

# ICEnews

February 2006

All that's Cool in Instrumentation and Control Engineering

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Welcome to the February 2006 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/icenews02-2006.pdf>. ICEnews is a bimonthly compendium of useful information.

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 Engineering to you the practitioners and developers of these arts. The average hits are 900 per day with a peak of 1900. ICEnews is another mechanism to get this information out to you. Our database is in excess of 1000 quality contacts.

The authors encourage you to support our newsletter sponsors and also appreciate if you tell those companies to which you reply based on this newsletter that the inquiry is based on an article in ICEnews. Thank you.

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

At ICEweb/ICEnews we take Spam very seriously and aim to make any information that we send out useful and informative.

Whilst we encourage you to remain on the mailing list to benefit from this important information, we would like to provide you with the option of removing yourself from our mailing list.

If you no longer wish to receive information from ICEnews, please reply to this email with "unsubscribe" in the subject line or contact <mailto:ian.verhappen@iceweb.com.au> and just put "unsubscribe" in the subject line.

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The newsletter materials are 'subdivided' into various topics as follows though not all categories may be present in every issue:

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

**ICEbus** — Information on any of the 26 different bus systems in use in the area of instrumentation and control. The authors however have a definite bias towards Foundation Fieldbus.

**ICEfolks** — News about promotions and changes people in the Instrumentation Control Engineering world.

**ICEletters** — electronic newsletters of potential interest to our readers.

**ICEmerge** — Mergers and acquisitions in the Instrumentation Control Engineering community

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

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

**ICESponsor** — Newsletter sponsor recognition. Normally at the beginning and end of the newsletter. These people have kindly contributed to the creation and sharing of this information by offsetting the costs associated with its production and distribution.

**ICETIME** — Seminars, Tradeshows, Conferences and Events of interest to our readership. (Despite the fact that I am a Canadian, this will not include a listing of ALL the ice hockey games I know of or participate in.)

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

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## Errata

Thank you to reader Tom Ariaans who pointed out that we had a link wrong last issue, the correct link for the news on the ISA/OASI announcement is <http://www.arcweb.com/NewsMag/ent/isa-oagi-ins38-082505.asp>

## ICEart

The PLCopen organization <http://www.plcopen.org/> has reduced a benchmark specification to estimate the performance of the PLC in your own application, and compare the performance of one PLC against another PLC for comment until June 30.

A recent article in the November issue of "Embedded Computing Design" indicates that OMAC has determined that 95 per cent of all systems require cycle times of more than one millisecond with a 10% permissible variation. Windows CE has a response time averaging 50 microseconds on a 200MHz x86 system so therefore it is capable of all but 5% of the applications OMAC reviewed in their study.

Thermo Electron has released a new IR spectrometer based on their FT-IR analyzer for trace gas analysis in process environments, air separation and hydrocarbon streams.

Two chemical industry cybersecurity groups have agreed to merge. The Chemical Industry Data Exchange (CIDX) has merged with the Chemical Sector Cybersecurity Program. The combined efforts can be found at <http://www.chemicalcybersecurity.com/>.

The International Air Transport Association has released a global standard for RFID luggage tags that will make it possible to track your suitcase better in the future. Hong Kong's airport already uses RFID technology so this is simply a sign of things to come.

The Open Applications Group and ISA-95 have agreed to converge their standards development activities for manufacturing interoperability to integrate business and production systems for the process, discrete and mixed-mode manufacturers.

The Telecommunications Industry Association (TIA) at <http://www.tiaonline.org> have released a new standard TIA-942 "Telecommunications Infrastructure Standard for Data Centers" to provide requirements and guidelines for the design and installation of a data center or computer room for the entire data center life cycle. With the convergence of automation and business technologies, this standard is likely of relevance to automation practitioners as well.

