

INSIDER

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Your key to the latest industrial automation and process control information

User Group Fiesta!

Emerson Exchange, the First Annual Schneider Software User Group, and Inductive Automation—the little company that could

September, October, and November are “user group Nirvana,” as many of the major automation vendor companies, and some of the smaller companies as well, host their North American user group meetings. We have already seen Honeywell User Group Americas. For some reason, Honeywell persists in taking their end-users someplace excruciatingly warm in June every year. This year, San Antonio was the spot, and just this past week, we were informed that San Antonio is the spot for 2015 as well. We’ve also had the Siemens Automation Summit in August. Yokogawa’s User Group meeting in September drew commentary here as well.

But late September and October were one meeting after another.

Small But Powerful

Inductive Automation is a small company, but in the INSIDER’s opinion, one to watch closely. With something less than \$20 million in revenues, they were able to muster over 400 wildly cheering and enthusiastic end users in attendance at their Ignition Community Conference in Folsom, California, September 22nd through the 24th.



Don Pearson, Chief Strategy Officer

The keynote by CSO Don Pearson was highly future focused. He talked about Big Data and the Internet of Things. He pointed out that GE had invested in data, as well as big iron, and “now their Evolution series locomotive is a lot more like a rolling power plant and sensor laboratory.”

Disruptive Technology

Pearson quoted an ARC study saying that Inductive Automation was “disruptive technology in SCADA systems.” He said that the point of what Inductive Automation was doing was “old versus new SCADA.” He told his users that Inductive Automation’s intent was to future proof their SCADA and MES purchases. “Future proofing your SCADA means future proofing your processes,” he said. “And we have to be future proof too. We have created a future proof user experience. It has to do with our licensing model, our design model, our ethical model. We have four pillars to our model: new technology, a new licensing model – by the server instead of the seat, a new business model, and a new ethical model. We take this as a very large responsibility. It was Steve Hechtman’s vision, and that DNA has permeated the entire enterprise. These pillars support the Ignition Community, the New SCADA community.”

Steve Hechtman, CEO and Founder, was up



Steve Hechtman, CEO

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Health Watch

You can find the Insider Health Watch on page 20 in this issue, ...and we have a whole lot more inside!!

Cover Story: User Group Fiesta! (continued)

next. “Big Iron,” he said, “has to get smart. We built on smart to begin with. We use Java while everybody else is using Microsoft dot whatever. Why? It is cross-platform, Windows, Linux, Unix, OS X. It takes us one day to port to a new platform.”

“We have a modular architecture. These modules have unique features, and they ride on the core platform, which has the common functions,” he said.

“I want to talk about software rot,” he went on. “If you aren’t careful, you wind up with a software hairball. I get nervous when I get an install disk and it’s a DVD or a portable hard drive. Gauge the amount of rot by how long it takes to install it.”

“Ignition,” he said, “is still a three minute install.”

Staying relevant is the important thing. “We have to listen to you guys and build what you want, not push out stuff we want you to buy.”

The bottom line, he finished, “is we love this business, we love what we are doing and we understand our ethical need and obligation to future proof the business and the technology as long as we can.”

The rest of the conference included roadmaps and sessions by Ignition users about how they had created their own modules to run on the Ignition platform, or how they had used Ignition to solve particularly knotty problems. It was very similar to most user conferences, but with one major exception: the users were acting like fans, not customers. It reminded the INSIDER of early Apple Developers’ Conferences when Steve Jobs was in command.



Travis Cox, Director of Training

A Really Big Play for Any Vendor is Amazing in a “Small” One.

One of the major announcements was the rollout of Inductive University. It wasn’t just an announcement of what was coming, but rather a completed reveal of a very large set of video courses, with testing and credentialing. Coming from a “small” company, this is both extremely impressive and aggressive.

More courses and more features are being added to the curriculum daily. Inductive Automation’s director of training, Travis Cox introduced the new university. “Here’s how you scale training,” he said. “Inductive University

provides free training in Ignition, any time, on any device, at your own pace. Credentials are given at the completion of each training module. This is how we intend to leverage and scale training using the web. We have opened the University with two schools: SCADA and MES. There are 24 online courses with 91 topics covered in 552 online videos, all available today.”

The poster sessions, in which the customers revealed their own modules were fascinating, as was the attitude of the Inductive Automation staff that this is an activity they are directly encouraging. This is another nod toward the Apple developers who now produce more apps than Apple does, and to the Android community, in which the same is happening.

It seems to the INSIDER that ARC is correct. This may be a small company, but they appear to have thought their business model through very well and deeply. Their modular, low overhead, software design paradigm, their unique desire to have their users participate in the design process, their lower cost business model, and their ability to create enthusiastic community give them a clear formula for success.

The INSIDER intends to continue watching Inductive Automation closely.

Innovation in Partners

It is often useful to see who the partners are when a company holds a user group meeting. In this case, there was an extremely interesting offering from a new, but likely to be major, partner: Bedrock Automation, which is using Ignition as their HMI and SCADA functionality. You have never heard of them, and their product isn’t on the market yet. But next year, you’ll see it, and hear about it, and it will be a major new product introduction. Bedrock is a very well funded “integrated subsidiary” of Maxim Technology, the Silicon Valley chip maker.

The “New Automation” Companies

Like the example of Google investing in multiple robotics companies, we are about to see automation products coming from outside the traditional automation vendors. Bedrock Automation, whose product line is a complete re-envisionment of the PLC/PAC that is cyber secure and SIL 2 and SIL 3 by design, is from outside the traditional. The only real connection to traditional automation is that Albert Rooyakkers, the CTO, long ago designed the Foxboro IA mesh network before he left the industry entirely. Bedrock is not the first of the “new automation” companies, but it is very well funded and well led. They will not be the last.



Albert Rooyakkers, Bedrock Automation

User Group Fiesta, continued...

Schneider Makes No Mistakes with Invensys

The “first annual” Schneider Software Conference, which used to be the Invensys Software Conference, and going back far enough was the Wonderware User Conference, went off with a marching band, literally. With the theme of “gamechanging” the automation software experience, Schneider showed a company surprisingly well organized and integrated for significantly less than a year of existence in its new incarnation.

The company has a new name. The former Invensys software companies and the former Schneider software companies, have been organized into a new company called Schneider Global Solutions, which, interestingly, has its global headquarters in a building in Lake Forest, California that used to have a sign saying “Wonderware” on the front of the building. Daniel Doimo, the CEO of the group, actually is moving to California, and is going to make the old Wonderware campus his HQ.

It was very clear that Schneider allowed Wonderware to call the shots, at least so far. The product managers and group leaders are all from Invensys, except for the Citect and Ampla leadership, and an Invensys staffer, Aravind Yarlagadda, now a Schneider VP, led the integration. Yarlagadda’s brief was to integrate the two organizations and get it done by January 1, 2015. Based on what the INSIDER saw at the conference, Aravind got it right and will have it done on time.

Nearly all of the former Invensys leadership is around, and still running things. There have only been two or three senior staffers who’ve left, and most look like they are settling into their new positions.



Laurie Lavelle, Schneider

So, for all Invensys/Schneider’s competition that were hoping Schneider would screw up by the numbers, as they have in other acquisitions before this, the INSIDER must say, “Tough luck.”

So, on with the show. Laurie Lavelle, Vice President, Global Software Marketing, introduced the Colonial High School Band at the beginning of the first annual Schneider Software Conference.

The theme of the conference is “Game Changer.” “We began the industrial software revolution, now we’re changing the game,” was the PA announcement just before the band started to march into the room.

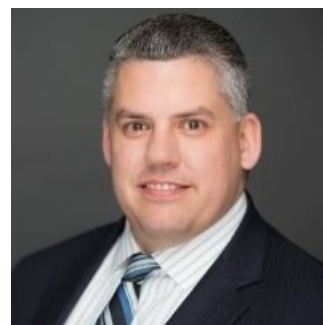
Schneider held a press briefing the evening before the kickoff, led



Rob McGreevy, Schneider

by Rob McGreevy Vice President, Information, Operations & Asset Management. McGreevy talked about the integration, and that they’d had a great year with double digit growth. Most importantly, he announced a major new acquisition for the new Schneider Global Solutions business: a Chicago-based company called InStep.

InStep’s sales leader, Sean Gregerson, explained the significant products InStep brings to the Schneider software party: eDNA enterprise data historian, the Prism predictive asset analytics software for monitoring, and the EBS- plug in energy management solution module.



Sean Gregerson, InStep

Of all of these, Prism is unique: a set of predictive asset analytics that puts Schneider into the forefront of the new asset management technology of prognostics, providing real time health and performance of critical assets and detecting subtle changes in system behavior to provide early warning of immediate failures. The Prism engine is a powerful advanced pattern recognition program.

McGreevy discussed Schneider’s strategic intent in acquiring InStep Software.

It will, he said, expand functional capabilities especially predictive analytics. He expects it to expand Market Access and increase industry reach within Power and Energy Markets for Schneider Software in Generation and T&D.

Where does it fit in the portfolio?

eDNA fits in the ArchestrA System Platform and EBS and PRiSM fit in the applications and solutions area.

He called it a great accretive addition to the portfolio.

“Here’s how we’re integrating InStep Prism,” he said. We’re integrating with SmartGlance and there has been very serious synergy right off the bat with Wonderware.

