

Read-out


read-out.net

Ireland's journal of instrumentation, control, and automation

**istig
inside**


TECHNOLOGY 1,4,10

Industrial Automation
and Control System
Security Principles

INSIDE FRONT 2



TRAINING 3,4



COMPANY 6,7



PRODUCTS 6,8,10,11



PEOPLE 10,11

NEXT ISSUE



ENVIRONMENT

WATER**WASTE****AIR QUALITY**

How automation helps
ensure our environment
remains clean!

DEADLINE**20TH JUNE 2013**

CALL US DETAILS AT BOTTOM OF PAGE!

**DO YOU
LIKE US?**

Daily news on our
Facebook
readoutsignpost

Be afraid, be very afraid! Control systems under attack

We first heard of Stuxnet, the first malware to truly effect process automation systems, in July 2010 with a brief twitter from **Gary Mintchell**, former Editor of *Automation World*, which was followed within hours by a more detailed release from **Eric Byres** of *Byres Technology* which we published in full on line as "Security risk to the control industry world!" Subsequent research has maintained that the actual infections of SCADA and other automation systems may have occurred undetected earlier than previously thought.

As the Automation sector and we started to understand more what this involved and indeed the extent and method of the spread of this "infection" we started to compile a list of articles and references to what Byres has called the "little varmint." Initially these were part of articles which were updated as new resources became known to us but we eventually decided that perhaps that is not the best way to present them and so we started a new page



for more easy access.

Originally we followed only **Stuxnet** related matters but as things "progressed" we started to include links to other industrial and process related cyber security issues! Thus we find references to **Duqu** (Sept 2011) and more recently **Flame** (May 2012) and **Shamoon** (August 2012).

The most alarming thing is the ease with which these infections occur and, perhaps more alarming than that, the lack of preparedness of suppliers, not to mention users when the first attacks occurred. This was

not for want of information as we remember talks in 2002 and perhaps earlier by **Brian Aherne** of what is now *Industrial Defender* warning of dangers especially through inadvertent spreading of possibly harmful infection through use of discs the provenance of which was unknown or doubtful. Now of course the sources of infection are myriad, via memory sticks, and the internet. The interconnection of process systems through to company IT and management systems increase the risk of contamination too.

to page 4

We've put on weight!

Classic Technology, operating Ireland's only UKAS calibration laboratory for Pressure, Temperature and Electrical, has now added Mass calibration.

Classic's dedicated state-of-the-art laboratory audited to ISO 17025:2005 and based in Naas, Co. Kildare, is delivering the widest range of capability in the country.

Classic offers unparalleled turnaround times delivering both calibration and repair, plus supply of some of the world's leading test instrumentation. And with our exclusive partnership with Zwiebel Precision Masses, Europe's oldest manufacturer of weights, there is no need to compromise on either quality or service.

So that's a weight off your mind then!

Classic Technology

045-896660
email: info@classictechnology.ie
www.classictechnology.ie

UKAS Laboratory Ref 0822.



CLASSIC
TECHNOLOGY LTD.

We've got the measure of you

Protection from Cyberattack

“The use of cyber warfare as a prelude or substitute for conventional attacks has gone from conjecture to reality. The obvious targets of such assaults are a nation's defence establishment, critical infrastructure, and production capabilities. Contrary to popular opinion, there are effective, structured defenses against such aggression, if they are conscientiously and properly implemented and maintained.”

A new book from the ever expanding ISA stable outlines clear and proven security principles, practices and standards that, when properly applied, can safeguard nations' critical infrastructure, defence establishment, and production capabilities from the risks of cyberattack.

Industrial Automation and Control System Security Principles by **Ronald L. Krutz**, Ph.D., P.E., CISSP, ISSEP, a scientist and consultant specialising in cybersecurity services, illustrates that while cyberwarfare presents considerable challenges to essential national assets—such as refineries, chemical plants, manufacturing operations, power plants and pipelines—there are highly effective, structured defenses against such aggression.

Dr. Krutz's book reveals a practical, implementable cybersecurity formula that incorporates the fundamentals of information system security while addressing the unique requirements of industrial automation and control systems. Web Commerce Security *“While there are numerous and worthy publications that discuss the protection of computer-based systems in a wide variety of implementations, these documents focus more on general terms, mostly in the area of risk analysis, and apply to disparate areas of applications,”* he says. *“In my book, I focus on in-depth treatment of proven, clearly identified cybersecurity principles, practices and standards, and how they can be tailored and applied to the special environments of industrial automation and control systems.”*

For cybersecurity solutions to be effective,

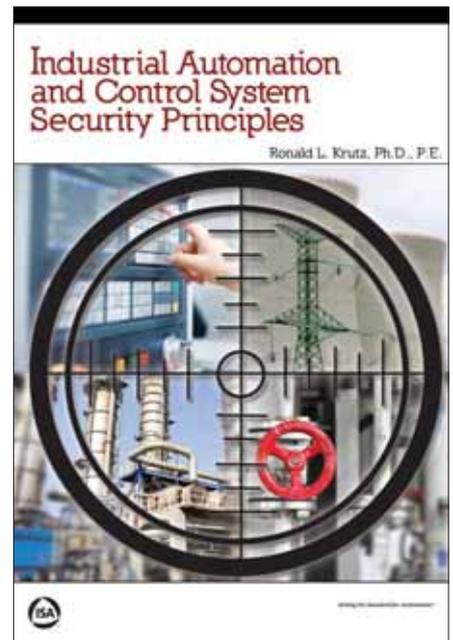
he emphasises, *“they must be practical instruments that can be clearly understood by practicing control system professionals and straightforwardly applied in real-world situations.”*

In separate chapters of the book, Dr. Krutz also highlights the importance of staying up to date on technological trends affecting future industrial automation and controls systems, and providing the necessary training to cybersecurity-related personnel. At the end of all chapters are review questions. Answers are provided in the appendix.