Members of the OASIS international standards consortium announced plans to define extensions to the WS-Security OASIS Standard that will enable the trusted exchange of multiple SOAP messages and define security policies that govern the formats and tokens of those messages. The new OASIS Web Services Secure Exchange (WS-SX) Technical Committee brings together users and vendors in an open process to refine and finalize a set of specifications based on three initial contributions, WS-SecureConversation, WS-SecurityPolicy and WS-Trust. The XML Catalogs version 1.1 has just been approved as well. This standard defines mechanisms to facilitate machine processing of XML entities associated with external identifiers, allowing references to web resources, such as files, images, stylesheets, and schemas, to be mapped to other resources.

ISA has formed an alliance with GlobalSpec to host their Instrumentation Directory though registration is required to gain full access to the new search capabilities this alliance offers.

With ISA 2005 in Chicago since the last issue of ICEnews a number of new product releases have been announced including:

- K-TEK's new MT5000 Series of Guided Wave Radar Level Transmitters. The series includes the MT5000 Liquid Level Transmitter and the MT5100 Level and Interface Transmitter.
- Yokogawa Electric Corporation's DXAdvanced Data Acquisition Station series of paperless recorders

ISA also has a new Executive Director. Patrick Gouhin joined the organization in the beginning of January with the mandate to help ISA "Set the Standard in Automation."

The 2006 Annual Book of ASTM Standards Catalogue is now available for free download by clicking <http://news.ihc.com/GoNow/a14065a139141a349763188a0>

CANopen is also going to play a role in photovoltaic systems in the future: CiA has started a group to specify the data communication of interfaces between power inverters, sensors and measurement devices, data acquisition modules and data monitoring devices in such systems.

The Interest Group (IG) CANopen has also released some CANopen specifications free-of-charge from their web site <http://www.can-cia.org>. The free specifications include the CANopen device profile for medical device collimators (CiA 412 series) and the Ethernet-to-CANopen gateway specification (CiA 309 series)

Rotork's IQ intelligent electric valve actuator has been enhanced with the introduction of the IQ Pro which includes a new hand-held setting tool that features bidirectional non-intrusive infra red communication.

The British Standards Institute have updated their web presence to include a PDF catalog and the ability to access their complete library of standards on-line. Check it out at <http://www.bsi-global.com>.

All Australian national standards can be found on-line at <http://www.sai-global.com>.

Raytek, has enhanced the new Marathon MM Series Infrared (IR) Thermometer with an optional motorized, remote-controlled variable target focus capability. This enables users to adjust the focus of measurement targets, either by push-button at the rear of the instrument, or remotely via an RS232/RS485 PC connection, where adjustments can be seen real-time through video

### ICEbus

The Fieldbus Foundation recently announced that TÜV Anlagentechnik GmbH, Automation, Software and Information Technology has granted Protocol Type Approval for the Fieldbus Foundation Safety Instrumented Systems specifications. The specifications are in compliance with International Electrotechnical Commission (IEC) 61508 standard (functional safety of electrical/electronic/programmable electronic safety-related systems) requirements up to, and including, Safety Integrity Level 3 (SIL 3). Also recently released by the Fieldbus Foundation is Version 6 of their specifications. The updated DDL specification extends the concept of interoperability to the HMI and diagnostic data level with improved visualization and graphical features. New features focus on device data organization, graphical visualization consistency, and support for persistent data storage. These enhancements are backward and forward compatible due to the nature of the IEC 61804-2 standard.

Rosemount has released the Xmt two-wire liquid analysis transmitter with Foundation Fieldbus capabilities suitable for use in FISCO systems.

