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Your key to the latest industrial automation and process control information

Honeywell User Group Americas (HUG)

Big announcements and new products too!

Overcoming some consternation among the press about not having received the announcement that Darius Adamczyk had been promoted and Honeywell Process Solutions moved to a whole new business group, and that Vimal Kumar was now President of HPS, the first-ever HUG Americas held outside of Phoenix appears to have been a rousing success by the traditional metric of attendance. More than 1,300 customers, distributors and Honeywell leaders and engineers attended the 2014 Honeywell Users Group (HUG) Americas symposium held June 2 through 6 in San Antonio, Texas. The conference brought together many of the world's largest process manufacturers to discuss how to apply new technologies to overcome challenges facing their respective industries and operations. Attendance was 25 percent higher than the 2013 Americas conference held in Phoenix, Ariz., with about 40 percent attending HUG for the first time. The record number of attendees represented more than 475 companies from 36 countries and more than 60 industries. Almost 200 participants attended Honeywell's Channel Partner conference, which was held in parallel with HUG.

Vimar Kumal

HPS is no longer part of Honeywell Industrial Automation and Controls. Darius Adamczyk, erstwhile president of HPS is now CEO of Honeywell Process Materials and Technologies, including HPS.

Jason Urso

Honeywell has apparently given up trying to find synergies for HPS within Honeywell ACS, and so has moved the process automation company to the chemical manufacturing group, PMT, in a move that is reminiscent of Monsanto's ownership of Fisher Controls back in the 1980s. One wonders if the eventual fate of HPS is to be the same as Fisher's. Yet in the press release, Darius Adamczyk is lauded for leading "a dramatic operational turnaround over the past two years" at HPS. HPS' 2013 sales are reported as $3.1 billion. This is an interesting fact, because Honeywell has not reported public numbers for the HPS subsidiary since the mid-2000s when they stopped breaking out the revenue and profit numbers for HPS.

Kapur said in his keynote, "We are placing customer experience at the enter of everything we do. Our mission statement is to improve the customers experience at every touch

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Health Watch

This month's Health Watch talks about earnings reports, and problems in Japan.
Find the INSIDER Health Watch on pages 30-31 in this issue.

...and a whole lot more!!

Cover Story: Honeywell User Group Americas

point from order through the lifetime of the system. This is a differentiator for Honeywell." My priorities, he said, were to "Build and strengthen our HPS culture to put customer experience at the heart of everything we do; continue to invest in technology diffentiation and leading edge automation solutions, expand our instrumentation offering to connect data from the field, to the control room to the board room, and continue to address our customers biggest concerns: de-risk project execution and ensure operational integrity and excellence."

In his roadmap keynote, HPS CTO Jason Urso, first virtually on screen and then in person, announced the Experion® Orion Console, an advanced display technology that he claimed was the plant control room of the future.

The console – which builds on Honeywell's flagship Experion Process Knowledge System (PKS) control platform – features an improved ergonomic design and better displays to simplify control system management, reduce operator fatigue and improve situational awareness.

The Experion Orion Console's design was based on operator input gleaned from numerous visits to plant control rooms around the world and across industries, in both newer and older plants. .

"The state of plant control today is like putting operators on a sleepless, 12-hour flight in economy-class seating and then asking them to make a critical decision that impacts their company's production and employee safety," said Urso. "Operators need more than just process data to make a decision like that; they need an environment that helps keep them alert, allows them to move about more freely, and presents information more intuitively. The Experion Orion Console was designed with all of those factors in mind."

The console's features include a large flexible, ultra-high definition Limits and targets are directly integrated into overview displays, allowing operation of the process closer to the optimum and allowing operators an increased scope of responsibility across the industrial facility.

"Plants must be designed and built according to a company's specific production needs, but the control rooms themselves should be built around the operators' needs."

Touch panel displays provide the primary operating interface that better enables operators to quickly and accurately respond to changing conditions and prevent situations that could lead to plant incidents and emergencies.

Aside from the actual information, however, the console has a mobile tablet that also reduces operator fatigue by allowing personnel to move about the control room more freely than before. When paired with wireless-enabled mobile technologies, the system also allows operators to view the same displays on hand-held devices in other areas of the plant.

"Plants must be designed and built according to a company's specific production needs, but the control rooms themselves should be built around the operators' needs," Urso said. "If you meet the operators' needs, they can manage the plant more effectively and at optimum levels, which ultimately impacts plant safety, reliability and efficiency more than anything else."

Don Maness

New Transmitters

Don Maness, VP/GM of Field Instruments at HPS has been telling me for years that he has been given the mission of revitalizing Honeywell's once-stellar field instrument lines. At HUG, HPS launched its new range of SmartLine™ industrial temperature transmitters, which improve overall plant and employee efficiency even in harsh and noisy process environments. This new product line is part of Honeywell's SmartLine field instrument product family, the industry's first modular and most reliable transmitter family currently available for pressure measurement.

"The SmartLine temperature transmitter is based on the same proven platform as our current SmartLine pressure transmitter. They provide our customers with better performance, unique features that lower their total cost of ownership, and the best integration capabilities available when used with our Experion® Process Knowledge System (PKS)," said Maness"SmartLine helps reduce project costs and startup time, avoid unplanned downtime, improve product quality, and shorten time to repair."

In industrial plants, field instruments that measure temperature are used throughout the manufacturing process to enable operational safety and product quality. Large industrial complexes, such as those for refining crude oil or producing chemical products, can employ thousands of these devices within their manufacturing processes.

SmartLine temperature transmitters lower plant lifecycle costs by making it easier to maintain field devices with their unique efficiency-enhancing features such as an advanced graphic display capable of showing process data in

Cover Story: Honeywell User Group Americas

graphical formats and communicating messages from the control room. In addition, all SmartLine transmitters, whether they measure pressure or temperature, utilize modular components which simplify field repairs and reduce the parts inventory required to make those repairs. These parts can be easily upgraded and even exchanged between the two different product lines.

SmartLine Transmitter

SmartLine includes several features to ensure plant reliability and safety. For example, the SmartLine temperature transmitter incorporates a dual-compartment housing for maximum robustness. In addition, it features intuitive diagnostics for both the transmitter and sensor. This diagnostic information is also uniquely available on the transmitter display providing a real-time view of the sensor health to support proactive maintenance.

To reduce lifecycle costs, the transmitter features a built-in dual-input and digital output option to minimize the number of instruments needed for both monitoring and switching needs. Along with its unique modularity, SmartLine reduces complexity along the entire lifecycle, from avoiding initial purchasing costs to reducing maintenance and inventory expenses by eliminating spare parts requirements and simplifying module replacements and upgrades.

"The SmartLine platform makes employees more efficient with the ability to use the display to communicate with field personnel."

"Companies today are trying to do more with fewer experts," Maness said. "The SmartLine platform makes employees more efficient with the ability to use the display to communicate with field personnel. In addition, with the modular design, employees can use similar parts between both pressure and temperature models, making it faster and easier to change a part or upgrade the devices."

Employee efficiency features include wiring polarity insensitivity and local configuration capabilities. Unlike most other transmitters, SmartLine transmitters cannot be damaged by reversed loop wiring polarity and will function correctly if reverse connected. This protection significantly helps during a plant startup, when time can be wasted locating and repairing incorrectly wired devices. In addition, an advanced display and local configuration provides capabilities for field operators to configure the device in the field, solve problems and avoid errors with no need for a handheld device.

Honeywell's unique Smart Connection Suite control system integration delivers transmitter messaging, maintenance mode indication and tamper alerts to improve field time to repair and control room communication, avoid unit trips and make employees more efficient.

Unisim Design Challenge Winner

A Brazilian chemical engineering student who used simulation software to show how emissions can be converted into electrical energy has been named the winner of Honeywell **(NYSE: HON)** Process Solution's annual UniSim® Design Challenge.

Herbert Senzano Lopes, a master's degree student at Federal University of Rio Grande do Norte (UFRN), worked with Professor Vanja Maria de França Bezerra to design a solution to show how flare gas from pipelines could be reused to generate energy.

Andy D'Amelio presents the Unisim Design Award

With UniSim Design, Senzano and França determined how oxygen could be used to increase the electric charge of volatile organic compounds released into the air by pipeline gas flares. Their simulation created 2.126 megawatts of electrical charge and showed potential to help reduce the release of organic waste oxides in the atmosphere.

Senzano and França presented the winning entry, "Flare Gas Recovery for Electricity Generation" this week during the annual Honeywell Users Group (HUG) Americas Symposium, the company's largest gathering of customers in the process manufactur-

Cover Story: Honeywell User Group Americas

ing industries. The UniSim Design Challenge allows engineering students to propose solutions to real-world problems facing process manufacturers by using Honeywell's UniSim Design Suite software, which is used to design and model processes in production facilities throughout the world.

"The UniSim Design was essential to our project because with this suite we could simulate a problem based on a real situation and successfully test our solution," said Senzano.

"Thanks to the software of Honeywell it was possible to build a process flowchart similar to the reality and simulate dynamic cases to the academic and manufacture sector," added França.

Channel Partner Awards

Don Maness and Andy D'Amelio, vp HPS, presented the 2014 Channel Partner Awards, since the Channel Partner event was co-located with HUG. The awards ceremonyrecognizes customer service, innovation and excellence among companies supplying and integrating Honeywell solutions in the Americas. Each winner demonstrated impressive growth by achieving more than 115 percent of their revenue goals.

"We're seeing great results from our distribution channels," said Don Maness, vice president, Honeywell Process Solutions. "While we are still growing our channel partner base by adding new partners in select geographic locations and in some niche verticals, we are witnessing an unprecedented high level of maturity and creativity from our existing distribution network. Seeing our Latin America channel partners go head-to-head with some of our well-established North America distributors is not only encouraging but also raises the bar for all our partners in the region. A majority of our partners sell our complete portfolio and are looking to expand their own offerings by including solutions from other Honeywell Process Solutions lines of business."

Andy D'Amelio and Don Maness present awards

"Thanks to the software of Honeywell it was possible to build a process flowchart similar to the reality and simulate dynamic cases to the academic and manufacture sector."

The top honor, **the Americas 2013 Channel Partner of the Year Award**, was given to IAC Ingeniería Ltda., headquartered in Santiago, Chile. IAC has achieved record growth by selling solutions that combine Honeywell's complete field instrumentation and modular systems portfolio. They expanded their offering and introduced new Honeywell products so their customers could quickly realize benefits such as lower total cost of ownership. IAC's portfolio includes wireless devices such as Honeywell's OneWireless Field Device Access Points and Wireless Device Manager; SmartLine transmitters; and Honeywell's purpose-built distributed control system Experion® LX, the first to be sold in Latin America. Additional awards were given to channel partners by product line: the Field Instruments product line, which includes wired and wireless pressure, temperature, level and flow transmitters; and Process Instruments and Modular Systems, which includes controllers, recorders and control systems. These winners include:

Field Instruments Latin America Channel Partner of the Year: CONTROL Cia. Ltda., Ecuador, for solid year-over-year growth, excellence in sales and marketing, and strong relationships with systems integrators.

Field Instruments North America Channel Partner of the Year: AWC Inc. Georgia, Atlanta, Georgia; for aggressive year-over-year growth and closing sales leads. Process Instruments/ Modular Systems Latin America Channel Partner of the Year: Dominion Industrial S.A. de C.V., Mexico, winning this award for the second consecutive year; for achieving strong year-over-year growth and for building on the training, customer demonstration and local system integrators networking programs established last year.

Process Instruments/Modular Systems North America Channel Partner of the Year: Thermo-Kinetics Company Limited, headquartered in Ontario, Canada, for strong year-over-year growth, maintaining an ISO 9001 quality assurance program and unmatched calibration services.

UIS Gets Expanded Role

Honeywell is the only automation company that really empowers its user group committee-- UIS (User Input Subcommittee)has a large budget, support staff provided by HPS, and a track record of providing useful enhancements to HPS products and solutions. Alan Carter, vice chair, UIS talks about the expanded role of the

Cover Story: Honeywell User Group Americas

User Input Subcommittee in developing the Honeywell Roadmap.

"Users share a common interest: to extend system life, increase system capabilities, improve system usability and operator experience and reduce total lifecycle cost," Carter said. "The UIS has 27 member companies by market sector and region. We have to review every enhancement request, the value to deliver it, and how long it will take to bring it to market."

The UIS is working on extending TDC systems to 50 YEARS through continuous evolution, including EHPM, Experion Hiway Bridge, Universal Hiway IO, and others. The enhancement development: priority, value and time to deliver. Carter explained how the UIS prioritizes enhancement projects.

Now there is a new approach to the enhancement process. Users now have the power to advance ideas, and accelerate developments. Honeywell gains from more user input, and the UIS provides clear input from users about enhancement priorities. User input ensures best design and functionality.

Carter talked about a new process he called HVE—High Value Enhancements. These may be a future Honeywell Roadmap item that can be accelerated, or a new enhancement consistent with Honeywell's market direction. HVE will provide accelerated delivery of roadmap enhancements, direct user involvement in enhancement design and development and an increased enhancement budget. Honeywell gets closer customer involvement through design development and the rest of the system.

