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Ireland's journal of instrumentation, control, and automation

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So what is Automation?

ISA learns what's in a name!

The ISA's Council of Society Delegates, the worldwide annual gathering of representatives from each ISA Section – including **ISA Ireland** – surprisingly rejected a proposal that had unanimously passed their Executive Board to change the name of the society from the three letter acronym ISA with a tagline, *The Instrumentation, Systems and Automation Society* to “*International Society for Automation.*”

This required a two thirds majority and although the majority was large, it was not large enough to make the change.

According to **Steve Huffman**, ISA President, ‘*The majority of dissenters cited that we lacked definition, especially by not explicitly stating the important contribution of instrumentation to the 'new' automation discipline.*

Walt Boyes, editor in chief of *Control* commented: ‘*Those of us who grew up on the field instrumentation and control systems side of the process industries are still not entirely used to the breadth and depth of the field of automation, combining as it does all the facets of instrumentation, control, test and measurement, analysis, and computer aided manufacturing - as well as manufacturing execution systems and machine-to-machine communications and industrial*

Commentators comment: Walt Boyes: www.controlglobal.com/soundoff/?m=20071006;



Some of the delegates at the ISA Section Delegate Meeting in Houston. This body is the most powerful body in the ISA and elects society officers, makes changes to the constitution and decides membership fees.

networking.’

A side effect of this decision is that the rejection of the word “International” in the proposed name change could be interpreted as, what Boyes calls, “*an unfortunate signal to its international members.*” The argument was that eliminating “America” from the name was sufficiently international. This according to another US based commentator, “*was not a good signal to international members who already consider ISA too USA-centric.*”

The primary reasons for name change were not that well explained in the supporting material provided to the delegates by mail. In fact many sections outside of the US did not receive this material before they were asked to vote which lead to a certain amount of dissaray among the non-American delegates some of

whom abstained because they had not discussed the matter with their sections.

So what is automation? ISA Fellow **Jim Pinto** gave one answer: “*In my view, instrumentation, sensors, control valves, control systems, MES, networking and communications on the plant floor, all are part of the discipline of automation. Other markets such as environmental monitoring & control, automated test & measurement, and other sub-disciplines all fit nicely under the big tent of automation. Indeed, many of these just don't fit in the much smaller domain of "instrumentation".*”

The Executive Board promised to take back the motion and give a more thoughtful and comprehensive definition to satisfy the membership before they try again next year.

www.isa.org

Jim Pinto: www.jimpinto.com/enews/oct12-2007.html#3

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The Industrial Wireless Wars

From the interest shown at the Wireless Track at Pharmatex 2007 in Cork and also at the ISA EXPO in Houston we thought it would be of interest to include this article from the pen of **Jim Pinto**.

Most companies in the automation industry recognise Wireless as a new "inflection point" which will generate significant growth and market share for the industry leaders. The Wireless Wars are really marketing ploys to gain market-share through the differentiation of standards that support the majors' market strategies.

WirelessHART Vs. ISA-100

In September 2007, the *Hart Communication Foundation (HCF)* announced official release of the Hart 7 Specification – which includes *WirelessHART*, the first open wireless communication standard specifically designed for process measurement and control. This specification was developed through the combined, cooperative efforts of HCF member companies, which includes most companies in the automation industry.

There was a 11th hour appeal via an "open letter" from **Jack Bolick**, President of **Honeywell Process Systems**. He recommended that HCF remove *WirelessHart* from Hart 7.0, and wait for the not-yet-ready ISA-100 as the networking technology for Hart wireless deployments. He suggested that including wireless in Hart 7.0 was unnecessary duplication, which "creates confusion and slows innovation."

ISA100 is being developed to support multiple protocols, such as Hart, Profibus, CIP and Foundation Fieldbus, instead of just Hart-7. This is being coordinated by ISA's SP100 committee, with a "draft version" ISA-100.11a expected "soon". But, when was the last time any committee approved a specification in less than upteen months?

Honeywell itself is on the 5-member HCF board of directors. The other board members are **ABB**, **Emerson Process Management**, **Endress+Hauser** and **Siemens**. The vote passed 4:1, snubbing Honeywell. *WirelessHART* became the first officially released industrial wireless communication standard. The expectation is that multiple products will soon be

"Wireless is an "inflection point" which will generate significant growth and market share for the industry leaders. The Wireless Wars are really marketing ploys to gain market-share through the differentiation of standards that support the majors' market strategies."

Here's the best overview and summary you'll find anywhere. available with the new standard. But of course, *WirelessHART* approval doesn't end the arguments; it was just the start of another battle.

In June 2007, during the launch of their "One Wireless" offering, Honeywell kept refusing to be drawn on whether they supported *WirelessHART*, insisting instead that they supported "HART-over-wireless". Most observers did not really understand the semantic difference.

Market Battles

It's about 2 years (*last January in Europe: - see "Moving Tectonic Plates" in our Jan/Feb'07 issue: Ed*) since Emerson released its wireless products in advance of agreement on the standard, with an undertaking that users would be able to migrate to the standard once it had been approved. The approval of *WirelessHART* now makes it easy for them to cement their lead, leaving Honeywell to protest about how ISA-100 will provide better links to more protocols.

Emerson remains committed to working on ISA-100, and intends to make sure *WirelessHART* technology is included in that standard – when it is eventually approved. Emerson has the most to gain if the standard emerges today; Honeywell has the most to lose if *WirelessHART* gains market traction. That is simply the basis of their two opposing positions.

These Wireless Wars are really ploys to gain leadership through standards that support market strategies. Here's the key dichotomy: Emerson is pursuing market leadership primarily through field-devices, while Honeywell has a much broader line of control systems, located throughout process plants and requiring wireless communications with a much wider variety of devices.

Collaboration after all

Perhaps the open-letters helped after all, because two weeks after going ahead with the release in the face of Jack Bolick's protest, HCF announced that it had entered into an agreement with ISA to collaborate and investigate opportunities to incorporate *WirelessHART* into the work of the ISA-100 Committee. Within the agreement is a mutual copyright licensing arrangement which allows ISA-100 to evaluate and consider the adoption of *WirelessHART* and gives HCF access to all ISA-100 documents going forward.

