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Your key to the latest industrial automation and process control information

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

HealthWatch

It REALLY Is Coming From Outside: IBM, Weather.com and the IoT by Walt Boyes

The *INSIDER* has written a lot about the fact that the Internet of Things is bringing pressure to bear on the traditional automation vendors, especially those vendors who are significant sensor manufacturers.

Recently, IBM turned up the pressure even more. IBM has announced that it will invest \$3 billion over the next four years to establish a new Internet of Things (IoT) unit, and that it is building a cloud-based open platform designed to help clients and ecosystem partners build IoT solutions.

IBM's pioneering work in Smarter Planet and Smarter Cities was based on practical applications of IoT in the enterprise and led to a broad set of solutions, ranging from water management to optimizing retail and customer loyalty to alleviating traffic congestion. IBM leads in enterprise IoT implementations that securely combine and analyze data from a wide variety of sources.

With new industry-specific cloud data services and developer tools, IBM says it will build on that expertise to help clients and partners integrate data from an unprecedented number of IoT and traditional sources. These resources will be made available on an open platform to provide manufacturers with the ability to design and produce a new generation of connected devices that are better optimized for the IoT, and to help business leaders across industries create systems that better fuse enterprise and IoT data



Bob Picciano, svp IBM Analytics

to inform decision-making.

"Our knowledge of the world grows with every connected sensor and device, but too often we are not acting on it, even when we know we can ensure a better result," said Bob Picciano, senior vice president, IBM Analytics. "IBM will enable clients and industry partners apply IoT data to build solutions based on an open platform. This is a major focus of investment for IBM because it's a rich and broad-based opportunity where innovation matters."

IBM estimates that 90 percent of all data generated by devices such as smartphones, tablets, connected vehicles and appliances is never analyzed or acted on. As much as 60 percent of this data begins to lose value within milliseconds of being generated. To address this challenge, IBM says it will offer:

- **IBM IoT Cloud Open Platform for Industries:** This platform will provide new analytics services that clients, partners and IBM will use to design and deliver vertical industry IoT solutions. For example, IBM will introduce a cloud-based service that helps insurance companies extract insight from connected vehicles. This will enable new, more dynamic pricing models and the delivery of services that can be highly customized to individual drivers.
- **IBM Bluemix IoT Zone:** New IoT services as part of IBM's Bluemix platform-as-a-service will enable developers to easily integrate IoT data into cloud-based development

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and deployment of IoT apps. According to IBM, developers will be able to enrich existing business applications – such as enterprise asset management, facilities management, and software engineering design tools – by infusing more real-time data and embedded analytics to further automate and optimize mission-critical IoT processes.

- **IBM IoT Ecosystem:** Expansion of its ecosystem of IoT partners – from silicon and device manufacturers to industry-oriented solution providers – such as AT&T, ARM, Semtech and newly announced The Weather Company – to ensure the secure and seamless integration of data services and solutions on IBM's open platform.

IBM's capabilities are illustrated in a new global strategic alliance announced in April with The Weather Company through WSI, its global B2B division. WSI's forecasting system ingests and processes data from thousands of sources, resulting in approximately 2.2 billion unique forecast points worldwide, and averages more than 10 billion forecasts a day on active weather days. The IoT and cloud computing allow for collection of data from more than 100,000 weather sensors and aircraft, millions of smartphones, buildings and even moving vehicles. The two companies will help industries utilize their understanding of weather on business outcomes and take action systemically to optimize those parts of their businesses.

IBM is also focusing on the applications of MQTT (its semi-proprietary protocol that used to be called Message Queue Telemetry Transport) in building automation and specifically with Maximo, IBM's Enterprise Asset Management Suite. MQTT is a very low overhead protocol, which can be used with IBM's Cloud Open Platform and with IBM's IoT Foundation, a set of digital tools first introduced in 2014, that change the Internet of Things (IoT) landscape by enabling a company to build an IoT application in just a few minutes. The cloud service was developed based on the thousands of IoT client engagements IBM has led under the umbrella of its Smarter Planet initiative.

If this sounds like IBM is re-inventing the automation wheel, you may be right. All of the capabilities of MQTT already exist in OPC UA, and industrial and municipal SCADA systems have been providing telemetry transport protocols of a variety of kinds since the early 1970s. IBM suggests that they will, in keeping with their commitment to open standards, provide the standards they come up with to "standards bodies" to adopt.

The IoT's maturation process will therefore be checkered and evolutionary – more like the prolonged development of the Industrial Revolution than the introduction of a new killer app.

What this means is that IBM expects to leverage its huge scale to streamline the sensor-to-cloud-to-asset management systems.

This is a much different way of looking at how data collection and control systems works than the traditional automation vendor viewpoint. It is possible that it is a simpler and better way. IBM believes that it has been able to deliver many examples of the power of Big Data using these enabling tools.

But, wait, you say. In fact, Emerson's

Peter Zornio *did* say, in an op ed piece on



Emerson's Chief Strategic Officer, Peter Zornio

Forbes.com, "The Internet of Things is not new. For the past 25 years — ever since the development of microprocessors and network-based instruments — companies in the process industries such as oil and gas, chemicals,

refining, pharmaceuticals, manufacturing and mining have been avidly exploring how to use sensors to make their processes more reliable, efficient and safe."

He pointed out that the pronouncements (he did NOT specifically mention IBM, although the timing of his rebuttal is indeed interesting) are hype-filled.



Co-author Peter Martin

Zornio points out, as Peter Martin of Schneider and I did in our book, *Real Time Control of the Industrial Enterprise* (see page 23 in this issue), "Those of us who have long labored in this field know that wringing value from the IoT involves significant challenges, which some industries may not overcome. The IoT's maturation process will therefore be checkered and evolutionary – more like the prolonged development of the Industrial Revolution than the introduction of a new killer app."

One of the challenges is security. According to the 2014 IBM Cyber Index, organizations globally deal with an average of 91 million potential security events every year, creating vast volumes of data that need to be stored and analyzed. Cloud-based threat monitoring and analytics provides the simplicity of a hosted deployment, combined with advanced analytics capabilities and the proven expertise from a security services provider needed to moni-

Cover Story: It Really IS Coming From Outside! (continued)

tor today's hybrid IT environments. IBM has established ten global Cyber Security operations centers from which all this data can be monitored and protected.

To be sure, the global automation industry has not been laggard in dealing with cyber and physical security. (See page 6 for the latest from Honeywell). ISA99 has evolved a set of standards for cyber security in process plants that is the most advanced available, and has been used for several years now in industry.

One of the things that IBM is NOT doing is control. IBM wants to do enterprise asset management (they have to make use of Maximo) and information analytics. They do not specifically want to create control systems. The obvious question, since control systems are all essentially software, is when will they realize that there is a short step from gathering buckets of real time information from sensors and systems to actually using that information itself in real time—controlling processes.

But, as *Forbes* contributor, Paul Miller, notes, “IBM faces stiff competition as it tries to stake a claim to the Internet of Things. Other technology companies also recognize the opportunity. Google spent more in a day to buy Nest than IBM is spending in four years on its new unit. Google then spent *more*, throwing half a billion dollars at Dropcam to add connected cameras to Nest’s bevy of connected thermostats and smoke detectors.” Miller points out, exactly as Zornio noted, that the industrial automation companies have been doing it for years.

One of the problems that the traditional automation vendors face is that they have legacy systems out in the field, and their customers, somewhat understandably, expect the legacy systems to continue to work, and be compatible with new systems as they come into the market. This is true both of instrumentation and control systems.

Zornio points out that sensors have become very inexpensive. He used the term “lick-n-stick” that he and I and Honeywell’s David Kaufman made popular in the early 2000s to refer to the new generations of sensors. This is going to make it possible to address dozens of applications that were for a century too expensive to instrument. But this will also, as I have pointed out many times, provide a point of entry into the market for sensor manufacturers who have never been in the traditional industrial instrumentation market before. This will put significant profit pressure on companies and divisions of companies (like Emerson’s Rosemount, ABB, Siemens, Endress+Hauser, and others) who provide a major component of the profit of their companies. The days of high priced high margin sensors are basically over.

And, with the full court press of IBM and its ecosystem partners, the days of proprietary software and data interchange protocols are also numbered. MQTT has been adapted to work just fine with Zigbee over IEEE 802.15.4 networks. As Zigbee and its children like Z-Wave become even more ubiquitous than they already are in building and home automation, we can realistically expect to see devices using those protocols over IPv6 edging their way into more traditional sensing and telemetry niches.

What IBM is doing, expressly, is making data collection, even the collection of gigantic amounts of data, simpler, and at the same time providing analytical tools to make sense of it. As has been pointed out endlessly in the rush to IoT, lots of the data never gets used, and as IBM has pointed out, much real time data loses its value in seconds or minutes after it is collected.