SmartGlance new capabilities, multiplatform, mobile alerts and alarms, ArchestrA Graphic Dashboards, Intelligence and

User Group Fiesta, continued...

CEM

Historian scalability has improved, and is already integrated into InduSoft and Citect databases. “We had people working 24/7 on this,” McGreevy said.

These acquisitions and performance enhancers include merged alarm and event support, integrated, easy to manage, high performance alarm management with a Managed historian -- a Native Azure Historian in a secure cloud environment that provides a world-class historian with no equipment on the premises.

McGreevy went on to talk about improvements in MES operations, quality and performance. He announced significant upgrades to Recipe Manager Plus, including Model Driven Execution, which might have something to do with ISA 106, and he talked about integrating PRiSM into Avantis. He also talked about Avantis as a managed software service, a cloud-based SaaS.

He also discussed improvements to the IntelTrac product suite, including multiple device support. “IntelTrac will run on consumer grade tablets and devices, starting with the Microsoft Surface. Microsoft is our strategic partner on this,” he concluded.



Dr. Ravi Gopinath

After the serenade from the marching band, Ravi Gopinath, Executive Vice President, Software Business, told us, “The integration is working. The software business shows up under “Global Solutions” in the core of Schneider’s core businesses. We really believe this is a “Game Changer.” We will be able to reach markets better, and deliver greater value to our customers and partners. We said we are going to create the future of industrial software, and now we believe that this is truly going to change the game.”

“These five elements,” he said, “are the cornerstone of our strategy: enabling business value, changing the landscape, industry leading portfolio, continuous innovation, and services transformation.”

“We grow by acquisition also: SAT, Skelta, SmartGlance, Spiral, InduSoft... and the Schneider acquisitions, Citect, Telvent, SolveIT... OUR STRATEGY IS, BUILD THE BEST WE CAN AND ACQUIRE WHERE WE CAN.”

“...and now InStep!” He announced the acquisition the press had been told about under embargo the night before. “InStep fills important gaps in the software portfolio: eDNA historian, and Prism realtime predictive asset management, for example.”

Industry Leading Portfolio

“How do we construct our portfolio so that the technologies we may acquire or partner with have a framework to integrate with?” Gopinath asked his rhetorical question and answered it. “Common Platform: application neutral industry standard platforms: Interoperability framework, user experience framework, platform products -- user experience is now the cornerstone of everything we do. Interoperability is another cornerstone. Applications are now managed across our internal lines of business: suite of engineering, asset management, and information management applications. We are working at managing across the value chain with industry solutions-- new emphasis, plus adding Schneider Electric stability to the mix. We are working on the translation of the technology into business value.”

“What this finally delivers,” Gopinath said, “is a platform that is open, scalable and secure, industry tailored fit for purpose, works across the hardware platforms with integrated applications for greater value.”

He noted that Schneider has continued to invest between 13 and 14% of revenue into R&D. He listed off the new products and upgrades that Schneider has coming out in the next several months, including a new Wonderware Online product—a SaaS HMI.

Citect and Ampla Already Integrated

He specifically noted that Citect SCADA has been integrated with Wonderware Historian, and Citect Alarm Adviser has been integrated with Wonderware System Platform, as has Aquis. Power Monitoring with Wonderware CEM, and Maintenance Services have already been integrated with Avantis and Wonderware.

This, he said, preserves the Citect investments and leveraging the benefits of Wonderware Historian.

(The INSIDER couldn’t help noting that this makes it easy to absorb the Citect and Ampla product lines into the Wonderware “Borg.”)

“We are working very hard to continually enhance our ability to deliver our solutions to you,” Gopinath said. “There is an increasing demand on us to take ownership and take the lead to make sure that these technologies are deployed effectively. This means services and support, domain experience: practices and partners that are scalable and reliable and consistent project experience, with

User Group Fiesta, continued, and ISA Brings Many Changes

best in class competencies. This will be a global capacity through ecosystem and global support. Our partner network (3500 around the world) is the best in the world. We want to enable our network to work with our partners to deliver our solutions.

"We will continue to invest-- we will not be shy in making bets on performance enhancing technology-- we will continue to be the leader in industrial software.

"Schneider is very highly committed to industrial software. Schneider has changed itself to be ready for the new world of software," he concluded.

We Expect to Be Number One or Number Two



Daniel Doimo

Daniel Doimo, who leads the new global solutions group for Schneider talked about the fit of the Invensys software group into Schneider Electric. He pointed out that Schneider's DNA is technology, and that 43% of revenue comes from new economies. "We are obsessed with bringing value to our customers," he said. "We are a 25 billion Euro company, and we expect to be number one and number two in the markets we serve."

Doimo said, "We are the most comprehensive platform for operating efficiency in the world. Our clear acquisition strategy has led to a compelling software and services offer."

Doimo said that Schneider was serious about this, and he is relocating both the Global Solutions HQ and himself, personally, to the Lake Forest, California, building "that now has a wonderful Schneider Electric logo on it."

The bottom line at the Schneider Software Conference was that Schneider is here, fully integrated, in business, and ready to rock and roll.

Emerson Inspires Ingenuity

Complete with little boy dressed in a World War II flight suit, helmet and goggles, and riding on a skateboard, the theme for this year's Emerson Exchange was "Inspiring Ingenuity."

Sean Brady, chair of the user group, announced, "We have

become the ones who inspire."

CEO Steve Sonnenberg gave a relatively muted keynote, but hit all the high points. He commented, referring to the little boy in the helmet and goggles, "You always hope your best ideas don't come in the Fourth Grade." He pointed out that what we do, as engineers, is apply technology. He visited the bios of several great engineers; Philo Farnsworth (inventor of television), Grace Hopper (creator of Cobol and the first bug—and the first female Admiral in the US Navy), and Martin Cooper (inspired by Star Trek to create the cell phone) to show how important engineers and technology have been to society over the past century.



CEO Steve Sonnenberg

Segueing into the balance sheet, he said that 2014 started slow, but accelerated in the second half. North America was a stabilizing force. He expressed the surprise we all feel that the newest "emerging market" is North America, especially in oil and gas. Business is up 6%, he noted, but North America is up 12%. He expects a stronger 2015-2016, with pockets of growth in Asia, the Middle East and Africa.

Emerson hired 3500 new people, and would have hired more if they were available—same complaint as last year.

Emerson made four new acquisitions: MRG, a reliability engineering company, Virgo Valves, an India-based valve company, and APM, a leading edge solids level measurement company.

Emerson, he said, has become a listening organization. We are helping you to keep your promises to your stockholders, to your stakeholders, and we want Emerson to be your trusted advisors. We listen to you, and what you have told us guides our investments. You told us about your challenges; project risk, reliability and uptime, and skills shortages.



80% of downtime is preventable. Reliability is now a boardroom issue. That's why we bought MRG—the reliability experts. We are now working on providing prognostics via pervasive sensing, and we are applying our asset management skills internally, as well.

Finding the right people can be tough, Sonnenberg noted. 26% of downtime is caused by skills shortages, he claimed. There's an acute shortage of trained people in the gulf coast and

ISA Buys Automation.com

there are lots of people who are unskilled globally. The answer is to help you leverage the skills of your experts (and Emerson's as well) he said. The use of remote training and Emerson's new iOPS centers will assist there.

Futurist Jack Uldrich talked about Big Data, the Internet of Things, and the giant wave of technology change that is washing over us. It was a fairly typical futurist's view of what's coming, except that he was extremely politically correct when he showed an



Bob DiStefano, MRG

ABB video clip, talked about Baxter the robot, and talked about Schneider and energy efficiency. The INSIDER found this refreshing, but don't expect to see Uldrich invited back any time soon.

The key discussion at the Press Conference was about Reliability. Emerson has for years owned an asset management company, CSI. Bob DiStefano, co-founder of MRG, said that he told Emerson that he didn't think Emerson was really in the reliability business, despite having acquired CSI years ago. He told them this before they acquired MRG, and he's still there, so it would appear that the Emerson management staff understood that and believed him. This should give CSI a new lease on life, too, since what they have always needed was a dedicated reliability consultancy to work with. This puts Emerson squarely in the reliability and uptime movement. Some companies have simply guaranteed uptime. We will see if Emerson can follow suit.

New products were also described; a new Coriolis Mass Flow Transmitter, Rosemount's rebadging of the acquired APM solids level transmitter, and others. Emerson is still talking about pervasive sensing, even though there's been some customer pushback about the word "pervasive," which, apparently, is perceived as stalkerish and icky. Maybe they'll use the word the INSIDER has been using: ubiquitous sensing, instead, or to make it easier, Sensors Everywhere.

But if you were looking for the next big thing, we will have to wait until next year.

ISA Brings Many Changes

The least significant ISA news, probably, is that ISA100.11a is finally an international standard, IEC 62734. Much more significant are the facts that ISA just held its first open election for



Jim Keaveney, new ISA president-elect secretary

officers, and that ISA bought automation.com.

ISA Elects Officers Openly

For the first time in its long history, ISA has completed an election for officers openly, with no horsetrading behind closed doors. James W. Keaveney, from Emerson Process Management, was elected President-Elect Secretary. Thomas W. Devine, of GHD Engineers, was elected Treasurer. New Executive Board members were also elected, as well as vice presidents of the Automation and Technology Department (Ken Belteau) and Image and Membership Department (Marty Bince). Maurice Wilkins of Yoko-

gawa was elected vice president of standards and practices, and the new Publications Department vice president is Jim Tatera. Tatera will have a much more interesting job when he assumes his position, because of what we are reporting next.

