

# ICEnews

February 2008

All that's Cool in Instrumentation and Control Engineering

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Welcome to the February 2008 issue of *ICEnews*, the Instrumentation, and Control Engineering news source. A formatted version of this newsletter can be found at <http://www.iceweb.com.au/icenews/icenews2-2008.pdf>. ICEnews is a compendium of useful information which we endeavour to issue quarterly.

We want to make this newsletter a source of information that YOU can use in YOUR job, while also keeping you informed on what is happening in our industry both directly and indirectly. If you have something you would like to contribute, please send it to the editor at Ian Verhappen (<mailto:ian.verhappen@iceweb.com.au>) or Jim Russell (<mailto:jimrussell@iceweb.com.au>). We welcome your Press Releases, information, AND any technical articles you may have that could be appropriate for this newsletter or our web site <http://www.iceweb.com.au>.

ICEweb's primary purpose is to disseminate information about Instrumentation, Control, Electrical and Fire & Gas Engineering to you the practitioners and developers of these arts. ICEweb is averaging 36,000 page views each month. ICEnews is another mechanism to get this information out to you. Our database is in excess of 1600 quality contacts.

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As an ICEnews member you are on our mailing list so that we can keep you up-to-date technical information.

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### **ICEart — Technical articles related to instrumentation and control.**

Over the years it has been difficult to source Exd Certified immersion heaters and often this has led to a certification nightmare for those engineers responsible for the associated equipment packages. A technical article outlining a solution can be found at

<http://www.grimwoodheating.com.au/HazardousAreaHeating.htm>

McCrometer has announced a new Online Flow Meter Selection Tool with an innovative on-demand search capability based on fluid, industry, and application. The Online Flow Meter Selection Tool makes it easy for process, plant, municipal water and agricultural engineers to quickly identify the flow measurement technology best suited to their specific needs.

[http://www.mccrometer.com/news\\_media/news\\_releases/pr\\_lead.asp](http://www.mccrometer.com/news_media/news_releases/pr_lead.asp)

Ronan have introduced their X500F Sequence of Events Recorder which provides an advanced monitoring and fault finding data acquisition system. The system's high speed, high resolution digital multiplexers utilize network interface for open and fast transmission of plant status changes to the operator on local HMI or a remote host and visual annunciators.

<http://www.ronan.com/products/category.cfm?CatID=25>

Globalisation has led to significant new competition from low-cost producers in high volume product categories that can be copied easily. Industrial tube fittings are no exception. This white paper from Parker Instrumentation details tests made on products from an example 'low cost producer'.

<http://www.wordsun.com/pip227gb.htm>

How neat (and small) is this? Intel Opens First High-Volume 45nm Microprocessor Manufacturing Factory New \$3 Billion Facility to Produce Processors with Intel 45nm Hafnium-based High-k Metal Gate Transistors

<http://www.intel.com/pressroom/archive/releases/20071025corp.htm>

Emerson Process Management have announced FOUNDATION fieldbus I/O communications options for Brooks<sup>®</sup> Instrument thermal mass flow meters, mass flow controllers, and pressure controllers.

[http://www.emersonprocess.com/home/news/pr/711\\_brooks-ff.html](http://www.emersonprocess.com/home/news/pr/711_brooks-ff.html)

Emerson Process Management have introduced the Rosemount Analytical PUR-Sense<sup>™</sup> Model 410VP conductivity sensor, an easy to install four-electrode contacting sensor designed for sanitary applications in the food & beverage and life sciences industries. The sensor offers the industry's widest conductivity measurement range, providing exceptional linearity between 0.1 µSiemen/cm to 600 mSiemen/cm.

[http://www.emersonprocess.com/home/news/pr/712\\_rai410.html](http://www.emersonprocess.com/home/news/pr/712_rai410.html)

The ISA Automation Standards Compliance Institute recently completed an agreement with the Idaho National Labs to distribute Control Systems Cyber Security Self Assessment Tool (CS<sup>2</sup>SAT) available on behalf of the U.S. Department of Homeland Security.

[http://www.isa.org/Content/ContentGroups/News/20071/December32/ISA\\_releases\\_cyber\\_security\\_tool.htm](http://www.isa.org/Content/ContentGroups/News/20071/December32/ISA_releases_cyber_security_tool.htm)

One for the Analyser engineers, Applied Analytics' new TSA-100 Process Total Sulfur Analyzer is designed for accuracy, versatility, fast-response, and ruggedness in any range of total sulfur measurement. The TSA-100 is engineered for insusceptibility to component cross-interference and can provide fully accurate total sulfur measurements even when interfering compounds such as H<sub>2</sub>S, SO<sub>2</sub>, and mercaptans are all present in the sample. <http://www.a-a-inc.com/Newpressrelease.htm>

Australian Engineers should note that Standards Australia has released AS/NZS 3000:2007: Electrical installations (known as the Australian/New Zealand Wiring Rules), this issue supersedes AS/NZS 3000:2000  
<http://www.saiglobal.com/publishing/wiringrules/rules.htm>

No Batteries here! Perpetuum UK have released a very interesting technical note which highlights the use of a vibration energy harvester in a condition monitoring application.  
[http://www.perpetuum.co.uk/resource/AN001\\_Issue%201.0\\_9th%20April%202007.pdf](http://www.perpetuum.co.uk/resource/AN001_Issue%201.0_9th%20April%202007.pdf)

The new ROTAMASS XR is the largest Coriolis mass flowmeter to be developed by Yokogawa, with a capability of handling a maximum flow rate of 600 t/h.  
<http://www.peterbush.info/release.aspx?rel=2151>