We have known for a couple of years now, since I pointed it out at a Smart Manufacturing Leadership Coalition meeting, that real time data and control can be expressed as workflow data—this can eliminate the bottleneck Peter Martin and I pointed out in our book where real time data must be converted to transactional data to be usable in enterprise business applications, like enterprise asset management. IBM seems uniquely poised to take this realization and further streamline the manufacturing control system structure, by producing the Holy Grail: complete bidirectional data flow from the plant to the enterprise, and from the supply chain to the distribution chain.

This may make it possible to completely flatten the Purdue Manufacturing Model to a sensor layer connected to a plant operations layer and an enterprise asset management layer, with the PlantOps and EAM layers themselves interconnected and further connected to the enterprise.

IBM has pinned all of this on cloud technology. This is both good and bad. IBM’s IoT Foundation is cloud based, and enables a lot of traditional data collection and telemetry functions that have been left to SCADA systems in the past. But, as Zornio pointed out in his op ed piece, “modeling most complex processes or operations requires subject matter experts with a really deep and comprehensive understanding of how everything works, separately and together. Analyzing the resulting data is no easy task either. It’s often both science and art – not unlike a doctor’s interpretation of a patient’s chart and own words. These kinds of interpretive skills do not grow on trees – and certainly not within most companies.”

Zornio continues, “The upshot: Unless they’re willing to outsource the modeling of their operations as well as the collection and interpretation of their data, many industries will be limited

Cover Story: It Really IS Coming From Outside! (continued)

in what they can derive from the IoT by their own in-house skills – at least until applications can be made more sophisticated.”

This may be Zornio’s most important point. What separates the kind of water and weather data IBM has been collecting for clients like Miami-Dade County, Florida, from the kind of process data Emerson collects from their automation customers, is that the data Emerson helps their clients collect data that is absolutely proprietary, and which, if shared with other companies, could be a serious business intelligence failure of the first water.

So, to get process and manufacturing data from disparate sources into the cloud-based analytical engines, such as IBM is proposing, may be somewhere between not easy and bloody impossible, depending on what the company feels is the intelligence sensitivity of the data.

The *INSIDER* has to applaud IBM, and its competitors, for taking on this challenge.

But the challenges facing the traditional automation vendor community are varied. It would be one thing if the only challenge they faced was the rise of low-cost sensors. But there are multiple threats they must face, at the same time. As I have said before, it is a perfect storm. The Millennials, the Cloud, new pervasive sensors, the Internet of Things, Big Data, Analytics, and the breakdown of monolithic software into apps—all coming at vendor companies all at once. Like the tough little fishing boat in the movie, *The Perfect Storm*, vendors can weather one, or two, or three of these trends, but face overwhelm and obsolescence when all of them combine synergistically.

Will IBM lend its huge leverage to helping vendors ride out the perfect storm? It certainly is not out of the question for high technology companies to acquire automation companies. Google has certainly done so, and IBM acquired Maximo in 2006. If, as has been rumored, Schneider Electric has put Foxboro M&I up for sale, it is not out of the question that someone like Google or IBM might be the acquirer.

Don’t forget companies like Maxim Integrated, which has already shaken up the field controller industry with its subsidi-

ary, Bedrock Automation. Bedrock’s management staff is full of Foxboro and Rockwell alumni, but the ideas and their instantiation are from outside the traditional automation vendor space.

So, what should a traditional automation vendor do? The obvious



Bedrock’s unique controller

answers revolve around making products simpler and less expensive; and making connectivity transparent and easy.

Peter Zornio suggests that the IoT stands at the point where the dot.com revolution stood in the late 1990s. I tend to agree, based on the book that Shari Worthington and I wrote in the late 1990s, *eBusiness in Manufacturing*, and how few of the business ideas profiled actually came to fruition. But soon or late, there will be the great killer app that pushes the Internet of Things across the chasm to full, enthusiastic adop-

tion.

It will never be “business as usual” for automation vendors again. It is going to require agility, perseverance and forethought to survive the perfect storm.

It may also require joining IBM’s IoT Ecosystem and using their leverage and technology to modernize and future proof your product lines and your distribution channels.



Walt Boyes is editor of the *Industrial Automation and Process Control INSIDER*. He leverages his more than forty years of experience in factory automation and process control to help companies think strategically about the future of automation and the Internet of Things, Big Data, Analytics and the cloud. He is a Principal at Spitzer and Boyes LLC, which provides consulting and content for automation and high technology companies. He regularly keynotes meetings and moderates webinars, as well as consulting.

Cover Story: Honeywell Gets All Cyber-y

April has been an active month for Honeywell Process Solutions' cyber security business. They announced what they claim is the first digital dashboard designed to proactively monitor, measure and manage cyber security risk for control systems for refineries, power plants and other automated production sites throughout the world that are at increasing risk of cyber attacks, and a new research lab for cyber security.

The Honeywell Industrial Cyber Security Risk Manager is designed to simplify the task of identifying areas of cyber security risk, providing real-time visibility, understanding and decision support required for action. It monitors and measures cyber security risk in multi-vendor industrial environments.

The threat of cyber attacks on industrial targets is a major concern according to a global survey on cyber security conducted by Ipsos Public Affairs in September 2014 on behalf of Honeywell (see sidebar, next page). More than 5,000 adults in 10 countries were surveyed about the threat of cyber attacks on critical industries in their countries. Three quarters of respondents said they were fearful that cyber criminals could hack into and control major sectors and elements of the economy. Two-thirds of those surveyed thought that the oil and gas, chemicals and power industries were particularly vulnerable to cyber attacks.

"Industrial processors are increasingly challenged to understand their cyber security risks," said Jeff Zindel, global business leader Cyber Security, HPS. "And many times, they don't know what to do with the data they are provided or what to do if an incident occurs. Risk Manager changes that. It gives guidance on the potential impact of threats and vulnerabilities as well as possible resolutions, making it easier to manage cyber security risks."

Risk Manager uses advanced technologies that translate complex cyber security indicators into clear measurements and key performance indicators (KPI), and provides essential information through an easy-to-use interface. The intuitive work-

flow allows users to create customized risk notification alerts and perform detailed threat and vulnerability analysis so they can focus on managing risks that are most important for reliable plant operations.

There is little question that manufacturing plants have become

Two-thirds of those surveyed thought that the oil and gas, chemicals and power industries were particularly vulnerable to cyber attacks.

targets for cyber attacks, whether discrete, hybrid, batch or continuous process, but operators and plant management often lack the expertise to properly assess and manage cyber risks.

"With Risk Manager, industrial customers don't need to be cyber security experts," said Zindel. "The easy-to-use interface allows users to prioritize and focus efforts on managing risks that are most important for reliable plant operations, protect-

ing against vulnerabilities and threats such as insecure network and system configurations, rogue devices, intrusion attempts, malware, and the list goes on."

Honeywell has included proprietary cyber protection software for more than 10 years with its leading process automation solutions including Experion process controls, which are used at industrial sites such as refineries, chemical plants, gas processing units, power plants, mines and mills around the world. During that time, the Honeywell Industrial Cyber Security group has delivered more than 1,000 industrial cyber security projects globally.

Risk Manager monitors plant assets within and across all security zones of a plant, including third-party systems. By understanding security zones, Risk Manager is aligned with ISA 62443 and is able to calculate accurate risk scores. Risk Manager's real-time measurement of risk is in line with industry standard risk management methodologies so that risk scores can be used consistently and accurately throughout a corporation's risk and governance efforts. Risk Manager is the latest addition to Honeywell's end-to-end portfolio of professional and managed services for industrial environments.

To go along with Risk Manager, Honeywell also announced the opening of their new Cyber Security Research Laboratory in Duluth, Georgia, an Atlanta suburb.

"We have a successful history of providing cyber defense solutions for our industrial customers and this new cyber lab expands our capabilities," said Zindel. "We will be able to validate new solutions faster in a variety of scenarios and increase our custom-



Jeff Zindel, global business leader for Cyber Security at HPS

Honeywell Gets All Cyber-y (continued)

ers' defenses against the growing threat of cyber attacks."

The new Honeywell Industrial Cyber Security Lab, includes a model of a complete process control network that Honeywell cyber security experts will leverage for proprietary research, hands-on training, and to develop, test and certify industrial cyber security solutions. This lab will help accelerate development time of new cyber protection technologies and speed availability to customers.



The new Honeywell Cyber Security Research Lab in Duluth, Ga.

In addition to its new lab, Honeywell's Industrial Cyber Security group has also added a number of cyber security experts to increase the bench strength of its development and business teams.