ISA and HCF are also establishing a joint technical committee to assess the degree to which this technology meets the ISA's objectives and whether it can be incorporated into what is now being called "the ISA-100 family of standards". This seems remarkably like what happened when several, mutually incompatible protocols were incorporated into the IEC standard which eventually resolved the Fieldbus wars - every standard that had any reasonable following was eventually "incorporated" into the standard.

When eight standards were initially included in the Fieldbus standard I wrote a poem, "The 8-part Fieldbus Voting Fiasco" (see URL below!). It's interesting that there are now 15 or 16 "standards" incorporated into the so-called "Fieldbus standard".

One wonders why the automation industry has had to go through these shenanigans before this degree of cooperation emerges. Why, for example, would it not have been possible for the ISA-100 committee in effect to delegate development of wireless provisions within ISA-100 to HCF from

Jim's Poetry



The 8-part Fieldbus Voting Fiasco
The Fieldbus Quadrille:
The Industrial Wireless Quadrille:

See also: An Open Letter to the SP 100 Community (Walt Boyes):
Wireless Applications Coming to Light (John Montague):

jimpinto.com/writings/fieldbusvote.html
jimpinto.com/writings/fieldbus.html
www.jimpinto.com/writings/wirelessquadrille.html
www.controlglobal.com/soundoff/?p=1344
www.controlglobal.com/articles/2007/341.html

the outset, to allow users of 25 million HART devices an acceptable standard, rather than have to choose between a HART protocol and another, different or similar protocol from ISA? Each camp will give you a hundred reasons why they could not – all of them incorporated into incomprehensible details. The fundamental objections are marketing-based, not technical.

CISCO alliances - with everybody

It's little more than three months since Honeywell announced its One Wireless solution at the Honeywell User Group (HUG) meeting in Phoenix. One Wireless was, claimed Bolick, the "the only wireless network a plant needs." The implication was that users who adopted other vendors' solutions would find themselves having to manage a plethora of protocols, several potentially conflicting wireless networks. Clearly Emerson, which has been selling its HART-based wireless networking for a year, was the primary target against which this marketing volley was aimed. Honeywell suggested that, by focusing solely on field device networking, Emerson was not giving its customers the opportunity to take advantage of wider possibilities

offered by Honeywell's much broader One Wireless in-plant wireless networking solutions.

Now Emerson has responded by announcing an alliance with CISCO which offers users pretty much everything that Honeywell's One Wireless offers after ISA-100 is released, plus the added bonus of WirelessHART based wireless networking now.

Cisco, the mainstream networking "big gorilla", has once again (previous alliance with GE-Fanuc fizzled) entered the industrial automation arena. CISCO sees the growing convergence of the IT and automation worlds, and hopes to extend its reach from the corporate level to the plant, not quite recognising the intricacies in fragmented markets that it does not really understand.

At Hanover in April 2007, CISCO announced collaboration with **Rockwell Automation** with a plan to develop what they called "a common technology view". A few months later, they announced their own wireless solution, specifically targeting the upstream Oil and Gas markets.

Under the newly announced CISCO agreement with Emerson, the two companies will collaborate "to offer open-

standard solutions for wireless process and plant management applications". Many Emerson customers already use Cisco's wired plant network applications, and are expected to extend into the wireless domain right down to the device level using Emerson technology.

The Plant networks will be based on Cisco's Unified Wireless Architecture which provides industrial-class wireless access points, controllers and network management software. Emerson will use Cisco technology to provide ubiquitous, highly secure wireless LAN coverage and integration within a plant's existing IT infrastructure, thereby eliminating the need for a complex wireless overlay network.

Configuration and management of the Wi-Fi network will be handled centrally by Cisco's Wireless Control System. This allows Emerson to offer applications such as worker mobility, voice over IP, personnel and asset tracking and video, under a common umbrella. In effect this is equivalent to Honeywell's One Wireless.

This is clearly a marketing game of ping-pong, with CISCO playing all sides. Honeywell must soon come up with a response to this latest Emerson initiative. Or, they should forget it, and simply focus on gaining market-share - which is the real

to page 4

read-out.net/signpost/wireless.html - Wireless on the Signpost

LAND ThermoPro TP8 *New - high resolution thermal imager*



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Wireless at Pharmatex

Andrew Bond of *Industrial Automation Insider* chaired the Wireless Track of **Pharmatex**. Here's his assessment of the day:

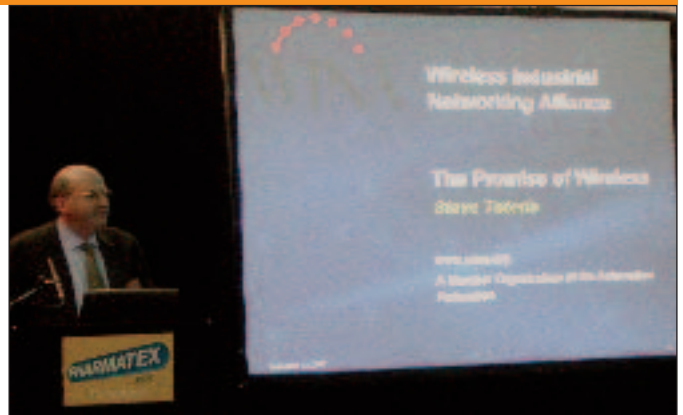
By a happy coincidence, the whole day session devoted to wireless at September's **Pharmatex** conference in Cork, came just days after ratification of WirelessHART by the HART Foundation. As a result the presence among the platform speakers both of Dust Networks marketing vice president Steve Toteda and of ABB's Gareth Johnston, one of the authors of the standard, ensured a rush of late registrations and a large audience who demonstrated both their enthusiasm for the technology and their understanding of its potential by staying right to the end and giving the chairman an easy time through the quality and quantity of questions from the floor.

Further spice was added to the proceedings by presentations from both Emerson and Honeywell, as well as from

Phoenix Contact. However there was also a valuable reminder that, while the mainstream process automation vendors are understandably focussed on the potential benefits of wireless enabled versions of conventional field devices, the full range of potential applications of the technology is considerably wider.

Presentations from both Adaptive Wireless Solutions, EMEA agents for Sencicast, and from GE Sensors, highlighted a range of applications from monitoring the environment in mobile cages housing genetically modified laboratory animals to FDA validated temperature monitoring as an alternative to conventional wired thermocouple systems, all of which underlined the extraordinary resilience and versatility of self-healing wireless mesh network technology.

www.iainsider.co.uk/



Above: **Steve Toteda** of WINA (Wireless Industrial Networking Alliance) & Dust Networks talk about "The promise of Wireless" while the large attendance of almost 70 listen with wrapt attention.

