace solution for NXP’s P60-Step-Up! secure controller device. The P60-Step-Up! secure controller targets applications such as eGovernment, banking, mobile security and transport solutions where software quality is of the utmost importance and an essential aspect of end applications for this device.

Developed in close co-operation with NXP, the SmartICE-XPB trace system for P60-Step-Up! includes advanced timing analysis features allowing users to accurately monitor software execution in real time non-intrusively during development and test. The timing analysis features enable users to verify software performance and identify program ‘hot-spots’ for performance optimisation. The system has support for long duration testing (up to 360 hours of continuous analysis) of up to 32K program functions simultaneously. In conjunction with the advanced debug, trace and code coverage features of the SmartICE-XPB system, the

timing analysis features ensure users have the highest performance tool for their real-time application development and test.

“Ashling is delighted to make available this high performance debug and trace tool for NXP’s P60-Step-Up! secure controller” said **John Murphy**, Managing Director, Ashling Microsystems. “At Ashling we know that applications using the P60-Step-Up! device have strong software quality and reliability requirements where the advanced timing analysis features of Ashling’s SmartICE-XPB system will be essential”

www.ashling.com

Airflow probe



The EE671 compact air flow probe from E+E Elektronik, whose products are marketed here by Instrument Technology, measures air velocity up to 20 m/s (4000 ft/m) and is ideal for HVAC applications. The new version with Modbus RTU interface facilitates the EE761 integration into modern building automation systems.

The EE671 probe is dedicated for reliable air flow measurement in heating and ventilation systems. It features the new E+E VTQ thin-film flow sensing element. Due to innovative transfer molding, the sensing element is very robust and highly insensitive to contamination, which allows accurate and long-term stable measurements even under harsh conditions.

The probe is available with fixed cable or M12 connector. The alignment strip and the matching mounting flange allow for easy installation and precise positioning of the EE671 in the ventilation duct. The sensing head design is optimized for low

angle dependency.

In addition to the Modbus version, the EE671 is also available with voltage output 0-1 V, 0-5 V or 0-10V. An optional configuration kit makes it easy to scale the output, set the Modbus parameters and perform the adjustment of EE671.

www.itd.ie

Wireless Inductive System



The new WIS 2 (Wireless Inductive System 2) is the ideal way for Pepperl+Fuchs to round off its portfolio for the wireless connection of sensors to moving machine parts with a higher-performance system.

The WIS 2 is used both for signal transmission and for supplying power to the sensors connected to the secondary side, making wear-prone trailing cables and slip rings redundant. The WIS 2 supports ratings of up to 12 W over transmission distances of 0...7 mm compared to the WIS 1 with a maximum of 1.5 W and 0...5 mm, which has been available for years. In addition to the 8-channel design, a streamlined 2-channel variant is now also available for small applications with up to two sensors.

All system variants use a primary and a secondary transmitter, either for two or for eight channels. They come in size M30 in a cylindrical design and fitted with 30 cm cables and M12 connectors as standard. Since the transmitters are not paired, the secondary transmitters are freely interchangeable. As a result, for example, any number of different tool carriers can easily communicate via the same system. Inductive, capacitive, optical or ultrasound models with binary switching output and standard 3-wire connection technology are suitable as sensors. Whereas the

2-channel system uses a space-saving Y-splitter, the 8-channel system has an 8-way connector box with an IP67 degree of protection that can be installed up to 20 m away from the transmitter. A wide selection of cable lengths and connectors for every application is also available.

The WIS 2 has numerous potential applications in rotary tables, presses and change tools, for object detection on workpiece carriers, on rotation tools, robot gripper arms and all similar devices.

Pepperl+Fuchs products are marketed through **Insteco**.

www.insteco.com

Gas Detector



Tyco Gas & Flame Detection has introduced the iTrans 2 fixed gas detector featuring a unique intelligent electronics platform that provides up to two points of detection from a single device. This state-of-the-art gas detector is able to monitor a combination of gases using a combination of available sensor technologies to include electrochemical, catalytic bead, and infrared. The iTrans 2 boasts a wide range of safety features including automatic sensor recognition, access code security, and zero and calibration fault protection. A single or dual-channel, split screen LED display provides optimal visibility in dark places with operator interface made simple using a magnetic wand. Available in aluminum or stainless steel enclosure, the explosion-proof device is designed for use in a wide range of applications and harsh environments. Other options

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include HART communications protocol, RS-485 Modbus, programmable relays and remote sensing. Certifications include CSA, ATEX, IECEx, INMETRO, CCC and China Ex.

www.TycoGFD.com

Light speed for hazardous areas

R. STAHL presents a networking product geared towards process plants with fast Ethernet infrastructure in hazardous areas in introducing the series 9721 unmanaged switches with ATEX and IECEx certifications. These switches, marketed in Ireland through **Douglas Controls & Automation**, feature four FX ports for optical fibre cables with 'op is' (inherently safe optical radiation) type of protection according to IEC EN 60079-28:2015, which is akin to electrical type 'i' intrinsic safety.