"Many of our customers have come to us looking for cyber security solutions to defend their industrial facilities, operations and people from damage, disruption and misuse," said Zindel. "They understand the very real threat that is out there, and they want to be more proactive in guarding against it. Honeywell is building on its leading industrial cyber security expertise and experience with this new research and development lab as well as adding highly-regarded cyber security experts around the globe to support our customers' growing needs."

Honeywell has had a long history of being proactive on cyber security. Shortly after the introduction of the Experion control system, Honeywell had cyber security expert, Eric Byres test and bless the field controllers.

Honeywell was the first to receive the ISASecure approval for the automation components of the Experion system, and was one of the charter members of the ISA Security Compliance Institute. Later, Honeywell used the Tofino edge firewall appliance in the OneWireless ISA100.11a system. It isn't a surprise, therefore, that Honeywell is extremely committed to cyber security for its customers. Honeywell Process Solutions is also leveraging the aerospace and defense capabilities of "Big Honeywell."

As we have discussed many times, the Achilles heel of the Internet of Things is cyber security. With an estimated 60 billion nodes by the next decade, it is simply not possible to expect that there will be a coherent cyber security policy that will protect the entire Internet of Things. Plants and systems will need combinations of procedures, tools, appliances, design and technology to make their control and information systems as hack-proof as possible.

Highlights from Honeywell's Cyber Security Survey

Three quarters of surveyed adults (75 percent) across 10 countries say they are fearful that cyber hackers are carrying out attacks on major industries and sectors of the economy in their countries. Many survey respondents (36 percent) indicate they do not believe that it is possible to stop all the cyber attacks. A similar proportion (36 percent globally) report they don't have faith in their country's ability to keep up with cyber attacks because they feel that governments and organizations are not taking these threats seriously enough, particularly those respondents in India (61 percent), China (48 percent), and Mexico (47 percent).

- Four in ten (40 percent) survey respondents are not sure about how well their government or private industrial sectors are able to defend against cyber hackers, including 10 percent who are not at all confident.
- When asked about the vulnerability of nine critical industry sectors (which have varying degrees of computer and internet security systems in place to guard against cyber hackers), majorities of respondents globally see all sectors as being vulnerable to cyber attacks. Industrial sectors likely to be perceived as vulnerable to such attacks include oil and gas production (64 percent), medical/health care/pharmaceuticals (64 percent), power grid (63 percent), chemicals (61 percent) and aerospace/defense (59 percent).
- Those in India (92%) and Japan (89%) are most worried about cyber attacks, whereas Russian adults (53%) express the lowest level of overall concern.
- Among those who are relatively unconcerned about cyber hackers ("not very fearful" or "not at all fearful"), no single factor stands out as a primary justification. Many (31 percent) say that this is because they believe the risk of something major actually happening is really quite low, particularly in Australia (52 percent). Other reasons for lower levels of concern include:
- Cyber hackers would have already done something big if they actually had these capabilities (25%),
- Computer and Internet security has been able to counter or block almost all of the threats (24%); or, Governments and its intelligence and armed forces will not let this happen (24%).

Internet of Things Impacts Sensor Design for ABB Flowmeters

New ABB flowmeter combines three devices into one, saving costs

ABB announced the U.S. launch of a new generation of swirl and vortex flowmeters that can measure volume, mass and energy flow in a single device.

The new product series replaces the previous TRIO-WIRL devices. Both devices build on the advantages of ABB's unique swirl flow measurement technology to deliver high accuracy, high reliability and ease of installation. Plus, the new devices offer numerous innovations to save operational costs and improve performance.

The new SwirlMaster comes as standard (FSS430) or as an extended version (FSS450). ABB's unique swirl technology enables very short upstream and downstream piping requirements that save installation costs and enable high accuracy flow measurement in tight spaces.

The FSS450 version features functions that are normally found in flow computers such as steam-power calculation -- with and with-

out condensation return -- and the ability to receive signals from other transmitters for density, temperature, and pressure via an analog 4...20 mA input.

The standard FSS430 omits the flow computer algorithms but provides an analog output with HART communication. Both models feature ABB's universal graphical display (HMI), digital outputs -- configurable as pulse, contact and frequency output -- and an integrated temperature sensor that can be added as an option.



ABB's new vortex and swirl flowmeters

The sensor, transmitter and general set-up for both device series is identical for easy commissioning and spare part management.

The new VortexMaster follows the same philosophy with a lower cost entry-level version (FSV430) for simple applications and the extended version (FSV450) that offers the same functions as SwirlMaster FSS450. Both versions are available in a remote design with a cable length of up to 30 meters/100 feet.

While the measurement principle of the SwirlMaster is based on vortex precession, the concentric swirls that create pressure fluctuations in the medium, the VortexMaster works according to the Kármán turbulences generated by a bluff

vortex principle with body.

Both series have a piezo sensor with multiple elements to register the measured signals and additionally the pipe vibrations with which the measurement signal is compensated. The sensor, transmitter and general set-up for both device series is identical for easy commissioning and spare part management.

The new devices have significantly improved sensor response time. The reaction time for a change in flow rate is reduced from about 3-6 s to only about 1 s. At the same time the measuring ranges have been extended (depending on the diameter of the device), in some cases significantly.

In addition, both models are equipped with advanced diagnostic and verification functions. This built-in system monitors device health through regular self-checks on the flow and temperature sensor, and the data storage and electronics. All diagnostic status messages are in accordance with the NAMUR directive NE107.

Both devices also meet further NAMUR requirements like NE21 for electromagnetic compatibility (EMC) or NE43 for current output and contact outputs. This makes both the new VortexMaster and SwirlMaster ideally suited for use in the chemical industry.

Other ideal applications include those industries in which steam flows need to be monitored. For example, in power generation plants these devices have distinct advantages over other flow measuring principles.

The simple and robust design of the devices features no moving mechanical parts and high accuracy with $\pm 0.50\%$ of rate for the SwirlMaster and $\pm 0.65\%$ (liquid) or $\pm 0.9\%$ of rate (gas) for the Vortex Master. Both feature an available explosion-proof design and stainless steel housing option.

The Development of Pan-European PR by Nick Denbow

In recent years a pan-European press release and advertising agency called Mepax has grown into a major industrial interfacing company. They issue a lot of press releases in the industrial sector, which is their target market. Unfortunately their self-presentation tends to override the message from the client a lot of the time, this to the chagrin of editors who inevitably find themselves reading a meaty looking paragraph which claims:

“Mepax is an advertising and PR agency specialising in the industrial sector. Mepax is a leader in its field. Our difference: we are a team of experienced engineers. For each of our clients, we try to highlight the features that make their products and applications innovative or different to the competition.”

Whether this is accurate is debatable, since the number of their ‘experienced engineer composed press releases’ that are selected to make it through to these pages is relatively small. However their client list is impressive, maybe attracted by the costs [presumably reasonable, the website says from Euro150 to 200 per country (ie from \$160)] Mepax charge to send out releases translated into most of the European local languages – or at least the ones the client selects. In a multi-lingual assembly of target countries the requirement for such an agency is certainly present, but whether it is effective is unknown! Mepax have their HQ in France, which is possibly to be expected, since in France there is a stronger emphasis on the local language than anywhere else in Europe, but also claims offices in Germany, Spain, Italy, China, USA and Brazil.

The Mepax client list, for whom they claim to deal with press relations and the purchase of advertising space, is quoted as Amphenol, Arc Informatique, Aventics, Balluff, Baumer, Bonfiglioli, Bosch Rexroth, Brady, Bureau Veritas, CIAT, ContaClip, De Dietrich Process Systems, Eaton, Elmo, Emco, Emerson Industrial Automation, Eplan, eWon, Exlar, Faiveley, HMS Industrial Networks, Huron, Ingersoll Rand, Jungheinrich, Kabelschlepp, Kennametal, Keyence, Kollmorgen, Leroy-Somer, MapleSoft, Mayr, Morgan Advanced Material, Moxa, Nord, Norgren, Oldham, Pepperl+Fuchs, Pilz, Prosoft Technology, Raytek, Redex, Schoeller Allibert, Seco Tools, Sic Marking, Souriau, Southco, Stahl, Tata Steel, Tsubaki Kabelschlepp, Ver-

linde, Vossloh, and Weidmüller. A different listing on another (older) release adds further clients: Arnold Umformtechnik, Beijer, Corus Rail, Faulhaber, IGE+XAO, Isagraf, NKE, Technifor, TI Automotive and Westermo.

Emerson Industrial Automation

The release that triggered this article was sent out by Mepax on behalf of Emerson Industrial Automation (Control Techniques), from the Mepax Spanish office. The taster sentence was intriguing, viz: “Drive users: are you breaking the law? New legislation covering the export of high frequency (HF) drives could result in hefty penalties, including potential prison sentences, for machine builders and system integrators.”