Quote from attendee: "Enjoyed the wireless conference last week very much..."

Quote from an Employer "...feedback from (conference) was very positive about the conference..."

All of the presentations are available for download from www.read-out.net/phrmtx/



Wireless Wars from page 3

prize.

DUST everywhere

WirelessHART, as embodied in the newly released HART-7 specification, adopted the concept of self-healing mesh networking, but did not completely include the Dust Networks proposals, as originally used by Emerson. However, within days of the release of HART-7, Dust smartly announced WirelessHART compatible Wireless Sensor Networking (WSN) based on its TSMP (Time Synchronized Mesh Protocol) which is the foundational building block of the WirelessHART standard.

With Emerson and many other companies already using its technology, Dust Networks are clearly expecting that their products will quickly become the de facto standard in the process measurement and controls industry. Use of Dust products should enable vendors of HART-based field devices to develop WirelessHART compatible versions quite quickly, with retrofit kits for already deployed HART devices. That's a significant market - look

for several products to emerge.

Same Old, Same Old

This kind of standards noise is similar to what occurred during the "Fieldbus Wars" which started almost 2 decades ago. ISA was coordinating the SP50 Fieldbus standard, which never really got anywhere. In the end, some 10-15 different industrial networking protocols were approved as "standards". The situation was too funny to write about in regular prose - people would be offended by clear statements of what was happening. So, I turned to poetry - a crisp, lucid way of describing the situation.

My new poem on the Wireless Wars is in the lilt of Lewis Carroll's "The Lobster Quadrille" from *Alice in Wonderland*. I trust you'll enjoy it. (See URL bottom page 2:Ed)

Wireless Inflection Points

It's important to remember that, while the process automation majors are primarily focused on the benefits of wireless-enabled versions of conventional field

devices, the full range of potential applications of wireless technology is considerably wider and deeper. There are lots of applications which can use the versatility of self-healing wireless mesh network technology, and this will contribute to substantial market growth.

Andrew Bond in his widely respected *Industrial Automation Insider* newsletter: "The future of wireless in process automation could well turn out to be a battle between those who use it 'incrementally' - in effect to replace copper in conventional applications - and those who use it imaginatively to reshape the applications themselves."

My own advice: don't get bogged down in the "wireless wars". Push the inflection point. Develop applications that provide your customers with the significant advantages and benefits of wireless deployment, and you'll find the growth and success your company is looking for.

Acknowledgements

I'd like to acknowledge that several points in this article have used the good insights and writings of Andrew Bond in his respected newsletter, "Industrial Automation Insider".

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LabVIEW 8.20, the twentieth anniversary edition of the flagship National Instruments graphical development software, includes a wealth of new features for building industrial measurement and control systems.

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See what else is new at ni.com/labview/upgrade

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Make measurements where you need to make them – regardless of distance or environment. The National Instruments Compact FieldPoint DAQ system features rugged packaging (Class 1, Div. 2), Ethernet connectivity and built-in signal conditioning. Connect to virtually any sensor type using a wide variety of I/O modules, including thermocouples, RTDs and strain gauges from 4 to 20 mA sensors, as well as a variety of digital signals.

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Texas ranges! - Exhibition in Houston

This was the first time in eight years that this correspondent has visited the ISA's flagship show. It was held yet again in hot and humid Houston as it was last year and will be again next year.

So what had changed since 1999. Well the venue, the Reliant Centre, for one is far better than the Astrodome venue on the same campus. It is also very much more accessible with Houston's spanking new light rail stopping almost at the front door. I thought also that the show was smaller than I remembered but as usual the multiplicity of smaller stands (American's call them booths!), helped in creating a business like buzz in the hall.

But these are cosmetic changes! What about the beef (after all we were in Texas!)?

ISA EXPO is always a little different to other commercial ventures because of its emphasis on learning. Teaching the technology in a series of seminars and short courses which are being carried on concurrently with the show is always an important facet. This year the event was described as "One Event, Six Exchanges." Built around core technologies critical to automation and control success, it offered in-depth coverage, peer to peer networking, and access to technical experts. These technologies were Security, Wireless & Networking, Process Automation, Safety, Environmental & Quality Control and Enterprise Integration.

Despite this five pronged attack the subject that dominated everywhere was wireless. Of fourteen press conferences in the first two days nine were on wireless offerings or developing standards in wireless. (see Jim Pinto on this on Page 2)

Other important happenings during the week at Houston included the rejection by the ISA's Delegate Conference of the name change of the Society to "International Society of Automation." (see cover story).

And the exhibition itself?

There were changes. Like exhibitions in Europe the big boys were for the most part absent as a big corporate presence. However they were present at the smaller technology based pavilions, wireless, safety, process automation etc., giving talks on various aspects of these areas of interest and which were extremely well attended.

ISA is different to most exhibitions in that it is not ostensibly a sales oriented show rather is it a technology based event. Obviously it is necessary that such a big event make money for the organisers but since the organisers are the representatives of a profession - automation - all profits are ploughed back into the organisation. Platforms and technologies take centre stage - though it was interesting that the big Fieldbus platforms (Foundation Fieldbus and ProfiBus) were not represented though HART did have a stand in view of the fact that their WirelessHART standard had



The highlight of ISA's annual meeting is the Gala Honours & Awards Banquet on the night prior to the opening of the show. This year two ISA Ireland members were honoured. Picture shows Éamon Creech of Jansson receiving the Distinguished Members Award from ISA President Steve Huffman. Pic: M Meade. (see also People Section on page 14).

just been published a few weeks ago.

Stands tended to be small with a large number of local Texas businesses represented as well as companies with niche solutions say for the oil business. In effect might be called a regional rather than a true International Show such as Interkama+.

Attendance at the shows is low by European standards with anything over 14000 attendees been regarded as good. Of course a substantial number of

these would be professionals attending the various lectures and short courses which are so much part of ISA's raison d'être.

It remains a very useful event to visit if only to see what is happening in the US marketplace and to see what is the latest buzz in automation circles. In short it is still the place to learn about and progress in the disciplines of instrumentation, systems and automation.