Connected lines can be plugged in and out even in explosive atmospheres in zone 1 and 2 (hot plugging). With a shutdown no longer required, changes or extensions to an installation become more cost-effective. Optical fibre cables are the best and most reliable solution for fast data communication especially in plants with distributed systems, where considerable distances must be bridged or where strong interference may be an issue. The switches themselves can be operated in zone 2, while their fast 100 Mbit/s optical ports connect field devices such as their Ethernet-enabled IS1+ remote I/O system in zone 1. Depending on requirements, switch types are available for the connection of multi-mode lines that are up to 5 km long, or single-mode fibres up to 30 km long. There is also a mixed solution: one switch type provides one single-mode port to bridge a great distance, while three other devices can be locally connected more cost-efficiently via multi-mode

cables. In addition, two electric TX ports with RJ45 jacks are available for connections in non-hazardous areas. The unmanaged switch type 9721/13-42-x4 can withstand ambient temperatures in a wide range from -30 °C to +70 °C and tolerate the otherwise harsh conditions associated with such extremes. Redundant connection of 24 VDC auxiliary power supply is possible to increase the availability. In addition to IS1+ using Industrial Ethernet protocols such as PROFINET, EtherNet/IP or Modbus TCP, the switches are suitable for HMI devices from R. STAHL HMI Systems and IP cameras from R. STAHL Camera Systems, and obviously also for a diverse range of other field devices requiring type "op is" explosion-protected Ethernet connectivity via optical fibres.

douglas-esl.ie

Room temperature



The Burns D08, marketed by **Irish Power & Process (IPP)**, provides room temperature measurement with the option for a transmitter. The sensor extends 0.5" into the room for improved sensitivity and is protected from accidental damage by a rugged protection loop.

Incorporated into a stainless steel wall plate, this design mounts to a standard electrical junction box for easy installation.

Features and Benefits:

- Application: Room air temperature
- Accuracy:
 - Standard 0.10% of resistance at 0.0°C (32°F)
 - Matched transmitter option for improved accuracy
- Element / Lead Wire Configuration: Single 3 or 4 wire

- Faster response time than D07
- Sensor surface: Stainless steel
- Low-profile wall mounted design with protection loop - stop dust gathering on larger square surface type sensors that it replaces
- Insulating gasket included for thermal isolation from the wall
- Available with various transmitter options
- Mounts in a standard junction box

www.irishpowerandprocess.com

Flow with HART!



Krohne's variable area flowmeter H250 M40 is now available with HART 7.4 communication. Their products are marketed in Ireland through **DWN Instrumentation**.

HART 7 compliance and interoperability have been validated by FieldComm Group FCG (formerly HART Foundation HCF) and issued with a "HART Registered" certificate. Thus, the H250 M40 can now also provide NE107 diagnostic messages; compliance with the requirements of NAMUR has been proven as part of a supplementary type test according to NAMUR recommendation NE95.

H250 M40 is a well-proven flowmeter in all process industries for cost-effective measurement of liquids and gases. The new communication option adds to its modular design: with the purely mechanical version as a base,

electronic (communication) modules can be added or replaced/retrofitted to match applications from analogue flow measurement without auxiliary power to digital integration into a fieldbus system.

www.dwn.ie

Chemical pump



The Proseries-M® MD-3 Hybrid Diaphragm Chemical Metering Pump from Blue White Industries is now equipped with sonic welded manifolds for added durability and protection from chemical leaks.

The carefully engineered MD-3 provides precision chemical metering for treatment of Municipal Water and Wastewater. MD-3 is NSF 61, CE, ETL and NEMA 4X certified.

MD-3 has 2000:1 turndown, and provides smooth chemical dosing with no pulsation dampener. With 380 strokes per minute, MD-3 provides steady flow. Output rates to: 58 GPH (220 LPH) and pressures to 145 PSI. Long service life at high pressures with no pressure regulator needed. MD-3 is 50% more energy efficient than similar units.

Straightforward all inclusive ordering: Units are sold complete with all necessary components for drop-in place installation. MD-3 is equipped with conveniently built-in controls. PVDF wetted end fittings allow for over 14 inlet and outlet configurations. These units are backed by a five year warranty.

www.blue-white.com



The ISA Ireland Section visited Rockwell Automation in Carrigtwohill for a briefing on the benefits that membership would bring to the many Engineers and Technicians they employ, especially in fast evolving world of Automation and Control.

Picture above shows: **David O'Brien** ISA District 12 (EMEA) VP Elect, **Brian Curtis** ISA Executive Board Member and ISA President Elect, **Trish Kelly** HR Manager

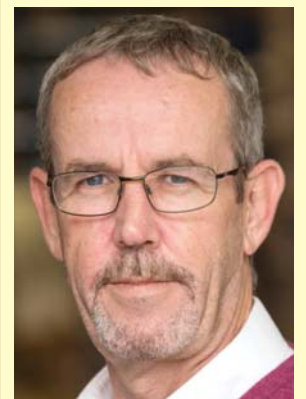
Rockwell Automation, **John Murphy** President ISA Ireland Section, **Christophe Bourillon**, Business Manager Life Sciences EMEA and **Billy Walsh** ISA Executive Board Member

(Picture Declan F Lordan)

The ISPE and ISA held a joint

seminar at the National Maritime College on Data Paralysis to Predictive Analysis.