NEC Electronics and Siemens have agreed to collaborate on the ERTEC (Enhanced Real Time Ethernet Controller) product line of the PROFINet standard. The Profibus organization has also released a short troubleshooting guide that can be accessed at [http://www.profinews.us/issue\\_graphics/Newsletter\\_5/images/A%20Guide%20to%20Troubleshooting%20PROFIBUS%20PA%20Networks.pdf](http://www.profinews.us/issue_graphics/Newsletter_5/images/A%20Guide%20to%20Troubleshooting%20PROFIBUS%20PA%20Networks.pdf). The 2006 dates for the Profibus seminars have been announced and can be found at [http://www.profinews.us/issue\\_graphics/Newsletter\\_6/Issue6\\_na\\_events.htm](http://www.profinews.us/issue_graphics/Newsletter_6/Issue6_na_events.htm)

Rosemount has released their 3420 fieldbus interface module, to connect Foundation fieldbus H1 devices to any control system with a Modbus interface. Information on the product can be found at <http://www.emersonprocess.com/rosemount/products/accessories/m3420.html>

The FDT Joint Interest Group has expanded to include several key End User members, Saudi Aramco and Shell Global Solutions plus two new manufacturers; Honeywell Process Solutions and Schneider Electric.

Pepperl+Fuchs have a new Profibus Gateway for Remote Process Interface (RPI). This new gateway features an integrated HART multiplexer that integrates HART functionality on a Profibus system without additional wiring or barriers. They have also released a new fieldbus power hub as well that provides both redundancy and galvanic isolation.

SERCOS recently celebrated its twentieth anniversary and during that time more than 1.5 million nodes have been installed around the globe. Recent other announcements from this group include the release of a number of SERCOS III products, The SERCOS safety concept, a protocol extension compatible with the established transmission mechanisms of the SERCOS interface. The SERCOS interface can be used within safety applications up to SIL 3 (Safety Integrity Level) according to IEC61508 even with the shortest cycle times. Because the safety concept is Independent of the type of data – command values, logical signals or safe logic or process information SERCOS safety is independent of the transport layer it is available both for SERCOS II and SERCOS III.

ABB has recently won several orders for their 800xA system including Tarkett AB, Ronneby in southern Sweden,, BP's Valhall Redevelopment project in the North Sea and Dynea UK Limited, located in Mold, Flintshire.

### **ICEed**

Tri-State University is now offering their suite of Foundation Fieldbus courses with the complete listing and registration information at <http://www.tsutechcenter.org/fieldbusinfo.asp>. Next classes are March 17 and May 8-10.

The HART Foundation has a series of on-line tutorials to help users understand the technology. The tutorials can be accessed at <http://hartcomm.org/etraining/courses.php>

Lee College, <http://www.knowthebus.org> is offering training classes April 19-21 and May 15-19.

### **ICEfacts**

Just to prove that not all this newsletter is work related and that engineers/technicians can have fun too, here is a link that shows how folks are “nicely” defacing advertising using “bubbles” <http://www.thebubbleproject.com/01.Bubbles/BubblesFrameset.htm>

The following links predicting top trends for the near future are courtesy of Jim Pinto’s e-newsletter:

[http://www.nowandnext.com/?action=top\\_trend/list\\_sectors](http://www.nowandnext.com/?action=top_trend/list_sectors)

<http://www.ecnow.com/top10trends2006.htm>

[http://www.technologyreview.com/InfoTech/wtr\\_16098.308,p1.html?trk=nl](http://www.technologyreview.com/InfoTech/wtr_16098.308,p1.html?trk=nl)

Pinto, also has some information providing a different take on the outsourcing phenomena with a link to [http://www.businessweek.com/magazine/toc/06\\_05/B39690605outsourcing.htm](http://www.businessweek.com/magazine/toc/06_05/B39690605outsourcing.htm)

An interesting pump technology from the November issue of World Oil. The Wedge Pump uses a four-chambered spherical design can pump materials from hydrocarbon to potential use as a heart pump.

Cool business cards that use the internet to download videos and new announcements to your key clients. Learn more at <http://ceoiq.com>

### **ICEletters**

Subscribe to this newsletter by registering your e-mail address at <http://www.ICEweb.com/au/icenews/register.htm> or sending a note with the subject ‘subscribe ICEnews’ to <mailto:jimrussell@iceweb.com.au> or <mailto:ian.verhappen@iceweb.com.au>

**ICEmerge**

Enclosure system manufacturer Knurr AG is now part of the Emerson Network Power family.

Krohne has acquired INOR Process AB to add temperature measuring capabilities to its suite of products.