Carter closed, "It is you that is the U in UIS..."

Sandy Vasser's Challenge Once Again

As he has for nearly every user group and event where customers and vendors have gathered in the past several years, ExxonMobil's Sandy Vasser once again presented his challenge to help asset owners make the process of putting together automation systems less costly and "get automation off the critical path."

"We have to get automation off the critical path!"

Vasser, Facilities Electrical and Instrumentation Manager for ExxonMobil Development Company, presented what he calls his "10 point list, now expanded to 13." These are the requirements, he said, for any vendor who wants to do business with ExxonMobil and he recommends that all asset owners adopt them, or something like them:

1. Eliminate, simplify and/or automate steps in the automation execution process;
2. Minimize custom engineering;
3. Shift custom engineering to software and rely on standardized hardware components;
4. Use virtualization to separate hardware from software; validate software independent of hardware. Eliminate hardware FAT;
5. Prevent design recycle and hardware/software rework;
6. Eliminate components not necessary in the system architecture and standardize those that remain;
7. Eliminate or minimize physical, data and schedule dependencies with other disciplines;
8. Simplify the configuration of interfaces with third-party packages;
9. More easily accommodate even very late changes;
10. Mitigate the effects of software and hardware version changes;
11. Eliminate, simplify and/or automate generation of required documentation;
12. Manage alarms and ensure cybersecurity by design;

Challenge traditional approaches and solutions.

ExxonMobil's Sandy Vasser

Vasser noted that the enemy of good enough is perfection. "We have to think differently if we're to transform the way we do things," he said.

He said that there are some new technologies on his radar: The first is what he called "DICED" I/O— that allows systems and instruments to auto-detect, auto-interrogate, auto-configure, auto-enable and auto-document.

Vasser said he wants a standardized and simplified interface for electrical systems.

He is also asking for multivariable transmitters that convey flow, pressure and temperature data and other process variables over a single cable via a single process penetration.

He said that ExxonMobil wants to have direct programming of safety system logic by translation from cause-and-effects tools.

Last, he also wants all automation systems to operate on DC power to eliminate inverters.

The point of all this, Vasser keeps repeating at every process user group meeting, is to take automation off the critical path. He believes we are close to doing it, by implementing his 13 points and other new technologies, as well as new ways to manage projects.

PAS: The Little Engine That Could! PAS Technical Conference 2014

PAS, originally known as Process Automation Services, is celebrating their 20th anniversary. Founder Eddie Habibi and his team threw a much larger party for the PAS Technology Conference 2014 than you'd expect from the company size. It was a respectable sized User Group meeting, too, with over 130 people from several countries in attendance.

PAS ceo and founder Eddie Habibi

The conference keynotes by Eddie Habibi and FBI Special Agent Angela Haun were proceeded by a press conference in which PAS ceo Habibi revealed new alliances with Tripwire and Alstom Power, as well as confirming one with Southern Company. Tripwire is a cyber security firm specializing in NERC compliance and will integrate PAS Integrity Software Suite and Tripwire's NERC Solution Suite. Alstom will be integrating PAS PowerGraphix 2.0 HMI object library and power control system templates. Southern Company helped to develop the PowerGraphix 2.0 product, and continues to use it and act as PAS' test bed.

PAS and Tripwire

PAS, Inc., a leading provider of software for process safety, cyber security and asset reliability for the energy, power and process industries worldwide, and Tripwire, a leading global provider of risk-based security and compliance management solutions, today announced a technology partnership and integration. The partnership is part of the Tripwire NERC Alliance Network Program that has been designed to foster collaboration on critical infrastructure compliance and security solutions to help companies efficiently and effectively achieve NERC CIP compliance. The integration between the PAS Integrity Software SuiteTM and Tripwire NERC Solution Suite will provide mutual energy customers with automation software that drastically reduces the time and resources required to collect audit evidence. The integration brings a consistent approach to the management and maintenance of secure configurations across a wide range of devices including Industrial Control Systems (ICS), SCADA, Microsoft Windows and Windows Servers. "The combination of PAS and Tripwire technologies allows us to offer our customers a powerful solution," said Mark Carrigan, vice president of technology at PAS. "Automating the collection of configuration information for all critical assets in energy organizations saves precious resources, improves compliance, reduces human error and, in addition, dramatically reduces cyber security risks."

Energy organizations are required to gather, analyze, prioritize and document an overwhelming amount of vulnerability and network data in order to protect their most critical assets and meet compliance requirements. The integration of PAS' Integrity Software Suite and Tripwire's NERC Solution Suite provides customers with:

- A single process that enables continuous monitoring and rapidly captures detailed status information across a wide range of critical cyber assets, from computer systems and network devices to badge entry systems and SCADA devices.
- Audit-ready reports and dashboards conveniently grouped via a flexible and extensible classification system.
- Automated assessment and aggregation of security data alerts that assist in detecting potential security breaches or configuration modifications that affect compliance status.

"Today, because many organizations have two separate business processes for these different assets, tracking and compliance reporting is resource intensive and can be error prone," said Jeff Simon, director of service solutions for Tripwire. "Our integration with the PAS Integrity Software Suite will make it possible for energy organizations to use a single, consistent workflow to assess and manage the secure configuration of industrial control systems and business assets."

Habibi Connects the Dots

In his keynote speech, ceo and founder Eddie Habibi talked about the last 20 years of PAS, showed some pictures of himself with big hair and flowing mustaches, and talked about his vision for the future of automation. He talked about people, assets, and information and how the requirements of each can and must be brought to work together for a well-rounded automation system.

If I Tell You I Have to Kill You!

FBI Special Agent Angela Haun gave another keynote, but she insisted on no interviews, no photographs, and posted the talk she gave as FOUO, the lowest rung in the top secret ladder. So, I can't tell you what she said. I CAN tell you that everything she said was easily available in the public domain, so the purpose of the cloak and dagger remains unclear.

FBI's Angela Haun

Keith Dicharry from BASF, spoke about BASF's strategies on automation and cyber security, and how they use PAS' tools to document, valdate, monitor, alert

PAS: The Little Engine That Could! PAS Technical Conference 2014

and detect. "We will pave the future with a continued focus on protecting our core assets."

Mark Carrigan, vp technology at PAS, gave the roadmap discussion, and talked about new releases in HMI, Alarm Management, Loop Optimization and Cyber Security coming over the next two years.

Harvey Ivey, of Southern Company, discussed the development of PowerGraphiX, a joint project of PAS and Southern Company, and its use as an information display philosophy to address the problem of information overload on operators.

Amy Ericson, US country president, Alstom, spoke about the need for improved data visualization and operator effectiveness. She described a Voice of the Customer study Alstom recently performed, showing the need for improved alarm management, ease of operation and control room operational screens. Based on these industry findings, Alstom has partnered with PAS for the development of High Performance HMI solutions, and has become an OEM reseller of PowerGraphiX.

Alstom's Amy Ericson

John Banda, of Intergraph, and Lauhael Godinho, business development manager for Project Integrity at PAS, discussed using SmartPlant Instrumentation and Project Integrity as a combined solution ensuring that information from the project design to commissioning minimizes delays, reduces data reconciliation, and ensures on time startups.

Mike Timan, from Owl Computing Technologies, described a project to generate a new class of security solutions around segregating networks, after the RasGas and SABIC cyber attacks.

Mike Moody, of BASF, talked about how BASF executed their corporate alarm management initiative at the site level, with the good, the bad, the ugly, and the lessons learned.

Mike Herrera, Brandi Lebo, and Tyler Broom of LyondellBasell discussed a real world case of using Workflow Integrity, part of the PAS PlantState Suite. The end result was increased value from decreasing the potential of documentation errors, annotating changes with the workflow that allowed them, and facilitating notification of change requests.

Mike Macha, of DHS, gave a discussion of the various cyber security tools developed by the Federal government over the past decade, and noted that the price has been lowered to, well, free.

Ruediger Trobisch, of M+W, discussed a migration of a legacy alarm management implementation to PAS' PlantState Suite for Axalta in several plants in Germany and Belgium. Since the operators were already using the Alarm Management Reports, the migration was performed with minimal operational interruption.

Leslie Burke of Southern Company talked about Southern's need to maintain accurate asset inventories, implement effective management of change processes and ensure consistent cyber security policies and practices. The solution they arrived at encompasses cyber inventory of Industrial Control Systems, change management and compliance assurance reporting. They call it CSI—Control System Integrity.

Dow Chemical's peripatetic cyber security ambassador, Eric Cosman, delivered a very interesting discussion of Industrial Control System cyber security aimed not at the engineer but at the asset owner. Any asset owner should get a copy of Cosman's presentation and study and implement what he said.

Chris Humphreys from Anfield Group, formerly of DHS and DOD, talked about how to keep up with regulatory climate change around security. He talked a lot about compliance, and how to ensure compliance, but his discussion wasn't really about improving and increasing security.

Andy Geddes from Scottish Power talked about how Scottis Power has worked with PAS to configure systems to support analysis and performance measurement for process safety.

Eric Cosman from Dow

Brendan Sheehan, global marketing leader for Honeywell Process Solutions discussed the 20 year relationship Honeywell has enjoyed with PAS, delivering DOC4000 to approximately 350 operating facilities, managing configuration for 1260 automation systems.

Allen Pfeffer, of Alstom, and Hector Perez, director of business development at PAS, jointly discussed how PowerGraphiX will help Alstom's customers operate their plants better and more safely.

Last, Jeff Strecker, from HollyFrontier, talked about what he called the essential tool kit for the Process Control Engineer. He presented an overview of the PAS solutions HollyFrontier has identified as a way to approach and manage their challenges in the coming years.

And Cirque du Soleil! And a great time was had by all.

Endress+Hauser Changes Chiefs

Appointing a new CEO for E+H!

The year 2014 is significant for Endress+Hauser, as Matthias Altendorf has taken over in the rôle of Group CEO. This is a major step for the family owned company, as in 60 years Altendorf is only the third CEO, and he is the first not to bear the Endress family name. As you might expect, the

Matthias Altendorf

decision as to who to appoint was made after considerable family and management discussion, taking more than two years. In the 2014 E+H Group publication, called "CHANGES – What will tomorrow bring?", a joint interview with Klaus Endress - the previous CEO (for nearly 19 years) and now President of the Supervisory Board - and Altendorf, gives an interesting insight into the background thinking and approach for the company and its future.

The major impression given is that there will be no major change in the Endresss+Hauser approach to its employees, customers or suppliers: they will remain a very reliable partner. Plus Klaus Endress will still be in the background, available to provide advice. It was good to see that the third sentence in the interview confirmed that Altendorf will not be wearing a bow tie – the trademark style chosen by Klaus Endress. Altendorf trained as an engineer, and is more likely to be seen with sleeves rolled up in an open neck shirt, or in a leather jacket on a Harley Davidson, his second passion, than in a bow tie.

Klaus Endress

"The first thing you have to think about is who is capable of taking over… Of course the new CEO has to be talented. But he or she also has to be prepared to stay in this [CEO] position a long while – at least 10 to 15 years." - Klaus Endress

Finding the next CEO

How did Klaus Endress go about finding his successor? His explanation: "The first thing you have to think about is who is capable of taking over… Of course the new CEO has to be talented. But he or she also has to be prepared to stay in this [CEO] position a long while – at least 10 to 15 years. That eliminated all of my siblings and also some of those on the Executive Board. Why? Because they are all only a few years younger than me and therefore can't be taken into consideration. Then comes the fact that we prefer to fill positions from within the ranks. When you add these criteria together, you're not left with many candidates. This is how the talks with Mr Altendorf began. For two years we had discussions with many, many people – the family, the Supervisory Board, the management team. These discussions went well. No one left as a result of this decision."

Matthias Altendorf was born on 18 June 1967, and initially had a mechanical apprenticeship at E+H in Maulburg,

2014 Yokogawa European User Meeting July 2-4

The conference will be held in Germany, at the Berlin Hilton. The theme is the Power of Innovation; the agenda will allow users to get the latest on technology trends and Yokogawa developments and to learn how other users have implemented new technologies and solutions.

AKZO Germany will report on their implementation of augmented reality in maintenance. Petronas from Malaysia will be describing the integration of ISA100 F&G detectors in their control system. User presentations and presentations from industry leading experts will round out the conference.

Takashi Nishijima, President and COO, will present the Yokogawa direction, Maurice Wilkins and Dave Emerson will reveal the latest trends and industry technology developments, and Herman van den Berg, President of Yokogawa Europe will share the Yokogawa vision for the European process industries.

