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Irish company sells worldwide

BioTector Analytical Systems, Ltd., a manufacturer of an innovative range of total organic carbon (TOC), total nitrogen (TN) and total phosphorous (TP) on-line liquid analysers for environmental monitoring, process control and waste minimisation, has recently announced a distribution agreement with Colorado-based Hach Company. Hach and **Hach Lange**, a leading manufacturer and distributor of analytical instruments, test kits and reagents used to test the quality of water and other liquids, will serve as the exclusive distributor of the BioTector range of on-line liquid analysers in the USA, Canada, Mexico, Brazil and Europe. The product will be sold in these markets under the name: Hach BioTector TOC analyser. The agreement does not include the Irish market, as BioTector already has a number of Irish Distributors who look after the local market.

The distribution agreement was announced during a Trade and Investment Mission to the U.S. led by Taoiseach **Brian Cowen**. The Mission is organised by Enterprise Ireland, the state agency responsible for the development and promotion of the indigenous Irish business sector.

BioTector's on-line liquid analysers are used in a variety of industrial applications, including dairy processing, chemical processing, oil refineries, municipal treatment plants, pharmaceutical manufacturing, airport surface water analysis, breweries, and pulp and paper manufacturing. The company's patented oxidation technology—a two-stage advanced oxidation method—overcomes the limitations of traditional on-line analysers and offers customers an accurate, reliable and low maintenance solution to their on-line analysis needs.

"We're very pleased to enter into this partnership with Hach Company," said **Martin Horan**, BioTector's Managing Director. *"This distribution agreement with a leading U.S. company like Hach — a significant endorsement of our technology — offers Hach customers*

To page 4

Micheál Martin *(Minister for Foreign Affairs),* ***Hugh Cooney*** *(Chairman Enterprise Ireland),* ***Taoiseach Brian Cowen****,* ***Nancy Horan*** *(Director – BioTector),* ***Joe O'Shea*** *(Director, Corporate Development – Danaher Corporation),****Martin Horan*** *(MD, BioTector),* ***Richard Leggett*** *(Principal Scientist - Hach Company),* ***Jeff Throckmorton*** *(Vice President Global Innovation Hach-Lange & President Hach Homeland Security Technologies)*

Approval of First International Process Wireless Standard

The HART Communication Foundation (HCF)has announced that the International Electrotechnical Commission (IEC) has approved the WirelessHART® specification as a full international standard (IEC 62591Ed. 1.0). The unanimous vote on 26 March 2010 by the IEC National Committees of 28 countries confirms the broad global support for WirelessHART technology as the international standard for wireless communication in process automation.

"The overwhelming approval by IEC fulfills the request of users for a single international wireless communication standard that is supported by major automation suppliers," says HCF Executive Director **Ron Helson**.

"WirelessHART technology has been confirmed by both users and

To bottom page 2

Cracking the safety code

On December 31st 2009, the new European machinery directive 2006/42/EC came into force. So did the corresponding revision to Irish legislation "Machinery Regulations 2008 (SI 407/08)". For some it will be considered as more Eurocentric red tape, but those who use the framework of the regulations in a positive process will find a code for preventing serious injury in the workplace.

Twenty years ago the EU introduced the Machinery Directive with the aim of ensuring the free movement of machinery by guaranteeing a high and a common level of protection in the areas of health and safety. Despite improvements, accidents relating to the use of machinery still remain a tragic and costly reality today. In the EU each year more than 500 million workdays, and 3% of member countries' GDP, are estimated to be lost to workplace accidents, while research by the Health and Safety Authority in Ireland shows that 11% of workplace accidents related to "machine problems" the majority within the manufacturing sector.

Research here by the Personal Injuries Assessment Board (PIAB), meanwhile, showed that out of eleven awards of compensation for personal injury in excess of €100,000 granted in 2008 seven related to machinery accidents.

The new safety directive takes into account extensive work into uncovering the nature of such accidents, such as research carried out by The BG Institute for Occupational Safety and Health in Germany (BGIA) and the Swiss Agency SUVA. Such studies show for instance, that once automated systems became the norm, accidents decreased due to less human machine interaction. However occupational accident incidence reached a plateau and did not decline any further.

***John McAuliffe**, managing director of **Pilz Ireland** writes about the practical implications of the new European machinery directive that came into force in January*

www.pilz.ie

In 25% of accidents studied, workers' bypassing safety systems is a contributory cause of the accident, with research showing that workers do so because there is a benefit for them and because management supported such behavior. Similarly, safety concepts that do not hinder the working process are usually not tampered with, while those that do are more likely to be bypassed.

To counter such behaviours, and reflect new thinking in workplace safety, under the new directive manufacturers are required to consider "the hazards that exist … in the conditions foreseen by the manufacturer… or in foreseeable abnormal situations". New prevention methods and technologies need to be considered to ensure a safe intervention if for certain operations, the machinery must be operated with a protective device removed or disabled.

Risk assessment as an ongoing, iterative process is now enshrined unambiguously in the new directive, with the previous obligation *"… to assess the hazards …."* replaced with a much stronger statement: *"The manufacturer of machinery … must ensure that a risk assessment is carried out …. By the iterative process of risk assessment and risk reduction …, the manufacturer … shall: eliminate the hazards or reduce the risks associated with these hazards by application of protective measures..."*

In practical terms, companies manufacturing machines will therefore need to ensure that a defined iterative process is carried out effectively and that the results are demonstrably incorporated in the machine design, recorded in the technical file and reflected in the instructions for use.