After a number of “back and forth” offers, Australian HMI manufacturer Citect has been acquired by Schneider Electric.

UOP LLC is now part of the Honeywell empire and gives them access to UOP’s suite of licensed technology.

Fluke has acquired Visual Networks to access their network test and application performance management solutions, especially Voice over IP.

Though not an instrument purchase, Westinghouse has been purchased from British Nuclear Fuels by Toshiba where Toshiba gets over 25% from sales to this market and places them well for the burgeoning Chinese market.

As if everyone does not know if yet, the Hawke Fieldbus line of products have been acquired by Moore so the complete product line can be found at <http://www.miinet.com/>

Parker Hannifin have purchased Porter Instrument Company for their precision instrumentation line.

Verano, Inc., has acquired PlantData Technologies, a SCADA security, IT services and industrial automation firm headquartered in Houston, Texas.

**ICEnet**

A couple of interesting web sites that may be of interest to all of us. Forces of Nature shows the power of weather at [www.nationalgeographic.com/forcesofnature](http://www.nationalgeographic.com/forcesofnature) while all the closet chemists want to check out the musical chemistry site at [www.geocities.com/le\\_chatelier\\_uk](http://www.geocities.com/le_chatelier_uk)

More neat pictures from the NASA site including Mars, at <http://www.jpl.nasa.gov/wallpaper/mer> or <http://marsrover.nasa.gov/gallery/images.html>

If you would like to learn more about Power over Ethernet there is a tutorial available for download at <http://www.cable-install.com>.

Pepperl+Fuchs have created a new web site <http://www.FieldConnex.info> to provide information on a variety of fieldbus solutions.

If you are looking for information on the various Industrial Ethernet protocols, here is a good list to get you started on your hunt.

<http://www.ethercat.org/>

<http://ethernet.industrial-networking.com/>

<http://www.ccontrols.com/>

<http://www.hirschmann-usa.com/an/default.asp>

<http://www.moxa.com/>

<http://www.garrettcom.com/>

<http://ethernet.industrial-networking.com/>

<http://www.iaona.org/>

[http://www.cisco.com/application/pdf/en/us/guest/products/ps628/c1244/cdcont\\_0900aecd8013313e.pdf](http://www.cisco.com/application/pdf/en/us/guest/products/ps628/c1244/cdcont_0900aecd8013313e.pdf)

<http://www.odva.org/>

If our readers know of others please let us know so we can share them next time.

The United States Department of Homeland Security web site at <http://www.ready.gov/> has useful information on how to secure both your personal and corporate assets from electronic and other forms of damage.

If you are a process analyser practioners, you may be interested in looking at new web site: [www.onlineprocessanalyzers.com](http://www.onlineprocessanalyzers.com)

## ICEnew

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

New Flowweb, <http://www.iceweb.com.au/Flow/Flowweb.htm> includes new pages on V-Cone and Wet Gas Metering , Ultrasonic and Coriolis flowmeters

Pdf995- <http://www.pdf995.com/> .This free tool makes it easy and affordable to create professional-quality documents in the popular PDF file format. Have a look at the swag of useful tools on ICEweb's tools page. <http://www.iceweb.com.au/Tools/tools.htm>

A common issue with pH meters is contamination and fouling of the probe, the new links on our pH page <http://www.iceweb.com.au/Analyzer/ph.htm> provide some good information on cleaners available, including ultrasonic, bushing, chemical and self cleaning methods.