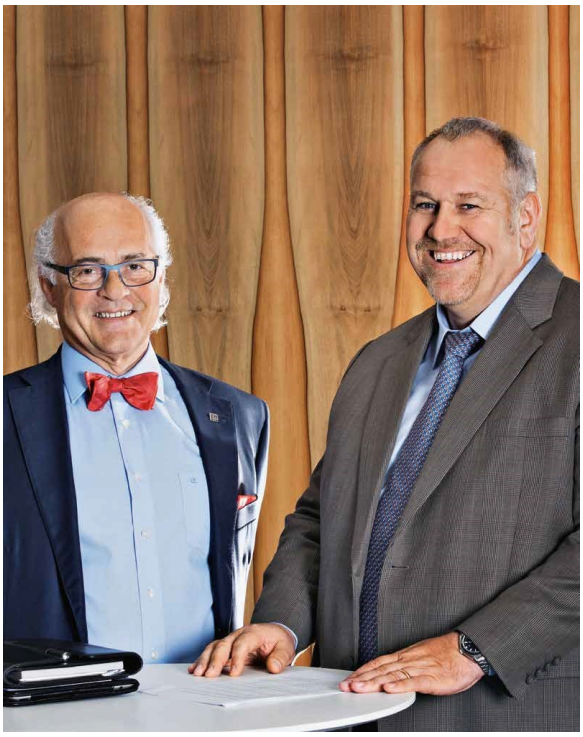
Look out for a report in the July INSIDER.

Endress+Hauser Changes Chiefs

(continued)

after which he studied at various schools, including INSEAD Fontainbleu, IMD Lausanne, London Business School and Stanford University. He rejoined E+H Flowtec in 1991, and in 2005 returned to Maulburg as MD. He is married with one son.

Asked how much leeway he would have as CEO, with Klaus Endress as President of the Supervisory Board, he replied: "As much as I need to lead this company into a successful future, satisfy the interests of the shareholders, customers and employees and carry out my responsibilities as CEO. That can only happen when there is a foundation of trust. Fortunately, we have that. This has been my experience over the last eight years as Managing Director of our production center in Maulburg, Germany. As far as the Group and the Endress family is concerned, I'm certain I haven't always been easy to deal with. I'm strong-willed and an independent mind. On the other hand, this independence is the biggest contribution I can make to the company's success."



Klaus Endress and Matthias Altendorf

Expectations for the future

What does Klaus Endress expect of the next CEO? "That he completes whatever things I was unable to finish – and there are still quite a few! On the one hand, the strategy needs further development. On the other, we have a couple of weak areas that need to be addressed. We're still not good enough in the area of handling customer complaints and in logistics. We also have to be more successful at the lower end of the market with corresponding products and sales channels. Lastly, we want to advance into the laboratory business to make sure that our analysis products make their way into production from there. Although we need to expend great efforts everywhere, the time is right to do it. There is enough trust between our staff and between the Group's different companies." Altendorf adds "We have to improve the areas in which customers perceive us as being less than excellent. Mr Endress mentioned them already. We also have to do a better job of exploiting the opportunities offered by the Internet…. We've always been a leader in implementing digital communications, but the Internet is rapidly accelerating these changes. We have to step up the pace in this area."

Schneider Electric in Saudi Arabia

Schneider Electric has signed a three year agreement with National Grid Saudi Arabia to develop and advanced electricity infrastructure in the country. This will facilitate the exchange of knowledge, experience, best practices and technology between the two organisations, particularly through periodic technical forums.

The companies will also collaborate as partners for decision making on standards and specifications, engineering and design, and maintenance and operation. Schneider will also provide training on mutually agreed focus areas, particularly environmental issues and regulations impacting the industry.

Saudi Arabia is witnessing huge investments in the power transmission and distribution sector. Business Monitor International (BMI) suggests that the US$80bn (excluding nuclear power) 10-year investment plan for electricity infrastructure 2008-2018 is driving significant activity in the energy sector. BMI also predicts an additional 30GW will be added to the current estimated capacity of 51.6GW, by 2020.

Fréderic Abbal at Schneider Electric, said: "As part of this agreement, we will be developing standards and specifications that are specially tailored for the Saudi Arabia market. We will collaborate with Saudi National Electrotechnical Committee (SNEC) on protection, substation design and automation, smart grid, maintenance and asset management."

Endress+Hauser Changes Chiefs!

(continued)

"We're lucky to have the good numbers because they give us enough financial room to develop even further. When Klaus Endress took over as CEO, he had much less leeway. He first had to align and organize a wide range of things in the company and create structures that the Group still benefits from today. It's my job to utilize this financial cushion in a sound manner. For me the good numbers are an incentive to further improve things."

Altendorf playing chess

But what does Matthias want from Klaus Endress, from his Supervisory Board position? "That he remains an open, honest and friendly advisor... And that he does everything in his power to keep the family firmly behind the company. That demands a lot of energy and effort. It's something that I can do only to a limited extent on my own. My job is to keep the company operationally on course. His job is to ensure that we have the family's support. Together, both jobs will help to make Endress+Hauser even more successful."

"That's right… It's as simple as that!" added Klaus Endress.

"I'm a rock'n'roller who listens to classical music - while Mr Endress is a classical enthusiast who listens to rock'n'roll."

Their personal views

What Klaus Endress is most proud of after 19 years as CEO is that "Although I took over an excellent company from my father in 1995, I did it with the aim of making it better. It took a lot of time and energy because it also meant implementing change. It makes me proud when I see how well we have developed in our interaction with one another and how much more efficient we have become. Of course I had good people around me who helped me achieve all these things. My biggest reward is knowing that I've handed over the reins of a company that is in good shape. And if Mr Altendorf will also succeed, then I've really done my job well!"

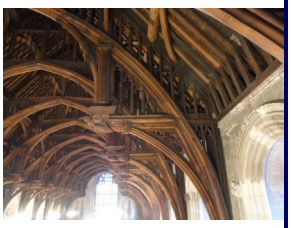
Matthias Altendorf explained the differences that might be evident between their business approaches: "We obviously have different biorhythms…. Mr Endress certainly has more experience in life than I do. We come from different family and social backgrounds. Putting it another way, I'm a rock'n'roller who listens to classical music - while Mr Endress is a classical enthusiast who listens to rock'n'roll. Both of us appreciate a certain aesthetic even if our tastes are different. You can even tell that by the cars we drive."

Maybe the Insider should run a competition to see who can guess which car each of them drives?

Wireless sensors monitor 600 year old roof

Caption Data of Worcester in the UK have installed temperature and humidity sensors, and timber moisture level sensors, in the largest Hammer-beam roof in Northern Europe, on the Westminster Hall, built in 1097, and now one of the principal entrances to the Houses of Parliament in London.

The current roof was built in 1393, using massive oak beams, and weighs around 660 tons, having a span of 18 metres (60 feet). Outside the



wooden roof is protected by a lead covering, weighing a further 176 tons. Physically monitoring this structure is difficult, when it is 30metres (100 feet) up in the air.

Wireless sensors have been deployed to collect data, which is transmitted to the base station, which records the data in the cloud – this is then remotely accessible at all times. A weather station on top of the roof also provides rainfall and temperature data to correlate with internal measurements. There is no wiring and the transmitters are camouflaged.

MCAA Has Biggest Conference Ever!

The organization for automation companies, reps, and distributors

The theme of the 2014 Measurement Control and Automation Association (MCAA) Industry Forum was "Charting Your Course for Success." Keynote speaker Rich Wells (Vice President and Site Director at Dow Chemical) set the tone by focusing on how the renaissance of manufacturing in the USA is promoting optimism. This was warmly received by the largely North American audience. However the same strategies that Rich suggests to improve manufacturing in the USA are currently being employed by other countries to likewise improve their manufacturing capabilities.

Keynoter Rich Wells from Dow

Wells started with the premise that the USA depends on manufacturing, Dow depends on manufacturing, and Dow instrument suppliers depend on manufacturing. We are all in this together. Approximately one-third of USA factories were closed with a subsequent loss of jobs --- to devastating effect. In the last 3 years, approximately 600,000 jobs manufacturing jobs have been added in the USA in large part due to higher inflation in China, the falling US dollar, and the recent availability of abundant supplies of low-cost natural gas. The INSIDER notes that none of these is a result of policy or actions taken.

Rich suggests a multi-faceted strategy to keep companies in the USA include smart trade policies, smart energy policy (all of the above), regulations and taxes that promote investment, and STEM education that promotes skills, ethics and a 'can do' attitude. Dow has taken steps in its local communities to motivate teachers, increase teacher's skills, foster partnerships with industry, and provide more meaningful hands-on experiences for teachers and students. An independent study estimated that strong STEM programs could increase GDP by $1.7 trillion in the USA. The USA must catch up with other countries that have identified competition for industry and investment as a marathon --- not as a sprint. Concerning energy, Rich said that the growth of CO_2 emissions should be separated from economic growth by adopting a global slow-stop-reverse strategy recognizing that emission reductions in the USA will likely result in higher emissions elsewhere.

Al Rivero (Vice President for Sales of Integrated Solutions at Schneider Electric) cited that increasing population will continue to put a strain on the supply of energy. In order to meet our future energy needs, we will have to do more with less. Addressing

Schneider's Al Rivero

energy needs has largely been focused separately on various domains to include building comfort, security, power, process/machine, and white space management. Increased pressure for efficiency, virtually unlimited bandwidth and power, and generational and expectation shifts have been gaining momentum in the last 3-5 years. Enabling technologies such as "Big Data" and contextual event processing are now available. Integrating all of the above will enable companies to unlock operational efficiency while improving reliability.

The title of the session by Robert Stevenson (Seeking Excellence) says it all --- "If

Optical spectroscopy in cheese process control

The Krohne OptiQuad-M 4050 W is a spectroscopic analysis system for the continuous on-line measurement of protein, fat, lactose and total solids in the production of milk-based products including cheese. It uses up to 12 wavelengths (UV/VIS/NIR/IR - from 200 to 4000 nm) and combines up to four optical principles - transmission, scattering, fluorescence and refraction - to monitor and control the product composition.

In Belgium, cheesemaker Fabrelac has installed ten of these units to control their production lines, after a pilot project demonstrated its ability to monitor the quality of the

Fabrelac Mozzarella

raw product: variations in this composition are a constant challenge for anyone working with milk, which as a natural product has large fluctuations in the levels of fats and proteins.

The two firms worked together to make this application possible, by identifying the relevant optical parameters to be monitored for each control requirement. The result has been a success.

MCAA Has Biggest Conference Ever!

(continued)

You Don't Like Change – You Are Going to Hate Extinction". Robert presented a series of examples that illustrated how once-dominant companies such as K-Mart, IBM, Kodak and American Express were adversely affected by change and eventually had to fight for their very survival.

Robert Stevenson

So as to not become complacent, Stevenson suggests that companies relentlessly pursue excellence. He started with the common premises that people hate change and that the people in the audience are part of the problem (while jokingly suggesting that they are not). He opines that moving to the next level involves getting everyone on the same page. However just getting everyone to agree on the #1 thing to concentrate on this year can be difficult. Sharing knowledge by learning from your mistakes (being smart), learning from others' mistakes (being wise), and "what if" analysis are important. Focusing everyone's energy to achieve excellence throughout the organization is the challenge.

Perhaps the most interesting talk with far-reaching implications was, "Solving the Generational Puzzle" presented by Hannah Ubl and Scott Zimmer (Generational Experts at BridgeWorks). The presentation focused on North America, but the underlying challenges apply worldwide as disparate regions of the world continue to migrate closer to each other.

As related to industry, the "upcoming" retirement of experienced workers is now upon us. Finding new people to do the work is complicated because the motivators and values of the replacements are generally different than those in the existing work environment. Below is a summary of some typical traits found among people in various age groups.

- Traditionalists (born prior to 1946) are generally loyal, patriotic, fiscally conservative, and have faith in institutions.
- Baby Boomers (born between 1946 and 1964) are generally idealistic, question authority, optimistic and competitive.
- Generation Xers (born between 1965 and 1979) are generally eclectic, resourceful, skeptical of institutions, highly adaptive, and independent.

Millennials (born between 1980 and 1995) are generally diverse, cyber-literate, realistic, collaborative, and have a sense of purpose.

There are some Traditionalists still in the workforce but Baby Boomers are now retiring at an accelerating rate. We have heard about this for quite a while, so it was not a surprise. In a separate session, Libby Smith (Director of Materials Management at FLUOR) and three Millennials who work for her described how their relationships evolved during a recent innovative project. Effort was required by both Libby (who will be retiring soon) and the Millennials to effectively implement the project in new ways --- combining Libby's experience with the Millennials' confidence and openness to change that evolved into a mutual respect for each other's strengths. Underlying the discussion was a sense that the groups had to work their way through various generational issues.

When all is said and done, Traditionalists, Baby Boomers, Generation Xers, and Millennials are motivated, work and communicate differently. This will become more evident as Baby Boomers attempt to train their replacements as they leave the workforce. To aggravate the problem, day-to-day communication between people in other different groups can be a challenge.

Fast turbine controls replacement

The City of Piqua in Ohio, with 20,000 residents, was experiencing poor reliability with the turbine controls at the municipally owned Piqua Power System plant. Two 40 year old peaking units, a GE Frame 5 and a Westinghouse W191 on units 8 and 9, used the OEM original controls – and suffered frequent unplanned downtime.