Dr. Krutz is Chief Scientist for Security Risk Solutions, Inc. in Mount Pleasant, South Carolina. He has more than 30 years of experience in industrial automation and control systems, distributed computing systems, computer architectures, information assurance methodologies and information security training.

He has served as: a Senior Information Security Consultant at Lockheed Martin, BAE Systems, and REALTECH Systems Corporation; an Associate Director of the Carnegie Mellon Research Institute (CMRI), which he founded; founder and director of the CMRI Computer, Automation and Robotics Group; a professor in the Carnegie Mellon University Department of Electrical and Computer Engineering; and a lead instructor for (ISC)2 Inc. in its Certified Information Systems Security Professionals (CISSP) training seminars.

He authored the book, *Securing SCADA Systems*, and three textbooks on microcomputer system design, computer interfacing and computer architecture. He



holds seven patents in the area of digital systems, and has published more than 30 technical papers.

Dr. Krutz also serves as consulting editor for the John Wiley and Sons Information Security Certification Series, and is a Senior Fellow of the International Cyber Center of George Mason University.

He is a bachelor of science, master of science, and doctorate degrees in electrical and computer engineering, and is a Registered Professional Engineer in the state of Pennsylvania (USA).

• *Industrial Automation and Control System Security Principles*
by Ronald L. Krutz, Ph.D., P.E., CISSP, ISSEP
Publisher: ISA, 2013
ISBN/ID: 978193756-0638.

www.isa.org/books

SIEMENS Automation Products - STAHL EEx Lighting, Remote I/O & HMI's

douglas
control & automation



Neptune House, Victoria Road, Cork. Tel: 021 4317001 email: info@douglas-esl.ie www.douglas-esl.ie

Safety & Security

In response to recent concerns, the PROFIBUS Group in Britain has developed a free-to-attend one-day seminar addressing important safety and security issues arising from the use of digital communications technologies in automated manufacturing and advanced engineering applications.

This seminar, at the Manufacturing Technology Centre in Coventry (April 23), will cover key application areas such as packaging, printing, electrical and electronics assembly, robotics, automotive engineering, drives, mechanical handling and logistics, control systems and energy management, focusing on the safety aspects of system design and operations.

Supported by live demonstrations and case studies the seminar will be of great value to Designers, Production Engineers and System Engineers involved in design,



LtoR: Mary O'Sullivan, Transition Year Co-ordinator, Ciarán Moody, Mitsubishi and Theresa Hennessy, Tallaght Community School Vice Principal

operation and maintenance of modern automated factories and machinery.

The seminar will be presented by safety and fieldbus specialists **Stephen Park** and **Harriet Gibbons** of BAE, **Derek Lane** of Wago, **Mark Freeman**, **Peter Brown** and **Ian Curtis** of Siemens Automation & Drives. Topics to be addressed include:

- PROFIBUS and IS
- Basics of Functional Safety Standards
- The Basics of PROFIsafe
- Simple good practice for Industrial IT Security

- Safety strategy for C&I Systems
- Security and its application to C&I networks
- PROFIsafe security considerations

Attendance is free of charge to pre-registered delegates from the User community, i.e. companies that own, operate, design, build or maintain automated plant.

sn.im/securityandsafety

Career talk

Mitsubishi Electric visited Tallaght Community School to perform a career talk and Robot demonstration for its students.

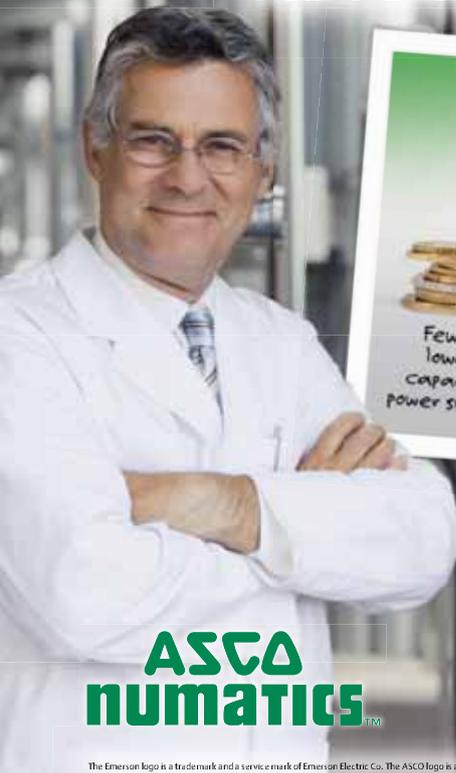
As part of Engineers Week recently, run by Engineers Ireland, a visit to the transition year students at Tallaght Community School was made by **Mitsubishi Electric Ireland** Factory Automation Division to discuss engineering as a possible career path.

The talk was aimed at transition year students who are at the critical stages of selecting the subjects that will eventually help determine their future career paths. Several engineers from the Factory Automation Division visited the school to discuss the reasons behind their career choices and to reveal what a life in Engineering really means.

"A wonderful enlightening introduction into the world of engineering, one that captivated our students and gave them food for thought for a future in the world of engineering." said **Mary O' Sullivan**, Transition Year Co-ordinator at the school.

www.mitsubishielectric.ie/

Four good reasons you can rely on ASCO Numatics for low power valves



The use of low power solenoid valves brings many financial benefits. You can connect more valves to your controllers, reduce the number of power supplies, reduce the cooling requirements for your enclosures or cut the cost of cabling.