Some of the other most significant changes include:

- there is a requirement to consider foreseeable human error
- a new definitions of machinery including the introduction of the new concept, that of partly completed machinery
- instructions on the use of machines must not only take account of the intended use of a machine, but also any reasonably foreseeable misuse
- there is an obligation to consider control systems and protective devices to automatically prevent start up if it detects somebody in a danger zone.

For manufacturers and users alike the implementation of the new safety directives will prove challenging initially. Ultimately the effort will be rewarded when the new directive is used in a collaborative effort involving the manufacturer of the machine, the machine user and those responsible for developing the machine safety concepts to prevent serious injury.

WirelessHart from page 1

suppliers to be a technically sound, reliable and secure solution for wireless communication in process automation."

A growing number of WirelessHART compatible products are available today from major global suppliers including **ABB, Emerson, Endress+Hauser, Pepperl+Fuchs, Siemens** and others.

Released in September 2007, This is an open and interoperable wireless communication standard designed to address the critical needs of industry for reliable, robust and secure wireless communication in real-time industrial process measurement and control applications.

In a subsequent message President of Emerson Process Management, **Steve Sonnenberg** commented *"The commission's endorsement of this standard confirms what Emerson and many others have known: this technology is a reliable, versatile, and economical tool for improving process operations and enabling a significant return on investment," he continued, "IEC 62591 compliant technology will have as great an impact in process plants as Wi-Fi has in offices."*

www.hartcomm.org

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Company News from page 1

a robust on-line liquid analysis technology that overcomes the limitations of most competing systems, which are better suited for lab rather than industrial environments. Hach's systems, like ours, are designed specifically for quality, accuracy and simplicity, and it is this shared ethos in high standards and customer satisfaction that we believe will drive the success of this partnership."

"We're very pleased to be able to offer the BioTector TOC analyser to Hach customers," said **Terry Stange**, Business Unit Director with Hach, *"These products offer 99.7% uptime, +/- 3% accuracy, are entirely self-cleaning, and can analyse samples up to a thousand times larger than those of competing products. This will provide our customers with the benefits of reliability, measurement confidence, low maintenance and high capacity."*

www.biotector.com

Grant foe SMEs

National Instruments UK & Ireland has announced a grant programme to support micro, small and medium-sized enterprises in embedded development. Starting in 2009, They began offering very low cost training and certification to unemployed scientists and engineers to help them develop skills to aid in finding employment. In 2010, recognising that many of the innovative advances in technology over the past 20 years have been developed by small, entrepreneurial companies, National Instruments is offering grants for software, support and training to micro, small and medium-sized companies (often known collectively as SMEs) that are developing embedded devices in areas such as medical, energy and green engineering.

Knowing that SMEs often have limited resources, the company has created a grant programme that will award up to £25,000 (ca €2800+) in software, support and training to selected SMEs that are evaluating the NI platform as a component of their devices. The goal of the new grant programme is to help these companies reduce the cost and complexity of development by providing them with technology such as the National Instruments LabVIEW graphical programming environment. The National Instruments software and hardware platforms for graphical system design are ideal for accelerating the design, validation and implementation of new concepts. The LabVIEW graphical programming environment makes system development faster and more intuitive, opening embedded development to scientists and engineers who are experts in their fields but not necessarily in traditional embedded software. When LabVIEW is used together with the FPGA-based CompactRIO architecture it enables the use of the latest embedded technology without the need for costly custom designs. *"National Instruments UK and Ireland is committed to supporting innovation,"* said **Robert Morton**, Managing Director. *"Through this grant programme, we are suppor-ting scientists and engineers based in the UK and Ireland who are developing innovative solutions to the grand challenges the world faces in energy, sustainability and healthcare ."*

National Instruments UK and Ireland will accept applications throughout 2010. To apply for the programme, SMEs must provide documentation on the company and the project and participate in an interview. Readers can visit ni.com/uk/grant to learn more about the grant programme and download the application.

www.ni.com

HMI software and touchscreens

Seth Frielich, Vice President of Sales at *Software Horizons Inc* is expanding his team of commissioned sales reps, value added resellers, and system integrators around the world to sell their InstantHMI software and InstantPanels touch screens.

InstantHMI is a multi-platform HMI solution featuring our unique Design Once, Deploy Anywhere concept. InstantHMI allows you to access your PLC information from any location. We run on Windows PC or CE devices, including Touch Screens, handhelds and Smart Phones allowing you to Access your Data Anywhere! High commission rates, and exclusive territories available.

www.shorizons.com

Best managed

QUMAS, the provider of Compliance Solutions to highly regulated companies, has won the *Deloitte Best Managed Companies Award.*

At a Gala Awards Symposium held on in March at the Burlington Hotel in Dublin and attended by Taoiseach, Mr Brian Cowen T.D., QUMAS was named as one of Ireland's Best Managed Companies by Deloitte. The Deloitte Best Managed Companies awards program, in association with Bank of Scotland (Ireland), was developed to recognise Irish companies operating at the highest levels of business performance. The program identifies the best managed

The Taoiseach, ***Brian Cowen T.D.*** *with* ***Kevin O'Leary*** *CEO QUMAS at the DeLoitte event in Dubln.*

companies through an evaluation process that extends far beyond financial results.

"We are delighted to receive this accolade from Deloitte", said Kevin O'Leary, CEO QUMAS. *"As a profitable and growing indigenous Irish company, we are very proud of our success and growth, particularly in these challenging times. This achievement recognises the commitment and dedication of the QUMAS management team to making the company a global success"*.