Emerson Process Management took on the project to replace these turbine controls with its Ovation turbine control technology. In fact Emerson completed each controls replacement project in just five months, compared with the eight to nine months typical for such projects. The accelerated timetable made it possible for the City of Piqua to return the units to service in time for the upcoming peak winter demand.

"We had an aggressive schedule for completion of this project. Emerson was able to deliver a superior solution in a compressed timeframe, returning our gas turbines to service when we needed them most," said Ed Krieger, Piqua Power System Director.

As part of the turbine controls replacement project at Unit 8, Emerson also performed fuel valve and extended exhaust thermocouple replacements. During the Unit 9 controls retrofit, Emerson also replaced the pressure switch and gauge cabinet, starting diesel engine controls, ignition system, liquid fuel flow divider and vibration system.

Dragon Series Carrier

Ineos brings low cost US gas to Europe

In January 2013, Ineos set up a 15-year shipping agreement with Evergas for the transportation of ethane into Europe from the US Mariner East project – it was the world's first US ethane export contract, and the first project involving seaborne intercontinental ethane transportation. Ineos has also reached an agreement with Enterprise Products for further ethane capacity from their planned export facility on the Texas Gulf coast.

Now the agreement with Evergas has been expanded to cover the construction of six vessels, the first of which are under construction in China. The first shipments will be made in 2015: these 'Dragon Series' multigas carriers will be able to transport LNG, LPG, and other petrochemical gases, including ethylene. They will be twin engine dual fuelled vessels - one fuel will be LNG, which gives high efficiency and low emissions. "The advanced design of these vessels offers very high efficiency and unparalleled flexibility to Ineos, securing the longevity and strong position of their business," said Martin Ackermann, CEO of Evergas.

MCAA Has Biggest Conference Ever! (continued)

The INSIDER believes that this is not solely a North American phenomenon. Consider some of the traits associated with Generation Xers and Millennials.

- Generation Xers are generally media savvy, look for career security, are independent (many were latch-key children who managed their own time), and can skeptically (and perhaps cynically) question what is said and the way it is done. They look for ways to engage with others and often use honesty (unfiltered communication) when engaging.

Millennials are typically technically savvy where speed and technology shapes everything. They are closer to violence (9-11, Columbine…) and have close relationships with their family. Millennials are generally motivated by meaning (not money) and tend to put off marriage and children. They share common experiences such as films, books, electronic devices… Millennials want to matter on "Day One" and often have difficulty connecting their work to making a difference and helping people.

Millennials want to matter on "Day One" and often have difficulty connecting their work to making a difference and helping people.

Given these differences, it should not be surprising that fundamental communication issues can occur between Baby Boomers and each of these younger groups --- and vice versa. It may seem surprising, but there are also communication issues between Generation Xers and Millennials.

As another example, consider the work ethic of these groups:

- Baby Boomers - Time spent in office
- Generation Xers - Work/life balance

Millennials - Work/life integration

These work ethics are in apparent conflict with one another. Millennials often feel that working in the office is not necessary, making it difficult to understand why Baby Boomers need to work long hours in the office. Baby Boomers might view working outside the office as being lazy and goofing off. Leaders should create an environment that focuses on results --- not rules.

The challenge is to overcome the perception that one group may appear to be overly rigid while another group may appear to be lazy and yet another group may appear to be uninterested. All of these groups bring something useful to the table in different ways for different reasons. The INSIDER believes that bridging these gaps will be fundamental to moving your company forward as younger workers enter. The INSIDER further believes that this is not solely a North American issue, although the effect may be more prevalent in North America (for now). In a general sense, the influences on children throughout the world have evolved to be more similar now than they have ever been. Children on all continents can now share technology, communicate and have common experiences with each other via iPhone, iPad, Twitter, YouTube, video games… The world was not nearly as interconnected thirty years ago when you could telephone or telex someone overseas (if you knew someone overseas).

Looking forward, the GenEdge age group (born after 1996) will soon be entering the workforce.

Rockwell Expands Partner Program

The Rockwell Automation PartnerNetwork program has expanded, adding 11 new partner companies who have demonstrated a commitment to helping customers maximize their automation investment. The Rockwell Automation global PartnerNetwork program is comprised of a collaborative team of leading suppliers, system integrators, and machine and equipment builders who work collaboratively to help solve manufacturing and automation challenges by simplifying the supply chain, advancing innovations in project design, and improving collaboration among suppliers.
New PartnerNetwork companies include members from the Encompass Partner program, OEM Partner program and Solution Partner program: LinMot USA Inc.; Stahlin Non-Metallic Enclosures; Rittal GmbH & Co. KG; SICME MOTORI S.R.L.; Bihl+Wiedemann GmbH; Hammond Power Solutions Inc.; General Cable; Arthur G. Russell; ACI-CANEFCO; Allen Global; Qualtech; WCB Ice Cream; Applied Control Engineering; Cybertrol Engineering; Process Solutions.

Polytron is the first designated Rockwell Machinery Safety Solutions Partner.

MCAA Conference and Industry Report

Industry Bookings Growing at 8% Rate

They can multi-task and are concerned about speed --- lightning fast is not fast enough. GenEdgers want solutions right away and blur face-to-face time with face time (on screen). The INSIDER believes that these common experiences and communications will create additional challenges in the next 5-10 years.

Dr. Peter Martin (Vice President of Strategic Ventures at Schneider – Invensys) spoke about the expanding role and value of people in industrial operations. Peter defined the biggest problems our world faces as energy, water, food, material goods, chemicals, minerals, health and the environment. Peter purports that not only are the Millennials the right people at the right time to solve these problems (recall that Millennials want to matter and help others) but that automation and control are enablers to help solve these problems.

Dr. Peter Martin

Peter traced the roles of people starting about 300 years ago in early manufacturing where people did all of the work. Industrialization with machines allowed people with specialized skills to control manufacturing. Automation allowed fewer operators to have a broader view of the operation. Manufacturing evolved to focus on technology such as expert systems, artificial intelligence, fieldbus, intelligent transmitters… During this environment from about 1995 to 2010, engineering departments were downsized because management could not see their value --- even though they may have been the most valuable people in the organization. Focusing on using the latest technology did not sell.

Peter sees the current state of manufacturing as one of empowerment where technology is an enabler --- not an end. In other words, people use technology to solve problems instead of touting the use of the latest and greatest technology. People are developing solutions to real problems that make manufacturing more efficient --- often saving millions of dollars annually.

In hindsight, industry downsized too much and now faces a drain of experience as Baby Boomers retire. Industry needs to attract and retain talented workers to continue to make manufacturing more efficient. The INSIDER believes that industry should message the attractiveness of a career in manufacturing by engaging and communicating with Generation Xers and Millennials in ways that they understand and that resonate with their work ethics and ideals.

Peter concluded that the manufacturing empowerment phase happens in real time --- as does automation. Millennials typically strive for instant gratification and tend to be collaborative. Peter concludes that Millennials are the right people at the right time to solve manufacturing problems. Peter further opined that operating the plant from an HMI could be a Millennials ultimate video game!

Brian Gardner (SalesProcess360) spoke about focusing on processes that can give your sales team a competitive edge by thinking outside of your comfort zone. Most salespeople look at sales in the rearview mirror. Brian suggests that focusing forward on the front end of

Rockwell Ethernet WAP

Rockwell Automation has launched the Allen-Bradley Stratix 5100 wireless access point (WAP) for Ethernet networks. The unit can be configured as a work group bridge: it allows wireless connection into the network by extra workstations, for interrogation by different users. "Automation engineers increasingly need access to more detailed production data and to solve automation network connectivity problems," said Rob Snyder, product manager, Rockwell Automation . "With the Stratix 5100 wireless access point and work group bridge, users can access production data from remote and difficult-to-reach areas. They can share this data between automation systems or feed it into information systems for analysis and improved decision making."

The Stratix 5100 WAP uses Cisco IOS, providing world-class performance and configuration options. In addition, the Stratix 5100 WAP provides premier integration to the Rockwell Automation Integrated Architecture system with detailed network diagnostic information. The Stratix 5100 WAP is currently available, in four versions that meet the wireless regulatory requirements of North America, the European Union, Australia/ New Zealand, and China. All units complement the Allen-Bradley ControlLogix Ethernet/ IP communication modules and Stratix switches.

MCAA Industry Data

(continued)

Brian Gardner-SalesProcess360

Jeff Dietrich– ITR

are expected to increase demand for process instrumentation and automation including water reuse projects in the USA, bio-mass chemical production in various locations, Mexican oil industry development in light of recent energy reform, and unconventional natural gas production and distribution in North America. Keith Larson (Group Publisher at Putman Media) spoke about trends in the adoption of technology. William Lawrence (Assistant Vice President at FM Approvals) spoke about product approval processes for hazardous locations to include harmonization with international standards. Dr. Jeff Dietrich (Senior Analyst at ITR Economics) assessed the USA economy to be in slow but steady growth. Jeff predicts a slight downturn towards the end of 2014 with interest rate hikes in 2015 and beyond.

the sales cycle yields better results. One way to do this is to concentrate on front-end key performance indicators such as sales goals, base business, number of quotes per month, percentage hit rate on quotes, and average order size. Software is available to organize historical information and manage processes to generate new opportunities and sales visits each month --- driving sales activity forward.

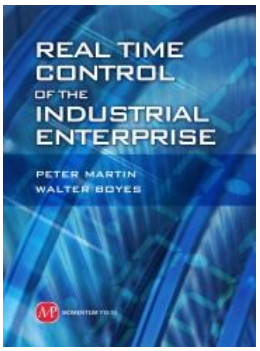
Paul Rasmussen

Rounding out the presentations, Paul Rasmussen (Principal at Global Automation Research) reviewed some industry hotspots that

MCAA Industry Bookings Growing at an 8% Annual Rate

The value of bookings received by member firms participating in the Measurement, Control & Automation Association's quarterly Industry Group Report (IGR) survey totaled an estimated $586.9 million during the first quarter of 2014. This total was 8.0% above the value of orders received during the final quarter of last year, and 8.3% greater than the bookings total recorded during the first three months of 2013. Cumulative bookings during the past twelve months (i.e., between April 2013 and March 2014) totaled an estimated $2.28 billion, a level 4.2% above the total recorded during the previous twelve-month period. Economist Daryl Delano of Delano Data Insights who prepares a quarterly economic newsletter for the MCAA (Measuring Markets), which is in its 23rd year of publication, has noted that the early months of any given year are typically positive for

Martin and Boyes Publish *Real Time Control of the Industrial Enterprise*



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?

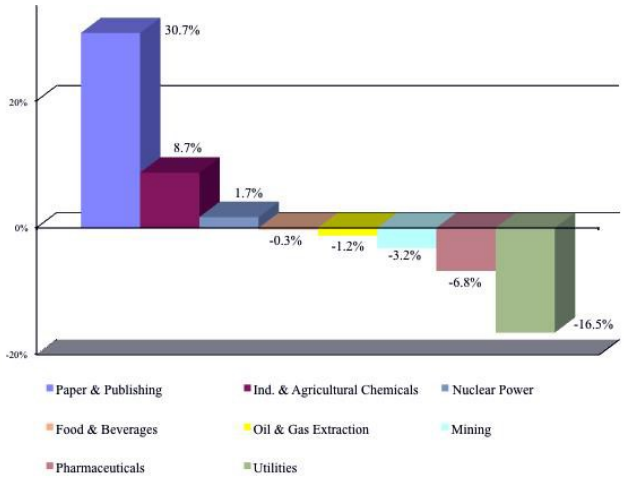
This book explains how better controls can be applied to the supply chain, and to enterprise financial management. It provides managers the insight and tools for achieving a fully integrated automated manufacturing enterprise, from the technical side to the business management side. It is helpful to 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.

MCAA Industry Data

(continued)

bookings. Last year's first-quarter improvement exactly matched this year's increase of 8.0%. However the specific make-up of this year's increase was much different than in 2013. Bookings from manufacturing end-market industries recorded over-the-quarter growth of 13.7% this year, in contrast to the 7.0% decline registered during the comparable period of last year. Orders coming from the various non-manufacturing sectors, on the other hand, recorded sub-par growth of only 3.7% during the first three months of 2014 versus the exceptional 20.3% gain posted during the early months of 2013.

Among the manufacturing sectors of greatest significance to MCAA member firms, bookings received from the *pharmaceutical* sector rose most sharply, up 35.4% over the quarter. Among the non-manufacturing end-market industries, the steepest decline was posted in the value of orders coming from *nuclear power* companies. The see-saw pattern of bookings from this industry sector continued, with a gain of 39.2% over the final two quarters of 2013 being followed by a 28.4% decline during the first quarter of this year. Bookings from *utilities* were little changed in the first quarter, rising 1.7% from the previous quarter's total. The early-2014 bookings trend for both *mining* (+30.1%) and *oil & gas extraction* (+10.2%) were much healthier than the rest of non-manufacturing, however, allowing the sector as a whole to post a small gain.