Whatever your reason ASCO Numatics has the answer. ASCO's low power valves start from as little as 0.003 watts. That is why ASCO Numatics is the valve supplier of choice on process plants around the world.

For more information, call **+44 (0)1695 713600**, e-mail enquiries.asconumatics.uk@emerson.com or visit our website at www.asconumatics.eu

John Brent
John Brent,
Engineering Manager

ASCO
numatics™

The Emerson logo is a trademark and a service mark of Emerson Electric Co. The ASCO logo is a registered trademark of ASCO Valve Inc. © 2013 ASCO. All rights reserved.

EMERSON™
Industrial Automation

EMERSON. CONSIDER IT SOLVED.™

Water Innovation

Mitsubishi Electric, in conjunction with partner **DDC Ltd.**, will hold a Water Innovation conference on the 18th of April, in the Mitsubishi Electric Irish headquarters, Ballymount, Dublin

This in a one day free water conference that will showcase the innovations and solutions that are driving efficiency, productivity and data management in the Water/waste water industries.

Delegates will hear from industry leaders about the challenges facing the Water/wastewater industries and the innovative changes needed to address them.

<http://www.mitsubishielectric.ie/>

Cybersecurity from Page 1

Professor **Dr Peter Frohlich** of *Beldon* perhaps expresses the implications best when he declared, “*Stuxnet has demonstrated what experts have long feared – the entry and penetration of embedded computer systems into all areas of industry means that we now all face a potential risk from computer malware.*”

We welcome notification of resources which discuss cybersecurity in industrial processes. Please send the URLs to us signpost@read-out.net for inclusion in this list!

In some of the posts linked to our resource, political opinions may be expressed. Read-out has no control over the opinions expressed in these links and does not necessarily share them.

instrumentsignpost.wordpress.com/security



Readout Registration Form

PLEASE COMPLETE DETAILS

OR CLIP YOUR BUSINESS CARD

FIRST NAME: _____	
SURNAME: _____	
JOB TITLE: _____	
COMPANY: _____	
ADDRESS: _____	
TEL No: _____	MOBILE _____
	Fax No: _____
E-MAIL ADDRESS: _____	
FOILSEACHAIN READOUT PUBLICATIONS, CAORAN, BAILE NA HABHANN, CO GALWAY, IRELAND.	
TEL: 087 2663282 • FAX: 091 506872 • E-MAIL: readout@iol.ie	

YOUR INDUSTRY (Please Tick)	Are you involved in choice of purchase of instrumentation? Yes <input type="checkbox"/> No <input type="checkbox"/>
01 Pharma & Chemical Industry <input type="checkbox"/>	
02 Consultant <input type="checkbox"/>	
03 Contractor <input type="checkbox"/>	APPLICATIONS (Please Tick)
04 Education/Training <input type="checkbox"/>	01 Process Control <input type="checkbox"/>
05 Electronics & Electrical <input type="checkbox"/>	02 T&M <input type="checkbox"/>
06 Engineering <input type="checkbox"/>	03 Laboratory <input type="checkbox"/>
07 Food & Drink <input type="checkbox"/>	04 Environment <input type="checkbox"/>
08 Foreign Inst Manf <input type="checkbox"/>	05 Safety <input type="checkbox"/>
09 Public Services (incl Govt Depts, Unions, Hospitals) <input type="checkbox"/>	06 Quality <input type="checkbox"/>
10 Instrument Manufacturer <input type="checkbox"/>	99 Other Please give details: <input type="checkbox"/>
11 Instrument Sales <input type="checkbox"/>	
12 Power <input type="checkbox"/>	
13 Process Industry <input type="checkbox"/>	EMPLOYEE NOS (Please Tick)
14 R&D <input type="checkbox"/>	1+ <input type="checkbox"/> 25+ <input type="checkbox"/> 100+ <input type="checkbox"/> 500+ <input type="checkbox"/>
15 Water & Waste <input type="checkbox"/>	
16 Recruitment <input type="checkbox"/>	Member ISA Yes <input type="checkbox"/> No <input type="checkbox"/>
17 Publisher - Magazines <input type="checkbox"/>	Member InstMC Yes <input type="checkbox"/> No <input type="checkbox"/>
18 Publisher - Books <input type="checkbox"/>	
19 Exhibition Organiser <input type="checkbox"/>	Do you read other Instrument Journals ?
20 Public Relations & Journalists <input type="checkbox"/>	<i>Intech</i> Yes <input type="checkbox"/> No <input type="checkbox"/>
21 Software Development <input type="checkbox"/>	<i>Control Engineering</i> Yes <input type="checkbox"/> No <input type="checkbox"/>
99 Other Please give details: <input type="checkbox"/>	<i>Instrumentation</i> Yes <input type="checkbox"/> No <input type="checkbox"/>
	Other (name) Yes <input type="checkbox"/> No <input type="checkbox"/>

CATEGORIES (Please Tick)	
01 Service Engineer <input type="checkbox"/>	
02 Specifier/Consultant <input type="checkbox"/>	Have you access to InterNet? Yes <input type="checkbox"/> No <input type="checkbox"/>
03 Supplier <input type="checkbox"/>	
04 Manager/Director <input type="checkbox"/>	My name may be used for mailings other than
05 Inst Technician <input type="checkbox"/>	Readout or Readout related mailings
06 Inst Fitter <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
07 Student/Apprentice <input type="checkbox"/>	<small>Those who do not qualify for free distribution of</small>
99 Other Please give details: <input type="checkbox"/>	Read-out will be invoiced at the appropriate rate.