The first five paragraphs gave equally worrying words, talking about Weapons of Mass Destruction, lengthy prison sentences, new EU laws and the rest. It then explained that HF industrial drives, typically used for automotive testing, turbine test benches, or grinding, could also be used in the process of refining nuclear materials! Then, riding to the rescue you might say, Emerson Industrial Automation is quoted as keen to advise OEMs and machine builders which incorporate HF drives in their designs that it is they, not the drives manufacturer, who are responsible for checking for contravention of the relevant legislation. Not much of a rescue so far – although in the next sentence, Emerson says they are keen to help, and will inform its customers if the drives they purchase do appear on the controlled list.

But only in the eighth paragraph, after 440 words, do we get to the point: perhaps too far down the release for the many editors which truncate releases after 150 words, Mepax! The message is that Control Techniques took the step of limiting the frequency of the majority of its drives in anticipation of the new legislation, to avoid the problem. So the Uni-drive M range was limited to 550Hz from its introduction in 2012, and older drive models have been revised to also be lim-

Alfa Laval 2014 results

The Alfa Laval 2014 Annual Report shows the acquisition of Frank Mohn A/S had a significant effect on the Swedish Group.

With order intake up 21% to SEK37Bn (\$4Bn), SEK4Bn (\$430m) was attributable to Framo, meaning the organic growth was around 8%. The operating margin was fractionally up, at 17%, and EBITDA went up by 21%; however the return on capital employed continued its four year decline, falling from 37% in 2010 down to 21% for 2014. The declared company goal for ROCE was previously 25% minimum, but after Frank Mohn the target was reduced to 20% minimum.

Despite a continuing increase in dividend per share, the share price has declined. In the Process Technology division, the order intake was unchanged.

The major geographical areas for the business were USA (16%), China (12%), Korea (12%), and then Scandinavia (8%).

While the comments from Lars Renström, Group President and CEO, highlighted the strong performance and activity in the USA, supplying strong growth industries like fracking and craft beer with heat exchangers, the Marine and Diesel business seemed to achieve the best results because of the Framo pumps and the PurSOx exhaust gas scrubber cleaning systems for ships.

The Development of Pan-European PR and PI (PNO) Favors Profinet

ited to 550 Hz. Their Servo and DC drives are not affected. So by buying these drives, their customers will be safe from WMD investigations.

Another rather vague sentence adds that Control Techniques has specifically developed a range of HF drives to meet the requirements of the civilian applications that are an important part of its business: in other words these drives are restricted by the EU legislation, so you buy them at your own risk/responsibility!

Wireless foot switches

Another release from Mepax, on behalf of steute Schaltgeräte GmbH [who are not quoted on their published customer list] advises that in the first application of the safe wireless protocol called “sWave 2.4 GHz-safe”, developed by steute, wireless foot switches have been successfully applied in an aluminium foundry. This was a useful application of the wireless approach, since hot metal splashes onto the floor were often damaging the cables to the previously used foot switches. Mepax advises that this is a “Misappropriation” for the new technology, which must be a phrase that got lost in the translation.

The steute sWave wireless system uses the physical layer of standard IEEE 802.15.1, which is more typically used by Bluetooth systems.

Conclusion

A good PR writer needs to be more than just an experienced engineer. First he has to write in his own mother tongue. Second he has to understand the magazines and the readers who will read those magazines, and this can mean writing different texts for different journals or uses. Third, being an engineer does help when writing industrially, but you also have to be an experienced PR writer!

tion Management) with the necessary openness for IP communication.



Karsten Schneider, PNO

Karsten Schneider, PI Chairman, commented “Users are won over by the integrated overall concept. For example, the combination of Profisafe and Profinet is an important deciding factor for the automotive industry. This is also reflected in the number of Profisafe nodes installed, which exceeded the 4 million mark this year. In 2014 alone, over 1 million new Profisafe nodes were installed, setting a new record. Outside of the automotive industry, Profisafe has been ensuring safety for the past 15 years in amusement rides, cable cars, passenger transportation, and in particular throughout the machine building sector as well as in many other applications.”

But what about process industry applications?

PI does then talk about Profibus. They add: “Even though it has been on the market for a long time, Profibus continues to report impressive market growth. At the end of 2014, nearly 51 million Profibus devices were installed in industrial plants worldwide, about 3.6 million more than the previous year. This number shows that user confidence in Profibus is as high as ever. Profibus PA is also recording steady growth. Around 9 million PA devices are now installed in the process automation sector, around 800,000 more than in 2013. This sector will receive special attention at PI in the Achema year. Accordingly, PI is currently working closely with users to address the specific requirements of process automation in Profinet.”

So the PI emphasis seems to be on developing Profinet into the process automation industry, possibly even in preference to Profibus.

Profinet gets the main attention from PI

PI (Profibus and Profinet International) is celebrating its 25th Anniversary, and has released the latest node counts for installed systems: over 50 million Profibus and 10 million Profinet devices have been installed. PI say that the growth in numbers of installed Profinet systems has been in line with the forecasts of an ARC market study of trends in Ethernet-based systems, which stated that the growth of Profinet was expected to exceed that of its competitors and the general Industrial Ethernet market. PI claims this is because Profinet is the only standard that combines the strict real-time requirements of high-performance machines (using higher-level systems such as MOM – Manufacturing Opera-



Nick Denbow is European Editor of the Industrial Automation and Process Control INSIDER. He has had a long career in PR and Marketing in the Automation Industry, and blogs regularly at “Nick Denbow’s Industrial Automation Insider Blog” <http://www.nickdenbow.com>

The Great Fieldbus Merger Is Complete!

The merger of the HART Communication Foundation and the Fieldbus Foundation is complete. The new entity is called FieldComm Group, and has been in operation since January 1, 2015, with all activities transitioning to the new model and message over the course of 2015. Ted Masters, formerly CEO of the HART Communication Foundation, is the new CEO of the FieldComm Group. “FieldComm Group is committed to the support and enhancement of FF and HART technologies... under a new roof,” Masters said. “Even though the ‘Foundations’ as an organization go away however the “protocol” brands remain strong and continue to grow as members and users rely on the brands and the value of registered products.”

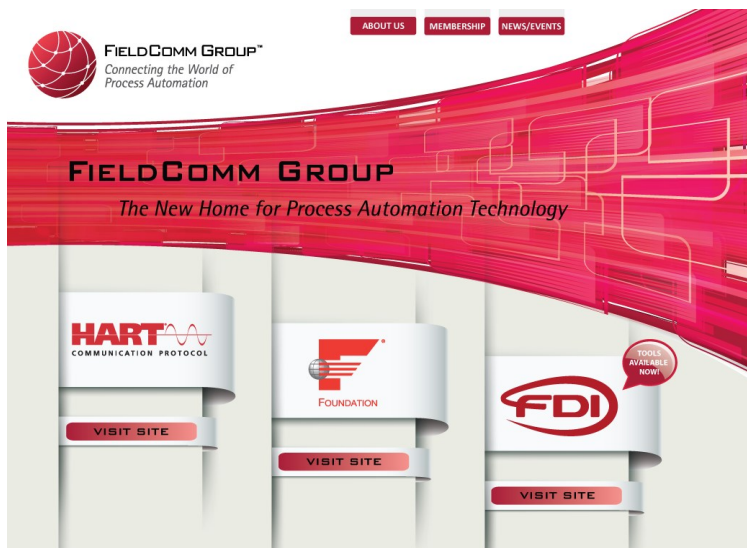


Ted Masters, new CEO

The Achema 2015 show in Germany this June will be the official launch of the new brand and planning is underway with many sponsoring members participating. The former HCF and FF organizations will be moving into a new office location June 30th to complete the process of combining the operation in Aus-

tin. Membership transition is underway and members now have IP for all technologies of the FieldComm Group; thus improving the value of membership and now putting FieldComm Group at greater than 350 members worldwide.

The FieldComm Group promotes open collaboration with industry peers and working with PNO (Profibus and Profinet Users Organization) as co-owners of FDI and also OPC and FDT to manage FDI specifications.. an era of collaboration over competition for the good of the industry



Fieldcommgroup.org provides a landing page for the latest in membership and news until a more comprehensive consolidation of the two websites can occur.

FieldComm Group completed the launch of the new Working Group structure in Europe in February with record number of attendees combining both HART and FF. Namur also presented, and the stage was set for collaboration from key industry organizations. Working groups of FieldComm Group will add FDI in the June meetings in Toronto and are creating a structure for the membership to align around key issues in process automation such as integration, usability and cyber security and to incorporate user needs in these areas across the technologies.

FDI is becoming a reality as tools and host components are now released for sale through the FieldComm Group in March. Orders are already being placed and delivered for device package IDE by device companies indicating members are beginning to design their devices around the FDI technology thus a new era of integration is beginning, not just the combination of the two foundations.