**See Read-out's review of
ISA EXPO 2007**
on
read-out.net/isa

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They are at Unit B Clonlara Ave, Baldonnell Business Park, Dublin 22. Tel: 01 4663773.

www.medray.ie/

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Accurate hydrogen measurements are critical for a large number of organisations. Applications include health and safety, and process control within a wide variety of industries.

www.quantitech.co.uk

Metrology

Metrology Systems and Services (MSS),

operating out of Fermoy is an I.N.A.B. Accredited Calibration Laboratory, accredited for the calibration of M1, M2 and M3 O.I.M.L. Grade Test Weights. They commit to a turnaround time of five working days.

The Mass Calibration Laboratory was established in 1998 by **Donal O'Leary** to calibrate industrial weights in the weight range 25kg to 1g inclusive. A science graduate from UCC through his work with the **Legal Metrology Service, Forbairt** and **N.S.A.I** he has been involved in the areas of measurement, calibration and quality standards compliance since 1983.

The client base developed by MSS since 1998 numbers many organisations from the bulk pharmaceuticals, finished pharmaceuticals, chemicals, medical devices, food ingredients and food processing industries. Their

I.N.A.B. accreditation ensures that these organisations will at all times be in compliance with the mass calibration requirements of the F.D.A, I.M.B. and the Quality Management Standards.

They also provide customised training in: Calibration Principles and Practices, Quality Improvement Skills for Manufacturing Team Members, Statistical Process Control and Quality Management Standards Requirements.

www.mssireland.com

Cool Muscle !

The new Cool Muscle integrated servo system from Reliance Precision Mechatronics is now available in Ireland through **TMS Motion Control Systems**.

They are excited about this new product range. *'The Cool Muscle is a closed loop vector drive servo system. An intelligent driver with a 32 bit RISC CPU, a magnetic encoder and power management are built into the motor,'* said **Richard Colson** of TMS Ireland.

The Cool muscle is available in Nema sizes 11, 17 and 23. With a resolution of 50000 ppr the Cool Muscle offers new ways to design and develop with motion control. It can be supplied fitted to a variety of mechanical positioning systems including leadscrew and rack drives.

Reliance is a market leader in the development, manufacture and marketing of precision mechatronic assemblies for the motion control industry. The company has extensive experience and advanced capabilities in high precision engineering. The full product range includes miniature lead screws, linear slides, gear racks and gears, couplings & a range of precision bearings and fasteners.

'By adding the Reliance range to our existing motion control portfolio, TMS Ireland can now meet motion control

What's cooking?



Eurolec Instrumentation has been appointed as the Irish distributor for the exciting new Grant Instruments range of 'Sous Vide' temperature controlled cooking baths.

'Sous Vide' cooking has recently been reintroduced as an effective method of achieving a consistent high quality and flavour with enhanced shelf life to help to ease the fluctuations in demand in busy kitchens. These quality cooking baths have been developed in conjunction with the prestigious English restaurant, The Fat Duck, which has won three Michelin stars. The baths have also been endorsed by such well known chefs as **Gordon Ramsey; Claude Bosi (Hibiscus); Marcus Wareing (Petrus & Savoy Grill); Tom Aikens; Anthony Demetre (Arbutus Restaurant)**.

These cost-effective cooking baths complement the range of thermometer & other temperature monitoring instruments made by Eurolec for HACCP/Quality Control applications in the catering, food processing, supermarket & hospitality industry sectors.

www.eurolec-instruments.com/

requirements ranging from miniature high precision positioning systems with micron precision up to industrial motion control systems of 2kW or more,' said Colson.

'The Mission of TMS in Ireland is to work closely with our customers' engineers to provide the optimum motion control solution at the most competitive price and to back this solution with the best possible after sales support,' he concluded.

www.totalmotionsystems.ie/

Wireless again!

At the Hart press conference at ISA EXPO (See page 7) in early October **Endress + Hauser** was represented. When we approached their Irish subsidiary we received the following statement:

"Endress+Hauser sees the HART 7 specification in conjunction with WirelessHART as a major step forward for the

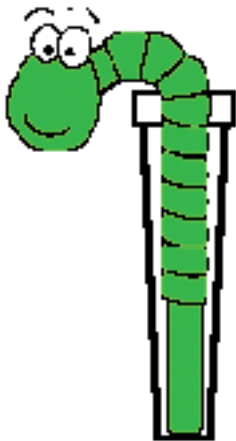
continuing growth of the acceptance of HART by our customers. We will see HART 7 implemented in our devices in future, including support of HART 7 in our Asset Management Tool - FieldCare and in our Mobile Asset Solution - Field Xpert. WirelessHART will contribute to the development of Asset Management applications by offering easier access to the device information and most importantly to the diagnostic's. An important application for the future successful use of WirelessHART will be the field of Inventory Control, which is well catered for by our SupplyCare product portfolio. Endress+Hauser will offer products based on WirelessHART in 2008."

www.ie.endress.com

(See also our Inside Front article on the Wireless Wars on page 2)

Free worm!

the WORM



Moore Industries is giving away a free WORM flexible RTD or thermocouple sensor to any qualified user that wants one. The offer includes a choice of a thermocouple or RTD sensor, 24 in. of extension wire, and an installation kit with all the necessary mounting components, including a spring, spacers and a clip. The free WORM sensor will fit into virtually all new or existing thermowells with a 0.260 in. ID. To obtain a free WORM sensor, go to www.miinet.com/freeworm, fill out the

New range

P.J. Boner & Co. Ltd. have added *Calex Electronics* to their growing range of instrumentation products. *Calex* are a well renowned and respected company that are in operation in the Britain since 1973 and have developed a superb range of non-contact temperature products. They manufacture Handheld infrared thermometers in both Gun style and pen style and also do a great range of fixed infrared thermometers. They also have a wide range of Traditional Digital thermometers along with thermocouple and RTD probes. P.J. Boner & Co will be stocking *Calex's* range and will be pleased to forward on any datasheets to interested parties

www.pjboner.com

form, and hit SEND!

Because the WORM is a flexible sensor, it can fit into existing thermowells that have problems, such as caked debris or those that are "sagging" from exposure to extreme heat. In many cases, conventional rigid sensors cannot be installed in such thermowells, and the thermowell itself has to be replaced.

The WORM also simplifies maintenance procedures, because a WORM can be "cut to fit" any application. A maintenance techie no longer has to take a dozen different rigid sensors into the field in hopes of finding one that fits; instead, he or she can take a single WORM and trim it to fit almost any length thermowell. This also simplifies spare parts inventories at a plant.