I WISH TO RECEIVE READOUT EVERY SECOND MONTH:

INITIALS: _____

DATE: _____

FOLLOW US



On Twitter
[ReadoutSignpost](#)
or



on Facebook
[ReadoutSignpost](#)

See Automation News as it happens on our face book page

Shorter updates on twitter

AUTOMATION EVENTS

read-out.net/signpost/expo.html

Manotherm Limited

The Control Centre

4 Walkinstown Rd.,
Dublin 12.

Tel: 01 4522355 Fax: 01 4516919
email: info@manotherm.ie



THE CONTROL CENTRE

Read-out is produced on an Apple Power Macintosh using Quark Xpress, MS Word, MS Excel and Adobe Photoshop.

Type Setting: Read-out: 087 2663282
Printing: O'Sullivan Print: 086 2583053
Distribution: Sooner Than Later: 01 2844777
Copyright © 2013 Read-out

Pharmacy made simple.

Making your life simpler, Bürkert's unique multiway/multiport valves are compact, smart and save plant space, dead legs, cross-contamination and validation. Providing process efficiency and higher yields by unlimited process modularity.

Petrochem Pipeline Supply Limited
www.petrochem.ie | sales@petrochem.ie
Tel: +353 (21) 435 1300 | Fax: +353 (21) 435 1166


petrochem
PIPELINE SUPPLY

DISTRIBUTOR IN
SOUTHERN IRELAND

bürkert
FLUID CONTROL SYSTEMS

Classic puts on weight



Classic Technology, operating Ireland's only UKAS calibration laboratory based at Naas, has added Mass Calibration to its unique UKAS Calibration Service for Pressure, Temperature and Electrical calibration. They have installed the latest state of the art Mass Calibration equipment in a specially built, air-conditioned (climate controlled) dedicated laboratory within their facility to ensure maximum efficiency and accuracy. The laboratory operates under the terms of a rigorous quality system that has been audited to ISO 17025:2005 for mass calibration. This new Mass Calibration laboratory has the capability and uncertainties for the calibration of OIML Class E2 weights from 1mg to 10kg, and OIML Classes F1, F2, M1, M2 and M3 from 1mg to 20kg. All calibrations are performed to the highest possible standard using approved procedures, standard methods and uncertainties. Since its launch in 2008, the Classic UKAS calibration service has been a runaway success, providing unparalleled turnaround times for both repair and calibration to a large number of Ireland's leading companies including pharmaceuticals and aerospace that require the most exacting standards.

www.classictechnology.ie

Valve controller for SIS

Emerson's new FIELDVUE™ DVC6200 SIS digital valve controller responds to safety demands, and features partial stroke and position monitoring capabilities for the final control element in a safety instrumented system (SIS). Intelligent automatic partial stroke valve testing provides improved safety and reliability versus traditional pneumatic and jammer partial stroke methods.



The new digital valve controller responds to safety demands, and features partial stroke and position monitoring capabilities for the final control element in a safety instrumented system (SIS). Intelligent automatic partial stroke valve testing provides improved safety and reliability versus traditional pneumatic and jammer partial stroke methods.

Meeting plant safety and reliability targets is easier using the DVC6200 SIS, which combines the field-proven linkage-less, non-contact feedback design of the DVC6200 and DVC2000 platforms with the safety demand and automatic partial stroke testing capability of the DVC6000 SIS. The DVC6200 SIS has been evaluated to the latest version of IEC 61508 (2010) and is certified as a SIL 3 capable device for both 4 or 20mA and 0 or 24Vdc power settings.

An integral position transmitter is available with the DVC6200 SIS, and is capable of reading valve position even upon loss of power to the digital valve controller. The position monitoring safety function has been evaluated independently from the digital valve controller safety function and is SIL 2 capable.

Partial stroke valve testing can be used in service to safely increase the period of time between proof-testing the final control element. Additionally, the DVC6200 SIS confirms solenoid operation and captures useful diagnostic data during a trip event.

When integrated with Emerson's DeltaV™ SIS logic solver, the native interface provides users increased availability, while at the same time removing complexity from their safety systems. DeltaV SIS provides out of the box tools that allow direct access to the DVC6200 SIS diagnostics and partial stroke data, and the ability to set-up and run the partial stroke tests automatically.

www.FIELDVUE.com

Energy Std ISO 50001

In its simplest format, energy management starts with the installation of appropriate instrumentation to measure the usage of utilities within a process. The next step is to introduce a method of automatically collecting that data at regular time intervals. The final step is to relay this information into data analysis software which highlights patterns of energy usage, allowing you to set energy efficiency targets and identify areas of energy usage.

As energy prices continue to rise, the process industries face an ongoing challenge to remain competitive. In addition, there is also increasing pressure to ensure that the corporate environmental responsibility, by saving energy and reducing carbon emissions in line with environmental regulations and EU directives, is fulfilled.