ISA Buys Automation.com

After operating ISA's major publishing venture, InTech magazine since 2009, Automation.com said yes to ISA, and allowed ISA to acquire the website. AutomationTechies.com, and the headhunting services of Alan Carty, are not included in the deal.



A Little History

Back in the 1990s, ISA had had a flourishing publications business, running three magazines out of its for-profit subsidiary ISASI, Inc., publishing books, a technical journal, and publishing standards. If the business had been standalone, it would have been very nicely profitable and growing. But, the dot com bubble burst, and 9-11 happened. The ISA Show, which had generated most of ISA's profit and covered almost all of its overhead declined precipitously, and the contribution to overhead thus applied to Publications increased dramatically...so on the books, Publications looked like it was losing money. The previous administrations, both staff and volunteer, decided to pare away at publishing until finally, InTech and books were the only things left.

Publishing As A Service

In 2004, I made an overture to ISA that Putman Media (the publisher of CONTROL, for which I was editor in chief) take over publishing as a service. For many reasons, I was ignored, but by 2009, the situation had deteriorated to the point that the same thing was offered to Automation.com. Rick Zabel and his team have done a fantastic job for ISA.

ISA continued, and Expo Purge and Pressurization Stays the Course

ISA Breaks the Walls Down

Now, in a move that has seriously shaken up the automation publishing world, ISA has returned to big time publishing by simply acquiring Automation.com. Brilliant and ballsy move. ISA has now got over 100,000 eyeballs a month, most of whom are NOT ISA members, and many of whom serve in industries where discrete automation, machine builders and hybrid automation reign.

The Key Take Aways

ISA has finally broken out of the process automation box.

Also brilliantly, they've left Automation.com as a standalone entity with Rick Zabel running it. Just like ISASI, Inc., this will give the entity the distance it needs, and allow it to remain a for-profit subsidiary of ISA, producing revenue, profit and value.



All the Better to Support Standards Making

To those who've forgotten the days when ISA was a serious contender in automation publishing, and are worried about the fact that a standards organization is running for-profit magazines, I say, this is what ISA should have continued to do all along.

Being a standards organization is a losing proposition. The last estimate I saw, when I was on the Executive Board (in 2003) was that it lost more than \$650,000.00. Even though there have been cutbacks in staff, and changes in the way standards are distributed and the activities of the standards foundations, it is likely that there is still a loss. The profits from ISA's for profit publishing ventures basically pay for the shortfalls in standards and membership activity.

So What Happens to the Rest of the Automation Press

What is this going to do for the automation press? The fact is that people advertise in InTech because it is ISA they are supporting, not for any other reason, really. Now, some of that association luster is going to land on Automation.com as well. AutomationWorld and PackagingWorld having just been sold to another association, PMMI, it looks like lots of people have been thinking along those lines. Every little advantage helps, in the world of advertising-supported publications.

This bodes well for Automation.com/ISA to become the most

powerful force and voice in automation publishing. I'd say that most of my colleagues are "re-evaluating."

The INSIDER, of Course Is Different!

The INSIDER, on the other hand, is both delighted and amazed that ISA's leaders went so far "out of the box" and did this. We, unlike every other publication in the automation space, do not depend on advertising for our revenue. We are entirely subscription-supported. —Walt Boyes

Expo Purge and Pressurization for Hazardous Areas

There have been many reports in these pages commenting on the stability, investment and growth achieved by private family run businesses within the instrumentation and automation industry. Not having to bow to the dictates of financial investors and 'Bankers' is assumed to give better business stability, and to the ability to ride through the leaner times, without falling prey to acquisition bids by asset strippers or competitors. The impression is that this profile is most frequently found arising in the middle of Europe, in Switzerland, Germany, Austria etc, but there are also examples from Scandinavia and even more capitalist-oriented markets like the USA and UK. Many of the potential new "next generation" of such companies - that start as rising stars, based on a novel idea - are snapped



Expo Technologies, Sudbury on Thames

up when they hit the difficult transition point, when moving from a small company to an effective manufacturing and marketing operation. Unfortunately joining a large company is often when the drive and enthusiasm in the team built up in the smaller operation becomes dissipated, and evaporates.

Luckily there are some companies that make it through to being a medium sized, stable, independent operation, which is what can be seen as equivalent to a family owned company.

One of these in the UK is Expo Technologies, based in Sunbury on Thames, close to Heathrow Airport. Actually the business has deep roots in the automation industry, having been established 60 years, initially mainly involved in pneumatic actuators. In 1954 the original company was named Telektron, for example producing pneumatic control systems for Royal Navy ships. A separate company, Expo Safety Systems, was founded in 1976 by Andy Owler, using purge and pressurization techniques for (Exp) safety systems used in hazardous areas. In 1989 Peter MacAulay became Managing Director after the two companies had worked together for some years, and in 1993 Telektron sold the actuator business to concentrate on hazardous area products: in 1998 the two companies formally merged.

Expo Purge and Pressurization Stays the Course

Fifteen years of expansion

This was the start of the main business expansion, with a new purge system specifically developed to overcome the pressure variations seen at start-up on large electric motors, and a strengthened foothold in the US market with a local operation in Twinsburg, Ohio. The business was renamed Expo Technologies. In 2012 a move to a new UK factory enabled further



Peter MacAulay

investment in the main manufacturing facilities, which now employ 90 people: a further 11 people are employed in Twinsburg, with the operation headed by Matthew Dudones, supporting the US Distributors with local US part manufacture and final assembly – necessary to meet the required cost and delivery schedules. In July 2014 Peter MacAulay stepped down as MD, after 25 years of continuous business expansion: the UK operation had grown from GBP1m (\$1.5m) to nearly GBP10m (\$15m) turnover. The most significant revenue growth has been in the US mar-

ket, where Dudones has overseen sales rise from \$1m in 1998 to around \$6m currently.

Oil and gas specialization

The newly appointed MD is John Paul de Beer, who joined Expo some eight years ago, to be then promoted to engineering manager and later, Technical Director, prior to this new post. Originating from South Africa, and Joy Mining Equipment, de Beer stresses that their purge and pressurization products are aimed primarily at the protection of equipment for operation in the hazardous areas of the oil and gas and petrochemical industries, and this has been their focus for the last 25 years.

Their skill is in knowing how to apply pneumatic purge and pressurization techniques according to the formal approval requirements used by the insurance industries and operational managers specific to each country, and having the equipment that can be used to meet these requirements, conforming to



John Paul de Beers, new MD at EXPO Technologies

IEC Ex, ATEX, NFPA, NEC and other legal frameworks. This includes having knowledge of the external feed-throughs and connection systems allowed in the hazardous areas.

Protection expertise and consultancy

The Expo Technologies business has three main styles, first their standard products - Purge and Pressurization systems and enclosures; second their bespoke design service – using special enclosures or developing specific equipment for OEMs, panel builders etc; and third their consultancy engineering service, taking on the rôle of hazardous area consultant engineers to their customers, designing systems to provide an approvable protection system for equipment in a hazardous area, using purge and pressurization techniques as well as other Ex approval systems. The use of standard Expo products tends to differ between markets, according to tradition and taste: usually in the USA the z-Purge system is adopted, to install uncertified equipment in Zone 2/Division 2 – in this system an alarm sounds if pressurization is lost. In Europe the preference is for the x-Purge system, which allows uncertified equipment to be installed in Zone 1/Division 1 or Zone 2/Division 2 – if pressurization is lost then the equipment power is switched off (in most cases). All the major automation system suppliers (ie ABB, Emerson, Honeywell, Rockwell, Siemens and Yokogawa) are listed on the Expo website as customers for their purge and pressurization systems.

From fire pumps to high power motors

Seeing some of the equipment moving through production gave a taste of the variety of machinery problems handled by these techniques, from room purge systems for remote instrument buildings, fire pump stations or driller control rooms, to the MotorPurge systems, used to enclose and protect high power motors, preventing any sparking reaching a flammable atmosphere. Often new processes are applied within purged and pressurized enclosures, needing protection because of the non-approved equipment (gas analyzers, high powered sensors) or potential thermal or even piezo-electric effects: in these cases the designers at Expo become an integral part of the project team trying to develop and safely install the new technology application – and this can apply in food or pharmaceutical plants too. Significant exports are being made to China, with Expo equipment used locally to protect large motor systems – even those destined for use domestically, within China. The same applies to Brazil and Australia, where Expo have the relevant approvals for their equipment and systems for these markets.

So, with Expo Technologies having made the transition into a well resourced engineering, manufacturing and production operation, able to support and service a worldwide marketing operation, under five regional sales managers, hopefully the next ten years will see the growth trend continuing, and Expo retaining the enthusiasm inherent in an independent operation.

—Nick Denbow

INSIDER Special Report— Steven Las Marias Reports from Singapore on ABB's World Control Tour: It's All About Control

It's All About Control

Stephen Las Marias reports on the latest solutions from ABB, including the System 800xA version 6, at its World Control Tour in Singapore.

ABB's World Control Tour made a stop in Singapore as the company provides its customers and partners in the region an opportunity to understand the latest automation trends; try their hands on ABB's latest control systems, including the newly launched 800xA version 6; and network with peers and experts in the industry.