As QUMAS continues to confirm its clear dominance in the Regulatory Compliance marketplace, it's thought leadership and world class solutions continue to attract repeat business from its client base as well as a broad range of new clients from many regulated sectors. An Irish company, QUMAS operates at a global level, with over 95% of its revenues coming from outside the domestic market.

www.qumas.com

Environmental award

HACH LANGE has been rewarded for its innovative recycling scheme for used cuvettes by judges at one of Europe's most prestigious sustainability awards, beating off fierce competition from hundreds of other companies.

A jury of politicians and industry leaders selected HACH LANGE as one of the three winners for the *'Most Sustainable Products and Supply of Services'* category at The German Sustainability Awards.

The judges were impressed by the environmental approach to cuvette testing used for water analysis. Thousands of cuvette tests are used every day to analyse the contents of liquids in industries such as water, wastewater, manufacturing, food, beverage and power.

The Recycling Centre in Germany facilitates recovery of toxic materials from HACH LANGE reagent tubes including, for example, COD tubes from which Mercury, Silver and Chromium are recovered. Over 70% of returned materials are either re-used or recycled.

It was HACH LANGE's decision to recycle used cuvettes and the chemicals used in the analysis process from customers across Europe that prompted the judges to commend HACH LANGE. By doing so, the company has drastically reduced potential health and safety issues connected to contamination with dangerous chemicals.

The German Sustainability Award was established by the science journalist Stefan Schulze-Hausmann in 2008. The prize awards businesses that connect commercial success with social responsibility and protection of the environment.

Commenting on behalf of HACH LANGE, **Mathew Dillon**, UK Sales Director, said: *"As a responsible, environmentally conscious manufacturer, HACH LANGE has provided a recycling facility since 1990. Our customers demand the highest levels of environmental performance so we have always sought to differentiate ourselves from the competition by meeting that need and this award is valuable recognition of our achievements."*

www.hach-lange.ie

Test weights Workshop

Metrology Systems & Services Ltd, the only INAB accredited metrology laboratory in the country, have organised half-day(mornings) workshops entitled *"F.D.A, I.M.B and I.S.O Requirements Pertaining to the Selection and Calibration of Test Weights"*.

The workshop is limited to twelve participants and will travel to six different locations throughout the country.

25/05/2010	Radisson Blu Hotel, Little Island, Cork
27/05/2010	Radisson Blu Hotel, Ennis Road, Limerick
01/06/2010	Athenaeum Hse Hotel, Waterford
02/06/2010	Red Cow Conference Centre, Dublin
16/06/2010	Hodson Bay Hotel, Athlone,
17/06/2010	Clarion Hotel, Clarion Road, Sligo

Pre-booking is required and bookings may be made through e-mailing; metrology1@eircom.net

www.mssireland.com

Siemens & ProfiBus Courses

ProfiBus Ireland advise us of the following courses:
Siemens S7-PLC, basic course, 4-6 May, 2010, Limerick
Siemens S7-PLC, Advance course, 11-13 May, 2010, Limerick
SCADA Systems Course, 18-20 May, 2020, Limerick
PROFIBUS Installers Course, 21 May, 2010, Limerick
PROFIBUS Maintenance Course, 24-25 May, 2010, Limerick
PROFIBUS Engineers Course,26-28 May, 2010, Limerick
PROFINET Engineers Course 31May-2 June, 2010 Limerick
PROFINET Developers Course, 9-10 June 2010, Dublin

www.profibus.ie/training.html

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10 Instrument Manufacturer ☐
11 Instrument Sales ☐
12 Power ☐
13 Process Industry ☐
14 R&D ☐
15 Water & Waste ☐
16 Recruitment ☐
17 Publisher - Magazines ☐
18 Publisher - Books ☐
19 Exhibition Organiser ☐
20 Public Relations & Journalists ☐
21 Software Development ☐
99 Other Please give details: ☐

Categories (Please Tick)

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02 Specifier/Consultant ☐
03 Supplier ☐
04 Manager/Director ☐
05 Inst Technician ☐
06 Inst Fitter ☐
07 Student/Apprentice ☐
99 Other Please give details: ☐

Are you involved in choice of purchase of instrumentation?
Yes ☐ No ☐

Applications (Please Tick)

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02 T&M ☐
03 Laboratory ☐
04 Environment ☐
05 Safety ☐
06 Quality ☐
99 Other Please give details: ☐

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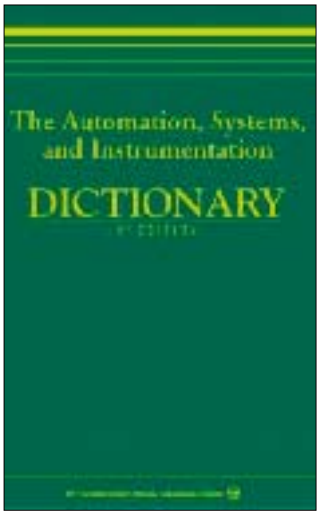

ISA's Automation, Systems, and Instrumentation Dictionary, now in its 4th edition, comes with a CD-ROM to make finding answers to your technical questions even easier! This comprehensive dictionary contains definitions of the terms, acronyms, and abbreviations that are used in the automation and control profession.

If you're an engineer, manager, salesperson, technician, student, or technical writer, this book will be a perfect addition to your technical library!

References to relevant ISA and IEC standards are now included throughout, along with illustrations to enhance the definitions of more difficult terms. This reference encompasses not only specialised vocabulary unique to instruments and control systems, but many terms from other engineering disciplines as well.