Designers, manufacturers, importers, suppliers all face safety laws- <http://www.industrysearch.com.au/news/viewrecord.asp?id=16629> For years, employers have been in the spotlight when it comes to the enforcement of workplace safety, but as regulators begin to look further up the supply chain, designers, manufacturers and suppliers are coming under pressure- Thanks to valued sponsor Pilz

Much more than guarding, safety is all in the design- <http://www.industrysearch.com.au/features/f222content.pdf> An article by Frank Schrever of Pilz

Some high quality Safety Instrumented System technical articles-[http://www.iceweb.com.au/sis/sis\\_index.html](http://www.iceweb.com.au/sis/sis_index.html) have been posted thanks to Angela Summers and SisTech

Dynamic System Modeling and Control- [http://claymore.engineer.gvsu.edu/~jackh/books/model/pdf/model2\\_6.pdf](http://claymore.engineer.gvsu.edu/~jackh/books/model/pdf/model2_6.pdf) - This exceptional 998 page resource book is just full of technical information from Hugh Jack and Grand Valley State University. It is a large download at 5.5Mb but worth the wait!

Look at the new Electrical Web- <http://www.iceweb.com.au/ElectricalWeb/home.htm> these technical pages include basic electrical information, cables, cable tray, PLCs, motors, electrical documentation, circuit protection. This is a new ICEweb initiative which will be built up over the next year.

We have an updated Ultrasonic Flowmeters page- <http://www.iceweb.com.au/Flow/ultrasonic.htm> , thanks to our sponsor Zedflo Australia.

Comprehensive Test and Calibration information can be found on ICEweb's new Test and Calibration page- <http://www.iceweb.com.au/Test&Calibration/Test%20and%20Calibration.htm> thanks to our sponsor Zedflo Australia

Our Analyser Sample System page - [http://www.iceweb.com.au/Analyzer/sample\\_systems.htm](http://www.iceweb.com.au/Analyzer/sample_systems.htm) has been updated with more great information.

Have a look at our new pH analyser page - <http://www.iceweb.com.au/Analyzer/ph.htm>

H2S Analyser - <http://www.a-a-inc.com/SW%20downloads/OMA%20Manual%20021004%20.pdf> This Manual from Applied Analytics gives a good technical description of operation in Chapter 4.

New Humidity Charts and Calculator can be found on ICEweb's Humidity page - [http://www.iceweb.com.au/Analyzer/humidity\\_measurement.htm](http://www.iceweb.com.au/Analyzer/humidity_measurement.htm)

RFID- The Technology and its Potential - An excellent 51 page document from Interaction Design Institute Ivrea - [http://people.interaction-ivrea.it/c.noessel/RFID/RFID\\_research.pdf](http://people.interaction-ivrea.it/c.noessel/RFID/RFID_research.pdf)

ICEweb has a new Oil in Water Analysis Page - <http://www.iceweb.com.au/Analyzer/Oil%20in%20Water/Oil%20in%20Water%20home.htm>

We have added the following technical papers thanks to our sponsor Samson Controls.

- Communications Networks - [http://www.samson.de/pdf\\_en/1155en.pdf](http://www.samson.de/pdf_en/1155en.pdf)
- Communication in the Field - [http://www.samson.de/pdf\\_en/1450en.pdf](http://www.samson.de/pdf_en/1450en.pdf)
- Serial Data Transmission - [http://www.samson.de/pdf\\_en/1153en.pdf](http://www.samson.de/pdf_en/1153en.pdf)
- Profibus - [http://www.samson.de/pdf\\_en/1453en.pdf](http://www.samson.de/pdf_en/1453en.pdf)
- Digital Signal Technical Manual - [http://www.samson.de/pdf\\_en/1150en.pdf](http://www.samson.de/pdf_en/1150en.pdf)
- HART Communications - [http://www.samson.de/pdf\\_en/1452en.pdf](http://www.samson.de/pdf_en/1452en.pdf)
- Controllers and Controlled Systems- [http://www.samson.de/pdf\\_en/1102en.pdf](http://www.samson.de/pdf_en/1102en.pdf)
- Temperature Regulators - [http://www.samson.de/pdf\\_en/1205en.pdf](http://www.samson.de/pdf_en/1205en.pdf)

Take a look at the new Control Valve technical papers on the Control Valve page  
-Plant Design and Control Valve Selection under Increasing Cost and Time Pressure  
- Control Valve Design Aspects for Critical Applications in Petrochemical Plants  
[http://www.iceweb.com.au/Valve/control\\_valves.htm](http://www.iceweb.com.au/Valve/control_valves.htm)