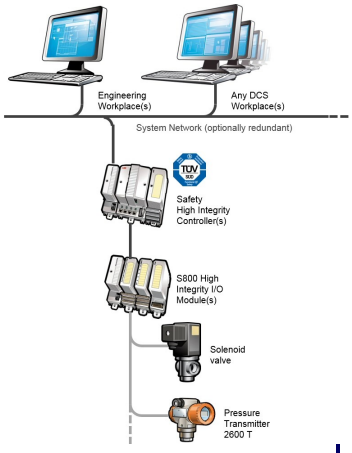


Comparing sector-by-sector bookings for the first quarter of this year with orders received during the first three months of 2013, the recent divergence in trends for manufacturing and non-manufacturing becomes even more apparent. The estimated value of orders coming to MCAA companies from the manufacturing sector as a whole were up 26.9% between the first three months of 2013 and the first quarter of this year, a gain far-outdistancing the 8.3% increase in overall industry bookings. Orders coming from petroleum refiners rose by 58.1% between last year's and this year's first quarters.

Exceptional gains on the order of 25%-35% were also recorded by the paper/publishing, pharmaceutical and industrial & agricultural chemical end-market sectors. Bookings from companies in non-manufacturing market sectors, on the other hand, declined by a cumulative value of 9.2% between the first three months of 2013 and the same period of 2014. Although a solid 13.9% gain was recorded by oil & gas extraction, losses were recorded in the value of orders coming from all of the other important non-manufacturing end-market sectors.

ABB High Integrity Safety System works with any DCS, PLC or HMI

ABB released its High Integrity (HI) safety system for use with any ABB or 3rd party control system, PLC or operator interface. This TÜV certified release gives users the ability to utilize ABB's High Integrity safety system for any SIL 1-3 application and to interface all necessary information to the existing control system or operator



interface.
The offering includes an object oriented engineering environment with SIL certified safety libraries, IEC 61131-03 programming languages and Diagram Editor. Core functions include system security, access control, audit trail, and system diagnostics among others. Connectivity options and protocols include Modbus and OPC. The non-interfering communications protocols enable read access to the safety system data for any type of display.

ABB Tries Virtual User Group

ABB Optimizing Technology Conference!

Years ago, manufacturing companies could obtain information about the latest technology and trends by attending trade shows that required travel and time away from the office. Now they have the option of becoming informed online via whitepapers, videos, and/or conferences. On 4 June 2014, ABB Automation and Power World presented a multi-track online SmartStream digital conference --- Optimizing Technology for the Changing Face of Industry.

The conference included a keynote address plus 20+ audio/slide presentations presented in four concurrent sessions. The presentations include in-depth discussions and examples of best practices, doing more with less, safety and compliance, productivity, asset management, and reliability. Much of the information is geared to major trends and major changes, but the concepts presented will help companies of all sizes develop their vision for the future. The presentations were recorded and can be accessed until July 4th via http://vshow.on24.com/vshow/ABB/?%20l=en#home.

Richard Worzel– Futurist

Millennials may work at night and show up late which Boomers (control freaks) may interpret as laziness. Companies should focus on whether the work is getting done --- not how many hours are spent in the office.

Keynote speaker and futurist Richard Worzel provided insight into how the world is changing and what manufacturers need to do about it --- with the understanding that futurists do not predict or forecast the future but rather to study the forces of change that can help people and companies better react to its sudden twists and turns.

Examples of trends include the large number of people moving out of poverty stressing food supply, shale oil helping manufacturing return to the USA, Brazil shrugging its socialist history to develop then lately becoming complacent, robots being developed to multiply forces and location (such as remote surgery), computing devices becoming much more powerful, and 3-D printing revolutionizing manufacturing (such as design on one continent and build on another) to possibly include body parts. You should be proactive and design the transition so that you understand what is happening when it is happening. Designing your company for the future is a critical part of survival. Have you planned for these developments?

Demographic changes will occur that can be managed to some extent. Boomers are leaving industry and much of their knowledge is not being retained. Millennials are entering the workforce with different traits and values. Millenni-

Emerson Goes Service with MRG Acquisition

Emerson recently acquired Management Resources Group (MRG), provider of asset management services. This reflects asset and management as a growth area, as you will see in *Real Time Control of the Industrial Enterprise." (see the sidebar on page 12)*

Dan Miklovic, now with LNS Research pointed out in a blog post: "The acquisition of MRG is notable in that MRG is a services company, not an EAM software company which is where other automation vendors have invested. This reflects Emerson's focus on the plant floor and its leverage of operational information to improve operational performance and reliability." Miklovic pointed out that Emerson's AMS suite has been deployed globally and Emerson has expanded the scope of process measurements beyond the basics to asset health assessment. MRG will expand Emerson's services capabilities. The lack of employees has driven the asset owners to seek the help of the vendor community. Thishas caused the vendors to slaver over high margin revenue from increased services business.

ABB Tries Virtual User Group

ABB Optimizing Technology Conference– continued

als may work at night and show up late which Boomers (control freaks) may interpret as laziness. Companies should focus on whether the work is getting done --- not how many hours are spent in the office. In addition, your organization will need to adapt to the increasing role of women in entrepreneurial and executive positions. Are you addressing these transitions?

Climate change is here (regardless of politics) but our thinking is often a projection of the past even though it appears more probable that there will more extreme weather events. Going green is the reduction of wastes that are potentially profitable. For example, reducing energy consumption can reduce costs, increase profits, reduce waste, and reduce emissions. What are you doing to address the challenges associated with this trend?

The costs associated with retirement may overwhelm governments. Reducing costs, increasing taxes, cutting services, or borrowing more money are not politically attractive. How can this affect your company?

Chronic underinvestment in infrastructure to rebuild roads, bridges, sewage systems, and dams reaching the end of their useful life will hinder the productive capacity of the USA. Infrastructure issues (including transportation, communication, electricity, water, sewage…) can adversely affect your company. Have you identified the effects of this trend and given thought as to how to address them and their influence on your future? Is foresight allowing you to learn faster than your competitors? Are you preparing for the future so it does not catch you by surprise? Failure to develop a vision makes your company more likely to live the future in the rearview mirror and react poorly to sudden twists and turns. Having a vision of the future improves your chances of navigating the twists and turns successfully.

Million Dollar Gift from ABB funds Interactive Play to Teach Future Engineers about Power Grid, Electricity and Safety

Not satisfied with taking user groups virtual, ABB is taking unique steps to encourage future engineers. ABB and Marbles Kids Museum are launching a one-of-a-kind, play-based power grid exhibit, called Kid Grid, to generate interest in science, technology, engineering and math (STEM) in young children. Kid Grid, located at Marbles Kids

Schneider Electric Introduces Foxboro Compact 200 Series I/O

Schneider Electric has released a new I/O family for its Foxboro Evo process automation system. The Foxboro Compact 200 Series I/O fieldbus modules support more I/O modules in less space, reducing footprint up to 50 percent and offering significant potential for cost savings. Higher-density baseplates and optional cabinets contribute to footprint reduction.

In keeping with the company's commitment to delivering future-proof technology through its Foxboro Evo process automation system, the Compact 200 Series I/O modules are compatible with generations of o controllers, software and

Foxboro's New I/O

infrastructure, and provide the ability to mix and match I/O. They are the latest addition to the Foxboro Evo system's I/O sub-system family, which includes its Intelligent Marshalling universal I/O ; competitive migration plug-and-play modules; intrinsically safe I/O options and the integration of the company's world-leading Triconex safety system.

ABB's Kid Grid

ABB Helps Marbles Kids Museum Teach STEM continued

Museum in Raleigh, N.C., opened June 7th and was funded by a $1 million grant from ABB. Kid Grid playfully introduces young children to electricity and power grid technology through hands-on, minds-on play. Kids explore a pretend power grid and learn how to make smart energy choices. The exhibit promotes early learning in science, technology, engineering and math (STEM) education.

Engineering companies have a vested interest in maintaining an educated workforce and breaking through traditional gender stereotypes. A shortage of American engineering graduates leaves many hi-tech companies struggling to fill jobs.

ABB employees and families collaborated with Team Marbles during initial design, brainstorming creative ways to get kids talking about energy. Engineers and experts from ABB continued to provide guidance and knowledge throughout design and construction to ensure Kid Grid accurately reflects a real power grid. Kid Grid is complete with play versions of cables, control systems, motors, towers and transformers as well as real equipment provided by ABB.

"Although Kid Grid is unique to North Carolina, the concept shouldn't be," said Greg Scheu, CEO of ABB North America. "STEM-focused industries are growing both nationally and internationally. We need to stay competitive as a nation and encourage kids to explore these areas in new and creative ways."

ABB's Greg Scheu

The demand for highly skilled workers in STEM fields is outpacing supply. According to STEM Advantage, a non-profit coalition, STEM-related jobs are anticipated to increase by nearly 17 percent over the next decade. Of the jobs currently filled across the United States, the percentage that will require STEM education is expected to grow to more than 20 percent by 2018.

"We need highly-skilled individuals with a passion for these subject areas," said Scheu. "As the number of job opportunities increases and the industry expands, the U.S. can better position itself in the global marketplace with a skilled workforce."

"It is our hope that by engaging children at a young age, we can inspire them for a lifetime," added Scheu. "At ABB, we think a lot of the discrepancy between the U.S. and other nations lies in the lack of exposure to the industry, and with Kid Grid, we hope to begin fixing that."

Siemens' New Wireless Products

Siemens Industry has introduced two industrial wireless LAN product lines. With these additions Siemens now offers the most complete line of industrial wireless products in the market.

With its reduced footprint the compact Scalance W761-1 RJ45 access point and the Scalance W721-1 RJ45 client module provide an affordable solution for wireless networking from inside a cabinet. Additional cost and space savings are possible when the new access point and client module are paired with Simatic ET 200SP distributed I/O. Both the access point and the client module offer an IP20 degree of protection and up to 150 Mbit/s transmission rates.

Featuring a compact and robust aluminum housing, the Scalance W774-1 RJ45 access point and the Scalance W734-1 RJ45 client module offer transmission rates up to 300 Mbit/s, while still maintaining a small footprint. These modules can be rail or wall mounted, or mounted flush to Siemens Simatic S7-1500 CPU or ET 200MP distributed I/O. These units also offer a slot for the iFeatures Key-Plug and Power-over-Ethernet(PoE).

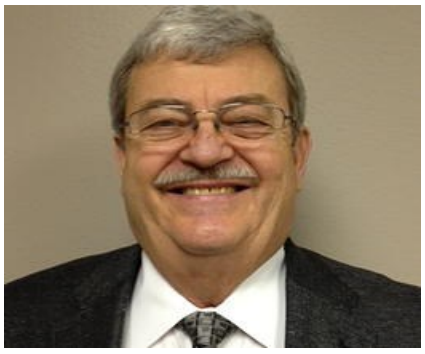
New Flowmeters From Old: The Torus Wedge

The difficulties arising in flow measurement are numerous. We see them every day -- in every industry -- no matter which product is being measured. Non-homogeneous processes, abrasive materials and wide pressure variations can be handled by products that look great on paper but fall apart quickly in the field. These conditions can cause lower production and higher costs to companies concerned with the bottom line. There are new technologies available today that can do away with most of these issues.

> **"Our design goal for the Torus Wedge was to replace the orifice plate in every application."**

The inspiration for these technologies can come from an accidental inspiration. Old technologies can lead to new ones.

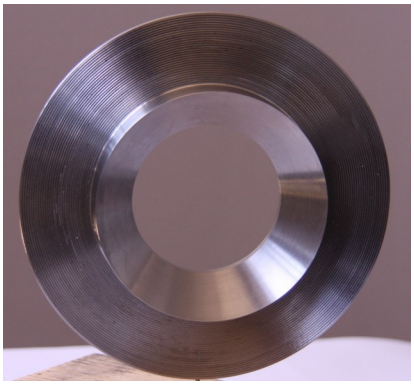
"I was reviewing an ABB Wedge meter," said Dave Bell, owner of Bell Technologies, LLC, "It was my thought that if it will work as a wedge, then why not take it 360° to being a completely circumferential wedge? Would it not work better than a standard Wedge? We designed it and called it a Torus Wedge."



Dave Bell, inventor of the Torus Wedge

"An orifice plate is considered to be the most common primary measurement device," said Bell. "Our design goal for the Torus Wedge was to replace the orifice plate in every application. It has no moving parts that can break or be damaged. The Torus Wedge is engineered to fit any process or industry and has no critical surfaces to maintain or meter alignments required."

Bell's team designed the Torus Wedge to be bi-directionally accurate, self-cleaning, and has one of the highest pressure recovery factors of any of the differential pressure flow devices. A major reason for its unique performance is the ramp design. The Torus Wedge's circumferential ramps focus the energy of the flow stream through the *vena contracta* while simultaneously conditioning the flow and providing an extremely durable wear surface. The ramp design allows the Torus Wedge to be used in the harshest flow environments — such as acids, drilling fluids, superheated steam, and produced water. As an added benefit, permanent pressure loss is greatly reduced compared to turbine meters and orifice plates. Lastly, the unit's unique ramp design results in a self-cleaning device. As has been noted in the literature, process deposits on a primary element typically leads to incorrect measurement and potential financial loss. This is especially true with orifice plates.