• Bonus CD-ROM! The Automation, Systems, and Instrumentation Dictionary comes with a fully searchable CD-ROM to make finding answers to your questions even easier.

www.isa.org/dictionary

Yokogawa Europe has produced a new shortform catalogue containing a comprehensive overview of the company's ranges of test & measurement instruments and solutions. Products covered in the shortform include digital storage oscilloscopes, ScopeCorders, power analysers and meters, optical spectrum analysers, optical and multimedia testers, optical field testers, signal sources and generators, electrical test tools, data acquisition and logging systems, and recorders.

www.tm.yokogawa.com/ea

For the Regulator

One of our most able trainers in the field of automation shares his knowledge:

Dear Colleagues

Following our wonderful courses in Accounting and Finance, and taking all of the new tools and techniques we have learned, I have done a deep analysis of the banking sector and come to the following conclusions in respect of their balance sheets, and summed it up in two sentences

On the left (side of the balance sheet) there is nothing right, and on the right (side of the balance sheet) there is nothing left.

Density

Endress+Hauser has introduced the Liquiphant M, a density meter that provides on-line measurements, eliminating the need for extensive and expensive off-line procedures and laboratory measurements. A built-in density calculator can be end user customised with complex tables and mathematical interdependencies, allowing the meter to provide the same kind of density and concentration measurements once possible only with lab instruments.

Because it provides on-line measurements, it allows control systems to react much faster to changing process conditions. Instead of waiting for results to come back from the lab, a control system can take corrective action immediately by performing closed-loop control.

Calculating Density

The Liquiphant employs a mechanically oscillating fork with two tines that are each excited to resonant frequency. The frequency changes when the fork is immersed in any liquid. If the vibration falls below a predetermined frequency, the sensor reports the covered state to a subsequent switching electronics. The tines are excited by a piezoelectric drive. The resonant frequency depends on the moment of inertia of the fork as well as the membrane stiffness, and the frequency measures approx. 1000-1200Hz in air.

Changes in resonant frequency are directly interrelated with the density of the medium. In a lower medium density, such as liquefied gas, the resulting resonant frequency is higher than in more pronounced densities like water. The electronics of the Liquiphant can measure this change in the resonant frequency. The density of the medium can also be calculated taking temperature and process pressure into consideration.

Concentration can be calculated in mass or volume units. For example, "Degree Brix" is a measuring unit for the specific density of liquids. This is particularly used in the food industry to determine the sugar content in fruit juices and beverages, or in oil production to measure the salt concentration in tanks.

Customers can customise the Liquiphant M for many density and concentration applications.

www.ie.endress.com

Sanitary Pressure Regulator

Steriflow's Mark 96 with air augmentation (AA) option offers the same line sizes, Cv choices, seats, great low droop characteristics, and stability of the standard, MK96, but with an advantage. By connecting an air pressure signal to the 1/4" FNPT dome fitting via an air regulator or I/P, the set point can be changed remotely by "sending an air signal instead of a technician".

The Mark 96AA, available through **Manotherm**, gives users the ability to change pressure set points to any point in excess of the springs minimum set point (2 psi on a 3/4" - 1" Mark 96; 10 psi on a 1-1/2" - 2", and 15 psi on a 3"). Users adjust the regulator's spring to the lowest set point, or to the lowest set pressure that the regulator will operate at (sterilisation steam pressure for example). To achieve a higher pressure set point (CIP or WFI flush), air pressure is added to the regulator dome. To lower the set point to it's previous value, or to the springs manual set point, the pressure is reduced in the same manner.

Mark 96AA upgrade kits are available for Mark 96 regulators.

www.manotherm.ie

What do you understand by the term "motion control?"

Total Motion Systems answers this question as follows: In its broadest sense this term could apply to anything from an optical scanner to a 100 ton hydraulic crane. Here we are referring to systems using a special type of motor with electronic controls in the power range from a few watts up to about 5kW.

More specifically we need some degree of precise control over various parameters such as torque, speed, acceleration and position.

In the early days of motion control, (30 to 50 years back), such systems required a variety of specialised skills in power and control electronics as well as mechanical design and systems integration. With the advent of microprocessors and PC°¶s applications were considerably simplified by the introduction of universal standards and availability of standard integrated products. Almost all motion control products are now °ßplug-and-play°® using programmable controls and PC based configuration. This makes it possible for non specialist engineers and technicians to set up and run a system quite quickly with relative ease. However, it is still necessary to pay careful attention at the specification stage to a number of more practical aspects of a system. These can usually only be successfully addressed by a specialist or an engineer who has at least a passing experience of the systems and techniques available. It will also be necessary to write a programme for the specific application using proprietary programming software supplied with the product. This may be quite simple or very time consuming depending on the application, the sophistication of the programming software and the experience of the user.

To name just a few of the issues to be addressed:-

Motor type °V e.g.: stepper, servo, brushed, brushless etc.
Motor sizing °V dependent on physical data which must be known or determined.
Motor/load inertia matching and gearing.
Environment.
EMC compatibility °V filters, wiring etc.
Controller type °V PC, PLC, Standalone or Integrated.
Machine Interfacing and communications °V I/O, Ethernet, Canbus, Profibus etc.
Operator Interfacing.

www.totalmotionsystems.ie

to page9

Products from page 8

Bluetooth communication

With the new PSI-Bluetooth-Profibus set from **Phoenix Contact**, Bluetooth technology is used for wireless fieldbus communication with Profibus. The Bluetooth frequency-hopping technique particularly impresses in metallic environments technology and also shows its strengths when coexisting with other wireless systems.