Held from May 27-28 at Singapore's Marina Bay Sands Expo and Convention

Center, the ABB World Control Tour—in its seventh leg this year—showcased system implementations of the newly launched 800xA, and how it provides plant operators a more collaborative way in control-

ling everything in their process. Day One of the event opened with presentations from ABB and industry experts on new control systems technologies and the future of automation. William Ng, CFO, ABB, Singapore, opened the event by discussing ABB's business, explaining how strong a contribution the company has made to Singapore's growth journey.

In his presentation "Singapore as Asia's Reference City for Industrial Efficiency and Smart Sustainable City Technologies", EDB's Goh Chee Kiong, executive director for Clean Technology and Building & Infrastructure Solutions, acknowledged ABB's strong and well-respected market presence and urged the company to continue its good work, specifically in the areas of urbanization, industrial efficiency and energy management.

Keynote speeches followed. Paul Singh, Local Business Unit Manager, Industry Solutions, talked about ABB in process automation, while Tobias Becker, BU Control Technologies Manager, gave the attendees in-depth information on version 6 of ABB's System 800xA during his presentation titled "Take

Control of your Future".

"System 800xA v6 provides customers with a more secure automation environment that lowers the total cost of ownership, while providing countless opportunities

to improve operational productivity," Becker said.

Finally, Eddie Toh, regional platform marketing manager at Intel, talked about Big Data, and how advanced analytics can help transform businesses.

Day Two of the World Control Tour saw a



The Singapore stop of the ABB World Control Tour provided local customers and partners an opportunity to understand the latest automation trends as well as try their hands on ABB's latest control systems.

The best part in ABB's technology development is that we work quietly closely with our customers, finding their issues and challenges they are facing in each day.

packed schedule with live demonstrations—a mini-exhibition—and sessions on topics ranging from general to industry specific and data centers.

"In this event, we are launching the new version of our flagship product, System 800xA, which is our backbone technology in process and power automation, with lots of enhancement and capability addition in secured manner. The best part in ABB's technology development is that we work quietly closely with

Rockefeller fund goes Green

Something has caught the imagination of the UK engineering press, as represented by Jon Excell of 'The Engineer'. Naturally, it's all about money. The \$860m Rockefeller Brothers Fund has announced that it has decided to reinvest the money it has in fossil fuel exploitation, into clean energy. This ranks as a symbolic moment, since John D. Rockefeller – who founded Standard Oil in 1870 – is one of the towering figures; some would argue the father, of the international oil industry. The fact that the announcement was timed to coincide with the current UN Climate change summit gave it extra punch.

However Jon Excell stresses that this is not as dramatic as you might imagine. The Rockefeller Brothers Fund is one of a number of their charitable funds – such as the much larger \$1bn Rockefeller Foundation - all of which have heavy investments in the oil industry. There's no indication that these other funds are likely to follow suit.

But Excell concludes: Even if you disregard concerns over climate change, it's certainly arguable that thanks to a combination of geology, geography and geopolitics the economics of fossil fuel extraction are becoming less attractive. Perhaps it's no real surprise that one of oil's oldest families should be looking elsewhere for a return on its investment.

INSIDER Special Report: ABB in Singapore

(continued)

our customers, finding their issues and challenges they are facing in each day. It's not only for a single industry vertical but also for all industry verticals, so that we can embed solutions in our products to overcome those issues and barriers in a more secured way by design, default and deployment. System 800xA enhancement with SV6 is part of that process," said Sumanta Datta, Regional Business Head—South Asia and India, ABB Control Technologies.

One of the solutions being showcased is a mesh wireless communications enabled by 800xA. According to ABB, customers are really interested in wireless solutions and the freedom these solutions can give them, for instance, the flexibility to evaluate different areas of their processes without the need for equipment in each one.

Data center solutions

Another solutions demo is the Decathlon DCIM. "We are building that upon the core of our 800xA," said Martin Hogberg, Technology Manager, Datacenters Asia Pacific, ABB. He said the idea is having only one system to handle the building management, the power management, environmental monitoring, quality monitoring, water detection systems, and fire detection systems. "You just need one system instead of having so many systems to do the job. We can see all of the important KPIs—for example, we can trace the total power being used, and how much of that is going to the IT; what is our PUE and DCIE; all of the important temperatures; and if we are having any alarms. The system will let us know about those," Hogberg explained.

Next to the Decathlon DCIM is another product solution called the AKKA Remote Battery Monitoring System, a solution that helps monitor the battery health status in UPSes.



Tobias Becker during his presentation on ABB's System 800xA Version 6

they need to be monitored." Alapera said AKKA helps data centers identify weak batteries—and replace them if needed—before they can jeopardize the entire system. "If a battery is not in a good condition, it won't be able to supply the data center the power it needs should there be a grid failure. AKKA is designed to monitor and measure the condition of those batteries," he explained. "800xA is really an integration platform. That's the whole idea. And now we take the same attitude to data centers, as we have done in other industries. Instead of different systems for power, IT, and facilities, we try to integrate it into one," summarized Anders Boman, Marketing Communications Manager, Control Technologies, ABB. "Most people in the data center industry come from the building management side. But ABB, we are used to this critical-mission industries. These solutions have been used for years in other industries. That's why we want to be able to show these into the data center as well."

Customer feedback

ABB's World Control Tour in Singapore was attended by customers and partners all around the region. "Feedback was good, actually," said

More from ISA

ISA's New Android and iOS app, InTech Plus, has won the American Graphic Design Award for 2014.



According to Susan Colwell, publisher of InTech magazine, "InTech Plus is a new mobile app from ISA that lets automation professionals rapidly access, scan, and consume a diverse range of technical and educational content."

DisTribute said, "With a highly colorful and visual approach, the pages feature intuitive navigation that guides you to captivating success stories, best-practice overviews, and 'quick-read' call-out boxes and sliders—all of which encourage you to learn more and dig deeper."

Designed for tablets, and recently updated for Android and iOS 8, InTech Plus is an excellent leverage of print content to the mobile computing space. The INSIDER believes that this is another signal of the solid rebirth ISA is undergoing.

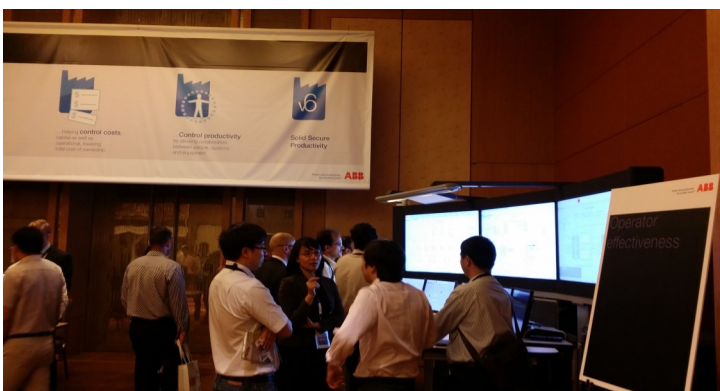
INSIDER Special Report continued...

Datta. “Customers coming from the oil and gas, pulp and paper, and data center industries, from Australia, Indonesia, Malaysia, as well as Vietnam and Thailand, are excited to see this extended part of the system.”

“They are very excited,” added Philippe Landre, Region Manager – South Asia, Control Technologies, ABB. “We are told that v6 of system 800xA is addressing many of the life cycle and security issues that they

that with Version 6, we really reach the mountaintop. We cannot be just 10 years in business with Extended Automation, reach the mountaintop, have very happy customers, have the best-selling DCS, and then just go by this and say ‘OK, that’s another day in the office.’ We need to celebrate that, and we also need to make a little bit of noise... to create awareness in the industry. Something has been achieved here, and it’s a great moment for us!”

According to Becker, the customers are very happy with what they saw. “They are happy with the advances we’ve made on the high-performance interface, the Collaboration Table we’ve built into our Extended Operator Workplace—you can engineer from within 800xA now,” he said. He added that the cybersecurity aspect continues to ring a bell. “It’s amazing how it reverberates with what is on the agenda of



Sumanta Datta said ABB works quietly closely with customers, helping them finding their issues, so that the company can embed solutions in products to overcome of those challenges

are facing while it brings many new functions at the same time. We are sure that this will enable them to get even more value from their DCS system. In parallel to the existing 800xA users many new datacenter customers are here to take a look at our DCIM offering and we are of course very happy that they show such a large and positive interests for our Decathlon solutions. “It is really something that we don’t do every day,” said Becker. “We have made big launch splashes in the past years, but we feel

We cannot be just 10 years in business with Extended Automation, reach the mountaintop, have very happy customers, have the best-selling DCS, and then just go by this and say ‘OK, that’s another day in the office.’

our customers at the moment; the whole XP to either Windows 7 or Windows 8 topic. We have a feeling that we are really striking a chord. And this is not a big surprise, because we worked extensively to figure out what customers would want to have in Extended Automation. I think these three areas—future-

proof IT, cybersecurity, and ease of operating evolution—are very high on the agenda of our customers,” Becker said.

Stephen Las Marias is the editor of Control Systems Engineering Asia. Based in Singapore, Stephen has more than a decade of publishing experience in business-to-business (B2B) media, covering a wide range of technology verticals including

electronics design, components, and systems; wireless communications and mobile technologies; and manufacturing equipment and system automation.

HIMA Announces Agreement with Borealis

HIMA has announced a three-year agreement with Borealis, a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers, to provide safety instrumented systems, components and related services to Borealis sites around the world.