New methods needed to secure control systems - Conventional security techniques alone cannot resolve the problems manufacturers face for their control systems, according to a security specialist at an Australian networking integrator.  
[http://www.isa.org/Content/ContentGroups/News/20071/August37/New\\_methods\\_needed\\_to\\_secure\\_control\\_systems.htm](http://www.isa.org/Content/ContentGroups/News/20071/August37/New_methods_needed_to_secure_control_systems.htm)

### **ICEbooks – Useful books and new releases related to instrumentation and control.**

Need some technical “know-how”? ICEweb has developed a new page which details a selection of excellent Instrumentation, Automation, Control, Electrical, Electronic and Information Technology books from IDC Technologies. These can be purchased from ICEweb . Also detailed are other links to more useful references. <http://www.iceweb.com.au/Books/books.htm>

IDC Technologies produces five brilliant comprehensive Engineer's pocket guides which are now available for you to download. Subjects include: Instrumentation/ Communications/Electrical/ Electronics/Conversion & Engineering formulas, you have to register but it is worth the effort!  
[http://www.idc-online.com/pocket\\_guides/?country=%23](http://www.idc-online.com/pocket_guides/?country=%23)

Industrial Flow Measurement, 3rd Edition - David W. Spitzer - Designed to help practicing engineers avoid costs associated with misapplication of flowmeters, this newly revised text reviews the important concepts of flow measurement and provides explanations, practical considerations, illustrations, and examples of current flowmeter technology.  
[http://www.isa.org/Template.cfm?Section=Shop\\_ISA&Template=/Ecommerce/ProductDisplay.cfm&ProductID=7284](http://www.isa.org/Template.cfm?Section=Shop_ISA&Template=/Ecommerce/ProductDisplay.cfm&ProductID=7284)

A Practical Guide to Security Engineering and Information Assurance -Debra S. Herrmann – This book provides an engineering approach to information security and information assurance.  
<http://books.google.com.au/books?id=a8kprsbVvAcC&vq=Guide+to+Programmable+Safety+Systems>

ISA Handbook of Measurement Equations and Tables, 2nd Edition -Jim Strothman - This updated, expanded and improved version provides hundreds of essential equations and tables to help you select, operate and maintain measurement devices. The 2nd Edition adds brand new chapters packed with tables and equations for Industrial Communications Buses, Safety and Environmental Measurements. Tables and equations have been added to all the previous edition's chapters covering Units of Measurement, Pressure, Flow, Temperature, Level, Humidity, Electrical and Viscosity measurements.  
<http://www.isa.org/Template.cfm?Section=Books1&Template=/Ecommerce/ProductDisplay.cfm&ProductID=7929>

Wireless Networks for Industrial Automation 2nd Edition - Dick Caro -Commercial, residential and industrial networks are rapidly going wireless. The digital edition of this book includes the increasingly popular wireless application Radio Frequency Identification (RFID) and also provides a clear, unbiased view of the emerging wireless communications market. Author Dick Caro explores wireless communications from the factory and process automation viewpoint to help you make clear decisions on the timing and strategy for implementing wireless networks for automation projects.

<http://www.isa.org/Template.cfm?Section=Books3&template=/Ecommerce/ProductDisplay.cfm&ProductID=7845>

### **ICEbus — Information on any of the 26 different bus systems in use in the area of instrumentation and control.**

The Profibus group have number of interesting webinars are available including

- Industrial Ethernet, an Introduction
- Industrial Ethernet, Ethernet Network Architecture
- PROFINET - the all-encompassing Industrial Ethernet
- Industrial Wireless Networking
- Industrial Ethernet Diagnostics

<http://us.profibus.com/webinars.aspx?pagetype=archive>

The Fieldbus Foundation has announced the release of a FOUNDATION(tm) fieldbus H1 cable test specification. The new specification includes test cases providing greater assurance to automation end users that their wiring systems are suitable for fieldbus system operation.

[http://www.fieldbus.org/index.php?option=com\\_content&task=view&id=414&Itemid=281](http://www.fieldbus.org/index.php?option=com_content&task=view&id=414&Itemid=281)

The Fieldbus Foundation has also announced the availability of an additional FOUNDATION fieldbus specification addressing temperature transducer blocks. This new release includes features enabling automation equipment suppliers to further improve the diagnostics, interoperability and reliability of registered, FOUNDATION-compliant products.

[http://www.fieldbus.org/index.php?option=com\\_content&task=view&id=415&Itemid=281](http://www.fieldbus.org/index.php?option=com_content&task=view&id=415&Itemid=281)

[FOUNDATION Fieldbus Provides Automation Infrastructure for Operational Excellence](#) - This ARC report highlights that end users are increasingly specifying automation products and services not based upon the level of technology they provide, but on the business value proposition. FOUNDATION Fieldbus technology should be looked at from the same point of view.

[http://www.fieldbus.org/images/stories/enduserresources/technicalreferences/documents/arc\\_automation\\_infrastructure.pdf](http://www.fieldbus.org/images/stories/enduserresources/technicalreferences/documents/arc_automation_infrastructure.pdf)

EDDL allows interoperability for devices to constantly gather information - No matter what control system a plant is using, it is now easier for users to choose best-in-class instruments for their networks. The technology that allows this is Electronic Device Description Language (EDDL). From the ISA and InTech.

[http://www.isa.org/InTechTemplate.cfm?Section=Article\\_Index1&template=/ContentManagement/ContentDisplay.cfm&ContentID=65611](http://www.isa.org/InTechTemplate.cfm?Section=Article_Index1&template=/ContentManagement/ContentDisplay.cfm&ContentID=65611)

The PROFIBUS and PROFINET community group blog discusses many aspects of the technology.