MCAA Meets With Record Attendance

The theme of the 2015 Measurement Control and Automation Association (MCAA) Industry Forum was “Work”. The record attendance was about 20 percent higher than last year with about 80 percent of MCAA member companies represented. Overall, there were a number of favorable comments from participants regarding the increased networking time available in the program.



Dane Maisel, ABB

Keynote speaker Dane Maisel (General Manager at ABB) spoke about trends in the changing world of technology. Historically, technology has typically been performed by the military and/or government and adapted by industry before being incorporated in consumer products. Technologies are now being developed in the opposite direction where industry and the government are using consumer products (or variants thereof).

The expected 4 billion people and perhaps more devices that will be connected by 2020 represent an estimated opportunity of US\$ 4 trillion including more and smarter sensors, software systems, controls, networks, wireless devices, energy harvesting devices, virtual sensors, remote operation systems, security systems, and safety systems. Large amounts of data will be analyzed, used for predictive maintenance, and analyzed to produce actionable information. Virtualization will allow modeling, simulation, testing, self-configuration, self-commissioning, self-documentation, virtual sensors, and remote operation. Security and intellectual property protection will increase safety and safeguard against intellectual property theft, industrial espionage, cyberattack and terrorism.

There will be a dramatic shift in the skills and knowledge necessary to develop these products. Traditional companies will evolve and companies in related fields will enter --- but there will also be surprising non-traditional entrants that have the new required skills such as being able to handle large amounts of data.

Therefore supplier value will no longer intimately be tied to expertise in applications and industry because the new entrants can analyze the data to gain this expertise. For example, Google (certainly not a traditional instrument supplier) acquired a company (Nest) that makes smart thermostats that can learn, “from you and your home, programs itself automatically, and helps save energy when you’re away. And you can control it using your phone, tablet, or laptop. In independent studies, the Nest Thermostat saved an average of 10-12% on heating and 15% on

cooling. Based on typical energy costs, that means it paid for itself in under two years.” Watch out Honeywell... here comes Google.

Market and workforce dynamics will be a challenge due to changes in expectations such as swiping versus typing, self-driving cars that enable driving while texting (instead of the current paradigm of texting while driving), and demographics where talent will exit the workforce causing instrumentation and automation companies to compete with other industries for people with STEM skills.

Doug Hall, CEO of Eureka!Ranch, spoke about innovation engineering where lots of data exists but turning that data into knowledge is critical. Companies want to grow sales and profits infinitely but they must innovate to do so (or be passed by). That is nice, but innovation means change and people hate change... so innovation can be stifled.



Doug Hall, Eureka!Ranch defines innovation as the development of a product/service that is meaningfully unique whereby a customer will pay a higher price. If the product/service is not innovative, it will be a commodity and ultimately compete on price (and likely not be profitable). Therefore, companies need to innovate to avoid closing.

Deming was cited as focusing on fixing the system to increase innovation because he found that 90+ percent of the problem is in the system --- not in the people (labor). Doug suggested using a development system that involves planning, doing, studying and acting. The objective is to perform these functions (especially the first three) quickly and at low cost --- understanding that most of the ideas will fail. Perhaps counter-intuitively, success comes faster if you fail quickly. Further, a low failure rate is often an indication that the ideas are not aggressive enough.

Part of the innovation system is to collaborate. Each employee is typically required to generate a minimum of 12 ideas per year --- despite employee angst about the fear, ego and risk of making suggestions. World class organizations generate about 100 ideas per employee per year. Millennials appear to be well-suited to this approach presuming that the objective is clearly communicated and they are allowed to work without a command and control structure.

MCAA Meets With Record Attendance... continued

Doug suggests a structured innovation system that focuses 85 percent of resources on core (incremental) innovations that involve relatively little risk and the remaining resources on leap innovations that are disruptive and high risk.

Bob Tippee (Editor of the Oil and Gas Journal) addressed the Oil Market in Turmoil reflecting much information that is available in the general media. In general, oil drilling has slowed due to lower prices. USA oil production is expected to start declining in the next few months as production from existing wells fall and are not replaced. However North American tight/unconventional oil such as tar sands and fracking stand at the ready to increase production quickly when prices rise because they are abundant, easy to find, and can be drilled relatively quickly.

Dave Berkus (author, consultant and early stage venture capitalist) spoke about The Fifth Wave: The Power of the Digital Infinite that will affect everyone on the plant. Dave opines that there will be more change in the next 20 years than in the last 2000 years. There is a golden age (wave) of technology in the USA about every 55 years to include:

- 1771 --- Industrial revolution
- 1829 --- Railroads
- 1875 --- Steel
- 1908 --- Mass production (Henry Ford)
- 1971 --- Digital (mini-computer)

The fifth wave has brought us quantum leaps in productivity, constant doubling of price-performance of information technologies, computers that operate 200,000 times faster at one-millionth of the cost, communication speeds 10 million times faster, and microprocessors that operate 1000 times faster than a mainframe.

We are now in the last part of the fifth wave that will result in universal internet access, connected digital devices, big data, and a new industrial revolution. With Moore's Law expected to continue beyond 2030, new pressures on prices/margins and competitors from unexpected places (as Dane Maisel mentioned above) will be a challenge.

It is estimated that there will be approximately 4 billion people connected by 2020 with smart phones that may emerge as a mobile mainframe. Robotics, additive manufacturing (3-D printing), wearable devices, and a shared economy will become more prevalent. There are now companies that rent vacation homes, cars, taxi service, bicycles and office space but do not own any vacation homes, cars, taxis, bicycles or office space respectively. Interestingly, these companies do not own or lease the hard

assets they rent --- they share resources.

The shift from DIY (do it yourself) to DIFM (do it for me) is already in full swing. How many people change the oil in their own car, build things for a hobby, repair things, read a map ...? Jeff opines that we have created digital natives that have never lived without a smartphone, do not know what a Rolodex is, wonder why parents have landlines, do not know how to write in cursive, expect instant answers, and spend more time typing than talking.

The principal driver in the next few years will be universal internet access that will connect digital things, generate big data, and bring on a new industrial revolution. You should be asking yourself if you are keeping up with new technology trends, protecting your systems, data and business, determining if you will be marginalized by the new technology wave, identifying potential new competitors, and positioning yourself for the next wave.

Dr. Jeff Dietrich (Senior Analyst at ITR Economics) assessed that the USA economy is still expanding and will continue to expand through 2018 --- albeit with some ripples and somewhat slower in 2015. Re-shoring and foreign investment have helped this trend. Despite low unemployment statistics, companies have problems finding qualified employees so they should hire, train and re-train to retain them. USA industrial production leading indicators point up approximately 3 percent while global leading indicators point slightly down approximately 1 percent making the USA manufacturing climate somewhat more favorable than others.



Jeff Dietrich, ITR



Jim Cahill, Emerson's Social Media Geek

Rounding out the presentations, Jim Cahill (Emerson Process Management) spoke about strategies and tactics to employ for social media to connect with customers and potential customers. The success of short, focused and helpful communications can be measured and make your company more efficient. Jim McDonald (Jimmy Mac Consulting) spoke about selling and negotiating value. Phillippa Gamse (Websites That Win International) provided some insights into website, social media, and mobile marketing tactics. Roundtable discussions were held on selling, communications, manufacturing, operations and human resources.

By David W. Spitzer, principal, Spitzer and Boyes LLC

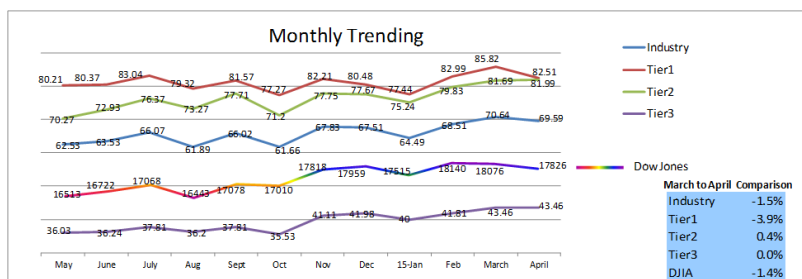
Is This the Calm Before the Storm?

INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

By Mary Samuelson



In March, the industry overall, which showed an uptick of 3.5%, has now reverted slightly with a loss of -1.5% between March and April.

The largest loss (-3.9%) occurred for Tier 1 companies, many of whom are heavily vested in oil and oil related industries.

Tier 2 companies moved up slightly, gaining another 0.3% since March reporting, while the smallest companies in the Index remained stable and level with no change since March.

Overall Industry performance closely mirrored that of the Dow, with both losing ground since last reporting.