HIMA, Borealis' main vendor for emergency shutdown (ESD) systems, will continue to provide safety systems that further strengthen Borealis' ongoing safety focus by applying leading-edge safety technology and services. HIMA systems will allow Borealis to implement the highest level of safety integrity and have the flexibility to update, maintain or modify the systems without interrupting their protective functions or production operations.

The agreement includes HIMA's TÜV-certified HIMax®, HIQuad, HIMatrix® and Planar4 product lines; the SILworX® and ELOPII configuration, programming and diagnostic software suites; and associated functional safety and engineering services.

About Borealis Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. This year, Borealis already celebrates its 20th anniversary. With headquarters in Vienna, Austria,

Fike and MID Valves Develop Explosion Isolation System

Explosion isolation system for wood pellet silo

A novel explosion isolation system has been developed by Fike and MID Valves in the UK, for use on the port of Immingham rail freight terminal, where wood pellets are received and stored – these are destined for use as biomass fuel at the Drax Power Station in Yorkshire.



Fike/MID Valve Cooperation

The slide valve is 1x1.2m, and on detection of an explosion and flame, it is slammed shut in less than 300 milliseconds: an energy absorbing damping system decelerates the slide in the last 25mm of travel. At the same time the Fike system releases suppressant into the ducting area downstream of the valve, to prevent flames passing through while the valve is closing. The valve body can then withstand a 0.5bar increase in upstream pressure, where the fire suppressant system can also be used if the flame does not self-extinguish. In normal operation, the valve can be used as a process valve, with a slow opening and closing actuator function, avoiding the need for further valve systems.

The ground breaking innovation was designed and implemented so that isolation valves of the correct size and certification could be applied across all aspects of the project, a solution which, until now, had been unheard of in the explosion prevention industry. As a result of the applica-

tion the biomass plant's performance will be significantly enhanced and most importantly, the safety of the workforce has been protected by eliminating any risk of future explosion propagation into or from the silos.

Keith Avila, General Manager at Fike UK said: "As an outcome of this project, we are very pleased to introduce a revolu-



tionary product for the explosion protection and isolation of large volume vessels. During the initial remit, the plans were to have separate explosion valves and process valves that used the best available technology. However, it was felt by ourselves and MID that we could introduce a ground-breaking solution that would combine extensively reinforced process valves with Fast Acting Valve technology that could be combined into one unit. Using this new valve, in conjunction with the Fike chemical isolation system, has provided a fast acting explosion proof slide valve of a scale that has never been seen before."

The valves are ATEX certified as part of an explosion detection, suppression and isolation system and the certification tests covered the whole detection and suppression system as a certified protective device to 0.5bar. The product test and launch, including this full ATEX approval, was achieved within six months.

Mynah and ProSoft Partner

MYNAH Technologies, a leader in life cycle dynamic simulation, for operator training and certification and ProSys, a leader in dynamic alarm management announced a new strategic partnership to bring operator training and certification services to the process industries.

The partnership will provide a unique offering of MYNAH's Mimic Simulation Software and dynamic model engineering services with ProSys operations optimization and training services. This partnership will provide the process industries with unique offerings for certifying operators and improving operations effectiveness. "With ProSys' knowledge of process engineering and controls and MYNAH's simulation platform and process modeling, we are now teamed to deliver operator training solutions that address today's problems in the process industries", said Dustin Beebe, President and CEO of ProSys. "Simulations allow us the opportunity to train operators for the operational situations they need most – critical modes of operation like startup, shutdown and process upsets. With this we can train a new generation of operators without having to re-experience all of the incidents of the past 30 years." In addition to using the Mimic Simulation Software for training purposes, ProSys plans to utilize Mimic Simulation Software for testing of alarm management within plants. ProSys will be able to utilize Mimic to better predict and eliminate errors in alarm management systems.

Belden Talks Ethernet and Cybersecurity

Lots of people talk about cybersecurity. However if you ask an asset owner what concrete actions should be taken to improve cybersecurity in their company (or elsewhere), you are likely be met with a glazed stare in return. Typical asset owners often look like deer in the headlights when confronted with actually doing something about cybersecurity. They know there is a problem that needs to be addressed but do not have any idea where to start.

The Belden Industrial Ethernet Infrastructure Design Seminar held in Houston, TX on 21-24 September 2014 provided an entrée into addressing cybersecurity in a more concrete manner. The 36 technical sessions and 15 laboratory ses-

sions offered attendees information as general as an overview of industrial Ethernet down to how to use industrial Ethernet products effectively (regardless of manufacture).

This seminar is one step in Belden's transition from a company known in industry for its industrial cable solutions to a company known for its industrial connectivity solutions ---

both cable and Ethernet.

The most instructive takeaway was information on how to address cybersecurity --- whether to help you address cybersecurity in your company or to confirm that you are on the correct path because industrial internet infrastructure is critical for success.

Fundamental to addressing cybersecurity is that the cause of approximately 80 percent of all cybersecurity

The cause of approximately 80 percent of all cybersecurity incidents are unintentional and originate internally --- human error, malware, software failure, and/or device failure. The remaining 20 percent are intentional incidents whose origin is approximately equally split between internal (disgruntled employees) and external (espionage and cyber terrorism) sources.

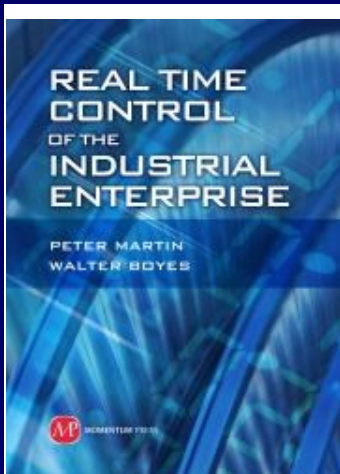
incidents whose origin is approximately equally split between internal (disgruntled employees) and external (espionage and cyberterrorism) sources.

At this time, the external incidents generally appear to fall into the realm of industrial espionage --- however this could change into an attack on assets at a moment's no-

ty incidents are unintentional and originate internally -- - human error, malware, software failure, and/or device failure. The remaining 20 percent are intentional inci-

Rockwell Buys ESC Services

Rockwell Automation, Inc., has announced that it purchased the assets of ESC Services, Inc., a global hazardous energy control provider of lockout-tagout services and solutions. "ESC Services will enable Rockwell Automation customers to increase asset utilization and strengthen enterprise risk management, while adding safety to our growing portfolio of data-driven, cloud-enabled services," said Matt Fordenwalt, Rockwell Automation consulting business manager. ESC's unique methodology utilizes Quick Response (QR) codes that can be scanned to obtain asset information and streamline compliance with both external regulations and internal safety policies. Kelly Michalscheck, president, ESC Services said, "This acquisition enables us to extend ESC Services lockout-tagout procedures and ScanESC solutions to tens of thousands of additional OEM machines, delivering more value and unique offerings to Rockwell Automation's extensive global channels." ESC Services, based in Franklin, Wis., will be integrated into Rockwell Automation's Control Products & Solutions segment as part of its customer support and maintenance business unit. Terms were not disclosed.



READ THE BOOK!

Over the last fifty years, almost all of the productivity gains in manufacturing have come from better automation and control of the processes: continuous, batch, hybrid, and discrete. The secret to making manufacturing sustainable is better control. So, why aren't the theories that have led to enormous gains in productivity being used above the plant level? This book explains how better controls can be applied to the supply chain, and to enterprise financial management. It provides managers the insight and tools for achieving a fully integrated automated manufacturing enterprise, from the technical side to the business management side. It is helpful to anyone seeking to bring the non-technical parts of a manufacturing operation in line with the already automated production, inventory management, and plant management. The book is available from www.momentumpress.net, Amazon and other retailers.

Belden Talks Ethernet and Cyber (continued)

tice.

Focusing your efforts on protecting your network from external incidents represents a lost opportunity to miti-

Focusing your efforts on protecting your network from external incidents represents a lost opportunity to mitigate the detrimental effects of the (much more numerous) internal incidents.

gate the detrimental effects of the (much more numerous) internal incidents. Conversely, focusing on protecting your network from internal incidents will not only improve network availability and reliability by reducing the number and severity of internal incidents but also mitigate some of the effects of external incidents. Simply put --- perimeter defenses are not sufficient to protect your network.

Typically, a hodgepodge of networks evolves over time --- often with little or no thought given to their effect on previously-installed networks. The Belden seminars presented 12 best practices in varying degrees of depth that can help provide a road map to address cybersecurity issues. Many of the best practices can be implemented immediately at little or no cost. The overall strategy is to create order out of chaos in a manner similar to how the Interstate Highway

System created order out of the chaotic nature of the then-existing roads in the USA.

- Document existing network systems by drawing a map that locates all current devices and their interconnections. Be sure that any existing maps are current. This may take some work but it is essential to developing a cybersecurity strategy to protect the entire systems.
- Segment communications into sub-networks that perform like functions. Isolating the sub-networks from each other can effectively limit many effects of an incident to the sub-network where the incident occurs --- effectively reducing the probability of propagating the effects of the incident to other sub-networks and alarming to enable an immediate response. ISA 99 provides recommended practices for implementation.
- Large quantities of data are (or will be) transported to the enterprise so be sure to use the fastest equipment and wiring that your budget allows. The cost of better cable is minimal compared to the cost of replacing it later.