A distinguishing feature of the set is that it enables devices to be started even more quickly, as there is absolutely no configuring to be done when establishing a Bluetooth connection. The converters are pre-configured for an invisible, password-protected point-to-point connection. After installation, the devices automatically connect themselves therefore permitting a wireless Profibus connection with data transfer rates of 187.5 kBit/s. By using a high-performance transceiver based on Bluetooth 2.0 technology, ranges of up to 150 m and more can be achieved.

With the set, complex Profibus connections to moving devices, which were previously only possible using costly drag chains, slip rings or other cable-based solutions, can now be quickly implemented at a favourable price.

www.phoenixcontaact.com

DAQ station enhanced

The latest version of Yokogawa's DXAdvanced DAQSTATION range of data acquisition and display stations, the DXAdvanced R4, features a number of new enhancements including an advanced security option that provides 21CFR Part 11 compliance, multi-batch capabilities, a PROFIBUS interface and the new DAQManager data management software.

The advanced security option (/AS1) incorporates all the features required to provide secure electronic records to comply with the FDA's 21CFR Part 11 standard, including controlled system access, active directory password management, electronic signatures, and an audit trail.

The DXAdvanced R4 has evolved from Yokogawa's paperless recorder technology to become a complete data-acquisition station with built-in panel, and offers integrated display, recording and communication functions. Two models are available: the DX1000 with a 5.5-inch LCD panel and up to 12 input channels, and the DX2000 with a 10.4-inch LCD panel and up to 48 input channels. The new models also feature high-capacity internal storage, with 400 Mbyte of secure non-volatile flash memory to support uninterrupted recording of more data over longer time periods.

The multi-batch function allows the user to record pre-defined channel groups to separate data files with independent start and stop control.

DXAdvanced R4 offers custom display screens that allow the user to freely arrange field displays along with trend curves, bar graphs and other visuals. DAQStudio builder software can be used to create and edit custom display screens on a PC.

The new DAQManager software allows the user to manage measured data from the Station and their MVAdvanced family of paperless recorders on a PC. Data loaded onto DAQManager can be quickly and easily searched by data/time, tag name, batch name and other criteria.

The PROFIBUS interface, along with support for PROFIBUS-DP and EtherNet/IP protocols, enables the unit to be integrated into end-user applications to provide a much wider range of functions than data acquisition and recording. In particular, it can be used with their MW100 data-acquisition system and other vendor's I/O products to provide many additional input channels. Then, using the optional maths and events functions of the DXAdvanced DAQSTATION, the unit can be used to initiate actions or alarms based on the acquired data.

www.yokogawa.com/eu

Change of address

Yokogawa's Dublin address has changed recently. The new details are as follows:

Yokogawa Ireland
Unit 411 Grants Park
Greenogue Business Park
Rathcoole
Dublin 24

Telephone number remains the same at 01 4577454

CCTV in hazardous areas

Declan Lordan of **Douglas C&S** tells us that STAHL has compiled a scaleable package of cameras and recording system for camera surveillance in hazardous areas on gas and oil rigs. In addition to making operations safer, it enables users to carry out a thorough study of causes and fix any problems in the case of incidents. The system supports both live monitoring at HMI stations as well as complete documentation of events: The standard package includes four cameras whose video signals can be recorded manipulation-proof for up to ten days.

This network-compliant solution which also permits authorised remote access to images via the internet can, if necessary, be easily expanded to include twice or four times as many cameras. The recording capacity, which as a standard is covered by a 500 GB hard disk, can be easily expanded to meet a specific application's requirements. Resolutions of up to 4 CIF as well as a full PAL format with 704 x 576 pixels can be

to page 10

Products from page 9

selected for the H.264 compressed digital video files. A PTZ control module is available for the remote control of the pan/tilt/zoom functions of the cameras.

The standard package includes four spherical cameras type EC-710 for zones 1 and 2, which can also withstand the extremely rough ambient conditions on offshore platforms in extreme climates. Their steel housing can withstand aggressive chemical substances and protects the cameras from substantial mechanical stress. It can be installed in ambient temperatures ranging from -30 °C to +75 °C. A heater is used to prevent condensation or frost forming on the surface.

With a diameter of only 55 mm and a mere 435 grams, the cameras can be fitted even into the smallest of spaces. The fixed viewing angle of the hardened lens is +/- 90° horizontally and 68° vertically.

In addition to the EC-710 and other camera types, video server and recording technology, different HMI stations for local surveillance and suitable software solutions, they can also provide any peripherals as part of the system solution. A broad range of cables, switches, explosion-proof terminal boxes as well as additional input devices such as keyboard or joystick for remotely controllable camera models are available .

www.douglas-esl.ie

Simplify temp measurements

National Instruments has a new USB data acquisition (DAQ) device that measures and records temperature data from a thermocouple. The new device combines a quick and easy plug-and-play setup with the high-quality capabilities and features of NI DAQ products. The USB-TC01 thermocouple measurement device features NI InstantDAQ technology, which helps customers to instantly take temperature measurements with no set-up time or driver software installation. Additionally, the USB-TC01 features a standard miniplug connector that helps customers use different thermocouples to meet their specific application needs. The USB-TC01 is ideal for all types of labs and adds convenience to making temperature measurements. Readers can see a demonstration of the USB-TC01 by viewing the video "NI USB-TC01 with NI InstantDAQ Technology" on the NI website.

www.ni.com/usb-thermocouple

www.ni.com

New Terminal Block and Junction Box

Blue-White has re-engineered the junction box and connectors on their Flex-Pro A3 Peristaltic Metering Pump. With the Flex-Pro A3s' Newly Engineered Terminal Block – complete with colour-coded overlays - making connections is fast and efficient. Plus, the Flex-Pros' New junction box provides extra working room.