[http://us.profibus.com/community/blogs/pto\\_profiblog/default.aspx](http://us.profibus.com/community/blogs/pto_profiblog/default.aspx)

Fieldbus Reigns in Process Control - After nabbing the savings from easier installation, plant managers are beginning to use fieldbus for asset management. This article from Automation World gives a good end user perspective. <http://www.automationworld.com/view-3554>

ICEweb's PROFIBUS page has been updated to include the following papers.

- Why use a fieldbus?- This article details the advantages of using a fieldbus system - also available as an MP3 file

- PROFIBUS PA vs. Foundation Fieldbus - a cost comparison, also available as an MP3 file.

- A Guide to Troubleshooting PROFIBUS PA Networks -A systematic approach makes network set-up

and trouble-shooting easy - James Powell

- The Value Proposition of PROFIBUS in the Hybrid Industries - This ARC Advisory Group white paper shows the benefits of PROFIBUS in the process industries. And almost all process industries have a discrete need as well, hence are hybrid.

- PROFINET: An All-Encompassing Industrial Ethernet Solution - ARC presents an overview of PROFINET and some application stories.

- Tool Calling Interface. Device tools perform user functions such as parameterization and diagnostics directly from the automation-system engineering tool. Device tools are based on a Tool Calling Interface (TCI).

<http://www.iceweb.com.au/Fieldbus/profibus.htm>

Methods for Planning, Installation, Commissioning and Diagnosis of Fieldbus Installations - Andreas Hennecke, Sven Seintsch and Thomas Kasten - This paper describes working practice for all phases of the project: planning, commissioning, plant start-up, operation and online troubleshooting of fieldbus systems. Strategies are described that enable users to maximize the benefits of fieldbus technology. Thanks to Pepperl and Fuchs.

<http://www.iceweb.com.au/Instrument/FieldbusPapers/ADM%20White%20Paper.pdf>

### ICEed

Abhisam Software, a young knowledge based company set up to provide training to technical professionals by e-learning have developed several cost effective courses relevant to ICE personnel. Subjects are Gas Monitors, RFID and Hazardous Area Instrumentation. <http://www.abhisam.com/>

The PTO and PROFI Interface Center will be holding one-day training classes throughout North America. There are three different curricula centering on PROFIBUS, PROFIBUS in the process industry, and PROFINET.

[http://us.profibus.com/news\\_display.aspx?newsid=120](http://us.profibus.com/news_display.aspx?newsid=120)

The Foundation Fieldbus End User Council Australia has announced their annual training program.

<http://www.fieldbus.org.au/training/EUCtrain.htm>

Emerson Process Management has published its *2008 Global Course Catalog*, describing more than 300 training courses. These include PlantWeb digital plant architecture, FOUNDATION fieldbus technology, and various automation systems including the DeltaV digital automation system, Ovation expert control system, PROVOX, RS3, and WDPF control systems. Other courses cover field instrumentation, including control valves and digital valve controllers, measurement and flow control devices, and analytical instrumentation. Additional course offerings include natural gas regulation and control, terminal automation, electrical systems, and plant safety. <http://www.emersonprocess.com/education>

IDC Technologies have released a comprehensive list of engineering training courses and workshops which are conducted worldwide.

<http://www.idc-online.com/training/?country=%23>

**ICEfolks — News about promotions and changes people in the Instrumentation Control Engineering world.**- Please let us know of any personnel or other job changes in your organisation.

### ICEJobs – Vacancies and Wanted

“Interested in participating in a short or long term international **Safety Instrumented System assignment in Canada?** ACM Facility Safety is leading the “Safeguarding Evolution” in North America’s chemical and process operating plants and needs your help. They currently are looking for engineers and technologists that want to hone their skills in Safety Lifecycle management. For more information see

<http://www.acm.ab.ca/careersOpportunities.cfm>

A large Global Company manufacturing a diverse range of control and automated valves is seeking to appoint a **representative covering the state of Queensland** - initial expressions of interest with company details can be forwarded to - The Manager, P.O. Box 668, Croydon, VIC. 3136

**Senior Instrument Engineer Requires Part Time Work From Home** – Perth Western Australia

This engineer is looking for a regular maximum of 8 hours work a week working mainly from home.

- PROFESSIONAL STATUS: Chartered Senior Instrument Engineer (IEAust)

- COMPETENCIES: Electrical Equipment in Hazardous Areas (UTE NES 010A, 409A, 410A and 707A)  
Level 5 Registered Project Manager (AIPM)

- EXPERIENCE: 10 years experience mainly in oil and gas (offshore and onshore).

For full details see <http://www.icweb.com.au/Employment/AustWanted.htm>

**Are YOU looking for good people? With ICEweb's 36,000 page views a month plus ICEnews getting out to over 1600 quality contacts and competitive rates we are a very cost effective method of advertising, contact Jim Russell (<mailto:jimrussell@icweb.com.au>) for further details.**

**Looking for a job? As a service to the ICE community ICEweb and ICEnews will post your details for Free !**

**ICElinks— electronic newsletters and links of potential interest to our readers.**

A really great website for the latest news is the Read-Out Instrumentation Signpost.

<http://read-out.net>

**ICEmerge — Mergers, acquisitions and news from the Instrumentation Control Engineering community.**

IDEX Corporation has announced that it has completed its acquisition of ADS, LLC (previously referred to as Nova Technologies Corporation). ADS, LLC is a leading provider of metering technology and flow monitoring services for the water and wastewater markets. Headquartered in Huntsville, Alabama, with regional sales and service offices throughout the United States and Australia, ADS, LLC has annual revenues of approximately \$70 million. The total purchase price was approximately \$160 million.