Belden Talks Ethernet and Cyber, continued...

- Power devices over Ethernet (PoE) to reduce complexity and cost.
- Specify traffic control and time - critical considerations that prioritizes critical data, timing accuracy, and Quality of Service (QoS) issues.
- Specify ingress protection (IP) and environmental ratings for the network equipment to ensure survivability in dust, dirt, water, hot, cold, humid... environments (as applicable). Specify electrical hazardous location requirements to ensure code compliance.
- Perform a formal risk assessment to identify and quantify vulnerabilities that can be used to determine which risks should be addressed. This is often best implemented with the aid of a consultant. Use installed equipment effectively by enabling internal security features, turning off unused ports, limiting communications to specific MAC addresses, limiting remote access, locking the cabinets in which they are

Perform a formal risk assessment to identify and quantify vulnerabilities that can be used to determine which risks should be addressed. This is often best implemented with the aid of a consultant.

- installed, and the like.
- Weigh the cost of downtime to the cost of repair to determine the need for multiple communication paths (redundancy) to mitigate a loss of communication during an incident.
- Consider other standards, specifications and concerns about the installation to include the presence of corrosion, electrical noise, and the like.
- Determine how network segments should be implemented such as using copper wire, fiber optic cable, and/or wireless. Other issues include the required data rates, bending of the cables, use of terminal blocks or connectors, use of fieldbus, and the like.
- Develop an online map of the network to display network status and enable network management tools to manage and troubleshoot the system.
- Develop a project checklist that describes how to design, install and maintain the network system.

Belden can help implement parts of these best practices using their internet switches that are designed to survive harsh environments and/or for use in hazardous electrical locations.

--David W. Spitzer, PE

Honeywell Wins for Wireless

Honeywell Process Solutions announced that it was named the Best Industrial Wireless Provider at the 2014 Asian Manufacturing Awards (AMA) for its OneWireless Network, a multi-application, multi-standard industrial wireless network that extends process



control networks into the field.

HPS won the top award in the category after the judges evaluated its comprehensive range of solutions that extend manufacturers' networking reach and HPS' world-class performance in automation and control.

Winners of the AMA were chosen by an independent panel of judges from Asia, Africa, Australia, Europe, and North America.

"Honeywell is proud to be recognized as an innovation leader in the process automation industry," said Amitava Biswas, regional director Southeast Asia, Honeywell Process Solutions.

"We work closely with customers to understand their challenges and this award is a real testament to Honeywell's ability to consistently surpass our customers' expectations."

OneWireless conforms to ISA100.11a.

Endress+Hauser Invests in Japan

Like it has for its campus in Greenwood, Indiana, Endress+Hauser is demonstrating strong commitment to its site in Yamanashi, Japan: a new underground test rig allows for highly precise calibration of tank gauging instruments. On 17 October 2014, General Manager Yasuyuki Inoue, Managing Director Andreas Mayr and CEO Matthias Altendorf welcomed numerous guests from business and politics to the inauguration ceremony.



Inoue, Altendorf, and Mayr

underlines the Group's trust in the 81 associates of the Yamanashi site," emphasized Managing Director Andreas Mayr. The new test rig works accurately to the micron. General Manager Yasuyuki Inoue is proud of this precision: "This plant allows us to improve the calibration of our tank gauging devices and enhances our market position."

Yujiro Saito, Managing Director of Endress+Hauser's Japanese sales center, also emphasized the customer benefit: "In the oil & gas industry, accuracy and reliability are decisive factors. The new test rig is a big step forward for us because we can meet the needs of our customers even faster and thus clearly distinguish from other suppliers."

Endress+Hauser has invested 2.7 million euros in the new test rig for the calibration of high-precision tank gauging instruments developed and produced at the factory in Japan. The plant equipped with state-of-the-art laser technology can precisely simulate a measuring distance of 40 meters to calibrate the instruments accurately for their use in the large tanks of the process industry.

The space required for a test rig of this length is provided by a circular shaft underneath the new building; only a small section of the plant is situated above the ground while the actual measurement takes place far below. The test rig was built according to international standards and has already received certification from the international organizations NMI and PTB. In future, the current Proservo NMS5 level sensor will be calibrated at this plant, and the new Proservo NMS8 can already be tested on the test rig during its development.

Accurate to the micron

"This investment in the new test rig shows Endress+Hauser's strong commitment to the business area of tank gauging and also



Yamanashi Tank Gauging Calibration Center

been a part of the Endress+Hauser Group since 1978. In 1998, the site was affiliated to Endress+Hauser Maulburg, which is the Group's competence center for level and pressure measurement engineering. "All facilities and processes at our sites all over the world correspond to the same high standards," explained Andreas Mayr. "Our highly precise calibration plants, in particular, are unrivalled. We are the only manufacturer of tank gauging instrumentation to produce at this high quality level in Japan."

Schneider deploys Baxter

According to AutomationWorld's David Greenfield, who follows industrial robotics, the most recent news on this front comes from industrial automation supplier Schneider Electric, which announced that it has added Rethink Robotics' Baxter to its manufacturing workforce. The robot is being used to test circuit breakers at



Baxter the Robot (from file footage)

tank gauging technology. The company was founded in 1955 and has

two workstations in Schneider Electric's Columbia, Mo., plant. Baxter moves and orients parts from the assembly line into testing cells and triggers the testing process.

Baxter, whose iconic flat smile is intended to project a human-friendly attitude, is less expensive and easier to program than traditional robots. Baxter is programmed by moving his limbs through the movements a human worker would make. In just a few minutes, Baxter can be taught to take something off an assembly line and put it into a box.

It will be interesting to see how Baxter's human co-workers react to his presence.



THE WAY I SEE IT

Editorial

Why You Should Go to Industry Events Like the ARC Forum

If you are a manufacturer, control system integrator, distributor, manufacturers' rep, OEM, EPC or end user, you need to know what the big issues and trends are that are swirling around us like the beginnings of a "perfect storm."

One of the very best places to learn about and understand those trends in a vendor agnostic way is to attend events like the ARC Advisory Group's Industry Forum. This event, now in its Nineteenth Year, is held every February in Orlando, Florida, and has become the event that launches the automation year.

The business environment is becoming dynamic and volatile, and more so each year it seems. Buzz words and TLAs (three letter acronyms) abound. It is hard to tell which of these trends and concepts is real, and which are overblown hype.

What ARC does for us all each year is to assemble a team of experts from their own ranks, and also from the ranks of the automation vendor community, *and from the end user community*. These experts will discuss

the major trends, like the Internet of Things, Big Data, Industry 4.0, Smart Manufacturing, Realtime Asset Management, and help us all understand how they relate to each other and to our own businesses.

ARC's analysts and consultants present not only the challenges vendors and end-users

I have been attending this conference for years, in several different capacities. I would attend even if I were unemployed, because of the networking opportunities.

face, but the solutions that end users and vendors have found together to solve those challenges. Solutions that work.

If you want to know what these trends are, and how to deal with them before they bulldoze you from behind, you should be attending ARC's Industry Forum, and the other similar events throughout the year.

Yes, you can attend automation vendor user groups. You may get some of the same information there, but you'll get the flavor that that vendor prefers. At ARC's Industry Forum, solutions come in every flavor, including the one you need.

I have been attending this conference for

years, in several different capacities. I would attend even if I were unemployed, because of the networking opportunities.

People who attend range from engineers to CEOs and everyone in between. There is even an exhibit by the Industry Forum Sponsors, so you can see the most interesting toys they've brought to show you.

The ARC Industry Forum will be held February 9-12, 2015, and this year's event is entitled, "Industry in Transition The Information Driven Enterprise for the Connected World."

If that sounds like something you're interested in, or think you better know about before your competitors do, you should make plans to attend. Visit

www.arcweb.com for event details and registration information.

Knowledge is power. Knowledge is the foundation of good positioning for business, both offense and defense. But you can't always get the knowledge you need without help. ARC Advisory Group has put together a pretty amazing set of help.

If you attend the Forum, stop me and say hello. If we miss each other, let me know how you fared and whether you got value. I'll be sure to let you know from my perspective.

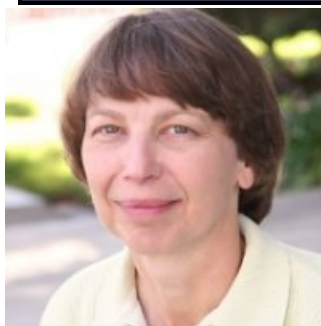
Walt Boyes

Comments? Talk to me!
waltboyes@spitzerandboyes.com

Read my Original Soundoff!! Blog:
<http://waltboyes.livejournal.com>

Charlotte Hill

by Joy Ward



INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

Charlotte Hill is the highly respected President of George Fischer Signet. We caught up with her at a recent MCAA meeting.

Joy Ward: How did you get into automation?

Charlotte Hill: I started out my career as a microbiologist and chemist I worked at a chemist in a nuclear processing plant. From there I decided I would seek other employment and I actually landed a position with IBM in Minnesota building disc drives. It is a very multidisciplinary area where you are concerned about the cleanliness of water, air and equipment used so that kind of started to give me an appreciation of clean water, measurements so forth. I was an analytical chemist.

I found the position with George Fischer Signet as the Operations Manager. It brought me back to some of my roots of chemistry because these

were sensing technologies and the analytical side of me which is really strong so I got to go back to my basic desire to work with the water industry.