Pictures below shows speakers ISA and ISPE personnel with Chair **Willie Power** of Phzfier and a networking break in proceedings.

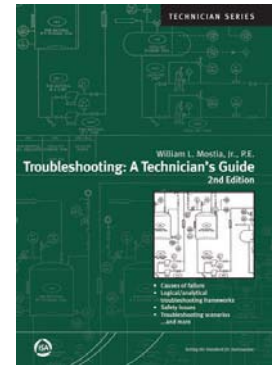
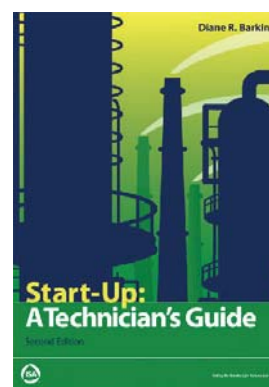
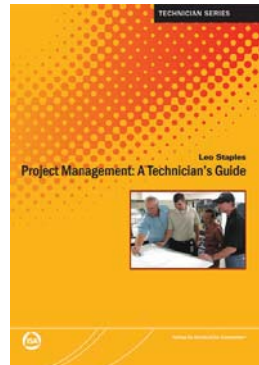
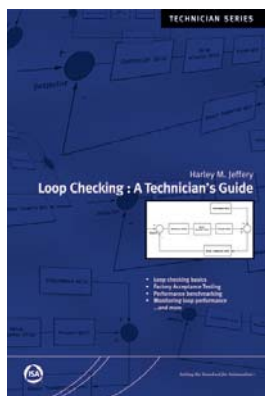
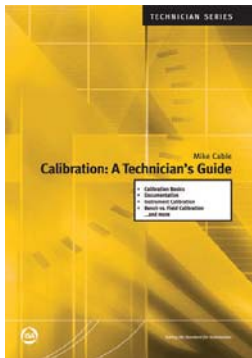


O'Neill Industrial, Ireland's leading compressed air solutions company, has announced the appointment of **Sean McMahon** to the role of Technical Services Manager. In his role, Sean will be responsible for management of all aspects of the Technical Service Division.



Gerry McAuliffe points out features at Emerson's Innovation day in Dublin last October.

Improve your technical knowledge and skills with the **ISA Technician Guide Series**



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www.isa.org/techguides

The ISA Technician Guide Series includes five books covering the most common work functions performed by automation and control systems technicians:

- *Calibration: A Technician's Guide*
- *Loop Checking: A Technician's Guide*
- *Project Management: A Technician's Guide*
- *Start-Up: A Technician's Guide, Second Edition*
- *Troubleshooting: A Technician's Guide, Second Edition*



Excellence in Automation in Ireland recognised!

This year the 35th annual Honours and Awards Ceremony was held in the hallowed halls of University College Cork. This annual ceremony to acknowledge and encourage excellence for those training for careers in Instrumentation, Control and Automation. The awards were as follows



Chris Ryan

Craft Person Award: Chris Ryan has completed his apprenticeship as an Instrumentation craftsman. He has achieved all credits in every subject for phase 2,4,6. Chris is an excellent student. He served his apprenticeship with Lotus Works and has worked on several major projects in the Dublin, Galway and Limerick areas.

outstanding student on the degree course in Electrical and Electronic Engineering at the Dublin Institute of Technology (DIT).

This project demonstrates the automation of a grain dryer using a programmable logical controller (PLC) and creating a control interface for it using a human machine interface (HMI) for the Strawchip Ltd agribusiness based in Athy, County Kildare.

and they were delighted with the project work and outcomes.



Thomas Butler

PHD Award: Dr. Thomas Butler has recently graduated with a PhD in Applied Physics from Cork Institute of Technology. His thesis title was "Real-Time Characterisation of Dynamic Laser Fields".



Brian Martin

Honours Degree Award: Brian Martin, B.Sc. (Hons.) in Physics with Astronomy, worked on developing a test platform to characterise and test finger ejection systems in optical sorting devices. The project was conducted in collaboration with an industrial partner, Tomra FSorting Solutions - Food based in Citywest in Dublin,

the section since 1984. It is awarded, on the nomination of two or more Society members, in recognition of a lifetime devoted to Instrumentation / Automation in Ireland.

This year, members Mr. Bob Shine, himself a recipient some years ago and Mr. Declan Lordan, nominated Mr. John Lotty, through his dedicated support of the ISA Ireland Section has worked for over 35 years promoting the development and growth of Instrumentation and Control in Ireland.

Aidan Jordan

Innovation Project Award: This award was for development on the JCV Compare tool, a software application developed by Vision Care Ireland to perform multiple compare and review functions on multiple control system platforms. Savings in excess of €200,000 have already been realised by the company this year as a result of the introduction of this tool.

Aidan (second from right) is pictured top of page, with his team at the company.



Colm Prendergast

Degree Award: Colm Prendergast has been an



John Lotty

Pioneer Award: This is one of the earliest awards given by

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