There are some notable exceptions to the

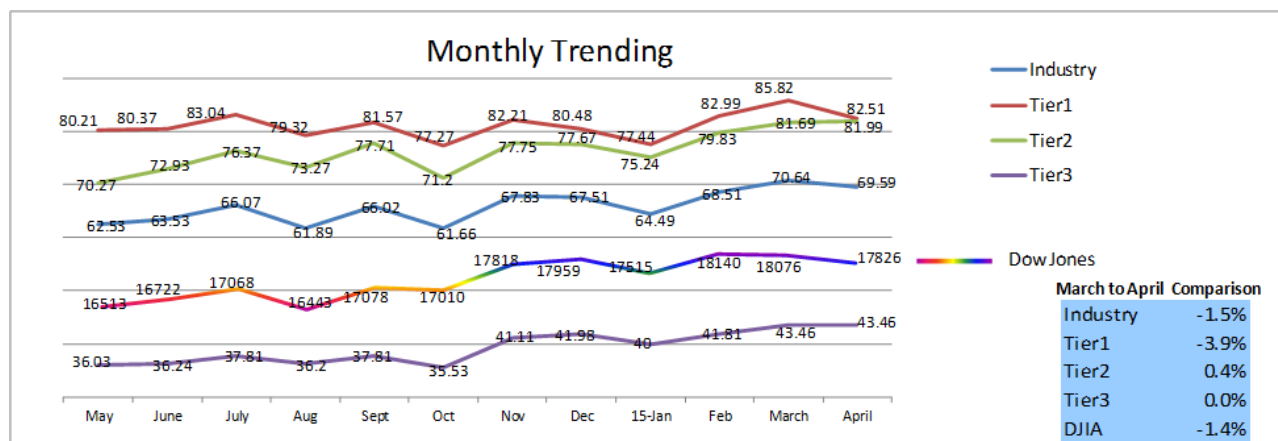
Overall Industry performance closely mirrored that of the Dow, with both losing ground since last reporting.

general pattern, primarily in the Tier 1 group. Chart 2 shows the Tier 1 companies whom, contrary to the overall pic-

ture, showed an increase in stock price over the past month.

Yokogawa's stock price increase was probably driven by the announcement of receipt of two large contracts since the beginning of March. On March 3rd, the company announced the award of a contract for DCS orders for two large combined cycle power plants in Saudi Arabia, a geographic area where Yokogawa is making headway in their power plant control business.

On March 25th, another press release from Yokogawa announced the win of a control system order for PETRONAS's second floating LNG (liquefied natural gas) facility. The Yokogawa statement terms this, "a boost to the company's marine control business" and states that:



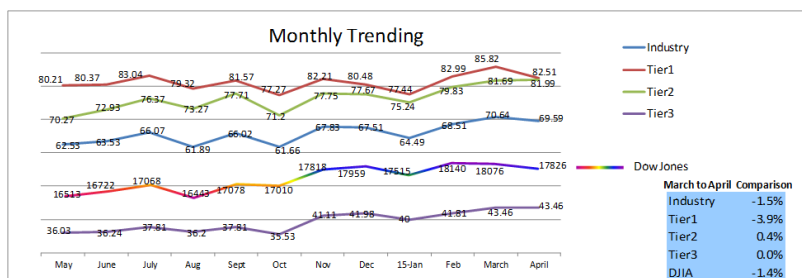
Is This the Calm Before the Storm? (continued)

INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

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Under the terms of the contract, Yokogawa Kontrol (Malaysia) will deliver an integrated control and safety system (ICSS) for the monitoring and control of the liquefaction facilities and storage tanks on PFLNG2. The ICSS will consist of a Yokogawa CENTUM® VP integrated production control system, a Pro-Safe®-RS safety instrumented system, a Plant Resource Manager (PRM®) package, a plant information management system, and other components. Yokogawa Kontrol will also be responsible for engineering and the support of installation, commissioning, and training.

Cameron stock also moved in the opposite direction of most of its peers over the past month, helped by the release of Qtr 1 earnings combined with the recent delivery of the world's first true wet gas compressor, a sub-sea multiphase compressor, to Statoil.

The instrument enables more effective processing of unprocessed wet gas production fluids by eliminating

the need for an upstream separation facility. Sub-sea reported on March 20, that the new compressor is expected to increase the recovery rate of the Gullfaks South Brent reservoir by 22 million barrels of oil equivalent.

Cameron stock also moved in the opposite direction of most of its peers over the past month.

All Tier 2 companies showed an increase for the observation period between March and April, with only a couple of exceptions. MKS stock dropped approximately 8% at one point during the month, but is now up by .5% compared to March. FLIR is down slightly as is Roper Industries, recently renamed Roper Technologies, but both are within 1% of their March numbers.

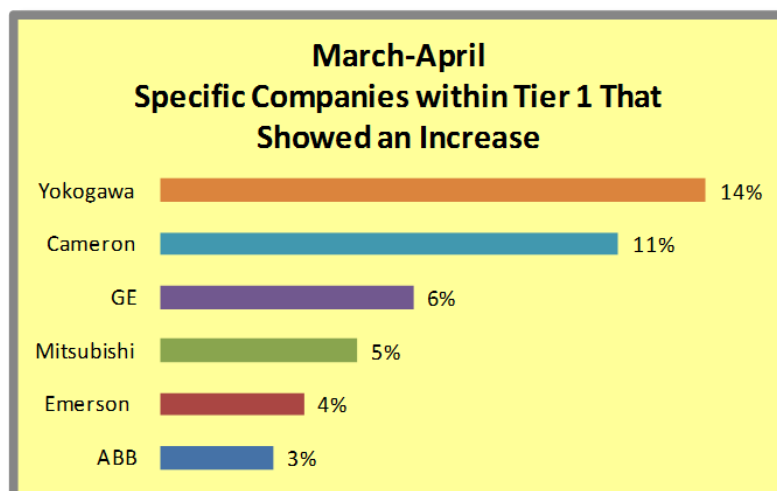
There is even less change in Tier 3 companies, which showed no major gains or losses that would indicate any significant changes or events within that group.

Despite a relative lack of movement for the majority of the industry, index scores for one company in particular stood out as we reviewed performance for the past month.

Hollysys' Index score jumped 26%.

Investigation of the reasons behind the increase revealed two primary reasons for the jump.

First, on April 8 Morgan Stanley analysts Kevin Luo and Frank Xu upgraded the stock from an Equal-weight rating to an Overweight, predicting that the company will outperform current projec-



Is This the Calm Before the Storm? ... continued...

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

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tions due to its close ties to the rail business. They also increased EPS estimates somewhat to reflect new rail business contracts Hollsys had recently been awarded.

Following the Morgan Stanley upgrade, on April 21, Hollsys announced yet another large contract win. The company will

be providing a ground based high-speed rail signaling system and equipment to Xi'an – Chengdu high speed rail line with a price tag of \$10.8 million USD.

Hollsys' management commented: "We are pleased of this contract win to supply the ground-based signaling equipment to Xi-Cheng Line, which enhances our opportunities to win more railway line contracts and helps Hollsys to further penetrate southwest railway market. In the future, Hollsys will continue to work closely with China Railway Corporation and national railway authorities, leveraging its strong R&D capability, effective management, and high-quality products and service, make more contribution to China's railway construction and explore the vast rail and subway opportuni-

ties both in China and abroad, and create value for our shareholders."

The general lack of movement may be

the calm before the storm.

Emerson is rumored to be experiencing a large number of layoffs in Brazil, and as shown earlier, the

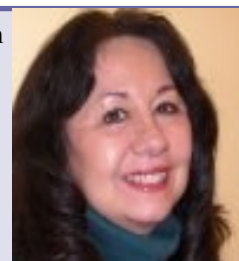
...the larger companies, especially those with close ties to the oil industry, are not performing well, barely holding their own and losing almost 4% in the past month.

larger companies, especially those with close ties to the oil industry, are not performing well, barely holding their own and losing almost 4% in the past month.

It is possible, but hopefully not a correct projection, that the smaller companies are simply slower at showing the negative effects that are already causing pain for their larger counterparts.

We live in interesting times and those times appear to be having a strong effect on the performance of the ACI.

The *INSIDER* Health Watch™ is written by Mary Samuelson, Quantitative Research Practice Lead at Spitzer and Boyes, LLC.



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

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

Spitzer and Boyes, LLC has a complete qualitative and quantitative research capability, focused on the automation industries. For more information, contact Walt Boyes at waltboyes@spitzerandboyes.com.

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

Mary Samuelson is available for speaking engagements about the Health Watch™ and other quantitative marketing issues. Contact Walt Boyes for details at waltboyes@spitzerandboyes.com.

INSIDER Special Report— RAO™ IN THE PHILIPPINES

By Steven Las Marias

Automation Industry Getting “More Fun” in the Philippines

Rockwell Automation highlighted its Connected Enterprise vision and its latest technologies and systems solutions that will help manufacturers take their production processes to the next level at the recent Rockwell Automation On The Move event in Manila, Philippines. Stephen Las Marias reports.