"We are convinced that users will buy WORM sensors once they realise how versatile and accurate they are, and how much the WORM can save them in maintenance time and spare parts inventories," says Scott Saunders, Vice President of Sales and Marketing at Moore Industries. "The WORM sells itself, once a user gives it a try. For that reason, we are offering a free WORM sensor to any customer that is interested in solving their sensor headaches."

Spectroscopy system

The new #2000-A-C from AABSPEC is a new spectroscopy system optimised for catalyst research. Reduced internal volume, special sample probe, reduced gas phase pathlength, special ported end plate, all combine to provide an advanced facility for catalysts. In addition to high temperature, high pressure/ vacuum transmission spectroscopy, the new system provides a range of other facilities. These include low temperature spectroscopy, specular reflectance, large angle reflectance and Raman spectroscopy.

www.aabspec.com

New multi-tasking thermal



With Bluetooth voice recording technology and a detector resolution 45% higher than the standard 320 x 240 pixels, the TP8 thermal imager from Land Instruments and marketed here by **Manotherm Ltd.**, sets new standards wherever thermography is used to inspect plant, buildings, structures and other targets.

Within the measurement range -20 to 800 °C, users can capture thermal and visual images simultaneously, record

dynamic radiometric sequences of moving targets in real-time, and store up to 1,000 images on the generous 2 GB storage card - all part of the standard package. Automatic capabilities include hot spot and image centre detection, and preferred operational settings can be saved and recalled instantly. Inspection reports can be created in minutes with a simple *Microsoft Word* interface using a pre-defined template or manually by the user, and can include the thermal and visual images, measurement details, annotated text and any other essential information.

The TP8 uses a 384 Å~ 288 IR camera and a colour 1280 Å~ 1024 visual camera. Operators simply locate the scene to be inspected, press the shutter and then have both high-resolution thermal and visual images taken and saved together in a single file with text annotation

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Innovation & Performance

BW DIGI-METER™ F-2000
Flow Monitoring System

FOUR MODEL VARIATIONS:

- RT** = Rate and Totalizer. Transformer or battery operated.
- AO** = 4-20mA, 0-10 VDC analog output, flow rate & totalizer. Transformer operated.
- PC** = Batch processing, flow rate alarm, proportional chemical metering, flow rate and totalizer. Transformer operated.
- AP** = Analog output, batch processing, flow rate alarm, proportional chemical metering, flow rate and totalizer. Transformer operated.

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and a voice recording of up to 30 seconds. The integrated laser locator helps to associate a hot spot shown in a thermal image with the real physical target.

Up to eight areas can be analysed simultaneously in live, zoomed, frozen or saved format with respective maximum, minimum or average temperatures indicated within each. Display options include line, histogram and isotherm.

The TP8 flash internal memory can store up to 450 images, with a further 1000 on the SD card.

www.manotherm.ie/

Cost conscious recorder



Companies that will not compromise on specification but want a low cost data recorder will be interested in the launch of **Eurotherm's** new 6100E model. The design brief was straight forward; create an easy to use, secure and adaptable recorder that will meet the needs of industry at a competitive price.

Many companies have an ongoing requirement to record data relating to a manufacturing process but do not need the sophistication of higher cost recorders. The 6100E looks to be a good choice for basic visualisation and recording requirements and makes an excellent replacement for small strip chart recorders. Of course, the now "old" strip recorders offer none of the security and flexibility of secure electronic data files. For a small instrument the 6100E's full colour display is impressive and particularly when you

consider that the screen uses touch technology for clear intuitive configuration and operation. They have incorporated a USB port as standard to enable the use of a mouse, keyboard or bar code scanner so that you have a variety of interfaces available. Security is always a concern particularly with news of increasing cyber attacks so it's good to know that the 6100E stores data in check summed, binary compressed files for security purposes. A graphic recorder ensures that pens and paper will never run out and data can be moved manually or archived automatically to multiple locations. In practice this means removable media, network servers or the Eurotherm Review database which can sit on any PC. An internal, non-volatile 8Mb memory gives adequate storage and a data review capability at the instrument itself which in turn enables the operator to set up the best strategy for a specific application. The USB port can further be used to support a removable memory stick for increased local archive capacity.

Communication is provided via an Ethernet port with both Modbus TCP (slave) and FTP protocols supported. With this connectivity the recorder can easily be integrated into a larger system with data transparency across the network. The specification of this recorder is completed by the inclusion of relay outputs and configurable channels for Maths, Totalisers and Counters give companies the further flexibility to adapt the recorder in order to meet specific application needs. Maths functions include add, subtract, multiply, divide, constant, group max, group average, channel min, channel max, channel average, rolling average and slaves comms.

www.eurotherm.com/

True collaboration

Invensys's InFusion Condition Manager is a real-time asset condition management component for the company's InFusion enterprise control system (ECS) and other platforms. It collects real-time condition data from a broad range of plant data sources, analyses and contextualises the data, and then triggers and manages the appropriate operations, engineering, or maintenance actions.

Other vendors' condition monitoring solutions tend to focus on basic monitoring of field devices and/or rotating equipment. In contrast, InFusion Condition Manager collects, aggregates, and analyses real-time data from the full array of plant production assets, including (but not limited to) sensors and actuators, pumps, motors, compressors, turbines, dryers, and heat exchangers; and even entire process units.

It interoperates with all Invensys and third-party applications supported through the InFusion application environment. Thanks to recent version 2.2 enhancements, equipment condition and maintenance information can now be easily be displayed on plant process control and engineering HMI workstations. This information was previously only available on their own Avantis.PRO enterprise asset management (EAM) system or other computerised maintenance management systems,

It can now also feed data to a variety of different plant Historian packages to allow the data and actions to be historised and made available to other plant and enterprise systems. And to more easily facilitate bulk deployment throughout industrial plants with a large number and diversity of production assets, the enhanced InFusion Condition Manager offers improved

template capabilities. These templates save time and drive best practices.

www.avantis.net

Lowcost RH/Temp



Lee-Dickens, represented here by **Douglas Control and Automation**, has released two low cost relative humidity and temperature probe ranges. The HP700 and HP800 series are high accuracy duct and wall mounting environmental probes for measuring relative humidity and/or temperature in applications such as air conditioning ducts, environmental chambers, drying tunnels, clean rooms, laboratories, computer rooms and storage areas.