The Torus Wedge

"The Torus Wedge allows the user to measure severe

Torus Wedge—Continued

processes more accurately than ever before," Bell said. "Drilling and fracturing fluids, which have heretofore caused most flow meters to fail prematurely, are now easily measurable. Given the significant cost of these fluids, accurate measurement is extremely important."

Bell Technologies was approached by a potential client to produce a high-pressure flow meter to measure 10 lb. drilling mud. The client required a robust meter capable of continuous use for thirty-one days (the time necessary to drill one well) at 5,000 PSI working pressure, and be within 1 percent of span accurate.

Torus Wedge as Custody Transfer Meter

Units were installed and operated for the entire test period. Close examination after the test instruments were removed for analysis revealed that neither the Torus Wedge nor the remote seal faces exhibited any detectable wear. With no sharp edges to wear, the Torus Wedge's life and inspection cycle is much longer than other differential devices, according to Bell.

"This leads to a lower cost of ownership," Bell said. "Inspection and replacement schedules can be greatly reduced and lead to a more efficient use of manpower / money."

Permanent pressure loss is a concern in any differential pressure primary device, but the Torus Wedge cuts the permanent loss in half versus an orifice plate, according to Bell. With less horsepower required to pump the process through the restriction, smaller and less expensive pumping equipment is required.

One key advantage of the flow meter is that its ramp angle is fixed, while the surrounding body may be constructed to fit inside an OFU or between standard flanges and still utilize standard pressure tap spacing. The device is available in a square, compact configuration pre-tapped for P1, P2 and temperature which simplifies installation.

Bell noted, "The unique design of the primary device allows the unit to operate in pressure environments from vacuum through maximum capacity of the client's system design, adding to the unit's appeal in numerous markets. Additionally, the unit will not bend, bow, or warp, even in an over-pressurized condition. This is an important point since modification of an orifice plate geometry can lead to process mis-measurement."

So just how accurate is the Torus Wedge? With calibration, the device can measure better than ½% scale accuracy and is repeatable to .02%. The primary element complies with API 22.2 for liquid and natural gas custody transfer. Testing conducted by CEESI comparing two-, three-, and four-inch Torus Wedges to the same size orifice plates concluded, "… the Torus Wedge element shows much higher discharge coefficients and efficiencies. Higher discharge coefficients and efficiencies are expected as the design of the element allows the fluid to pass through while expending less energy." Bell says that the CEESI third-party report and a copy of the API 22.2 test data are available for the asking.

The Torus Wedge has been used in oil & gas, chemical, municipal and pharmaceutical industries to measure liquids, gases, steam, multi-phase, slurries and drilling fluids. Because the principles of differential pressure measurement apply to all pipe sizes, the Torus Wedge can be built to nearly any specification. Standard sizes range from ½" through 60" diameter.

Bomb in Nogales, Ariz. Power Plant

A bomb was discovered on Wednesday, June 11, on the grounds of the Unisource Electrical Services Valencia plant in Nogales, Ariz. The bomb was described by first responders as a "makeshift device" which blew a hole in a diesel fuel storage tank, causing damage, but the fuel did not ignite. Later, it was announced that the device did not explode. There were no casualties, and no witnesses. The authorities had no suspects at week's end.

In 2013, in Silicon Valley and in Arkansas, deliberate attacks on substations caused power outages and took several months to repair.

The utility security community has feared physical and cyber attacks. One scenariosis a rolling series of both cyber and physical attacks, leading to the destruction of turbines and transformers. It appears that the adversaries, whoever they are, have discovered this scenario and are practicing. The Nogales, Ariz., attack didn't work. Another one might.

It is becoming critical to shift the discussion from compliance to really enhanced safety and security. Is NERC listening, or will congressional action, such as Congressman Henry Waxman (D-Calif.) and former FERC chairman Jon Wellinghoff, are recommending be required?

Rockwell Safety Automation Builder Tool Now in Multiple Languages

Engineers designing machinery safety systems can now more easily collaborate across multiple languages using the Safety Automation Builder software tool from Rockwell Automation.

The software – designed to help engineers save time when designing safety systems – has been downloaded more than 15,000 times since its launch in February 2013. It also was named one of the top 10 most innovative products at last year's SPS Drives show in Germany."

Many manufacturers are using the Safety Automation Builder tool to simplify selection of safety devices and to speed engineering time," said David Reade, business development consultant, safety and sensing, Rockwell Automation. "Now they can achieve the same time savings when working across regions and languages."

"One manufacturer in Italy used the Safety Automation Builder tool when collaborating with a system integrator in Hungary and a machine builder in Germany. The tool automatically translated the original design file into the other languages without changing any of the functional data, cutting engineering time and paperwork."

An engineer who doesn't speak any of the languages offered by SISTEMA can create a bill of materials in his or her local language using the Safety Automation Builder tool. He or she can then import the data into SISTEMA, and generate a final report without needing to translate the information.

The Safety Automation Builder software tool automates the safety-selection process. Users import an

David Reade

image of the machinery they need to safeguard and answer questions using a drop-down menu and help screens to identify and select the necessary safeguards. The software then compiles all product selections, generates a bill of materials, and compiles necessary data to populate IFA's SISTEMA (Safety Integrity Software Tool for Evaluation of Machine Applications). SISTEMA helps evaluate the system in accordance with ISO 13849-1:2008.

The software, which is available as a free download from the Rockwell Automation website, requires that users download and run SISTEMA, which is available in a limited number of languages, so the Safety Automation Builder tool's expanded language functionality allows engineers to more easily generate SISTEMA reports outside of their local language. The new languages include Chinese, Czech, Danish, Dutch, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Romanian, Spanish and Swedish.

Recently, the company has added new safety functions, which are design documents containing detailed information including specific functionality, performance level data, and required input, logic and output components. These documents also include parts lists, electrical drawings, a SISTEMA project file, and verification and validation plans. Users can select the appropriate safety function needed for a particular machine and combine it with the bill of materials to design a complete safety system.

Schneider Against the Counterfeits in Egypt and Africa

Schneider Electric Egypt and North Africa recently launched their version of the "Know the Original" campaign to fight counterfeiting in Egypt. The campaign consisted of a dedicated team from Schneider Electric Egypt and North Africa visiting major districts for electricians to inform them of the dangers of counterfeit products and how they can distinguish and verify original products.

In addition to distributing educational flyers to shop owners in the areas, the Schneider Electric Egypt and North Africa team also explained how to utilize the verification code on all of the company's products. The code can be sent by SMS to Schneider Electric's hotline, which then responds with an SMS in return, assuring the authenticity of the product.

The "Know the Original" campaign also stressed the negative impact of fake products on all market actors in terms of credibility, reliability and image, pointing out that substandard quality is the major risk. Indeed, as copies do not comply with international standards or bypass quality management controls, they expose consumers to serious threats, including health and safety hazards, installation damages or loss and no services, no warranty, and no insurance.

New PlantTriage Software from Expertune-Metso

Version 12 of the ExperTune PlantTriage software performs continuous assessments of the performance of Model Predictive Controls (MPC): these flag issues with Disturbance Variables, Controlled Variables, Manipulated Variables, and the MPC Controller itself. Some of the new measurements provide information on Effective Controller On-time, Controller Health, Time at Constraints, Model Prediction Error, and Oscillation Detection.

These results are presented in a more user-friendly browser interface. The interface is completely integrated with the traditional PlantTriage monitoring of underlying regulatory control loops, allowing users to drill down directly from MPC monitoring to find root causes that may lie outside the MPC structure itself. George Buckbee, General Manager, Automation says, "Our clients wanted a way to improve the performance of the whole control system, from advanced control all the way down to the individual instruments and valves. MPC Monitoring allows us to provide a complete solution, including world-class software and related services, to improve control performance across an entire plant."

Service expertise

Metso acquired US based ExperTune Inc at the beginning of 2013: the combination of ExperTune products and the Metso services portfolio has enhanced the Metso capability to offer solutions targeted to improving process and business performance. "By providing a global network of service experts and improved process control tools, such as Metso ExperTune PlantTriage, clients can expect results like sustainability and profitability" said George Buckbee. The ExperTune PlantTriage software is the foundation of the Metso Control Performance Business Solution. This customized service program pairs the award-winning PlantTriage software with experienced control performance specialists, who collect and analyze real-time performance data, identify the root cause of underperforming loops, make and prioritize corrective action recommendations and report progress. These specialists are trained to recognize the economic value of control improvement so they can focus on the most important issues and report on their impact in business terms.

Expertune's George Buckbee

Neles ball valves from Metso, using their Q-Trim noise attenuating technology, have won a significant repeat order from the owner of a North American pipeline, used to bring crude oil from Canada to US based refineries. Q-Trim technology protects process equipment, by reducing cavitation, noise and related vibration to acceptable levels, and so lowers operating costs in terms of valve spare parts and other accessories. "The savings achieved for this customer with the Metso solution are estimated to amount to millions of dollars per year thanks to the higher efficiencies from our technology," said Kyle Rayhill, Global Business Manager for Neles & Mapag products in Metso. "It really pays off to deal with the noise problem even before it is created. Once noise is created, it is hard to eliminate."

Metso has opened a new service center in eastern Germany, in the Leuna industrial area. The new service center supports the company's strategy to grow its valve and field device service business globally, and strengthens the Metso service capabilities for the major local petrochemical, energy, oil and gas, and pulp and paper companies. Leuna is the site of the biggest chemical complex in Germany, with a Total refinery, BASF and Linde plants, plus DOMO of Belgium producing caprolactam and polyamide granulate and fibre.

United Electric Controls Introduces the One Series Safety Transmitter

United Electric Controls has introduced the One Series Safety Transmitter; the first SIL 2-certified transmitter designed solely for safety system applications. The new One Series Safety Transmitter is available in versions that monitor temperature and pressure.

"Its design provides fewer nuisance trips and greater safety and productivity, an internal high-speed safety relay for the fastest emergency shutdown, greater affordability than adapting a process transmitter for safety applications, and a higher safe failure fraction that simplifies SIL achievement," said Wil Chin, Vice President of Marketing and Business Development, United Electric Controls. "It effectively replaces a gauge, transmitter and a switch to reduce potential leak paths."

The One Series Safety Transmitter provides 4-20 mA NAMUR standard output with exclusive "I Am Working" diagnostics. A high-speed safety relay output is incorporated for local alarm or emergency shutdown. Discrete outputs deliver diagnostics and relay status voting logic input to the safety PLC to determine appropriate action. The transmitter is certified for use in SIL 2 safety instrumented systems, and is capable of SIL 3, per IEC 61508. It has configurable self-diagnostics and achieves a safe failure fraction of 98.8%. Instrument response time is <100 milliseconds.

The transmitter features a dual seal certified secondary pressure barrier for hydrocarbon service and eliminates externally connected secondary seals. It is certified by cUL to ANSI/ISA 12.27.01 and complies with CEC rule 18-072 and NEC 501.17 requirements. The transmitter has worldwide hazardous location approvals for Class I, Divisions 1 & 2 (Zones 1 & 2).

About that GE Bid for Alstom– But Wait, There's More!

Last month, we reported that GE had made a very good and otherwise unremarkable offer for Alstom, the French power and rail company. The Alstom directors had looked favorably on the deal, and had signaled that they were going to accept it.

Then the French Government stepped in and suggested that it was not in France's interest to alienate such an important part of France's energy apparatus. Alstom provides controls and turbines for France's wide-ranging nuclear power program, and the government believed that selling Alstom to a non-French firm like GE would be counter-indicated as far as protecting France's critical infrastructure is concerned.

Where we left off last month, the French Government was soliciting takeover proposals from other firms that were more "French" than GE.

GE's offer was approximately 12.5 billion Euro, including 2.5 billion in cash. GE's offer is an acquisition of the Thermal, Renewables and Grid businesses of Alstom. This would leave Alstom only its train business as a standalone company.

The next chapter in the story begins with Schneider Electric (a French company) declining to bid.

GE has launched a big public relations campaign in France, complete with prime-time television commercials to promote its offer for Alstom.

Germany's Siemens has constructed a bid, in conjunction with Japan's Mitsubishi Heavy Industries, or MHI. This offer, provided to Alstom and the French Government on June 16, would dismantle much of Alstom's businesses. The bidders announced that they were going to create three companies out of Alstom's energy business. Siemens would acquire Alstom's gas turbine business including related service contracts for nearly 4 billion Euro and a guarantee of employment for up to three years in France and Germany.

Mitsubishi would create three joint ventures with Alstom, taking a 40% stake in the Steam and Nuclear business, 20 percent of the grid business and 20 percent of the hydro business.

Forbes' Marcel Michelson comments that the shareholders will see their stakes diminished in return for cash going to the company, not to the shareholders.

According to Michelson the GE bid has been extended to June 23. The company has launched a big public relations campaign in France, complete with prime-time television commercials to promote its offer.