There are no loose wires. The Flex-Pro A3s New terminal block board, located within the junction box, utilises eleven pluggable terminal blocks. The easy-to-understand, colour coded overlay clearly identifies terminals and connections. Just follow the handy overlay guide. The Flex-Pro A3 Junction Box has five cable glands, and the A3 is equipped with water-tight connectors.

With these thoughtfully designed user-friendly connectors you choose what's right for your installation – hardwire or corded.

www.bluwhite.com

Greenhouse gas emissions

Magnetrol's Thermatel Model TA2 Thermal Mass Flow Meter measures greenhouse gases in accordance with the new US EPA rule (EPA 40 CFR part 98). This new mandate requires companies emitting more than 25.000 tons/year of CO2 equivalent to report greenhouse gas emissions effective January 1, 2010.

The company's Model TA2's thermal dispersion technology provides an accurate and economical method to measure the amount of emitted methane or natural gas, and assesses emissions of carbon dioxide (CO2), meeting the EPA requirements.

It is a direct mass flow measuring instrument and requires only a simple, single insertion point into a pipe or stack to install. The accuracy is better than ±1% of reading +0,5% of calibrated full scale and exceeds the stated acceptable accuracy within this new EPA rule. Instruments are available for installation in line sizes from 15 mm up to more than 3000 mm. It operates over a wide flow range from 0,13 to 200 Nm/s with an exceptionally wide turndown ratio up to 100:1.

The flow sensing element of the Model TA2 is manufactured with all-welded construction and available in 316/316L or Hastelloy C. There is virtually no pressure drop when using a thermal mass flow meter and it has no moving parts and is, therefore, less sensitive for clogging and fouling. The instrument measures and displays mass flow rate, totalised flow and temperature with electronic

Products from page 9

output of passive and active 4-20mA signal including HART® protocol. Actual gas calibration will be performed on each TA2, matched to the customer application and installation conditions.

There are several flow measurement technologies that can be used for the measurement of greenhouse gases. However, thermal dispersion mass flow meters provide certain advantages in terms of mass flow measurement, turndown, (low) flow sensitivity, low pressure drop, and ease in installation. In fact, this thermal mass flow meter will provide the lowest cost of ownership for facilities that are required to measure the greenhouse gas emissions from their processes to comply with this new requirement.

www.ntron.com

Digital valve controller

Emerson Process Management has expanded its FIELDVUE™ instrument product line with the DVC6200 Series digital valve controller, featuring linkage-less, non-contact feedback technology. This instrument was designed for applications that experience high levels of vibration, corrosion, or material entrapment. The linkage-less, non-contact feedback technology improves reliability by eliminating linkage wear.

It has undergone electro-magnetic compatibility (EMC) testing to meet IEC standards and will ship with the CE mark. It is available with either the HART® or FOUNDATION™ fieldbus communication protocols.

Orica Mining Services put the

to page 11

Products from page 10

new device to work in its Kooragang Island facility in New South Wales. Orica, a leading supplier of commercial explosives and blasting systems for the mining and construction industries, is a long-time user of Emerson products. This facility is the second-largest in the world producing ammonium nitrate.

It has standardised on Fisher® valves with FIELDVUE instruments. The plant also uses their 375 Field Communicator and AMS™ Device Manager with ValveLink™ SNAP-ON™ application software as part of its calibration, valve-monitoring, and predictive maintenance system.

Orica personnel worked with the local Emerson office to improve the performance of a Fisher valve in liquid ammonia service. The valve's high-cycle service conditions and the ammonia atmosphere in which it operates represent one of the most severe environments in any process plant. Emerson engineers recommended the new instru-ment with linkage-less, non-contact feedback technology for this harsh application.

Using basic hand tools, Orica's Instrument Technician **Richard Fielding** installed the new instrument on an ammonia-service valve. *"This device was easy to install, programme, and set up,"* he said. *"It has been operating trouble-free and has enabled this critical valve to provide accurate and repeatable response throughout its range of travel."*

"The reliability of the FIELDVUE DVC6200 instrument, plus its on-line monitoring capabilities, enables our operators to avoid manual checks and valve repairs in areas filled with ammonia vapours," he said. Since installing the device, Orica has not experienced any production losses due to valve failures. *"This single instrument application has saved us thousands of dollars,"*

www.FIELDVUE.com

Ultra fast jet valves

The operating boundaries of solenoid valves for switching compressed air are being pushed back aided by advanced CAE techniques. Festo has launched a new series of jet valves providing exceptionally rapid switching times of less than 1 ms - an order of magnitude faster than standard pneumatic solenoid valves. Based on a unique design featuring just one moving part, the new MHJ series jet valves also provide very high switching time repetition accuracies, and have an industry-leading service life of 10 billion switching cycles. The jet valves are ideal for diverse high-volume sorting applications, especially in the food processing and waste recycling industries.

These jet valves are designed for use with standard 40 µm filtered compressed air supplies, and accommodate a wide range of operating pressures from 0.5 to 6 bar. They offer a choice of three 2/2-way fast-switching models, with nominal flow rates of 50, 100 and 150 litres per minute. The valves employ a special

to page 12

short-stroke solenoid and patented damping plate, developed using extensive CAE modelling of the magnetic, temperature and flow characteristics, to optimise switching charac-teristics. To switch at this speed and provide such a long life, the novel design completely dispenses with dynamic seals and lubrication. The design of the solenoid and damped flat plate also enables the valve to deliver the consistent switching repetition of less than 0.1ms required throughout the operating lifetime of specialist sorting machines.