The probes, which use a capacitive sensor, operate as either two wire transmitters or transducers and have a variety of output types that can be configured at the time of order. These include a 4 to 20mA, 0 to 1mA or 0 to 1 Volt DC output proportional to 0 to 100% relative humidity (0 to 100°C for temperature), with accuracy $\leq \pm 2.0\%$ for 0 to 95% relative humidity and $\leq \pm 0.3^\circ\text{C}$ for temperature. Furthermore each output can be fed from a separate power supply if loop isolation is required.

They are housed in a tough polycarbonate enclosure and have a polycarbonate cage to protect the sensor. Sintered bronze or stainless steel guards can be fitted if required. The non-processor based electronics are extremely reliable and suitable for use in operating

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 temperatures of -10 to +70°C. The sensor on the duct mounted HP700 series has an operating temperature range of -10 to +100°C.

The method of duct mounting the HP700 series is by compression fitting or by a Table E flange. The standard probe length is 225mm, but other lengths are available.

www.douglas-esl.ie

Bimetal Thermometer for Heavy Industry

With the TBHI, *Baumer's* product segment Process Instrumentation is extended by a robust stainless steel bimetal thermometer specially designed for the heavy industry. This every angle version measures temperature ranges from -70°C up to 600°C.

Based on the TBI series, the TBHI is a robust execution of the bimetal thermometer specially designed to be used in severe conditions, such as chemical and petrochemical industries, power generation as well as marine and offshore applications. The TBHI is universally suitable in plant, machinery and tank construction but also in the general and process industries such as food processing.

Due to the completely welded construction made of stainless steel, the reinforced case with a sealed bayonet ring, the protection class IP 68 according to the EN 60529 standard and an optional security glass, the TBHI is particularly robust and resistant against vibrations. The bayonet ring is sealed with a silicone dustproof and leak proof gasket. At the same time, the ring also allows to open the case in order to adjust the thermometer directly from the front side.

The unit measures temperature ranges from -70°C up to 600°C and conforms to the accuracy classes 1 and 2 according to the

EN 13190 standard. The device is available with stem diameter 6 and 8 mm, and with a length from 60 up to 1000 mm.

It is offered with a wide range of connections (fix and sliding). The thermometer case can be tilted up to 90°. It can be orientated before mounting, by rotating the harness assembly up to 360°.

For static pressure above 10 bar, for high velocity applications, and for corrosive fluids, the use of a thermowell is recommended. It allows removing the thermometer without affecting the tightness of the system and without stopping the process.

www.baumerprocess.com

Power analyser

Carlo Gavazzi, marketed through **Brownsbarn Controls**, part of **Hanley Automation Networks**, has created a new benchmark in energy meters, with the introduction of a compact 1DIN module that adds MID-compliant power measurement and control functions to active energy metering. The EM11-DIN is a single-phase energy analyser with built-in configuration push-button and LCD data display, providing both active and reactive energy metering, together with cost allocation functions.

Applications include energy cost sharing in public buildings, campsites, marinas, where the loads need to be controlled and monitored. Cost allocation for single-phase loads such as computers, domestic installations where warnings are required for imminent overloads, and energy metering for services such as server web hosting.

With direct connection up to 32A, the meter can provide either pulse output proportional to the measured active energy, or alarm control on one of the available instantaneous variables. It can control and limit power before switch-off of the

whole electrical system occurs, even in domestic installations served by automatic breakers. Measurement functions include: instantaneous variables (V, A, W, Wdmd, Wdmd max, var, PF, Hz); single phase variables (VLL, VLN, A, VA, W, var, PF); energy measurements such as total kWh and kvarh; and TRMS measurements of distorted sine waves. Measurements are classified as Class 1 (kWh) according to EN62053-21, Class B (kWh) according to EN50470-3 and Class 2 (kvarh) according to EN62053-23. Accuracy is ±0.5 RDG (current/voltage) and the readout offers four-digit precision for instantaneous variables readout, 5+1 digits for energies.

www.hanleyautomation.ie

Breakthrough

Wonderware Ireland has announced four major new offerings that are designed to

help customers break down barriers to achieving operational excellence across their manufacturing and industrial businesses. These new offerings coexist and inter-operate with existing systems and software from Wonderware and other vendors. They also launched the new Internet-based "*Wonderware Breakthrough Experience*" to provide operations, engineering and IT personnel with first-hand experience of the capabilities of these new offerings.

• InTouch 10.0 software is the next breakthrough generation of the world's most popular HMI software and adds new innovative Archestra graphics capability. The intelligent graphics capability, along with direct support for Microsoft .NET technology, enables InTouch 10.0 HMI to provide enterprise-wide visualisation for a wide range of real-time

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Infrared Non-Contact Temperature Sensors

Calex Electronics Ltd has been providing high quality, cost effective, temperature measurement and power conversion solutions for industries worldwide since 1982.

In-house design and manufacturing focused on non contact infrared temperature sensors and calibration equipment, as well as AC/DC power supplies.

CALEX ELECTRONICS LIMITED

- Two Mount Non Contact Temperature Sensors -
- Hand Held Non Contact Thermometers - "Gun Style", "Pen Style" & "Camera Style"
- Infrared Temperature Calibrators -
- Single/Dual Wavelength Infrared Temperature Sensors -
- Hand Held Thermometers - Penetration & Surface Probe



Please Contact Us at the Dublin Show, 2005
 at Royal Dublin Show and Exhibition Centres for Calex Electronics

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 Email: Jhon@pjhoner.com

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applications. With more than 200 new features, InTouch 10.0 HMI delivers the latest intuitive graphical interaction and animation techniques for maximum operator response and comprehension, while minimising design and engineering efforts.

- The new Wonderware Development Studio provides a unified environment, which empowers the collaboration of IT and engineering teams to perform software application modelling, development, change management and deployment across the full range of Wonderware software applications – including InTouch 10.0 HMI, System Platform 3.0 and associated application modules. Using this environment, applications can now be deployed across a wide range of enterprise devices running on Windows Mobile, Windows XP, Windows Vista and Windows Server 2003 operating environments.