Emerson has announced it sold its Brooks Instrument to American Industrial Partners Capital Fund IV, L.P. ("AIP") for approximately \$100 million in cash. AIP is a private equity investment firm that applies an operational approach to building and improving middle-market companies.

<http://www.gotoemerson.com/jsp/news/crelease.jsp?ReleaseID=3117>

Emerson has acquired The Automation Group (TAG) of Houston, Texas. TAG becomes part of Emerson Process Management, expanding Emerson's capabilities for providing technical and management services for the design, engineering and implementation of process automation systems for the refinery, petrochemical, oil and gas production and other industries. Terms of the deal were not announced.

[http://www.emersonprocess.com/home/news/pr/801\\_tag.html](http://www.emersonprocess.com/home/news/pr/801_tag.html)

**ICEnet — Internet related topics and sites that may be of interest to our readers. In addition to ICEWEB that is!**

Links to the Following webinars and papers can be found on our [Industrial Ethernet page](#).

- Industrial Ethernet, an Introduction
- Industrial Ethernet, Ethernet Network Architecture
- Industrial Ethernet, Advanced Ethernet Architecture
- PROFINET - the all-encompassing Industrial Ethernet
- Industrial Ethernet Diagnostics - This webinar on Industrial Ethernet Diagnostics describes how to

troubleshoot and diagnose problems on an Industrial Ethernet network. It highlights which tools from the IT world are useful for Industrial Ethernet.

- Industrial Wireless Networking- In this Industrial Wireless Networking webinar you'll learn all about the latest Wireless technologies in use for Industrial Wireless applications including IEEE 802.11 (Wireless Ethernet) , Bluetooth, and other wireless technologies.

- MES and PROFINET - The PROFINET and MES Maintenance Operations guideline of PI (PROFIBUS & PROFINET International) defines an open integration path between MES and PROFINET based automation systems.

- PROFINET in the Process Industries - As a backbone network, PROFINET is ideally suited to the task of surfacing process data stored in control systems and field devices. Media gaps that hinder the flow of critical data between process equipment and enterprise systems can be bridged with PROFINET proxies, creating an all-encompassing network architecture that brings the now ubiquitous industrial Ethernet into the process plant.

[http://www.iceweb.com.au/Fieldbus/industrial\\_ethernet.htm](http://www.iceweb.com.au/Fieldbus/industrial_ethernet.htm)

Converting Serial Networks to Ethernet Communications - New communications technologies have emerged that provide high-speed wireless Ethernet communications to field applications. From ISA and InTech.

[http://www.isa.org/InTechTemplate.cfm?Section=Article\\_Index1&template=/ContentManagement/ContentDisplay.cfm&ContentID=65611](http://www.isa.org/InTechTemplate.cfm?Section=Article_Index1&template=/ContentManagement/ContentDisplay.cfm&ContentID=65611)

### **ICEnew — Great new technical links posted on <http://www.iceweb.com.au/new.htm>**

This is a section that highlights those useful technical links that are new to ICEweb.

#### ***Cables***

Low Smoke/Zero Halogen Cables information from wikipedia

[http://en.wikipedia.org/wiki/Low\\_Smoke\\_Zero\\_Halogen](http://en.wikipedia.org/wiki/Low_Smoke_Zero_Halogen)

#### ***Calibration***

What is the difference between calibration and adjustment? - From the UK's National Measurement Laboratory

<http://www.npl.co.uk/server.php?show=ConWebDoc.1246>

#### ***Choke Valves***

ICEweb's Choke Valve page has been upgraded, however we are desperate for quality technical papers on this subject.

<http://www.iceweb.com.au/Technical/choke-valve.htm>

#### ***Control Valves***

A technical information sheet Selection and Application of Positioners, Limit Switches, Solenoid Valves and Other Accessories has been added to ICEweb's Control Valve page which has been updated thanks to our sponsor Samson Controls. This page has a wealth of Control Valve information.

[http://www.iceweb.com.au/Valve/control\\_valves.htm](http://www.iceweb.com.au/Valve/control_valves.htm)

Smart technologies sustain plant reliability, help control costs - Todd Gordon - This article highlights the benefits of DVC technologies in a power plant

[http://www.emersonprocess.com/home/library/articles/powerengr/powerengr0710\\_we.pdf](http://www.emersonprocess.com/home/library/articles/powerengr/powerengr0710_we.pdf)

#### ***Corrosion***

Corrosion and its Effects - This technical data sheet briefly discusses some of the reasons why corrosion occurs and the problems that can result.

<http://www.iceweb.com.au/www.emersonprocess.com/rosemount/document/pds/corrode.pdf>

### ***Fire and Gas***

Have a look at our updated Gas Detection page, this now includes many additional links including;

- The Honeywell Analytics Gas Detector Newsletter - This is packed full of features and articles on Gas Detection
- Honeywell Analytics Gas Book - This handbook is intended to offer a simple guide to anyone considering the use of gas detection equipment. It provides an explanation of both the principles involved and the instrumentation needed for satisfactory protection of personnel, plant and environment. The aim has been to answer as many as possible of the most commonly asked questions about the selection and use of industrial gas detection equipment. Thanks to our sponsor Honeywell Analytics.

<http://www.iceweb.com.au/F&g/GasDetect.htm>

The Following Fire Detection technical papers are from Micropack Engineering can be found on our Fire and Gas Technical information page.