Sensors - The basics - from the Sensors Reference Centre  
<http://www.sensors-transducers.machinedesign.com/>

Guide for specifying and Selecting Cable for Petrochemical Fibre Optic Cables- The Basics - An excellent tutorial from ARC Electronics  
<http://www.arcelect.com/fibercable.htm>

Guide for specifying and Selecting Cable for Petrochemical Plants By Donald A Voltz and Joseph H Snow, this is a really excellent technical paper from Mustang Engineering  
[https://portal.mustangeng.com/pls/portal30/docs/FOLDER/MUSTANGENG/TECHNICAL\\_ARTICLES\\_CONTENT/IEEESTANDARD1242.PDF](https://portal.mustangeng.com/pls/portal30/docs/FOLDER/MUSTANGENG/TECHNICAL_ARTICLES_CONTENT/IEEESTANDARD1242.PDF)

Cable Sheathing Materials from General Cables  
<http://www.generalcable.co.nz/Technical/10.1.5.1.pdf>

The ICEWeb paper - Australian Standards for Electrical Apparatus in Hazardous Areas- Explosive Gas Areas - has been updated to reflect the latest standards status. Thanks to Inlec Engineering for assisting in the review.  
<http://www.iceweb.com.au/Ex-web/electstandards.htm>

Hazardous Areas Technical Guide- This excellent 70 page technical guide from Weidmuller is a large pdf download at 5 Megs, however it is worth the wait!  
<http://www.iceweb.com.au/Ex-web/Hazardous%20Areas%20Tech%20Guide.pdf>

We have a new Enclosures page, thanks to our sponsor Weidmuller.  
<http://www.iceweb.com.au/Enclosure/Enclosures.htm>

Comprehensive Terminal information can be found on ICEweb's new Terminals page, thanks to our sponsor Weidmuller.  
<http://www.iceweb.com.au/Terminals/terminal.htm>

ICEweb has updated the "Hints on Job Hunting" section in our employment page.

<http://www.iceweb.com.au/Employment/Employment.htm>

Warning: hotels could be hazardous to your health...by Captain RH Kauffman, Los Angeles County Fire Department -Have you ever been in a hotel during a fire? It's a frightening experience, and you should start thinking about it. <http://www.acpa.ca/safety/hlfire.pdf>

### ICEtools

The Pepperl+Fuchs Segment Checker software mentioned in a previous issue now has the capability to import instrument libraries at <http://www.segmentchecker.com/library.html>.

Several interesting links come our way from Jason George including BSD Linux at <http://www.openbsd.org>, an open source PBX at <http://www.asterisk.org> and [Http://www.digitalbond.com](http://www.digitalbond.com) for digital system security.

Thomas & Bets have released a guide to the Analysis of National Electrical Code, Code Changes 2002 at [http://tbxdev.tnb.com/contractor/docs/TNB\\_Analysis\\_of\\_NEC\\_Code\\_2002.pdf](http://tbxdev.tnb.com/contractor/docs/TNB_Analysis_of_NEC_Code_2002.pdf)

The ICONICS OPC tools are now available for free download from their website at <http://www.iconics.com>.

ACM Automation Inc. of Calgary has a nice little PDF document that provides an overview to readers on the six SIL Assessment techniques specified in Annexes A – F of IEC 61511 Functional safety - Safety instrumented systems for the process industry sector. If you would like a copy contact them at <http://www.acm.ab.ca>

A useful tool for calculating flow orifices can be found at [http://www.flowmeterdirectory.com/flowmeter\\_orifice\\_calc.html](http://www.flowmeterdirectory.com/flowmeter_orifice_calc.html)

An on-line tool to convert all version of AutoCAD drawings is being offered at <http://www.dwggateway.com> including the ability to create PDF versions of your documents.