Michelson notes that GE can point to the past acquisition of some Alstom businesses in Belfort, east of France, where the companies hare the same industrial site and the employees eat at the same cafeteria.

It is clear that GE could add some significant value to its offer, without hurting its shareholders' stake at all.

Michelson says, "For Alstom and its board of directors, there is either a straight 12.35 billion Euro deal on the table, or 7 billion Euro in a kind of salami deal that will see the dismantling of activities that do have industrial complimentarity as often the same clients use various kinds of power stations."

Somehow, to the French Government, the bid from the German/Japanese coalition makes Alstom look "more French" but the real issue raised by the government last month of a strong base in nuclear technology will certainly be diluted by the 40 percent stake Mitsubishi plans to take.

Stay tuned! The soap opera continues. More next month!

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

The *INSIDER* regrets:

In the cover story in the May issue, one of the photos was mistakenly identified as Wolfgang Rubrecht, Vice President, Automation Systems, Siemens Industry Inc.

The photo actually IS of Wolfgang I. Rubrecht, who works for Siemens in Atlanta, it's just the wrong one.

Here is the correct photo of Wolfgang Rubrecht:

The *INSIDER* regrets the embarrassing error.

Emerson invests US$20 million in Manila engineering center, services expansion

Emerson Process Management on June 19th officially opened a new engineering and service center in Manila as part of an ongoing commitment to provide regional expertise, support, training and services for its customers. The company is making a US$20 million investment in the Philippines to support sales of its automation technologies and engineering services in Asia Pacific and around the world. Emerson employs approximately 700 people at the facility and expects the headcount to grow to nearly 1,000 by 2017 based on current plans.

"This new facility represents an investment in our growth strategy in Asia and reconfirms our commitment to the Philippines which has a large pool of skilled engineers," said Ed Monser, president and chief operating officer of Emerson Electric. "The opening of the Philippines facility adds to our regional engineering and project execution hubs which already includes facilities in India, Costa Rica, Romania, and the United States to serve our automation customers around the world."

Ed Monser

Emerson's automation technologies help customers safely, reliably and efficiently operate and manage industrial plants, including those for oil and gas, refining, chemicals, power generation, life sciences, food and beverages, and metals and mining. The 10,000-square-meter building, located in Pasig City in Metro Manila, is the new home for Emerson's process solutions and services team which provides engineering, product development and testing, project execution, operations support, customer support, and sales and marketing for these technologies in Asia Pacific and globally.

"Our multi-lingual professional staff is available around the clock, solving customer problems whenever and wherever they arise." —Emerson's Terry Krouth

"In order to provide the engineering resources our customers need our employee headcount has doubled over the past four years and we needed more space to expand," said Terry Krouth, vice president and general manager of Emerson Process Management's Manila team. "The work we do in Manila is key to helping our customers automate their production, processing and distribution facilities and operate and manage for safety, productivity and profitability. Our multi-lingual professional staff is available around the clock, solving customer problems whenever and wherever they arise."

Terry Krouth

Emerson's engineers and project execution teams work closely with customers to implement the company's automation technology solutions, including its DeltaV™ and Ovation™ distributed control systems. Additionally, the team provides lifecycle services and reliability solutions. Emerson's Manila team has successfully implemented some of the world's biggest and most complex automation projects for national and multinational companies.

Emerson's ultrasonic leak detector DNV type approved for marine applications

Emerson Process Management's Rosemount Analytical GDU-Incus ultrasonic leak detector has received Det Norske Veritas (DNV) type approval, suitable for use onboard marine vessels including LNG and LPG carriers, crude oil tankers, and floating production, storage, and offloading (FPSO) units.

"Detecting gas leaks in marine environments is challenging for traditional detectors which require the accumulation of a gas cloud in order to alarm," said Eliot Sizeland, Emerson's

head of sales and marketing for the GDU-Incus. " Since the GDU-Incus responds to the ultrasound produced by the leak, however, its performance is unaffected by these conditions."

The GDU-Incus uses four sensitive acoustic sensors that constantly monitor for ultrasound generated from the release of pressurized gas. The GDU-Incus is suited for monitoring ventilated outdoor applications, and engineered to withstand extreme conditions.

The GDU-Incus does not require calibration or replacement for the life of the instrument. An integrated self-test ensures failsafe operation.

THE WAY I SEE IT
Editorial

Getting Young People Into Engineering and Automation

Yes, I have been beating this particular drum for many more than ten years, but I'm moved to do it again.

The numbers are revealing. Plant operators in the oil sands in Canada are being offered over $200,000 a year salaries. There are lots of empty desks in the automation industry. The major asset owner companies and the major automation companies have decided that dumbing down the duties of operators will make it easier to get new blood. That's the real basis behind the re-design of HMI systems, and the use of expert systems for decision support. I am not sure this is a viable alternative in the long term. It assumes that we will be getting the dregs of this generation and the next, and I don't think we can build a manufacturing renaissance on that.

The question remains how to attract the best and brightest to automation and manufacturing in the first place.

Last month we discussed FIRST Robotics and its development of new young engineers. This month, we took a look at Kid Grid, a joint venture between ABB and Marbles Kids Museum. We also took note of the Honeywell UniSim Design Contest. All of these things, and the things that companies have been doing are good things. But they are all attempts to bandage the system, not fix it.

If we think we can rejuvenate young people's interest in manufacturing and automation by making them bored to death, we should definitely rethink that.

In recent years, for many reasons, funds have consistently been cut from education, from elementary school through college. I regularly get pleas from my alma mater, a part of the formerly great University of California, for money to just help them survive. Research has become the tool of companies, because there is no money for pure research any longer.

In elementary schools, science classes have been cut, in some cases completely, and teachers do not know how to teach science. I've noted before that I talked to a physics professor at Southern Illinois University whose job it was at the time to teach "how to teach science" to elementary school teachers and candidates. He said that in the main, they were afraid of it— and that they believed that science was somehow evil, and so was manufacturing.

We are on the cusp of a manufacturing revolution in North America and Western Europe, whether you call it Advanced Manufacturing, or Manufacturing 4.0. We can surely slide down the wrong side of the cusp if we don't figure out how to start getting teachers to understand how to teach science, math, and engineering. According to my friend who teaches math and physics in a typical city school district in Memphis, the STEM curriculum she is required to use, and most of the other types she's seen, are about as boring and lifeless as you can think. If we think we can rejuvenate young people's interest in manufacturing and automation by making them bored to death, we should definitely rethink that.

Some years ago, I proposed a foundation to develop video games around automation and manufacturing. I called the first game, "Process Hero." Unfortunately, nobody took me up on it. Maybe the time is now. Maybe we should look at all getting together and putting age-appropriate games together for the new generation of children that will give them the experience of how manufacturing works. Maybe we should spend a few million dollars as an industry to make sure we can replace ourselves with the best and the brightest we have.

Comments? Talk to me!
waltboyes@spitzerandboyes.com

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

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

A Conversation With Chet Mroz

by Joy Ward

Chet Mroz is President of Yokogawa USA. He has had a fascinating life, including communicating through radio with members of the royal families in the Middle East. Whether working for Yokogawa, Foxboro or Mobil Oil, Chet Mroz has enjoyed his participation in the automation "fraternity."

Mroz: I was going to be an architect, not an electrical engineer.
That was in high school. My best subject was architectural drawing or mechanical drawing you know, you start from that but we had three years of it at our school and the last one was totally architecture and the teacher I had really thought I should go on with that. He was one of my motivators.

Joy: What was it about the architectural drawing?

Mroz: It's like building something on paper.
Then cartooning was the other part. I did a lot of drawing. The teachers used to come hit me over the back of the head in classes because I was drawing instead of paying attention.

Joy: What caused you to move to engineering Instead?

Mroz: I got interested in amateur radio at 13 and 14 years old, and then I built my own transmitter and receiver. The transmitter I built right from scratch out of a book. The receiver, I got a Heathkit and built that. That got me my novice license. At 14 I got my general license. I operated mostly Morse code, CW they call it, and it introduced me to the whole world of electronics and engineering. That was all vacuum tubes then, and transistors were just starting.
I was communicating. I built my own antennas and experimented with antennas and I built a huge beam. We were on the farm so I had plenty of room to put antennas.
Then I started talking all over the world. That was what got me interested in international activity. Talking to Russians when Russia was closed, talking to Chinese when there was only one or two amateurs there. It was just an exciting period of time.
That got me into engineering and that got me into international activity. When you make all these contacts all over the world you exchange cards with the hams, and usually they write on it. You have interesting conversations. You go back and visit with them many times. There was no internet then. Shortwave radio was really the only thing to bring things together. Amateur radio was really a public service, too. Later on, when I got my bigger transmitter and bigger antennas, I did a lot of phone patching for people who were overseas and wanted to communicate. You used to spend a fortune on telephone calls way back.
I took it all the way through. I had my license in England. I had my license in Jordan. I was the only American licensed in the Middle East.

Then I started talking all over the world. That was what got me interested in international activity. Talking to Russians when Russia was closed, talking to Chinese when there was only one or two amateurs there. It was just an exciting period of time.

Joy: What does that do for you to be involved with all the international contacts?

Mroz: That's why I went to work for an oil company. I figured out one of the best ways to go visiting an international place would be to join an oil company. I co-op'ed with Mobil Oil Corporation in college so I had five years of college for co-op, but my first co-op session was as a radio examiner for the Federal Communications Commission. I had my CW qualifications, my amateur extra, and I had a commercial license so I could fix transmitters. That was when I was 17, 18 years old. So the FCC picked me up for the first co-op. I couldn't get a job anywhere else and I went around Pennsylvania, Ohio, New York and gave the exams to amateurs. That got me traveling pretty early.
The next time I got into Mobil Oil at the Buffalo refinery and that's when I really started getting into the oil business.

Joy: How did you move from Mobil Oil?

Mroz: I did six co-ops with them and they made me a job offer I couldn't refuse so immediately I went to New York City to Central Engineering.
Mobil said, "Here's an airplane ticket. We want you to fly to Germany and be

Mroz (continued)

in Germany and you're going to work on a grass roots new refinery in Germany that's going to supply fuel to NATO." I was just out of college so what am I? 1968, '69?

Joy: So here's this young guy getting this ticket saying off you go to Germany to work on this. How did that feel?

Mroz: Great! That was my ambition! I got out! I got off the farm in Western New York! That's why I DID amateur radio. I was thinking the other day. We didn't have TV when I was a little kid so I'd spend hours on the radio. I had a radio room above our garage. I'd just be there hours in the evening, talking in the early hours of the morning to meet up with people. It was just so captivating. So then the next step was to go out and travel and Mobil gave me that opportunity.

Joy: What's your next step?

Mroz: I made a career decision, and I said, "Because I'm an electronics engineer and they slotted me into this automation specialty, I'm not going to become an oil man." They won't let you in the oil company. And they do try to keep you in your technical ladder quite a bit. So I said, "It's time for me to move on and join a supplier company cause can be- up in then I sup- move company the manage- plier ranks, not into technical." ment That's just when I left Mobil Oil to go to Foxboro. Foxboro was recruiting people at that time from the industry. That was 1973, and you know what happened in 73. The middle-east oil shot up.

Joy: How did that affect your career?

Mroz: In a very, very big way. The Foxboro Company was the major supplier in the Middle East market to a Saudi company. We were bidding the first huge new project in 73 for I think it was, Honeywell and Foxboro. Foxboro had up until then, gotten every single order in Saudi, Arabia, Iran and in the Gulf countries. We lost the order to Honeywell. It shook up the board of directors of Foxboro. The President knew I was already very keen on the Middle East. I was studying it because I was hoping somehow I'd get there. They said, "Chet, you seem to be all interested in the Middle East. We want you to go there."
That was 1974, end of 74 - 75, and I took it over from the UK. I went there first and then l, we had these representatives all over the Middle East.
I lived in Jordan for six years. I'd brought my amateur radio and King Hussein was a very active amateur. He immediately helped me qualify through the security there, their intelligence agency, to get the license. He was very active so we would be on the airways almost every Friday, which is the weekend, or Saturday, and we'd have pileups. The whole world was listening to us. I just couldn't stay on long enough for people to talk. He wasn't on that often but I was on almost every weekend.

Everybody that I met on the radio locally were all royal family members of each of the countries. as soon as I had these kind of connections I was set.

The only people who could have amateur radios were members of the royal families in each country -- Kuwait, Iran, Saudi Arabia and so on. When we were on the lower frequencies, we could talk in short ranges, not long distances. Everybody that I met on the radio locally were all royal family members of each of the countries. as soon as I had these kind of connections I was set. When I came to each of the countries they would host me. I just moved in a whole different world at that time. it really helped our business.
I guess when it was happening I was thankful for it because it meant everything I had ever dreamed of, being overseas, being paid in American dollars, being with a company that I really liked -- Foxboro. Foxboro was a great company. This was the time when Foxboro was really number one in the business. I worked with a lot of smart people there.

Joy: How did you get from where you were at that point to where you are now?