- Flare Radiation -Not So Friendly Fire-Ian Davidson
- Flame Detector Selection - Ian Davidson
- Triple Channel IR Flame Detection – Magic or Myth?-Ian Davidson
- Detector Selection Overview

<http://www.iceweb.com.au/F&g/techpapers.htm>

### ***Flow***

The following articles have been added to our comprehensive Ultrasonic Flowmeter page;

- Effluent Flow with Suspended Solids -Facing Rising Treatment Costs, Paper Mill Reconsiders Flowmeter Installation - describes some solutions to this issue - David W. Spitzer, P.E.- Thanks to flowcontrolnetwork.com
- Clamp on Ultrasonic Flowmeters - Your Questions Answered - Thanks to our Sponsor Zedflo Australia

<http://www.iceweb.com.au/Flow/ultrasonic.htm>

You can find the following links on ICEweb's Flow page.

- Conditioning Orifice Plate Technology; Taking the Standard to a New Level of Capability
- Installation and Grounding of Magmeters in Typical and Electrolytic Process Applications - Proper installation and grounding of magnetic flowmeters is important for accurate, reliable measurement performance.
- Magnetic Flowmeter Material Selection Guide -A general resource for the selection of materials for the magnetic flowmeter.
- Permeation of Teflon Flowtube Liners and Installation Techniques to Reduce the Rate of Permeation - Ways to Reduce Permeation including Liner Quality, Liner Thickness, and Temperature.
- Annubar® Flow Handbook - This excellent reference book provides all of the information necessary to accurately measure fluid flow using the Rosemount 485 Annubar primary element.

<http://www.iceweb.com.au/Flow/Flowweb.htm>

### ***Hazardous Areas Instrumentation and Electrical Equipment***

The following papers and presentations are from the IDC Technologies "Hazardous Areas: Classifications and Equipment Conference 2007", these papers are **recommended reading** and can be found on ICEweb's Electrical Equipment in Hazardous Areas page;

- Electrical Equipment in Hazardous Areas - Field Inspections – Bill Rankin - This paper focuses on the problems which are directly related to the inspection process.
- Ex Inspections—Potential Pitfalls – Alan Wallace – Inlec Engineering - Many, if not most, Ex inspection campaigns are grossly inefficient, and their effectiveness is often questionable. This presentation discusses the four main reasons why Ex inspection campaigns fail to meet the clients' expectations. It also offers recommendations to improve the quality and efficiency of Ex inspections.
- The Application of Intrinsic Safety to Fieldbus Systems - Chris Towle Chairman: MTL Instruments Ltd - This excellent paper covers the technical aspects of FISCO, FNICO, Exe and Exi combination, Maintenance and Inspection along with Intrinsically Safe Ethernet.

- Myths and Actual Practice with Industrial Data Communications and Hazardous Areas - Steve Mackay - IDC Technologies - This presentation covers Practical examination of data communications systems in hazardous areas for Ethernet, Foundation Fieldbus, Profibus or RS-485 along with Practical guidelines for best practice in designing your next industrial data communications system in a hazardous area.

- The Current State of the IEC Intrinsically Safe Standards - Chris Towle - Chairman: MTL Instruments Ltd

- A candid discussion on the IEC IS standards which includes IEC Organisation, Intrinsic Safety Standards, An Analysis of the Change from 'nL' to 'ic' and advice to the First-time Designer.

- Changes to Certification and its Impact on Manufacturers - Des McDonnell CSE-Ex Pty Ltd - This presentation covers product certification in Australia.

<http://www.iceweb.com.au/Ex-web/HA%20Tech.htm>

### **Level**

Laser Level Measurement - The ultimate solution for industrial process challenges, laser exploits the unique properties of light to produce precise, reliable, fast measurements. High update rates provide accurate measurements even when objects move quickly or material levels change rapidly.

[http://www.optech.ca/pdf/Brochures/LevelMonitorBrochure\\_06FNL.pdf](http://www.optech.ca/pdf/Brochures/LevelMonitorBrochure_06FNL.pdf)

Boiler Drum Level Transmitter Calibration - Steam Drum Level is both a critical and difficult measurement to make. Control of the water level in the drum must be precise.

<http://www.emersonprocess.com/rosemount/document/notes/00840-0100-4360.pdf>

[Level Measurement - Transmitters with Seals](#) - Transmitters with remote seals allow the transmitter to be removed from direct contact with the process fluid.

[http://www.emersonprocess.com/rosemount/document/tds/3206\\_00q.pdf](http://www.emersonprocess.com/rosemount/document/tds/3206_00q.pdf)

### **Pressure**

ICEweb's Pressure page has been updated and now includes links on Pressure Best Practices, Density Measurement, Interface Measurement, Eliminating the Need for Methods of Additional Process Sealing, Transmitter Diagnostics Reduce Maintenance Costs, Specifying the Right Solution for Vacuum Applications along with a new section on pressure gauges.

[http://www.iceweb.com.au/Pressure/pressure\\_web2003.htm](http://www.iceweb.com.au/Pressure/pressure_web2003.htm)

### **Temperature**

Trends in Process Temperature Measurement - An Evolving Technology Segment Changes Focus to Meet End-User Needs - Mike Cushing - This article also covers the basics about resistance thermometers, thermocouples and the use of temperature transmitters -

<http://www.flowcontrolnetwork.com/issuearticle.asp?ArticleID=216>

[Standard Platinum Resistance Thermometers - Frequently Asked Questions](#)

<http://www.isotech.co.uk/pdfs/SPRT-FAQ.pdf>

[Temperature Calibration; Depths of Immersion](#) - John P. Tavener - Of all the sources of errors and uncertainties in thermal calibration by far the largest source of error and least understood effect is that of immersion of unit under test, and the reference standard.

<http://www.isotech.co.uk/pdfs/immersion.pdf>

### **Lightning and Static**

Lightning and Static Effects on Industrial Electronics - This data sheet from Emerson Process Management examines the damage caused by transients from lightning and static and offers advice on minimising the harmful effects of these two phenomena.