### ICEtime

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

### 2005

#### February

27 – March 3 Measurement Science Conference, Anaheim, California [www.msc-conf.com](http://www.msc-conf.com)

28 – March 2 **Fieldbus FOUNDATION** General Assembly. Shanghai, China.

#### March

6 – 8 Kuwait 2nd International Oil and Gas conference and Exhibition <http://www.kuwaitoilexpo.com>

12 – 17 PITTCON, 2006 Pittsburgh Conference, Orlando, Florida <http://www.pittcon.org>

28 Foundation Fieldbus Engineering Procurement Construction End User Seminar, Houston Texas. <http://www.fieldbus.org>

29 – 30 Canadian School of Hydrocarbon Measurement <http://www.cshm.ca>

29 – 31 FLOWEXPO CHINA 2006 Guangzhou Gymnasium (No.783, BaiYundadao, Guangzhou, China contact zhaoyu <mailto:luyghai@163.com> for information

#### April

3 – 6 SAE World Congress, Cobo Center, Detroit, USA

3 – 6 51 Annual ISA Analysis Division Spring Symposium, Marriot Suites, Anaheim, California.  
[www.isa.org/analysissymp](http://www.isa.org/analysissymp)

5 – 6 ISA Edmonton Section Conference and Exhibition. <http://www.isaedmontonshow.ca>

#### May

8 – 10 FIATECH Technology Conference and Showcase Scottsdale, Arizona <http://www.fiatech.org>

9 -12 ABB Automation World 2006, Hilton Americas in Houston, Texas. Further information will be available at [www.abb.com/automationworld](http://www.abb.com/automationworld)

12 – 15 Intergraph 2006 Users Conference, Orlando, Florida

15 – 19 ACHEMA 2006, Frankfurt am Main. <http://www.ACHEMA.de>

22 – 24 Air Pollution 2006, The New Forest, UK  
<http://www.wessex.ac.uk/conferences/2006/air2006/cfp.html>

30 – June 2 GE Fanuc Discover 2006 User Conference, Universal Studios, Orlando, Florida.

#### June

5-7 Sensors Expo, Donald E. Stephens Convention Center Rosemont, Illinois. Register to attend at <http://www.sensorexpo.com>

11- 15 Honeywell Group Americas Symposium, Phoenix Arizona <http://www.honeywell.com/ps/hug>

21 – 23 Waste Management 2006, Malta <http://www.wessex.ac.uk/conferences/2006/waste2006/cfp.html>

#### August

17 – 18 Instrumentation Education, Training and Development Conference (IETDC) in Clear Lake, Texas. More information at <http://www.knowthebus.org>

#### November

7 - 9 Valve World Conference and Exposition, Maastricht, The Netherlands. [www.valve-world.net](http://www.valve-world.net)

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providing a complete array of fluid-control products and technologies to a highly fragmented industry.

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



The **Zellweger 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/zellweger\\_analytics.html](http://www.iceweb.com.au/Suppliers/zellweger_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>

**Controlotron's** Clamp-On Transit-Time Ultrasonic Flowmeters have been field installed in critical applications globally since the early 1970's. Experience, reliability, and innovative use of



technology set our products apart. Patented Wide-Beam™ Transit-Time and Reflexor™ technologies assure accurate reading even in difficult applications. Being non-intrusive is the key to universal applicability to all industries.

The Highly Reliable 1010 Product Family Features:

- Accurate flow measurement regardless of liquid type or temperature
- Operation with up to 50% aeration and indication of aeration presence
- Resistance to Aberrated Flow Profile and Crossflow errors
- Continuous Automatic Zero adjustment to prevent Zero drift
- Full installation without cutting pipeline or stopping flow
- Sonic identification of product type and quality
- Conventional digital and analog data outputs
- Direct interchangeability with conventional intrusive flowmeters
- Excellent cost efficiency

For further details see <http://www.controlotron.com>

ICE-Pros, Inc. is a global independent Instrumentation & Control Engineering consultancy specializing in the areas of Fieldbus technology and process analyzer systems. More complete information can be found on their web site at <http://www.ice-pros.com>

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