Festo's MHJ series jet valves are available as individual units with integrated push-in fittings, and can be supplied with sub-bases for manifold mounting. Festo also produces customised manifolds which enable a group of valves to share the same air supply, and these can be fitted with integrated jet nozzles, if required.

www.festo.ie

Process calibrator

The Beamex® MC4 is a new compact-sized documenting process calibrator. Being a multifunction calibrator, the MC4 is suitable for calibrating various process parameters, such as pressure, temperature and electrical signals. As the MC4 is a documenting calibrator, calibration results are automatically stored in the MC4's memory. In addition, instrument data can be sent from computer to MC4 and calibration results can be uploaded from the MC4 to a computer using Beamex® CMX Calibration Software. With the MC4, making automated and documented calibrations of process instruments is fast and easy. Using the MC4 together with calibration software provides a complete documenting calibration system that produces calibration certificates automatically. There's no need for using pen and paper for producing calibration documentation and instructions at any point of the calibration process. Due to its documenting capability, the MC4 can help reduce costs, time and effort, while also ensuring calibration results are accurate and consistent.

High accuracy is one of the important features of the MC4. An accredited calibration certificate is included as standard with MC4 as a proof of the accuracy. The correction coefficients of a PRT probe can be programmed to MC4 to further improve the temperature accuracy. Large graphical display, menu-based multilingual user interface and full numerical keyboard make it easy to learn and use the MC4.

A rechargeable internal battery pack and charger are standard accessories supporting the effective use of the MC4. Membrane keyboard and integrated impact protectors make the MC4 a weatherproof and robust calibrator. MC4 can have both internal and external pressure modules, making it really versatile.

"The MC4 is an easy-to-use, attractively priced high-quality documenting calibra-tor. It's a great entry-level documenting calibrator for engineers and technicians, who have been mainly using single-function or multiple-function non-documenting calibrators", **Heikki Laurila,** Beamex's Product Manager, explains the benefits of the new product.

Howard Instrumentation markets BEAMEX products in Ireland.

www.howard.ie

Delayed valve

Tyco Waterworks now has the new EBCO Delayed Valve (EBV), developed and manufactured to provide full flow replenishment of storage tanks used in high rise buildings, buildings with multiple outlets fed from storage tanks or from pumped systems.

This new delayed valve is packed full of time, energy and cost saving features. After extensive field trials, engineers have found that ease of installation is its most outstanding attribute. The Delayed Valve has been designed as a simple mechanical device, comes fully assembled and can be fitted easily and efficiently straight from the box, with no need to dismantle the unit before installation. For added efficiency, the adjustable delay valve design means that the positioning of the floats to provide the required delay can be carried out away from the tank. This makes installation more convenient and reduces the possibility of spills and water damage during installation.

Technically, the design is based on the renowned and established EBCO equilibrium ball float valve and this new EBV incorporates the unique and patented ECOvalve fill control device. Allowing the valve to open fully and operate at full flow every fill cycle, means that trickling is eliminated, valve and pump wear is significantly reduced and running costs are kept to a minimum. Tyco Waterworks has shown that an energy saving of up to 81% can be achieved by installing the EBV.

The robust and simple mechanical design can operate in tanks with walls sloping up to 5° and does not require precise vertical or horizontal levelling for the valve to function.

For added versatility, it is available in single float (fixed delay) or twin float (adjustable delay) versions. The adjustable twin float device is recommended for tank systems with a raised inlet or float valve housing, so the float can be adjusted to allow optimum main tank capacity.

Cost savings can also be made due to the fact that there is no need for ancillary equipment. In other products on the market, filters are often part of the design and not only do they add to the cost of the original job, but they need to be replaced regularly and require ongoing maintenance. The Tyco Waterworks delayed valves provide the perfect cost-effective 'fit and forget' solution

www.tycovalves.com

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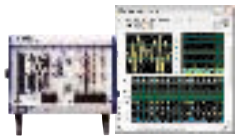

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NATIONAL INSTRUMENTS

ISA visit Blanchardstown IT

Billy Walsh ISA Ireland, Dave Peyton IT Blanchardstown, Tom Marren CESenergy (Presenter), and Brian Curtis ISA

The **International Society of Automation (ISA) Ireland** Section recently organised a technical talk on Combined Heat and Power, for the first and second year students studying for a BSc in *Sustainable Electrical & Control Technology* in Blanchardstown Institute of Technology under the guidance of lecturer **Dave Peyton.**

Tom Marren CEO of **CESenergy Ltd** a Dublin based company with offices in Britain and Australia, gave an excellent presentation on CHP and Tri-Generation principles of operation and applications that are in operation in Europe and Australia.

This was the first technical talk organised by ISA Ireland section to be held in IT Blanchardstown and **Billy Walsh** membership chairman stated that these technical talks are part of an overall ISA student programme which introduce students to the ISA and that these technical talks would be held on an annual bases in a number of Institute of Technologies and FÁS centres in Ireland.

BSc in Sustainable Electrical & Control Technology

When asked about the Sustainable Electrical & Control Technology course Dave Peyton explained *"The Purpose of the BSc in Sustainable Electrical & Control Technology course is to equip students with the skills and knowledge to embark upon a rewarding career in sustainable engineering within the construction or manu-facturing sectors.*

" The need for engineers and technicians with relevant qualifications and experience in energy technology has been clearly identified. Successful practice in this area requires a combination of technologi-cal know-how, design skills, and critical understanding of the industry context. This programme aims to provide this combination of skills and knowledge, and in doing so to put its graduates in an ideal position to operate at the heart of organisations engaged in Sustainable Engineering and Construc-tion Projects."