<http://www.emersonprocess.com/rosemount/document/pds/lightnin.pdf>

### **Pressure Relief Valves**

[Safety Selector Valve - Dual Pressure Relief Device Systems](#) - Anderson Greenwood developed the patented, Safety Selector Valve in response to the growing demand for cost-effective, dual pressure relief

valve and/or rupture disc installations in today's process industries. The Safety Selector Valve is designed specifically to function as an effective 'switchover' device that permits routine or emergency servicing of redundant pressure relief devices with no process interruption, thus providing continuous system overpressure protection.

<http://www.tycoflowcontrol-na.com/Id/ANGMC-0241-US.pdf>

### **Signal Isolation**

What is Signal Isolation? - In most processes there are pieces of electronic measurement and control equipment from many different manufacturers. The signals from these instruments are interconnected to each other and to sensors, transducers and output devices connected in the process loop. In any such measurement and control system there are several electrical interfacing problems that are likely to occur, all of which can be solved by incorporating the appropriate isolation between the signals. This excellent article from our sponsor Weidmuller addresses this.

<http://www.iceweb.com.au/Instrument/InstrumentWeb.htm>

### **ICESafety — Information and news on Safety Instrumented Systems along with Health and Safety.**

"Interested in participating in a short or long term international Safety Instrumented System assignment in Canada? ACM Facility Safety is leading the "Safeguarding Evolution" in North America's chemical and process operating plants and needs your help. They currently are looking for engineers and technologists that want to hone their skills in Safety Lifecycle management. For more information see

<http://www.acm.ab.ca/careersOpportunities.cfm> .

Hima Australia are running 1-Day IEC/AS 61511 Safety Lifecycle Awareness Courses in Perth 5<sup>th</sup> March and Adelaide 16<sup>th</sup> April The outcome of the workshop will be an understanding of how to practically apply the AS61511 standard. The workshop will cover the requirements of each stage of the life cycle and how they apply to process industry projects today.

Perth - [http://www.hima.com.au/html/modules/piCal/index.php?action=View&event\\_id=121](http://www.hima.com.au/html/modules/piCal/index.php?action=View&event_id=121)

Adelaide - [http://www.hima.com.au/html/modules/piCal/index.php?action=View&event\\_id=123](http://www.hima.com.au/html/modules/piCal/index.php?action=View&event_id=123)

IDC are running a Safety Control and Instrumentation Systems Conference – Singapore 12<sup>th</sup>-13<sup>th</sup> March

<http://www.idc-online.com/events/?newsItem=88&country=%23>

Our Manufacturing and Automation Safety page has been updated with heaps of new links thanks to sponsor Pilz Australia and includes the following:

- Mining faces growing pressure to address plant hazards Part One and Two - With a fatality rate double the national average and an injury rate that is 50 per cent higher, mining is a dangerous industry. The causes of this extraordinary injury rate are equally as remarkable: machinery and plant accounted for 75 per cent and two in every three mining injuries were put down to bad design, far more than the 50 per cent the manufacturing sector attributes to design. Part 2 considers what can be done to make mining plant safe and compliant.

- Not all e-stops are equal before the law – how to be sure yours comply - Because emergency stop devices or "e-stops" are everywhere, they tend to be taken for granted but the law takes them very seriously as the last line of defence in machine safety.

- SafetyBUS p - This is the first open, safe bus system to have been approved by BG to category 4 in accordance with EN 954-1, EN 60204, EN 62061 and by TÜV to AK 6 in accordance with DIN V 19 250, SIL 3 in accordance with EN IEC 61508 and NFPA 79. This guarantees a wide application area for safety applications, from which users in plant and machine engineering as well as the automotive industry can benefit.

- PROFIsafe: Networked Safety for Process and Factory Automation -ARC presents some compelling benefits for using PROFIsafe and two success stories.

- Risk assessment still vital under new Victorian regulations - The new Victorian Occupational Health and

Safety Regulations are designed to simplify safety but, in the case of risk assessments, their release has caused real confusion.

- Changes to European categories of safety control will come to Australia in due course - The basis of AS 4024-1501 safety related parts of control systems defines categories of control system design which become more fault resistant as the risk increases. This is changing in Europe with the adoption of EN-ISO 13849-2006, which replaces the categories defined in EN 954-1 (which is AS 4024-1501) with Performance Levels and will be fully adopted in Europe by end of November 2009.

<http://www.iceweb.com.au/Manu+Auto%20Safety/man&autosafety.htm>

The following links can be found on our revamped HIPPS page.

- High Integrity Protection Systems (HIPPS) – Making SIL Calculations Effective - Jean-Pierre Signoret .Thanks to Touchoilandgas.com

- High Integrity Pressure Protection Systems (HIPPS) - Angela E. Summers - The risk typically involved with overpressure protection results in the need for high SIS integrity; therefore, these systems are often called High Integrity Pressure Protection Systems (HIPPS) or High Integrity Protection Shutdowns (HIPS). Thanks to SIPI

- High Integrity Protection Systems For New And Existing Vessels - Bryan A. Zachary and Angela E. Summers - Thanks to SIS-TECH Solutions

- Flare Header Overpressure Protective HIPS System - This application brief describes a typical High Integrity Protective Systems (HIPS) to minimize overpressure events in reactors and distillation columns, and thereby reduce the frequency of relieving to the flare. From Triconex.