Rockwell Automation kicked off its Rockwell Automation On The Move (RAOTM) series of events this year with RAO™ Manila in the Philippines. Held last February 6 at the Fairmont Hotel in Makati, RAO™ Ma-

floor showcasing products and system solutions from Rockwell Automation and its PartnerNetwork of Strategic Alliance Partners, Encompass Partners, distributors and recognized system integrators, with parallel sessions on technical presentations, demonstra-

RAOTM Manila was attended by over 300 industry executives and engineers – significantly more than was initially expected – reflecting the need of the Philippine manufacturing sector for new technologies and innovations that will help industry players boost their production processes.

tions, hands-on labs and industry forums.



Rockwell Automation On The Move February 6 in Manila, Philippines



The highlight of the event was the Rockwell Automation Connected Enterprise vision. In his keynote speech, Robert Buttermore, Regional Direc-

nila was attended by over 300 industry executives and engineers – significantly more than was initially expected – reflecting the need of the Philippine manufacturing sector for new technologies and innovations that will help industry players boost their production processes.

RAOTM Manila showcased the latest trends in manufacturing, the new developments happening in industrial-automation technology, and the latest in the Rockwell Automation suite of products and services that can help customers meet their business needs. The event featured a large exhibition

tor, Southeast Asia, for Rockwell Automation talked about how the Internet of Things (IoT) concept is becoming a game changer in manufacturing, and how through linking their intelligent assets



Robert Buttermore, Regional Director, Southeast Asia, for Rockwell

PR Electronics expand in North America

PR Electronics has an ambitious growth strategy for the North American region. Having recently expanded their US network of American representatives to six, to now include the New York and Illinois regions, PR has also signed a new distributorship in Canada. This agreement is with WIKA Canada, and gives WIKA exclusive distributorship of the PR electronics products in all of Canada.

Joshua Hall, Regional Sales Director for the Americas for PR suggests that “WIKI is the world leader in pressure, temperature and level measurement instrumentation and addresses the PR Electronics’ key customer industries of oil and gas, chemical manufacturing and water and wastewater, so they are the perfect match for the innovative PR signal conditioning products. WIKI Instruments Ltd. has six sales offices and six service centres throughout Canada.”



WIKI’s Colin Brook

said: “In our industry, it’s a unique opportunity for WIKI Instruments to be able to partner with a great company like PR Electronics. Canadian customers will now benefit from this partnership, with unique instrument solutions for device electronics and measurement.” WIKI believe the agreement enables them to strengthen their portfolio with a proven brand that fits perfectly with the industries within which they operate.

INSIDER Special Report— RAO™ IN THE PHILIPPINES (continued)

By Steven Las Marias

and optimizing industrial operations, manufacturers can become more globally competitive and productive. He also explained why the convergence between information technology (IT) and operations technology (OT) is critical to achieve a collaborative and sustainable plant operation.

"In a Connected Enterprise, you will know whether your production shift running now can meet your target for the day. With this knowledge, you can then make any necessary adjustments to ensure you achieve your target and keep your promises to your customers," Buttermore said. "That is the critical advantage of the Connected Enterprise and the Internet of Things. When you have this insight into your organization's performance, you can work on improving your production efficiency; you have all the data you need in real time to make better decisions faster."

Rockwell Automation has been driving the Connected Enterprise vision for a very long time. "Our vision around the Connected Enterprise is really a continuation of our business. I can look back probably close to 20



Nineveh Neuman, RA vice president global commercial marketing

years when we were already talking about shop-floor-to-top-floor integration with our customers," said Ninveh Neuman, Vice President, Global Commercial Marketing, at Rockwell Automation. "Rockwell Automation really led the way in pushing an open architecture for our customers, saying we did not encourage proprietary networks; rather we recommended deploying Industrial Ethernet/IP networks. We have some sort of ControlNet/DeviceNet-layered communications models as well, but the message is really about open protocols – taking advantage of that integration of data from assets all the way from the device or machine or line or plant to the enterprise."

The "future" is being realized now, as all the technologies to support this Connected Enterprise vision are already available: Ethernet/IP, switch technologies, control technologies, assets, all the way up to Integrated Architecture tools and next-generation software. "So the Connected Enterprise message it is not a deviation from the company's strategy that we have been addressing for a while," said Neuman.

Integration issues

To be able to succeed in today's highly competitive global manufacturing world, plant owners and manufacturers must have a highly integrated plant infrastructure. This approach will enable them to manage their supply chain in real time; to change at a moment's notice from one product to another to meet evolving market needs; to meet security and regulatory requirements to protect their enterprise; and, overall, to get a better return on their asset investments. Manufacturers have to connect their assets.

Despite this, most companies in Asia have not yet reached the point where they feel it is important to own the technologies in their plants. "They still outsource those technology deci-

sions to consultants, to EPCs or to OEMs," said John Watts, Regional Marketing Director, Asia-Pacific, Rockwell Automation. "That is not necessarily a bad choice because these companies provide a lot of insight and value. But by executing this strategy, these manufacturers are going to have a multitude of different, disconnected systems, with different versions of technology." According to Watts, the outsourcing decision is risky because the manufacturer loses control over the technology in their plant. "They end up with too many differ-



John Watts, RA regional marketing director Asia Pacific

Eaton's New Variable Speed Starter Wins Industriepreis 2015

The German Industriepreis 2015 panel of professors, scientists, industry experts and specialist journalists recognized that Eaton's PowerXL DE1 VSS fills a gap in the market, for a new device class for motor control that will be particularly useful for helping to increase energy efficiency in applications where fixed-speed starters were previously used. So the Eaton PowerXL DE1 VSS was awarded the Industriepreis 2015 in the Electrical Engineering category.

The PowerXL DE1 VSS provides machine and system builders with a cost-efficient and highly reliable new device class for motor control that will be particularly useful for helping them to increase energy efficiency in applications where fixed-speed starters were previously used. The PowerXL DE1 VSS fills a gap in the market, and this is recognized by the Industriepreis award, which recognizes ideas and products which are innovative, production-ready and modern, as well as that help users be more profitable and efficient.

The VSSs have been designed for 'out of the box' operation without the need for adjustments or parameter setting. A universal configuration module that allows the most important parameters to be set using only a screwdriver - no keyboard, software or manual are needed. This means they require up to 80% less commissioning time and cost up to 70% less to install than conventional VSDs.

INSIDER Special Report— RAO TM IN THE PHILIPPINES (continued)

By Steven Las Marias

ent systems, protocols, and ways to present data so that it becomes impossible to understand what is going on in their production processes,” he said.

To address this issue, we need to educate these manufacturers, and the cultural shift has to

take place throughout the industry. “Through publications like yours, through events like RAO TM, through our own domain experts that spend time talking to customers about their architectures and about technology directions, the message is being received very well. And we are starting to see the mental shift we had hoped for,” Watts said.

Focus on the Philippines

Along with Indonesia, Malaysia, Singapore, Thailand, and Vietnam, the Philippines is one of the six focus countries for Rockwell Automation in Southeast Asia. And for Mike Matabuena, Country Manager, Philippines, for Rockwell Automation, the time is now to invest in the country. “The environment right now is the most vibrant, most investor-friendly period in the country. We have witnessed GDP growth for the past few years at its all-time highest,” he said.

Indeed, over the past few years, the Philippines has once again become a very attractive market for investments in Southeast Asia. Through good governance and a continued battle against corruption, the current Philippine government has restored investor confidence in the country. These developments, plus the rising population and growing middle class, are driving global investments in the country. In fact, for 2014, the Philippines’ economy grew by 6.1% — one

of the highest in Southeast Asia — overtaking that of Thailand (0.7%), Indonesia (5.1%), Malaysia (6%), and Singapore (2.9%).

“I have never been more upbeat about the Philippines. Although I was based in Singapore for the past 15 years, I have never been more positive about the economic climate and the business environment in this country. It really speaks volumes about what the government is doing successfully.”

“I have never been more upbeat

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pore for the past 15 years, I have never been more positive about the economic climate and the business environment in this country. It really speaks volumes about what the government is doing successfully,” said Matabuena.

But how does this affect automation vendors? Matabuena said that most industries in the Philippines now are mature when it comes to automation. With most plants operating since the World War II era, Matabuena said now is the time for these manufacturers and plant owners to modernize their production processes and upgrade to more advanced systems. This is one of the most important growth opportunities for Rockwell Automation in the country: the upgrading of these legacy automation systems. “With renewed investor confidence, we are also seeing new investments in heavy industries such as cement and mining,” said Matabuena.