Endress+Hauser can assist you to save money by enhancing the performance of key on-site installations such as boilers, compressors, pasteurisers, ovens, chillers, sterilisers and furnaces. Their packaged energy management solutions are fully scalable and upgrade, allowing

to page 8

Events

Hannover Messe

8-12/04/2013
Hannover (D)
www.hannovermesse.de

The Energy Show 2013

10-11/04/2013
Dublin
www.seai.ie/News_Events/Energy_Show

PROFIBUS Developers Workshop

17/04/2013
Limerick (IRL)
www.profibus.ie

Water Innovation Day

18/04/2013
Dublin (IRL)
instsignpost.blogspot.ie/2013/03/water-innovation-day.html

Safety and Security with PROFIBUS and PROFINET

(Seminar)
23/04/2013
Coventry (GB)
profibusgroup.com/

HardwarePT and Stratus Road Show 2013

Availability Virtualised in Automation
23/04/2013
Cork
24/04/2013
Dublin
www.industrialit.co.uk/events

Certified PROFIBUS Installers Course

1/05/2013
Limerick
Siemens S7-PLC, Service Course
7-8/05/2013
Limerick
Siemens S7-PLC, Basic Course
7-9/05/2013
Limerick
www.profibus.ie

ISA Dist12 Leaders Meeting

10-11/05/2013
Lisbon (PT)
isaeur.org

PROFIBUS Maintenance Course

13-14/05/2013
Certified PROFIBUS Engineers Course
13-15/05/2013
Siemens S7-PLC, Advanced course

SCADA Systems course

20/05/2013-22/05/2013
Certified PROFINET Engineers Course
27-29/05/2013
Limerick
www.profibus.ie

Labview Developer Day

Technical sessions by National Instruments
11/06/2013
Limerick
13/06/2013
Dublin
uk.ni.com/devdays

Saving cost of purchase orders

Concept Solutions has been established for one year now and has a primary function to solve the costs and problems associated with consumable, inventory, purchasing and administration. In 2002 studies showed that it cost approximately €60 to process a purchase order in a medium to large organisation prior to the Celtic Tiger. Considering the vendor interaction, phone calls, pricing, work scheduling, goods inward and invoice processing etc. this would seem to be a relatively conservative figure. A typical engineering component, reagent or instrument spare part costing just €15 would in reality cost €100 including carriage deliver, often without deliver notification or information. The process also delays project completion,

project invoicing and often results in many site re-visits and extra costs being incurred.

1. Onsite consignment stock of commonly used instrumentation spares, reagents, pneumatics and engineering components in a cabinet or site box form
2. Manage this stock with cyclic replenishment of the spare parts
3. Utilise electronic scanning and barcode technology
4. Issue one invoice per month for all parts used in that period

Concept Solutions aims in short to offer an outsourcing of this high cost on small purchases.

They save customer time by having stock on the site when it is needed and entailing payment only on product used!

www.conceptsolutions.ie/

Calibration Services

From **1** Calibration Per Year to **1000's**,
We can provide a quality service for all industries.



QUALITY
I.S. EN ISO 9001:2008
NSAI Certified

- Expert, Efficient and Reliable Service
- Fully Qualified Technicians
- ISO9001:2008 Certified
- Certified Traceable Equipment
- Full Time Contracts
- Scheduled Visits
- Emergency Breakdowns

- Temperature - Humidity - Flow - Pressure - Mass -
- Level - Current - Voltage - pH - Conductivity -

All Calibrations are scheduled & performed electronically
using ProCal V5 CMS.
This software is available for purchase.
Please contact us for more information.



What Else Do We Do...

- We supply a range of Instrumentation and Weighing Products from International Manufacturers
- We represent Status Instruments, Huba Control, Kimo, Signatrol, Spriano, Calex, Precision Digital, Fluidwell
- Also international weighing companies Kern, Ohaus, Adam Equipment, Applied Weighing & Soehnle
- We design, manufacture and install instrumentation control panels

Visit www.pjboner.com
Shop www.scales.ie
Mail sales@pjboner.com
Call 01-4505050

P.J. BONER & CO. LTD.
INSTRUMENT & WEIGHING SPECIALISTS



PEPPERL+FUCHS
PROTECTING YOUR PROCESS

FOR A COMPLETE RANGE OF
HAZARDOUS AREA SOLUTIONS



**Intrinsic Safety Isolators • Zener Barriers • Zone 1&2 Remote I/O
Fieldbus • Exe Enclosures • Exd Control Panels • Ex Lighting
Purge Solutions • Zone 1 & 2 HMI's PC's**



Meath Office: 041 9884288 • Cork Office: 021 4883798 • www.pepperl-fuchs.co.uk

From page 6

you to expand your system in line with your changing needs and budget.

Improvements in affordable remote automatic data collection devices and web-enabled software solutions have made it easier than ever to implement energy monitoring and targeting programme. With the opportunity to reduce energy costs by up to 15%, most installations see a Return on Investment within just two years.

www.ie.endress.com/ems

Thinking valves!



Amazingly the modern process valve has been with us for over 300 years, regulating the flow of liquids under pressure. Since then, the basic process valve has remained the same in principle, but with the ever growing automation of drinks, food and confectionery production the control of process valves has inevitably become more complex. The general trends in factory automation are heading towards more precise control and more information being gathered at device level, in order to provide feedback for control loops and better information for increasingly sophisticated plant visualisation, management & reporting software. Better control has also paved the way for continuous processes, reduced waste, improved hygiene and greater efficiency. However, in some applications the tide is now turning back towards a focus on the valve itself; increasingly intelligent and robust field control devices are allowing valves to talk to each other and work independently to an increasingly complex set of rules and parameters.

So, when is centralised control still desirable and how can decentralised control be employed to improve process systems?

Automated process valves, depending on their size and design can either be 'piloted' i.e. a pressurised air supply or pressure from the medium being controlled is used to actuate the valve, or, an external actuator is used (typically an electric ball screw or pneumatic/hydraulic cylinder on larger valves), or, an electric solenoid is used.