- Preventing overpressure: A safety system success story - using failsafe systems to prevent overpressure - David K. Thomas -From the ISA

- High Integrity Pressure Protection Systems [HIPPS] for the Overpressure Protection Of Pipeline Risers - This document is to provide guidance for Inspectors in respect of the provision of remotely located HIPPS, including those located subsea, for the protection of pipelines, pipeline risers and some associated topsides process pressure systems. From the HSE (UK)

<http://www.iceweb.com.au/Valve/hipps.htm>

Need for an industry standard for ESD valves from an engineering and safety point of view -Meghdut Manna - Tahakum East -Since the Piper Alpha disaster in the North Sea, design of ESD valves has been given top priority and remains to be of great concern for plant safety management.

<http://www.safetyusersgroup.com/documents/AR060001/EN/AR060001.pdf>

Safe Working in the Sun- The Cancer Council of NSW has released a guide for working in the sun, some great tips here that may just save your life!

[http://www.cancercouncil.com.au/html/prevention/sunsmart/downloads/workplace\\_skincancer\\_outdoorwork\\_brochures.pdf](http://www.cancercouncil.com.au/html/prevention/sunsmart/downloads/workplace_skincancer_outdoorwork_brochures.pdf)

### **ICEtools— Software and offers that will help with engineering design.**

A great tool in life is to adopt the following philosophy; “Life is not measured by the years you live, but the love you gave and the things you did”

Really excellent free tools to help you in your job and at home can be found on ICEweb’s “Tools” page.

<http://www.iceweb.com.au/Tools/tools.htm>

For those traveling in the USA new spare lithium battery travel rules go into effect 1 January 2008.

<http://blogs.zdnet.com/mobile-gadgeteer/?p=765>

**ICewireless – News and technical links to Industrial Instrumentation Wireless items of interest**

The following wireless links are thanks to our sponsor [Abhisam Software](http://www.abhisam.com/index.htm)  
<http://www.abhisam.com/index.htm>

RFID Case Study ebook -This excellent 61 page technical reference has details on 25 different RFID applications from around the world. The password to the document is "abhisam". .  
<http://www.iceweb.com.au/Newtech/RFID/RFIDCaseStudyBook.pdf>

Technical Paper on “How to Achieve FDA Compliance on the Pedigree Requirement using RFID without having any sleepless nights or spending a fortune but still achieve a payback of less than a year”. The password to the document is "abhisam".  
<http://www.iceweb.com.au/Newtech/RFID/pdma2.pdf>

Emerson Process Management has announced that it is collaborating with Cisco to offer open-standard solutions for wireless process and plant management applications that install easily and operate reliably in the challenging process manufacturing environment.  
[http://www.emersonprocess.com/home/news/pr/709\\_emerson-cisco.html](http://www.emersonprocess.com/home/news/pr/709_emerson-cisco.html)

Wireless: The Golden Age of Asset Management - Peter Zornio from Emerson Process Management discusses the advancement of standards based field wireless technology.  
[http://www.emersonprocess.com/home/library/articles/maintech/maintech0703\\_zornio.pdf](http://www.emersonprocess.com/home/library/articles/maintech/maintech0703_zornio.pdf)

This [Wireless Question and Answer Article](http://www.bsbwireless.com/FAQ.html) covers Wireless Advantages, Pitfalls, Best Practices, Wireless Terms, Security, Future, Comparison with Hard Wired Systems, Frequency and Operating Range - from Geof Brazier and BSB Wireless.  
<http://www.bsbwireless.com/FAQ.html>

Deploying Industrial Wireless Solutions - Wireless technology has not been widely adopted for in-plant applications. Concerns about reliability, security, and battery life of wireless devices have slowed adoption of wireless options even where traditional wired solutions were cost-prohibitive or operationally difficult. That's changing as improvements in wireless technology address these concerns.  
<http://www.emersonprocess.com/rosemount/document/notes/00840-0200-4648.pdf>

Self-Organizing Networks: Wireless Topologies for In-Plant Applications -The topography of a wireless network is simply the way network components are arranged. It describes the physical layout of devices, routers, and gateways, as well as the data flow paths between them. Three of the most common wireless topologies for in-plant applications are star, mesh, and cluster-tree. By understanding the strengths and weaknesses of each, you can determine which topology is best for your specific application.  
<http://www.emersonprocess.com/rosemount/document/notes/00840-0200-4180.pdf>

Vibration Energy Harvester-Powered Wireless Condition Monitoring - John Parker - Perpetuum Ltd - This interesting application note describes the steps necessary to design the power supply and energy storage circuit of a wireless condition monitoring sensor node.  
[http://www.perpetuum.co.uk/resource/AN001\\_Issue%201.0\\_9th%20April%202007.pdf.pdf](http://www.perpetuum.co.uk/resource/AN001_Issue%201.0_9th%20April%202007.pdf.pdf)

The HART Communication Foundation have published a white paper on the new WirelessHART standard. The paper, titled summarizes key aspects of WirelessHART technology, including several of the design decisions that make it the “right choice” for process wireless automation.  
[http://www.hartcomm2.org/hart\\_protocol/applications/white\\_papers/why\\_wirelesshart.pdf](http://www.hartcomm2.org/hart_protocol/applications/white_papers/why_wirelesshart.pdf)

**ICEtime— Seminars, Tradeshow, Conferences and Events of interest to our readership.**

If you would like to have your event listed in ICEtime, please send a note or press release to <mailto:jimrussell@iceweb.com.au>

**2008****February**

27-29 — Fieldbus Foundation General Assembly - Antwerp, Belgium  
[http://www.fieldbus.org/index.php?option=com\\_content&task=view&id=377&Itemid=281](http://www.fieldbus.org/index.php?option=com_content&task=view&id=377&Itemid=281)

**March**

10-14 — The 2008 Measurement Science Conference - Anaheim, CA United States  
<http://www.msc-conf.com/msc/index.html>

11-12 5<sup>th</sup> Annual Oil Sands Automation Conference 2008, Oil Sands Discovery Centre, Fort McMurray, Alberta.