- Their System Platform 3.0 delivers major runtime performance updates to the Wonderware Application Server, including the ability to take full advantage of the latest multi-core microprocessor technology. This platform also provides a rich set of software services for creating, deploying and managing distributed real-time applications, with faster time to value and with lower life-cycle costs. System Platform 3.0 works seamlessly with InTouch 10.0 software by offering complete integration of ArchestrA application objects with ArchestrA graphics running inside InTouch HMI visualisation. Wonderware is offering discounts for customers that upgrade their existing InTouch software licenses to InTouch 10.0 software and additionally purchase the Wonderware System Platform 3.0 and

customer support.



- Compact Panel offerings provide unprecedented ease of installation and a new entry price point by bundling a subset of InTouch 10.0 HMI runtime functionality, along with rugged, industrial touch screen operator panels operating Windows CE 6.0. A range of screen sizes and industrial environments can be supported with these devices including NEMA 4X/IP 66 and Class 1, Div. 2. Customers can now have a common visualisation strategy from the smallest devices to a network of servers and hundreds of clients – all utilising InTouch 10.0 software and the common Wonderware Development Studio.

The Wonderware Breakthrough Experience, visit www.experience.wonderware.com.

Solutions PT – who market these products here are holding “*Hardware Solution Days*” in Cork 06.11.2007 - Rochestown Park Hotel. Dublin 08.11.2007 - City West Hotel.

A new revolution

Hassan Kaghazchi of **ProfiBus Ireland** tells us of “*a giant leap forward*” for ProfiBus with the release of the incredible ProfiTrace II and ProfiCore Ultra. Finally, analysis of the signal quality, busmonitoring and master activities can be carried out simultaneously on the same USB hardware. The technician can check and troubleshoot the complete ProfiBus network with one software package and one piece of hardware. This results in an enormous reduction in equipment, weight, costs and required knowledge.

The advanced USB hardware (ProfiCore Ultra) is internally equipped with a high speed digital oscilloscope and able to capture bus signals running at 12 Mbps. It can also be used on ProfiBus PA installations with the PA Probe Ultra.

PROCENTEC continues the tradition with moving the technology forward and starting a new revolution in ProfiBus T&M tools.

This improved tool that fits in the pocket will boost the limits and capabilities of service-, maintenance- and engineering technicians. ProfiTrace II is an essential tool for maintenance, commissioning, and troubleshooting as well as product development. The classical failures such as noise, reflections, voltage drops, termination problems, double addresses, wire breaks and configuration faults are easily identified. Random errors such as overshoots, error telegrams, repeats and diagnostics can also be captured and logged. Predictive maintenance and asset management are now really possible.

The unit will be used in all their ProfiBus training courses shortly.

www.profibus.ie

Videographic recoder



With the “Graphic Data Manager” Memograph M **Endress+Hauser** presents its new video graphic recorder. The ideal application areas for this unit can be found in process measurement and control areas of the water/wastewater, power and food as well as the pharmaceutical industry. The functionality, flexibility, secure

data recording, informative measured value analysis and the superb measurement display have no limits in application creativity. It is the “*window to the process*”.

As the only instrument on the market in this class the Memograph M includes up to 20 universal inputs, analyses the raw data and stores analog values, counter values or quantities and simultaneously up to 6 operating times or switch states. Up to 100 alarm set point values can be monitored and be retransmitted using the 6 relays included in the basic version. By means of Profibus or MODBUS the device can be expanded up to 40 channels and can be connected to SCADA and PLC systems. The processing of nonlinear signals is not a problem as each input can be linearised using a linearisation table with a maximum of 32 points. A loop power supply and 2 analog outputs provide additional flexibility.

The process values and reports are indicated on a high resolution 7” TFT which can be easily read from long distances thus giving the user direct front end access to both real time and historic operating data. The large screen enhances the various display formats, such as curves, bar graph and also circular chart and instrument display. Mixed display formats can also be set up.

Set-up and operation is carried out using menus and dialogue windows in combination with 4 push buttons with the navigator giving the unit the most up-to-date “*look and feel*”. One of the highlights of this user friendliness is the integrated online help which almost makes the published user manual superfluous! The unit can also be operated using an external keyboard (USB).

A comprehensive signal

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Products from page 12 analysis processes the recorded signals in the device and stores these as day, week, month, annual analysis or counter values. Freely definable or externally controlled measurement periods are also possible. The integrated user administration is part of the safety package in the basic device and provides the highest data security and clear traceability of the processes. The device complies with the regulations defined by the FDA (Food and Drug Administration) within the 21 CFR Part 11 regarding electronic data acquisition and is therefore suitable as a display and data acquisition system of safety relevant process parameters.

Recorded data is saved safe from manipulation in the large internal 256 MB memory and in addition can also be transferred to the front mounted optional SD memory card or thumb drive. A sampling rate of only 100 ms for all channels and a fast memory cycle of 100 ms are an additional exceptional feature.

The integrated web server allows remote monitoring and access to current Memograph M process information using a standard Web browser. The integrated Ethernet or USB communication interface makes it possible to remotely download historical data or device set-up to a PC. The PC software package ReadWin® 2000, part of the standard delivery package, is used for parameter set-up, visualisation and storage of the recorded data. Furthermore an OPC server provides a primary system with the current measurements.

www.endress.com

Wireless Remote I/O

Cost and convenience are the two biggest advantages of going wireless over wired. Now **B&B Electronics** of

Galway gives even more. *“Any supervisory control or data monitoring system includes hard-to-wire sensors,”* states **Mike Fahrion**, B&B Electronics’ Director of Engineering. *“They’re either hard to reach or in a demanding industrial location where wiring won’t survive. Those inputs are typically left unmonitored, limiting the effectiveness of the system, or are frequent maintenance hassles causing missed data and service calls to replace damaged wiring. Wireless remote I/O’s are the solution for those I/O points.*

Zlinx wireless remote I/O’s from are the reliable, easy-to-install answer to reach even the most remote sensors. Simply install a pair of Zlinx I/O nodes and your remote analog and digital sensor values will be replicated on the local node, integrating seamlessly with your existing control system, with no software changes.

Or, use the Wireless Modbus mode to wirelessly connect many sensors to your system. The wireless I/O maps directly into your Modbus table, making it an easy fit to any PLC, HMI or PC based control system running Wonderware, LabVIEW or other popular automation software

New Zlinx wireless modules provide Modbus compatible communication at ranges up to 4.8km. Cabling alone will cost as much as a set of these new Zlinx wireless modules. For applications up to 1.6km line of sight, wireless module with 2.4 GHz 100 mW radio is available for less than 250.