These items are usually connected to a PLC or other electronic controller, one which uses a software program or routine in order to keep the sequence and operation of the process valves in synchronisation with the desired pressure, flow and mixing required of the fluid being controlled.

If a compressed air supply is available, then piloting the valves may be the right option and there are some innovative solutions on the market to connect large numbers of pneumatic control air lines to a control valve manifold block in a hygienic environment.

One example is Bürkert's new AirLINE Quick interface that offers a reliable, compact and time-saving solution for direct mounting of valve islands and automation equipment into a stainless steel control cabinet, for food grade wash down environments. Eliminating the need for individual bulkhead connections, and internal piping, it has rows of push-fit connectors & exhaust valves integrated into one stainless steel interface plate. It allows for an altogether smaller design of control cabinet for hygienic process actuation in the food, beverage or pharmaceutical industries.

When connecting larger numbers of process valves, which are often required in high densities for continuous process applications – typically supplying fluids such as ingredients or for CIP processes in confectionery production – then a distributed control approach may be more suitable. Using fieldbus protocols such as ASi, Profibus and DeviceNet allows individual valves to be connected using just one or two cables.

There is an excellent solution, pioneered by Bürkert, that allows process valves from a wide variety of manufacturers to be controlled

centrally, or indeed given a level of independence; Their new Type 8681 control head offers the key advantage of universal fitment onto third-party hygienic valves: single seat valves, double seat, mix proof, and also quarter turn ball & butterfly valves that have linear stainless steel actuators. It is compatible with a full range of fieldbus communication networks, and is enclosed in a robust housing rated up to IP67 enabling it to be washed down and cleaned safely.

For the final layer of distributed control, many process valve automation applications can now dispense entirely with the control cabinet, bringing true process automation down to valve level. Bürkert's type 8793 controllers are essentially designed to cut costs in processing applications by allowing a systems engineer to replace an entire control cabinet with one neat controller with a built-in backlit display and keypad.

The relative costs of a separate enclosure, rack mounted plc, I/O, cabling, power supply, HMI etc. can effectively be replaced with just one small control unit that can be mounted either on or very near to the process valve.

The key to finding the best possible automation solution is ultimately through an analysis of each individual part of the plant or installation. In this way, the question of where plant intelligence should rest can be answered: i.e. does the nature of the application require centralised control interfacing to non-intelligent nodes, or does the physical size of the system mean that control has to be decentralised – using a fieldbus system and intelligent valves and actuators, or, can smaller machines or areas be controlled by one localised but powerful process controller – the answer could be a mixture of all the options, but the advantage today is that there are new and innovative solutions available for each.

Burkert products are marketed through **Petrochem.**

www.petrochem.ie

Metering Pump

The new, feature enhanced version of ProSeries-M™ M-2 Peristaltic Metering Pump is now shipping from Blue-White.



The M-2 is designed for use in small to mid-size municipal water and wastewater treatment systems. The pump includes many of the features and options seen in far more expensive pump models, which are primarily designed for large municipalities.

The pump permits standardisation to a single pump model, because it can be used with a wide variety of aggressive and viscous chemicals.

This new pump is also a great choice for pumping chemicals that can vapour lock a pump, such as Sodium Hypochlorite and Hydrogen Peroxide.

The Firmware is field upgradable. So the plant can always stay up-to-date with the latest software, an M-2 exclusive.

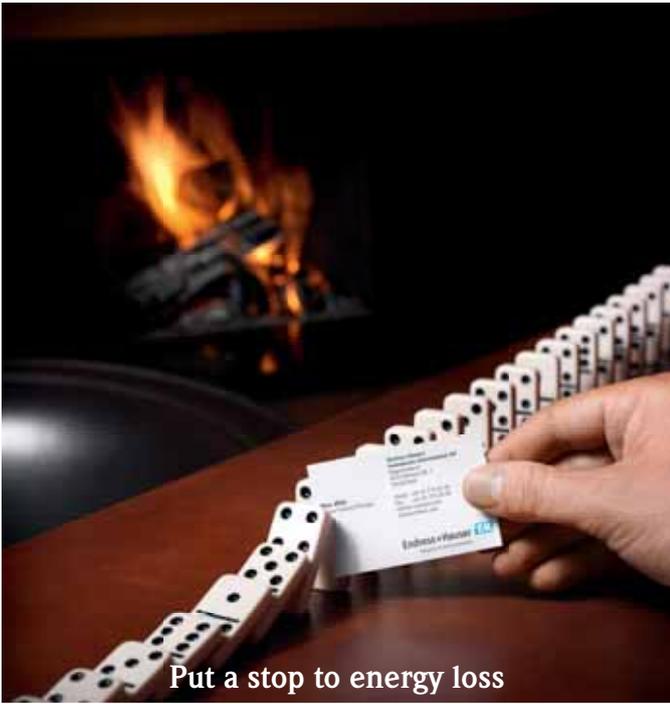
www.blue-white.com/

Temperature calibrators



The JOFRA Model PTC-125 Ultra Cooler -90 to 125°C, is a direct replacement to the well proven ATC-125. Similarly to the RTC-159 it addresses the sub-zero calibration requirements often found in the health care, medical, pharmaceutical, biotechnology and food

to page 10



Put a stop to energy loss

Endress+Hauser offers **Energy Monitoring Solutions** to measure your businesses energy (gas, steam, oil) and water use in real time, enabling you to adjust your settings based on productions patterns. From **boiler efficiency** to **chiller monitoring**, Endress+Hauser can help you to be **Energy Efficient**. For more information visit our website www.ie.endress.com/ems or call our **Energy Expert, Stephen Daly** on 045 86 86 15