12-13 Safety Control & Instrumentation Systems Conference – Singapore  
<http://www.idc-online.com/events/?newsItem=88&country=%23>

24-27 WBF North American Conference - Philadelphia, PA

26 -28 —FLOWEXPO 2008 11th International Trade Fair for Valves, Pipelines, Fluid Engineering and Process Industries, Guangzhou Gymnasium No.783,BaiYundadao,BaiYun Area,Guangzhou ,China <http://flowexpo2008.bokee.com/>

31 -2 — April Fiotech 2008 – Creating Sustainable Business Value the “Big Easy Way” – Deploying Innovative Technologies – New Orleans, USA - <http://www.fiotech.org/events/annconf/annconf2008.html>

**April**

2 — SIL Capability “Not Just PFD” – The Centre, Birdswood Park, Warrington, Cheshire, UK  
<http://www.instmc.org.uk>

7 – 10 — Yokogawa 2008 Technology Fair and User Conference, Hilton Americas, Houston, Texas

8 – 10 — Automation Technology Egypt 2008 2<sup>nd</sup> Int'l Industrial Control and Automation Technology Exhibition and Conference, Cairo, Egypt. <http://www.smbegypt.com/automation.htm>

22-23 Canadian School of Hydrocarbon Measurement, Hyatt Regency Calgary, Calgary, Alberta - [www.cshm.ca](http://www.cshm.ca)

**June**

9-11 — Sensors Expo & Conference - Rosemont, IL United States  
<http://www.sensorexpo.com/sensors2007/v42/index.cvn>

11-13 — 2008 American Control Conference - Seattle, Washington  
<http://www.a2c2.org/conferences/acc2008/>

23-26 —ISA France Forum on Wireless Technology (ISA-100 Committee will also meet at this time) - Nice France

29<sup>th</sup> June-2<sup>nd</sup> July - The 6th International Conference on Computing, Communications and Control Technologies - <http://www.infocybereng.org/imeti2008/website/default.asp?vc=3>

**November**

10-12 — WBF 2008 European Conference - Barcelona, Spain  
[www.wbf.org/europe2008](http://www.wbf.org/europe2008)

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**ICESponsor— Newsletter sponsor recognition. The following companies have kindly contributed to the creation and sharing of this information by offsetting the costs associated with its production and distribution.**

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Abisham Software, Relcom Inc, CIRCOR International Inc, Zellweger and Grimwood Heating sponsor this issue of ICEnews, which is a publication of ICEweb.



highly fragmented industry.

For more information go to <http://www.circle-seal.com>

Well recognized by such brand names as **Circle Seal Controls, Hoke/Gyrolok fittings, and Go Regulators**, CIRCOR International Inc. is a leading supplier of valves and related products and services to a wide range of users who require precise, efficient, and safe fluid-control systems. For over 125 years they have been providing a complete array of fluid-control products and technologies to a



Portland, Oregon, USA, we have provided taps, repeaters, network monitors, and test equipment to demanding users and leading control system manufacturers since 1985.

For more information go to <http://www.relcominc.com>

**Relcom Inc.** specializes in the design and manufacture of wiring components and test equipment for the physical layer of Foundation Fieldbus and Carrier-band industrial local area networks (LAN). From our headquarters near

**Honeywell Analytics fire and gas detection** The **Honeywell Analytics group** of companies provides gas detection solutions in industries where potentially hazardous chemicals and gases exist. A full range of fixed gas, portable gas and flame detection equipment is available for the measurement of flammable gases, toxic gases and oxygen concentrations. The company provides design, development and manufacture of electrochemical, catalytic and infrared sensors, along with Chemcassette technology, placing the company at the forefront of innovation. The company offers solutions to increasingly difficult gas detection and monitoring applications. They also offer project management for specialized fire and gas systems, a global network of service centers and 24-hour on-line technical support.

For more information go to [http://www.iceweb.com.au/Suppliers/honeywell\\_analytics.html](http://www.iceweb.com.au/Suppliers/honeywell_analytics.html)

The **Grimwood** range of flanged immersion heaters can now be manufactured to provide hazardous area protection for users in the Asia Pacific region. Depending on the location and operating environment, units can be made in either carbon steel or stainless steel. The benefits of using locally designed and manufactured product fully complying with hazardous area requirements are shorter supply chains and lead times and quicker, clearer communication.



<http://www.grimwoodheating.com.au/flangeheaters.php>

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**abhisam**

*The power of e-learning!*

Abhisam Software is a young knowledge based company which has been set up to provide training to technical professionals by e-learning. The innovative e-learning courses help professionals to stay on top of the learning curve.

What better way to get training, other than by enrolling in an e-learning course? E-learning frees you from attending classrooms, or cramping your work or leisure schedule in any way. It enables you to learn & get training **anywhere** & at **anytime**.

Get trained anywhere & at anytime by making use of **ON DEMAND LEARNING!**

Learn anytime, anywhere by taking advantage of our e-learning courses. These e-learning courses are available in a variety of ways including as online learning courses, SCORM & AICC compliant courses which can be hosted on your Learning

Management System (LMS) or as stand alone courses on CD ROMs.

Abhisam Software have also started an m-learning course on RFID, which can be downloaded to your mobile phone.

They have e-learning courses on the following subjects:

E-learning course on [Gas Monitors](#)

E-learning course on [RFID](#)

E-learning course on [Hazardous Area Instrumentation](#)

M-learning course on [RFID](#).

For further details please contact via their website Abhisam <http://www.abhisam.com/>

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