There is something about water. It's kind of the essence of life. I think that's the greater good. I think we all want a challenge that gets to our soul and we want to work in an industry or something we can appreciate overall that it's helping mankind or the Earth. We are giving back. It makes me feel good. A lot of our equipment ends up in zoos and aquariums making sure that things are running well for the animals and the people can go and enjoy that.

I think we all want a challenge that gets to our soul and we want to work in an industry or something we can appreciate overall that it's helping mankind or the Earth. We are giving back. It makes me feel good.

JW: High points in your career?

CH: I think the first round of publishing papers when I was an undergraduate. I enjoyed teaching others, watching them understand the concepts and seeing the light bulbs come on over their heads.

I have to digress a second. When I was a very young child we lived in a lot of different places. My Mom found out, and you never want your Mom to know, I was drawing airplanes at the back of the school. And not paying attention. My reading skills were really poor so she sent me to the tutor and then she told me not too long ago that I didn't show up to the tutor. She was concerned so I ended up going to a private school where they kept a good eye on me.

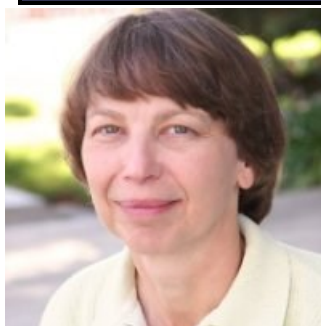
It was really a joy, year before last, when I went up to the university I graduated from. They gave me an award and my mother was there. It was really fun to see her tell the story of how she wasn't sure I would ever make anything of myself. So she was really proud of me. That was really a high point.

JW: You're into making things better, improving things. What's important for you about making life better and improving things?

CH: First it's a challenge to see what you can do with something to see how you can make it not just okay but to that next level of excellence. I get a kick out of that. That might be a quick turnaround or it's a

Charlotte Hill

by Jay Ward (continued)



INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

long term project that finally comes to fruition and you get to see the outcome of that. I just enjoy making things better. Repairing, cleaning, keeping good relationships.

JW: What advice would you give young women or men coming into your field?

CH: The first one would be try it. Immerse yourself in it enough to see what it's about. There's something special about it and the people who work in it. It's fascinating. It's continuously different. One day your problems are over here. The next day they are over there. But those problems are challenges. If you approach it that way its good and you can contribute a lot to the industry and a lot to others who rely on the industry.

I'd like to see more people take a shot at moving towards the manufacturing sector. When I was coming through everybody was moving toward banking or finance, "let's do day trading" and so forth. I know we talk a lot about the service sector of our economy. The service industry is kind of fake stuff to me. Yes, it's necessary but, without the real value being created at some point in a company, how can you have a service economy? It's kind of the icing on the cake. So it's real. Get out there. Immerse yourself. Have some fun. It's a fun industry to work in. The reality of creating value, which manufacturing does, the design de-

I'd like to see more people take a shot at moving towards the manufacturing sector. When I was coming through everybody was moving toward banking or finance, "let's do day trading" and so forth. I know we talk a lot about the service sector of our economy. The service industry is kind of fake stuff to me.

velopment processes, support that activity. That's real. It's real stuff.

JW: What trends are you seeing in the industry?

CH: I see a couple. I see a focus on conservation and trying to conserve our water, energy, air quality, making sure that we can do more recycling of these

really valuable natural resources. A lot of industries are moving in this direction. It's a slow move over time but it's definitely occurring. The other trend is I think overall in the industry we are concerned with bringing young people into the industry and making them as quickly as possible aware what a great opportunity it is for them. The other concern we talked yesterday,

about the different generations and how to best utilize those generations that we're using the best of them. It's hard for some of us who grew up with a different structure to turn around and go okay, this is different and they think differently how can I now convert that into something that works for all of you? It's a challenge.

JW: How would you describe your career?

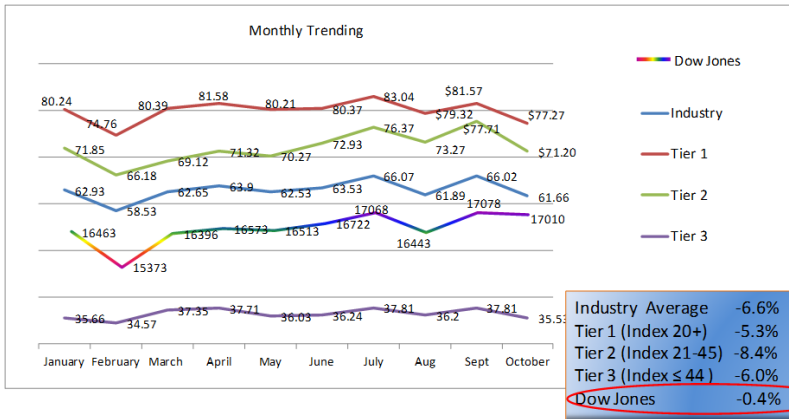
CH: It's been a great ride. If you look at my career path you go that's a little strange and we call that eclectic. It teaches me that it doesn't necessarily matter what field you come from or what your early interests were. Where are they now? Take an active interest, put yourself into that situation. Care about what you do, who you work with and it can't go wrong.

INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

By Mary Samuelson

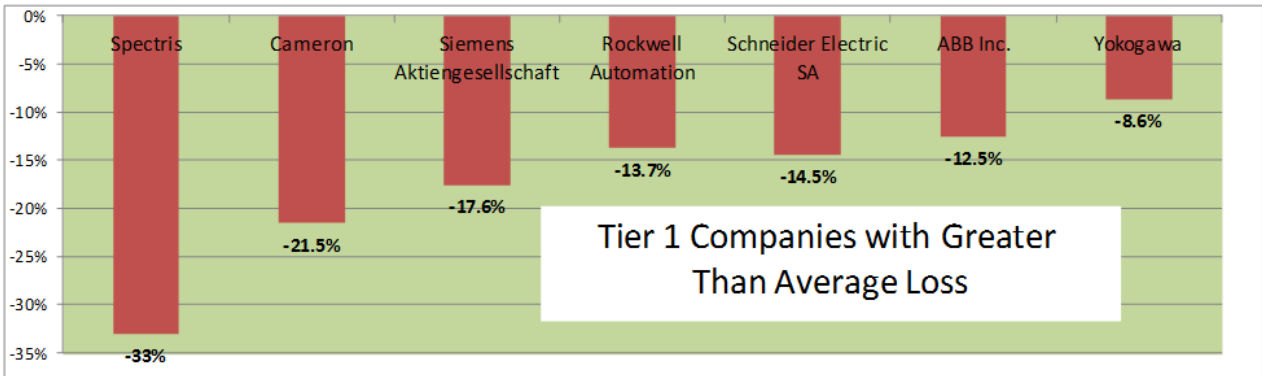


The news is not good for the automation and control industry for the months of September and October. The Dow took a roller-coaster ride, dropping as much as

600 points in a 30 minute period, but ACI fall, with an additional loss of 4.9% between October 3 and October 12, compared to the average Dow drop of 0.4%, and continues to

tween October 3 and October 12, for a total drop of 11.5% since September 3.

This



600 points in a 30 minute period, but ACI fall, with an additional loss of 4.9% between October 3 and October 12, compared to the average Dow drop of 0.4%, and continues to

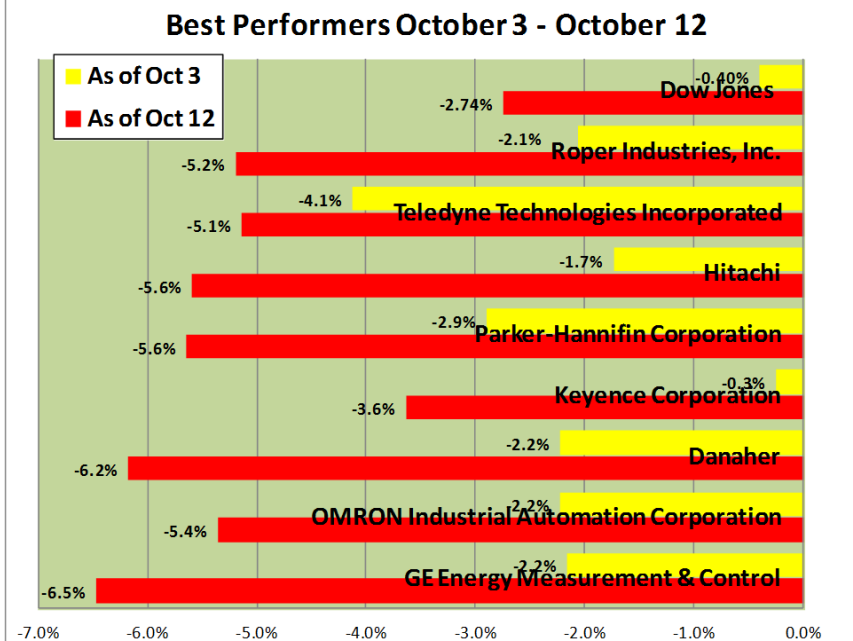
Stock prices appear to be missing the climbs and riding the drops. Overall, the industry stock price dropped an average of 6.6% between Septem-

ber 3 and October 12, compared to the average Dow drop of 0.4%, and continues to

compares extremely unfavorably to a Dow loss for that same time period of 2.5%.