Endress+Hauser (Ireland) Ltd
 T: 045 86 86 15
 E: marketing@ie.endress.com
 W: www.ie.endress.com



INNOVATION and INCREASED PERFORMANCE

SONIC-PRO

HYBRID ULTRASONIC FLOWMETER

ALL NEW! T-TRACK MOUNTING SYSTEM

Fast and Easy Sensor Installation
 New Small Pipe Capacity to 0.5"
 New Large Pipe Capacity to 100"
 NEMA 4x Quick Disconnects

Selectable Doppler or Transit Time
 Non-invasive Clamp-on Transducers • Works with Clean or Dirty Fluids
 "Smart" External Communications • Patents Pending

— MANUFACTURED IN THE USA —

Blue-White

5300 Business Dr., Huntington Beach, CA 92649 USA
 fax: 00+1+714-894-9492 • 00+1+714-893-8529
sales@blue-white.com • www.blue-white.com

Industry Leader in Gas Flow Calibration Instruments



www.mesalabs.com



ML-800



ML-One



ML-1020

Authorized Distributor for Bios DryCal Gas Flow Calibration Instruments



Flow Meter Systems (Irl) Ltd.
 IDA Industrial Estate,
 Quarters town, Mallow, Co. Cork,
 Ireland.
www.flowmeter.ie

- **Independent INAB Accredited Flow Laboratory**
- **INAB Accreditation for Liquid Flow**
- **In-House & On-Site Flowmeter Calibrations Available**
- **Commissioning, Design & Construction of Calibration Rigs**

From page 8

industries. The PTC-125 is an alternative to the RTC-159 when requirements on accuracy, stability and temperature range are less demanding. The JOFRA Model RTC-159 Ultra Cooler - 100 to 155°C is a testament to AMETEK's position as a market leader and their dedication to push the limits and capabilities of dry block calibration. It builds upon the well proven ATC-125 patented technology and features all the expected advantages and functionality of the RTC series. The RTC-159 is designed to cover the full range of applications within the health care, medical, pharmaceutical, biotechnology and food industries. Previously users needed multiple calibrators to cover their requirements, ranging from calibration of sensors in super freezers (-95°C) all the way up to sensors in autoclave sterilization (135°C). With the RTC-159 one size

fits all. These models available from **Instrumentation Technology** in Ireland are also used by them in the calibration services they provide for customers.

www.calibrate.ie/

New meter totaliser!



Precision Digital, marketed here by **PJ Boner & Co.**, has announced the PD6830 ProtEx®-RTP Pulse Input Rate/Totaliser. With a rugged, explosion-proof, NEMA 4X enclosure, the PD6830 is designed for quick and easy display of local or remote flow information in hazardous areas

or the harshest safe area applications. The unique SafeTouch® through-glass buttons allow operation without removing the cover.

Flowmeter k-factor units are automatically converted to the desired display units; this means no conversion factors are needed. The pulse input accepts a wide range of flow transmitter signals, including mV input from a magnetic flowmeter, as well as high frequency signals. The unit includes backlighting and two open collector outputs as standard. The meter has FM, ATEX, CSA, IECEx, and CE approvals and is housed in a rugged, cast aluminum NEMA 4X enclosure.

"The ProtEX PD6830 is designed for what operators need most...a meter that is easy to read, displays important information about their process, and can be seen from wide angles and a distance," said **Jeffrey Peters**, President, Precision Digital Corporation. *"Other meter manufacturers have lost sight of the fact that users need to be able to see the data, even in hazardous areas. The PD6830 is designed for readability and ease of use, from large character displays to automatic rate conversions."*

It features an upper display that is 0.7 inches high and shows five digits of flow rate or total. The lower display is 0.4 inches high and shows a combination of flow rate, total, grand total, or a tag with seven alpha-numeric characters. The meter is easy to read from a distance, under various lighting conditions, and from wide viewing angles of up to +/- 40 degrees (twice that of competitive models).

Four sensors in the PD6830 operate as through glass buttons for programming & operation without removing the cover. These SafeTouch® buttons include an energy saving mode to save power, extend battery life, & prevent unintended triggers.

Maurice W. Bryan



Maurice W Bryan, who died recently at his home in Dublin was the first Editor of Read-out, when it was the house magazine of *Industrial Instruments Ltd.* He was in his early eighties.

An alumni of Trinity College, where he graduated in Science & Engineering his professional life was spent mostly in the area of Automation, with **Honeywell**, ILL and finally with **Jacobs Engineering** in Dublin.

The Ireland Section of the International Society of Automation recognised his contribution to Automation in Ireland by awarding him with their unique Instrument Pioneer Award in 1998.

Maurice was also long time member of Irish Veteran & Vintage Motorcycle Club (IVVMCC). He was associated with the club since its foundation and an all-rounder in Irish motor sport throughout his life.

Later he joined the University Motor Cycle and Light Car Club, becoming deeply involved in rally navigation and car trialing. In 1949 he acquired a 1933, 250cc Rudge Radial and took up short circuit road racing. He rode this machine through to 1960, not alone in road races but also in grass track and scrambling.

Maurice was an enthusiastic administrator too, performing duties for clubs and the Motor Cycle Union of Ireland of which he was President 1969-1971, and a former President of DUMC & LMC and the IVVMCC. In 1996, he became editor of the IVVMCC newsletter Exhaust Notes.

He was presented with the IVVMCC Meritorious Gold Star Award recognising his long dedication and commitment to the club in 2000, .