Mroz: I started my consulting career which led to many, many different companies.

Joy: How did you end up with Yokogawa?

Mroz: I did a lot of consulting assignments from 2001 till 2010. It took me to all kinds of companies. I did stuff for Siemens. I did stuff for ABB. I did stuff for Shell Global Solutions. I did stuff for a lot of EPC companies and software companies.
Yokogawa headquarters was using me quite a bit. They decided to buy this laser

Mroz (continued)

analyzer company.
Tony Lee was the head of all of Yokogawa International. He found out that I was available and we connected. He said, "Fine, come on and take it over." That's how I got to Yokogawa.

Joy: You've worked both with corporations and done consulting. What do you like about both sides?

Mroz: Consulting is fascinating because you're dealing with all kinds of different problems, organizational, technology, people issues, and it changes.
I've always wanted to have a leadership position in an automation company.

Joy: What's important about that for you?

Mroz: I wanted to shape the industry in some way. Yokogawa has given me that opportunity.

Joy: So what does that do for you to be at this point in your career where you can be part of this challenge?

Mroz: It's the satisfaction it gives me. It's building something. It's a legacy. I guess you might compare it to what does every president want to aspire to? To be remembered in history, okay? Maybe there will be something written about this.

Joy: Well that's the next question I'm going to ask you. Lets' say we go 200 years into the future. The historians are looking back at this time and they pull up your name. What do you want them to say about you?

Mroz: I guess, that I may not have been a technical grower of the business or contributor, although early in the career I did. I worked and developed key leaders in the business to go forward, keep them passionate about that and enthusiastic about it. It's one of those issues that this is not a traditional discipline of business. It's quite unique. I think it's been really at the forefront of applying so many different technologies. We've got a long way to go yet, too.
I guess as long as historians simply say that in my small way or part I helped build organizations that helped move the whole area of automation forward in a positive direction, and developed quite a few talented people. I guess more than anything I like to see people succeed as a result of how I helped them or encouraged them.

Joy: What does that do for you to see people succeed this way?

Mroz: It just makes me feel good! It's almost spiritual!
It makes me say, "Okay, here's a person that may not have been appreciated by somebody else or didn't succeed in an organization elsewhere. With some guidance and direction and paying attention, they turn into a star or a real performer."

I guess more than anything I like to see people succeed as a result of how I helped them or encouraged them. It just makes me feel good! It's almost spiritual!

That's what management is all about. That's what you've got to do. There's nothing else to do.
You can't take all the credit for these things. You've got to really make sure you leave a team there that can succeed and carry on. That's the important part, especially as you get older.

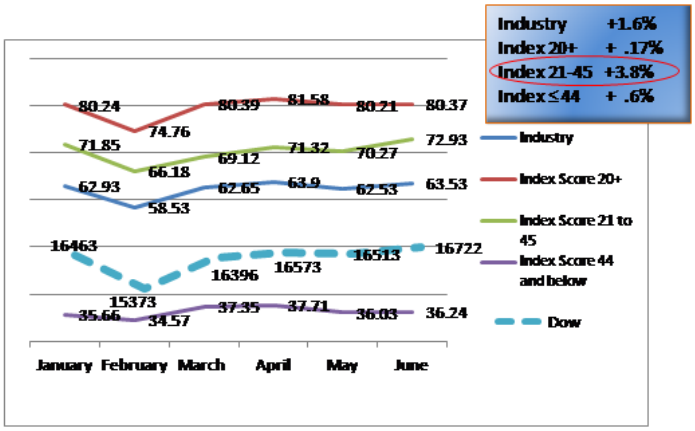
Joy: What's important about that?

Mroz: Your energy level goes down. You can't do all the things you used to do. But you're a lot smarter about what you do.

Joy: And what would be your advice to somebody coming into management at your level?
Mroz: Really pay attention to your people. What motivates them? What they want to do. Reward them, support them, such that they can achieve the goals that the strategy sets, where you set it or that they set themselves.
Just pay attention to the people. Get to know them more. Empathy is important. You've got to feel the same things they feel. You need them. Show them that they're needed. It's almost like being a good parent, isn't it?
I love my work. That's probably another issue. You've really got to love your work. If you don't love it what's the point? It's not the easiest kind of job.
My wife always says, "You know, you could have been a banker, or you could have made a lot of money in trading."
I say, "I know. But I love this kind of business; the people I meet along the way, people I know. It's part of a big fraternity."

Joy: What is it about the guys in this big fraternity that sets them apart?
Mroz: We're all geeks in a way. We like technology and we like to use the technology.

Joy Ward is Qualitative Market Research Practice Lead for Spitzer and Boyes, LLC. She spent more than 25 years doing qualitative research for companies like Hughes Satellite, General Motors, Purina, Waste Management, Abbot Labs and others. A past master of the qualitative research interview, she showcases the capabilities of Spitzer and Boyes' qualitative research department each month with these interviews. She is compiling a profile of automation executives.



INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

By Mary Samuelson

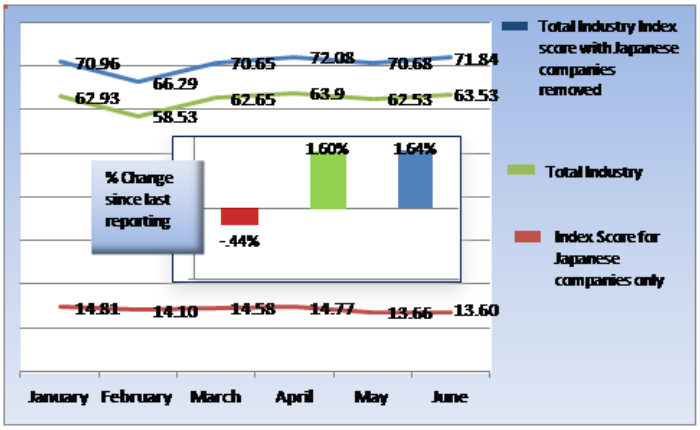
The industry as a whole moved onward and upward slightly this month, increasing 1.6% from the same time last month. Companies with index scores between 21 and 45 posted slightly larger gains (3.8%).

The jump for this group is primarily due to stable stock prices for most, with a few companies in the group posting extremely large stock price increases; ex: FMC up $7 US per share (+13.7%), Mettler-Toledo up 3.7% (an increase of $8.62 per share) and Advantech with an increase of $21 TWO per share (up 10.3%).

Japanese markets, which fell 7.52% between April and May, appear to have stabilized but not increased. The less than 1% decrease observed between May and June was small enough that it did not affect the market overall, but indicates that Japan is still in trouble.

So what is going on in Japan? We reported last month that there could be several reasons for the current situation, including but not limited to new government regulations and an increased sales tax from 5% to 8% that just went into effect.

While Prime Minister Shinzo Abe promised tax cuts and other measures to help boost corporate investment, those cuts are not yet forthcoming and the country continues to struggle to overcome a deflationary slump with wages stagnating while the cost of living increases.



Other factors are at play as well, including Japan's somewhat outdated mindset with regard to citizenship and the difficulty of obtaining work and permanent residency visas, which are extremely difficult to attain since Japan's rules governing these matters are among the strictest in the world.

According to a Bloomberg Businessweek article published on June 5, "… Japan's brand of cultural bigheadedness is proving an obstacle to Prime Minister Shinzo Abe's three-pronged policy to revitalize the country with a mix of radical monetary easing, fiscal stimulus, and pro-growth measures. Abenomics, as these initiatives are known, requires foreign capital and younger overseas workers to offset Japan's graying masses. Last year, Abe pledged to double foreign direct investment to 35 trillion yen ($340 billion) into his country. "Turning our eye to the world beyond Japan, we find a great number of non-Japanese who are brimming with ability," Abe said in an early May keynote speech at an Organisation for Economic Co-operation and Development (OECD) ministerial council meeting in Paris. "I wish to have such people more actively engaged within Japan."

Business Week continues, "Japan is

RSTechEd 2014

As the *INSIDER* goes to press, Rockwell Automation's RSTechEd event is on in Orlando.

While some have suggested that Rockwell Software (that's the RS in the event name) isn't really a core business for Rockwell Automation, and might be available, the event doesn't seem to bear that out.

In his keynote,Frank Kulaszewicz, Senior Vice President, Architecture and Software, discussed how you can adopt Connected Enterprise technologies today. Kulaszewicz is in the running to succeed Keith Nosbusch as Rockwell CEO and by some accounts, the favorite.

Many people forget that Rockwell Automation is a multi-billion dollar manufacturing enterprise itself. Bob Murphy, Vice President, Operations at Rockwell Automation, discussed best practices and lessons learned from Rockwell's own Connected Enterprise journey.

Andrew Stump, Rockwell Automation Design Software Manager, discussed "The Connected Enterprise: The Design Journey." Kyle Reissner, Rockwell Mobility Platform Leader, presented"The Connected Enterprise: The Journey Goes Mobile." Chirayu Shah, Product Manager - Information Software, presented "The Connected Enterprise: The Journey to Big Data."

Expect more in the July issue!

INSIDER Health Watch *continued*

a jus sanguinis (right of blood) country, meaning that even if you were born and bred on the archipelago, speak the local tongue as eloquently as the emperor, and recite long passages from *The Tale of Genji* with ease, you're out of luck if your parents aren't Japanese."
So what does this mean to the industrial automation industry? For companies like Yokogawa, Yaskawa, Horiba, and Hitachi, it means an aging and limited labor pool where many talented potential employees from the global community who could contribute greatly to these companies' (and the economy's) welfare are being excluded. We will continue to monitor and report on changes in the Japanese market as they occur.

Looking to the future, as 2014 annual reports continue to be released, the companies that fall into the different tiers could potentially change due to increases or decreases in annual revenue as well as the other factors used to calculate the index, such as ROI and R&D investment. So far, looking back to January and comparing our original index calculation to the current one, there are a couple of companies who stand out. Gefran S.p.A shows a one year return of 51%, with a stock increase of 28% since January. Hollysys posted an unbelievable 73.7% one year return, with stock increasing in that time frame from $12.48 to $21.45.

About the Health Watch

The *INSIDER* Health Watch(tm) is written by Mary Samuelson, Quantitative Research Practice Lead at Spitzer and Boyes, LLC. Ms. Samuelson was vice president of research at Maritz Research, and 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 David Spitzer (dspitzer@spitzerandboyes.com).

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Send comments to insider@spitzerandboyes.com. We want to hear from you!

Rajabahadur V. Arcot: Automation Market in India— Growth Opportunities

India's new economic development began only about two decades ago and the country's growth story has been impressive since then. According to the recent World Bank Report, India has displaced Japan to emerge as the world's third largest economy in terms of purchasing power parity (PPP). India moved from 10th place 2005 to 3rd place in 2011.

In its pursuit of economic development, India has taken the unique path of moving directly from an agrarian society to a service oriented economy without building a robust industrial edifice. Additionally, India's economy is domestic consumer-demand driven in contrast to the traditional investment-led or export trade driven growth models. Presently, India's economy is supply side constrained and therefore there is a significant need to establish new production facilities and expand & modernize the existing production capacities to produce a broader range of items.

While the manufacturing industry's current share in the country's GDP is less than 15 percent, the State's ***National Manufacturing Policy*** looks at raising its contribution to 25 percent for achieving sustainable economic growth and creating jobs.

The country's demand provides impetus for the growth of process, batch, and discrete industry verticals. Growth-oriented industry verticals include electric power, oil & gas, metals & mining, drugs & pharmaceuticals, automotive and others. An expanding manufacturing industry spurs the growth of the automation market. Availability of electric power is a prerequisite for the development of any country. Although India is presently the world's fifth-largest electricity producer, the country suffers from a current peak demand shortfall of around 10 percent. Most of the power generation comes from coal-fired power plants. The country is already a net importer of coal even though it has world's fourth-largest coal reserves. That makes it incumbent for the coal mining industry also to modernize and grow.

India has emerged as a refinery hub and the country has been exporting petroleum products. With India depending on import of crude oil and gas to meet almost 80 percent of its energy requirements, the export of refined petroleum products helps the country significantly to meet the oil import obligations. Investments to augment the existing refining capacity by about 50 to 60 million metric tons per annum over the next five-year horizon are on the anvil.

Increased infrastructure spending, amounting to almost $1 trillion over the next year years and the expected buoyancy in construction activity will spur the growth of the industries, such as cement and steel. Presently, India is the second largest cement producer in the world and the industry continues to invest in adding additional production capacities. In the next 10 years the steel industry would attract investments of $210 billion to enhance the production capacity to 300 million tons per annum.

India's pharmaceutical industry is technologically strong and self-reliant, and is globally According to industry sources, the pharmaceutical industry's revenues will touch $45 billion by 2020.

India's automotive industry has grown rapidly. The country's Automotive Mission Plan expects the industry to expand its share in DGP to 10 percent.

India's economic growth will be good for automation suppliers. However, only those who understand the country's market nuances & dynamics, understand customer needs, and respond with appropriate strategies will emerge as the ultimate winners.

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.