When asked about the job potential for students, he said *"Graduates completing the BSc in Sustainable Electrical & Control Technology will be qualified as technicians and will be equipped to work in the renewable energy or manufacturing sectors."* Typical employers may include:

- •Renewable energy contractors
- •Electricity generation and supply companies
- •Pharmaceutical companies
- •Food and Beverage companies
- •Computer and Electronic manufactures

He added *"Applicants may apply through CAO for entry to first year of the programme or may apply for advanced entry to second year if they hold a national craft certificate in the Electrical or Electrical/ Instrumentation trades."*

Combined Heat and Power,

Tom Marren of CESenergy in his presentation explained. Combined Heat and Power (CHP) is the simultaneous generation of usable heat and electricity in a single process. CHP is a proven technology and is widely used all over the world as an energy efficient solution. Europe currently produces 15%+ of its' total electricity production via CHP, with a target of 18% to be achieved by 2010.

When electricity is generated in a CHP unit, the heat by-product is recovered rather than wasted, and can therefore be used to deliver space heating or to produce hot water. CHP is acknowledged as the single most efficient way of generating electricity and heat simultaneously. According to the European Commission for Energy and Transport, in some cases, over 90% of the energy source is converted to a usable output with CHP.

In contrast, even the most modern separate production systems for electricity have an overall efficiency of 50-60%; since the heat produced is not used. Because it is possible to install CHP units close to the actual consumption point, distribution losses can be minimised. This makes CHP even more energy efficient and therefore helps to reduce both greenhouse-gas emissions and fuel costs.

CHP offers substantial savings for the customer over separate heating and electricity systems. In addition, as natural gas produces less harmful emissions than coal, oil or LPG, when a CHP system in installed, customers get more energy from their fuel and save greatly on fuel costs.

CHP delivers a whole range of benefits to users including: Lower electricity costs: A well engineered CHP unit should deliver saving in

First and Second year students from Sustainable Electrical & Control Technology course who attended the technical talk on CHP and Tri-Generation in IT Blanchardstown with their lecturer Mr. Dave Peyton.

excess of 25% a year on electricity and heating bills. CHP units can be programmed to operate during higher electricity charge periods i.e. between 8am and 11pm each day or peak day times; this enables CHP users to completely avoid paying peak-time rates.
There are huge environmental benefits: Carbon dioxide, the main greenhouse gas implicated as a cause of global climate change is released whenever fossil fuels are burned. Compared with traditional heat and power production, every 1MW of energy produced by a CHP unit prevents 1,250 tons of carbon dioxide a year being emitted to the atmosphere. CHP also reduces the emission of sulphur and nitrogen oxides, which contribute to acid rain and acidification, and it helps to preserve finite fossil fuel reserves.

What is Tri-Generation?

Tri-generation uses a Combined Heat and Power (CHP unit and an Absorption Chiller to simultaneously generate three primary energy requirements from one single fuel input. With correct engineering, cogeneration and absorption chilling plants can be engineered to provide all the building's electrical, heating and cooling load all year round.
The absorption cycle is a process by which refrigeration effect is produced through the use of two fluids and some quantity of heat input, rather than electrical input as in the more familiar vapour compression cycle. Absorption chillers work in primarily the same manner as conventional compressor based systems with the exception that the compressor is replaced by an absorber, a solution pump and a generator.

Combined Energy Solutions (CESenergy) Tom Marren explained CESenergy is a wholly Irish owned company with their head office in Dublin, with a proven track record in the successful delivery of on-site sustainable energy generation solutions and energy efficient products, on a business-to-business basis. They design, build, maintain and operate energy centre's in Ireland, England and Australia. Their solutions are successfully in operation within the industrial, pharmaceutical, commercial, office building , healthcare and leisure sectors.
They offer turnkey energy solutions under a Power Purchase Agreement (PPA) whereby CES Energy fund the cost of the project by selling the outputs (electricity, heating, cooling, steam, etc) to the customer.
www.cesenergy.ie

RIP

We are very sorry to have to report the passing of one of automation's personalities and an ISA Ireland Pioneer Awardee in 1984. **Steve Mulcahy** was a genuine pioneer with influence on many automation professionals from his many years in the Irish Refining Company in Whitegate, Co Cork.We hope to have an obituary for Steve in the next issue.

Ar dheis Dé go raibh sé.

ROBORUGBY

Engineering students Raymond Carley, from Killiney, Sam Hajim, from Clonskeagh and Fionan O'Sullivan, from Dun Laoghaire pictured at UCD Belfield ahead of the Siemens RoboRugby

UCD students and their robotic rugby players took part in the Siemens RoboRugby Challenge 2010 at UCD Belfield Campus. The robots, which are made from thousands of individual pieces are the result of a creative, innovative and design exercise by first year UCD Engineering students, UCD Belfield.

Daqstation Advanced Data Recording

>Evolution for greater utility:

The evolution of the global standard in paperless recorders has reached the next stage – the Daqstation DXAdvanced series R4. An expanded security function option providing **FDA 21CFR Part 11** compliance makes it ideal for a broad range of applications, such as pharmaceutical manufacturing.

>Increased Performance:

With even more additions to the capability of the DX Advanced such as password management by active directory, calibration reminders and an enhanced internal memory, the DXAdvanced is the obvious choice for a paperless recording system.

DXAdvanced R4

Advanced Measurement Performance

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- Front panel and USB keyboard text entry

Advanced Ethernet Connectivity

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- User password handling using your standard windows login

DX2000

DX1000

FDA 21 CFR Part 11

MW100

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