He had a lifelong interest in wildlife and when the South Dublin branch of Birdwatch Ireland was formed in 1984 Maurice was appointed chairman. We extend our sympathy to Bobbie, his wife, and to his family and friends.

What to expect in Automated Test

National Instruments has released its Automated Test Outlook 2013 highlighting the company's research into the latest test and measurement technologies and methodologies. The report examines trends affecting industries such as aerospace and defence, automotive, consumer electronics, semiconductor, telecommunications and transportation. Engineers and managers can use the report to take advantage of the latest strategies and best practices for optimising any test organisation.

Automated Test Outlook 2013 covers the following trends:-

Test Economics: *New investment models force test departments to rethink the way they measure success.*

Big Analogue Data: *Industry leaders leverage IT infrastructures and analytic tools to make faster decisions on test data.*

Software-Centric Ecosystems: *Open, software-centric ecosystems greatly impact the value derived from automated test systems.*

Test Software Quality: *Engineers use software development best practices to ensure test system reliability for complex systems.*

Moore's Law Meets RF: *New technology and instrumentation platforms drive up performance and drive down the cost of RF test equipment.*

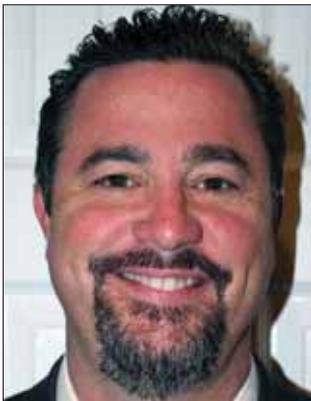
The Automated Test Outlook, downloadable from the link below, is based on input from academic and industry research, user forums and surveys, business intelligence and customer advisory board reviews. With this data as its foundation, the report delivers a broad representation of the next generation of trends for meeting the business and technical challenges in test and measurement.

www.ni.com/ato/

To page 11 column 4



Herman van den Berg has been appointed to the position of President of Yokogawa Europe B.V.



Aegis Software has appointed **Paul Price** as Vice President of Sales Worldwide.



PROFIBUS Ireland in Co-operation with Industrial technologies (ITEC) conducted a very successful Certified PROFIBUS Engineers (CPE) Course in Beirut. ITEC is a PI Competency Centre for Lebanon, and is actively involved in implementing PROFIBUS and PROFINET technologies in a wide range of applications. CPE course was organised and administered through ITEC offices in Beirut, and was conducted by **Hassan Kaghazchi**, Chairman of PROFIBUS Ireland. The course was held earlier this year in Beirut, with participants from different sectors of industry in Lebanon. All the participants successfully passed the examinations at the end of the course, and are now

Certified PROFIBUS Engineers. It is planned to conduct further courses in the near future.

Pic shows: L-R Joven Zamudio (Turck), Hassan Kaghazchi (PROFIBUS Ireland) Ahmad El Kaderi (Leeds), Salah Chlouk (ITEC), Marwan Habbel (Leeds), Julien Ziade (Matelec) and Bachir Trad (Holcim Liban)



The International Society of Automation has elected **Terrence G. Ives** as its 2013 President. Ives will work with ISA leaders during the year to continue moving the Society toward meeting its strategic goals. Ireland is represented well in the ISA with Vice President in District 12 (Europe, Middle East & Africa) headed by **Brian Curtis** and **Billy Walsh** who is Vice President for Strategic Planning Department and also sits on the Executive Board as Chair of the Department VPs.

In other ISA News, **Schneider Electric** became the fourth ISA Ireland Section Corporate Sponsor. The other sponsors are ESP, Rockwell and Zenith. Picture (left) shows ISA's **John Downey** (left) and Schneider's **Jim Rice**.

From page 10

Unit conversions are automatically performed by the PD6830. This means no maths or conversion factors are needed. The meter is capable of data logging up to 1024 records in real time. Records contains date, time, rate, total, grand total, and log number.

The instruments is designed to handle a wide variety of high speed inputs and outputs. Inputs include active to 20 mV, pulses, open collector, NPN, PNP, TTL, or switch contacts up to 64 kHz. Inputs can be discerned with pulse widths as small as 5 μ s. Two open collector outputs are individually programmable for rate, total, or grand total alarms; rate, total, or grand total pulse outputs; retransmission of pulse inputs; quadrature paired output or constant timed pulse.

The PD6830 provides flexible power options, including battery, DC with battery backup, DC only, output-loop, or output loop with battery backup. It is housed in a rugged, cast aluminum NEMA 4X (IP68) enclosure that provides three threaded conduit holes and integrated pipe or wall mounting holes. Operating temperatures range from -40 to 75 degrees C.

www.pjboner.com/





My people are forced to waste their time on monotonous procedural tasks. I need them focused on right-first-time production instead.

YOU CAN DO THAT

 **SYNCADE™** Empower your people and accelerate your business with the Syncade™ Suite.

By simplifying routine, non-value-added tasks, Syncade helps your people be more effective and your plant be more efficient. You can integrate work activities with real-time information, assuring consistent production is performed with best practices and approved, up-to-date procedures. And the modular, scalable nature of Syncade lets you add functionality as you need it. It's time to put the focus back where it belongs — on your business — go to

www.EmersonProcess.com/Syncade

Call **021 480 7500** or e-mail **IrelandSales@Emerson.com**


EMERSON™
Process Management

The Emerson logo is a trademark and a service mark of Emerson Electric Co. © 2013 Emerson Electric Co.

EMERSON. CONSIDER IT SOLVED.™