In the current environment, Tier 1 companies show slightly less loss than their Tier 2 and 3 counterparts, but some exceptional losses are seen for the Tier 1 group as well. The chart outlines some of those drops by company. Spectris' losses are spectacular, but it should be noted that most of their operating units are laboratory and scientific product makers, and that market is not doing well overall.

No one is doing well, but some are doing better than the average loss seen across almost every company in the index. Congratulations to Alps Electric which actually showed a slight increase of 2.8% over the past month; the only company



PharmaSuite MES from Rockwell Adds Capabilities

Manually conducting In-process control (IPC) checks can introduce human error, while standalone IPC systems are difficult to integrate with electronic batch records. Rockwell Automation has added new recipe modeling capabilities to its Rockwell Software PharmaSuite v6.0 manufacturing execution system (MES) to handle these crucial activities.

Martin Dittmer, PharmaSuite product manager, said, "IPC quality checks that previously were the sole responsibility of an operator can now be easily defined and modeled into the recipe up front in the MES, providing instructions, data collection and alerts to ensure these activities are carried out."

The building block library within the recipe designer allows programmers to re-use and maintain modeled IPC checks across multiple recipes. The software also incorporates new work-flow integration capabilities, allowing executed work-flow information to be appended and tracked as part of the electronic batch record.

New re-work capabilities enable operators to abort and re-activate a production process. These new capabilities eliminate the time, cost and effort of completely re-starting an order from the beginning should an unexpected issue arise, while also ensuring the re-work activities are carried out in a controlled and documented fashion.

INSIDER Health Watch *continued*

of the 80 included in the Automation Insider Index to do so. All others were in the negative. Even companies who managed to outperform the overall industry did poorly compared to the Dow. Keyence Corp., which outperformed the Dow (though not significantly) showing a loss of 0.3% compared to the DJIA loss of 0.4% initially, dropped below the Dow average in the following week.

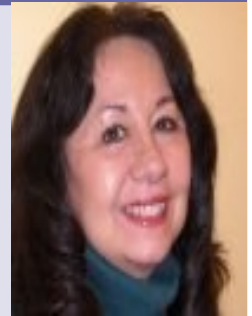
So what is causing the volatility and sharp downward movement? A myriad of factors could be at play depending on the company in question. For example, according to Nick Denbow, the INSIDER's European editor, Schneider is absorbing the costs of acquiring Invensys, sanctions against Russia are playing a role, and the Chinese economy is slowing down; all of which would affect the industry.

Add to that the devaluing of the Yen, which makes Keyence "hold your own" performance even more extraordinary, and some interesting management decisions at ABB that we discussed in the INSIDER last month.

On the up side, according to an article published in CNW Telbec Aug 12, ABB was awarded an extremely large turnkey automation order in August, but it is possibly too soon for that fact to contribute in any strongly positive way to their overall stock performance. The award of such a contract should, however, play a definite role in future performance.

The big question in everyone's minds at this point is, "What's next?" as the Dow and other world markets continue to fluctuate and volatility is the word of the day, week, and month. For those who enjoy a wild ride, hang on to your hats because this month was and continues to be, right up your alley.

The *INSIDER* Health Watch^(tm) is written by Mary Samuelson, Quantitative Research Practice Lead at Spitzer and Boyes, LLC. Ms. Samuelson



was director of research at Maritz Research, and vice president at Rockhopper Research, and a Senior Project Manager with The Right Brain People.

"The Health Watch shows what we are capable of, in quantitative research, at Spitzer and Boyes, LLC.," she said. "If you are looking for research that is different from the kind you get from the usual suspects, give us a call."

Spitzer and Boyes, LLC has a complete qualitative and quantitative research capability, focused on the automation industries.

For more information, contact Walt Boyes at waltboyes@spitzerandboyes.com.

The *INSIDER* Health WatchTM is available for license to use in other publications. If you are interested in doing that, please let Walt Boyes know.

Mary Samuelson is available for speaking engagements about the Health WatchTM and other quantitative marketing issues. Contact Walt Boyes for details.

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Rajabhadur V. Arcot: India's initiatives to emerge as a manufacturing hub and achieve economic growth

In India, after the national elections, a new government has come to power and the market sentiments have significantly improved. It came to power by promising to focus on economic development. According to the Organization for Economic Cooperation and Development (OECD), India's leading indicator has turned positive signifying a return to faster growth. Echoing similar sentiments, the Wall Street Journal reported that India's lumbering economy has registered, during the quarter ending in June 2014, its fastest growth in past two-and-a-half years.

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tility, high current account deficits, and such others and the growth rate fell below 5 percent in the FY 2013. While the economic policies had to take a greater share for the slowdown, the industry also had to take the blame. The country's manufacturing industry was too risk averse and did not invest enough in building additional production capacities, at a time

when the domestic consumer demand was still robust, especially in sectors, such as electronics, mining, electric power, food pro-

cessing, and such others. Creativity and innovativeness on the technology and engineering fronts are not its strength. Forbes, commenting on the investment opportunities in India's defense industry wrote, "Despite such a large ready-made market, India's local industry has been a poor supplier. It has been unable to keep pace with state-of-the-art technologies and modern manufacturing processes of its foreign competitors."

However, awareness among the stakeholders that India needs a robust manufacturing industry to spur its economy development is on the increase. The State's recent "Make in India" initiative is one such, which potentially can spur the country's economy while, on one hand, offering global manufacturers demand-centric market opportunities and on the other acting as a wakeup call to domestic manufacturers.

The mood is upbeat and India's economy is at an inflection point. Most analysts believe that the growth trend is sustainable. While the Asian Development Bank in its 'Outlook 2014 Update' forecasts 6.3 percent GDP growth for India in the FY 2015, the Japanese Brokerage firm Namura forecasts a 6 percent growth in the FY 2015 and over 7 percent in the FY 2016. India Ratings and Research — a part of the international rating agency Fitch Group - revised its FY 2015 GDP growth forecast to 5.7% from its earlier 5.6 percent (April 2014 forecast). Reflecting these sentiments, the country's stock market has emerged as one among the best performing in the world in recent weeks. Additionally, the Indian currency has recovered significantly and the current account deficit has declined. The raising of the India's sovereign rating by Standard & Poor (S&P) is icing on the cake.

Between the years 2003 to 2010, India experienced GDP growth rates in excess of 8 percent. While it dropped drastically in 2008 due to the global economic crisis, India's GDP also grew in excess of 10 percent in 2010. The country frittered away this growth momentum due to lax fiscal and other policies, which resulted high inflation, loss of confidence among global investors, rupee depreciation and vola-

Expanding aspirational wants that lend support to robust consumer spending and demographic advantages are some of the unique strengths that India possesses. In pursuing the path economic growth, the country has taken an uncharted path of moving directly from an agrarian society to a service oriented economy and this makes the country future ready. It provides exciting opportunities for the country to embrace new technology and growth waves

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- Walt Boyes, David Spitzer, Joy Ward and Mary Samuelson are available for workshops, short courses, and speaking engagements.

Rajabahadur V. Arcot: India's initiatives to emerge as a manufacturing hub and achieve economic growth, continued...

that can propel the economy forward. Additionally, India's economy is consumer-demand and private consumption driven in contrast to the traditional investment-led or export trade driven economies. This provides India an opportunity to become a destination of choice for global manufacturers and the recent "Make in India" initiative is a clarion call to make India a manufacturing hub.

Presently, India's economy is supply-side constrained and therefore, there is a significant scope to establish new production facilities to produce a broad range of items catering to the basic needs at one level and aspirational wants at the other. Contrast this with the situation that prevails in many of the advanced economies.

Many of them have excess production capacities and they are grappling with the aging population and declining consumption challenges.

This initiative to make India a manufacturing hub, in a way, is also a wakeup call to domestic manufacturing companies to give up their compla-

cency and force them to compete and succeed. For example, India does not have a robust presence in electronic manufacturing. If the electronic industry continues to grow at its present rate, it would touch US\$ 104 by 2020 whereas the demand would exceed US\$ 400, thereby contributing to massive and unsustainable trade deficit. The electric power industry is not able to produce enough power. Despite having one of the largest coal reserves, India imports coal.

While the expansion of the country's service industry, especially the information technology industry, has played an important role in helping India's economy to expand, create jobs for the educated, and earn foreign

less to more productive economic activities, and produce a wide range of industrial products for which a growing demand exists, and thus propel the economic growth cycle. There is growing realization among the policy makers and captains of the industry that a robust manufacturing industry, which produces the goods that meet the basic and aspirational needs of people, can create jobs in large numbers, and generate disposable income in the hands of the consumers and place the country back on the growth track.

The impetus for the growth of the manufacturing industry in India exists and this augurs well.

Globally, the manufacturing companies are seeking consumption-oriented markets, which is what India, with an economy that is the third largest in terms of purchase parity, growth offers.

Automation industry thrives in countries where manufacturing flourishes. In the last couple of years, China was the cynosure of automation companies. If it can live up to the promise, then India could well be the market that automation companies have been looking for.

Rajabahadur V. Arcot is an Independent Industry Analyst and Business Consultant with 40 years of senior management experience. Until recently, he was responsible for ARC Advisory Group's business operations in India. Contact him at rajabahadurav@gmail.com



exchange, moving forward, India's manufacturing industry has to grow and expand, if India is to witness sustainable economic revival. Only a robust manufacturing industry can create jobs & disposable incomes, draw people from