Rugged cases and proven circuitry protect in temperatures from -40 to 75 C. Fail-safe systems hold values in case of loss of communications. An event/alarm recorder time stamps any problem for fast analysis.

www.bb-europe.com



Dear Editor

Plastics products are associated primarily with high volume production and increasingly, at least in developed nations, associated with high levels of automation. But, much of the automation in the plastics manufacturing sector is inflexible and designed for products for which an apparently endless life-time was predicted. Further, traditional automation is not aimed at handling the new kind of materials pushed by cost & environmental drivers.

The speed with which new products and designs are now brought to market, however, has caused many to shudder at both the costs and the technical challenge of maintaining competitiveness. Changing high volume production lines often means much more than simply investing in new, albeit expensive, tooling. Often entire manufacturing functions have to be altered.

The trends are new material to replace metal and glass, for more advanced and appealing design and to reach weight reduction and cost-reduction which yields environmental effects. New processes involve long fibre injection (LFI) for production of fibre-reinforced glass to improve impact strength, to replace

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Events

Practical Troubleshooting of Electronic Circuits

Workshop
www.idc-online.com
5/-6/11/2007
Cork
8-9/11/2007
Dublin

Manuf Technology Ireland

www.industry.co.uk
7-8/11/2007
Dublin

Siemens S7 Basic Course

www.profibus.ie
7-9/11/2007
Scarriff

Plant 2 Enterprise

Conference
www.mesa.org
7-8/11/2007
Utrecht (NL)

Hardware Solution Day

www.hardwarept.co.uk
8/11/2007
Dublin (IRL)

Thermal Imaging

Webinar
www.fluke.co.uk
8/11/2007
14/11/2007

Lightning, Surge Protection and Earthing of Electrical & Electronic Systems in Industrial Networks

Workshop
www.idc-online.com
12-13/11/2007
Dublin
15-16/11/2007
Cork

CANopen Seminar

www.can-cia.org
13/11/2007
Manchester (GB)

Productronica 2007

www.productronica.com
13-16/11/2007
Munich (D)

ProfiBus Installers Course

www.profibus.ie
14/11/2007
Limerick

ProfiBus Maintenance Technician Course

www.profibus.ie
26-27/11/2007
Cork (IRL)

SPS/IPC/DRIVES 2007

www.mesago.de/en/SPS/main.htm
27-29/11/2007
Nuernberg (D)

ProfiBus Engineers Course

www.profibus.ie
28-30/11/2007
Cork

Practical Variable Speed Drives for Instrumentation and Control Systems

Workshop
www.idc-online.com
3-4/12/2007
Cork
6-7/12/2007
Dublin

Practical Tuning of Industrial Control Loops

Workshop
www.idc-online.com
10-11/12/2007
Dublin
13-14/12/2007
Cork

Help Achieve Operational Benefits

www.easyceltav.com/eventcentral/index.aspx
13/12/2007
Cork

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Pictures at Pharmatex!



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Former ISA Ireland Technical Programme Chair and Dataworks Business Development Manager **Marc**

Roosli returns to his first love, multimedia design. **Marc** resigned from his position in Dataworks earlier this year to join **Multimedia Instructional Design (MMID)**, an established e-learning & multimedia production company. MMID customers include leading manufacturers such as DELL, Merck Sharp & Dohme and Bulmers.

What does this have to do with automation you'll wonder? Well, as well as his

new role as MMID's Creative Director, he has taken on the task to grow the company (5 employees at present) and has decided to make good use of his experience & contacts in the manufacturing sector to do so. *"I have thoroughly enjoyed working in the automation field in FDA regulated environment over the last few years - it would be a pity to just turn the page and lose touch with the industry"* says Roosli, adding *"...there is room out there for a company that truly understands how the industry and technologies work to help automation vendors & training providers produce cutting-edge promotional and training interactive material. I would really like to marry my knowledge gained in the [automation] industry with what I am doing now."* A quick look at the company's website will demonstrate it's innate talent to explain technical concepts in a simple, engaging, visual manner.

www.multimedia-instruction.com



Who says Men can't multitask? **Dr Gareth Pearson** recently accepted a job offer from *Quantitech* whilst riding an elephant in Thailand! As a result, *Quantitech* has made yet another new appointment announcement; **Dr Pearson** has recently completed a PhD in ICP Mass Spectrometry and joined *Quantitech* in September 2007 in order to expand the company's analytical resources. Working as Product Specialist -

Elemental Analysers, **Gareth's** work will focus primarily on analysis in the laboratory. We managed to get a photo of **Gareth** but the elephant was too shy to be photographed!

Letter from page 13

car side windows, car bumpers. To keep up with the new production trends also a more flexible automation is needed to handle handling and processing of the advanced products. Fixed automation systems can leave manufacturers floundering and at risk of being overcome by aggressive competitors. Investment in proven 21st century manufacturing technology is a must, but the most cost effective way to do this is to increase throughput, quality, flexibility and reliability - a daunting prospect. That is until the potential of high speed, high accuracy, high reliability modern robots are considered.

Unquestionably, the most versatile constituent in manufacturing remains the human being, but today's robots are capable of doing pretty much anything a human can do. But, it requires humans to make the decision to deploy the robots to stay ahead of the rest.

Tore Lindstrom
Segment Manager Plastics
ABB Robotics

Peer Recognition



Ireland was well represented at the ISA Honours and Awards Gala in Houston on 1st October this year. These awards were announced earlier and were the result of nominations submitted by the Ireland Section and evaluated by an international committee of the Society.

Pictures show top: (LtoR), Éamon Creech, Distinguished Service Award, Mick Meade, ISA Ireland President Elect, Jim Long, ISA Ireland President, Eoin Ó Riain, Golden Achievement Award.

Below: Eoin Ó Riain and Éamon Creech pose for pictures with their awards.

**A wireless signal has no way through obstacles.
It will just bounce around.
At least the smart one will.**



Introducing Emerson's Smart Wireless — the secure, robust, self-organising wireless network that's as easy to use as it is smart. With Smart Wireless, all the devices in the network can communicate with each other. Whether it meets a permanent obstacle or a temporary barrier, the self-organising network automatically routes the signal around it. Smart Wireless is not just flexible, it's dependable — proven to deliver greater than 99% data reliability. To find out why you should rely on Smart Wireless from Emerson go to www.EmersonProcess.com/SmartWireless



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Process Management

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