The rising middle class and massive buying power of the Filipinos are being viewed as opportunities by most global food and beverage companies, who are now investing heavily in expanding their operations in the Philippines — including line expansions, introducing new products, and upgrading existing lines to improve production efficiencies. “That actually presents significant opportunities for us,” said Matabuena. “The migration from the existing installed base of aging equipment, as

e-Learning course on Functional Safety from Krohne Academy

The Krohne Academy was created in 2009 as a vendor neutral event, the main topics covered in the 2011 UK academy were process measurement and control, hazardous areas and functional safety (SIL) and custody transfer systems. Main supporters have been Krohne, Samson, Phoenix Contact and TÜV Nord, with other companies.

Now the Krohne Academy has produced an e-Learning website on Functional Safety and Safety-Integrity-Levels (SIL). The content offers ten learning modules showing the use of IEC 61508/61511 in safety-related systems. The eLearning course can be accessed immediately at www.sil-training.com.

All the content presented is product-neutral and commercial-free, based on the SIL seminar series that has been conducted as a collaboration between the companies as part of the Krohne Academy.

The modules build upon one another. Following “Safety in the Process Industry” there are hazard and risk assessment, safety requirements specification, aspects of engineering and design, generic data, requirements for sensor technology and final elements, and SIL verification. At the end of each module the participant has the opportunity to check the knowledge gained by completing a short questionnaire.

Upon successful completion of a module, a certificate is issued. Once the participant has passed all ten modules, the participant gets a global course certificate. Participation on the eLearning course on functional safety is free of charge.

INSIDER Special Report— RAO™ IN THE PHILIPPINES (continued)

By Steven Las Marias

well as new line expansions, will be critical drivers for our growth.”

Buttermore agrees. “This fits in very well with all the discussions we have had, both in Malaysia and Indonesia,” he said. “When you look at our overall strategy for Southeast Asia – F&B, auto and tire, oil and gas, and mining/cement – those are our core focus industries. As you go from country to country, there are two or three of these industries that are strong; and for some countries, it is all four sectors. Here in the Philippines, we are focused on F&B, consumer, and, ultimately, the mining aggregate and cement industries.”

Addressing technology and talent challenges

In the Philippines, the key challenges are always related to human capital and technology issues. A company expanding its manufacturing operations in this country will often find a dearth of good engineering talent to hire.

Then, when it comes to technology, some multinational plants are pretty advanced regarding their manufacturing processes; however, the majority of the local manufacturers either have little automation or no control systems at all.

“The human capital issues are critical,” said Buttermore. “Developing talent – whether it is a technician or operator on the shop floor, through engineering, through IT – that is a challenge here. Another big challenge here is technology. It is a big challenge for the whole Filipino manufacturing industry, because many of the plants were built in World War II, and a lot of the electromechanical and electrical systems are still from that time. So they have a lot of equipment that is already 60 years old and in need of upgrading.”

These issues greatly impact the Philippine manufacturers’ capabilities to accelerate their exports and become more competitive in the

global market.

All of this spells opportunity for Rockwell Automation. The company recently helped Philippine pulp company, Newtech Pulp, Inc. to upgrade its legacy systems. “We installed a system to help them start to automate their process, while refurbishing some of their mechanical equipment,” said Buttermore. “Updating their technology was so critical because they were way behind. There is a great opportunity for Philippine manufacturers and companies like ourselves because we can help them with that. In the F&B industry, there is a little bit more sophistication; but even there, we still see a lot of old plants. We recently had a great discussion with a major beverage company, and according to them, they have very limited automation, limited network connections, and their machines are worn out. Their primary focus is how to start to implement technology to improve reliability – which is exactly our expertise.”

“With our experience and competency, we will connect their shop floor all the way to the boardroom – by doing so, this will differentiate them in this competitive industry,” said Matabuena. “Regarding the human capital side, we can help as well because we offer more than just products and engineered solutions; we can actually help them on their journey – whether through training, competency development, or working together with our partners for further services. Beyond our own engineers, we have system integrators, and solution partners that can help them out.”

Covering 7,107 islands

The Philippines is an archipelago consisting of more than 7,000 islands. Beyond each of the country’s three major island groups, smaller islands are also major markets, making it difficult for any company to succeed in servicing customers dispersed across this fragmented geography.

By implementing its limited distribution model, Rockwell Automation has signed PT Cerna Corporation as its sole authorized distributor

SPS – Industrial Automation Fair Guangzhou

The 2015 fair was held from 9-11 March, attracting 39,000 visitors, including 138 Chinese and International delegations looking for automation equipment and system support. With 483 exhibitors, 310 of these were local Chinese automation system and product suppliers, so several of the overseas visitors were there looking for new suppliers to provide product into Europe or elsewhere. But the Chinese visitors were seeking product and systems for use in their plants. They also attended a choice of seminar streams, which were on the main topics of Sensors and Measurement; Machine Vision; and Motion Control; another more general lecture stream covered other automation topics.

So there were 173 stands for foreign automation equipment suppliers. The list included Siemens, Phoenix Contact, Turck, Balluff, Murrelektronik, Rittal, Sanyo Denki, Elco, P+F, Beckhoff, Lti, Wago, Banner, Moons, Nachi, Yaskawa, Epson, GSK, Estun Robotics, Cognex. The strong impression here is that many names show a major emphasis from German suppliers. Reading all the stand names does not improve the situation: one UK representative, Solartron Metrology, PR Electronics from Denmark, and Red Lion from the USA: the other notables were Harting, Kobold, ifm, Pilz, Festo, Schmersal, Sick.

INSIDER Special Report— RAOTM IN THE PHILIPPINES (continued); and Phoenix Contact Expands in South East Asia

By Steven Las Marias

in the Philippines. With almost 20 branches across the Philippines, PT Cerna gives Rockwell Automation the right reach and amplification in the market.

Buttermore said PT Cerna has the presence due to its pre-sales and post-sales resources that are located close to the key customers; they are even adding a sales resource now in Davao, which is located in the southern island of Mindanao. "That's the advantage they bring to us because Rockwell Automation cannot have the same resources in all the primary markets. Location of resources is the key advantage their distribution gives us. They have the footprint already, they have the resources already; their market presence and their relationships give us a huge advantage to add value, grow and support our customers," said Buttermore.

Primary Parts Program

Rockwell Automation is one of the top three global manufacturers of variable frequency drives. But one issue that the company faces is the availability of products in Southeast Asia. "I bet most of you do not know that we offer low-voltage drives," Buttermore jokingly told his Filipino audience at RAOTM Manila, before announcing the Primary Parts Program. "We know we have a great product line. There is no doubt. But we have not been able to be as successful as we want here because we have not had the availability of primary parts. So we have just solved this problem. We have just made a multi-million dollar investment; we now have up to 350 horsepower drives in stock that you can have delivered today," said Buttermore.

Rockwell Automation has signed PT Cerna Corporation as its sole authorized distributor in the Philippines.

The Primary Parts Program will be implemented across Southeast Asia. "We are placing inventory with our distributors to service the local market, so that anyone can have any drive whenever they need it," said Buttermore.

"Today, we are announcing the launch of this program in the Philippines this quarter. It is great for our distributor and it is great for our customers. We will be proactive to make sure customers get exactly what they need when they need it."

A unique facet of the Primary Parts Program is that not only can Rockwell Automation now help our customers if one of our drives fail; but even if a customer has a competitor's drive that fails, they can now get a replacement drive from Rockwell Automation.

"That is one of the key messages that we are driving with this program. We are not just interested in new orders; we will look after our customers whenever a drive fails. We now have the inventory replacement located nearby for fast delivery," concluded Buttermore.

Phoenix Contact Expands Presence in Southeast Asia

Phoenix Contact opened a bigger facility in Singapore as part of its plans to strengthen its focus on Southeast Asia. By Stephen Las Marias.

Headquartered in Blomberg, Germany, Phoenix Contact is one of the global market leaders in connection, interface and automation technologies. The company was founded in 1923 and has around 14,000 employees worldwide. It has

SAM-1™ Smart Aqua Meter - Android App Now Available for Download from the Google Play App Store!



The Sensorex SAM-1™ Smart Aqua Meter has been a popular product offering

for both laboratory and field process monitoring professionals using Apple iPhones and iPads for the past year. Now global Android end users with smartphones and tablets (Android version 4.0 and up) can also measure and record pH, ORP, Conductivity and Temperature values by transforming their smart device into a powerful hand-held water quality meter. SAM-1™ delivers accurate analytical measurements in the lab or field for use in environmental, education and industrial applications. This free SAM-1™ App can now be downloaded from the Google Play App Store for Android devices, as well as the Apple



App Store for Apple devices.

Read more about SAM-1 for Android at this link: <http://bit.ly/SAM1AndroidPR>, or visit the Google Play App Store: <http://bit.ly/SAM1forAndroid>. If you're an Apple user, be sure to visit the Apple App Store: <http://bit.ly/SAM1forApple>.

INSIDER Special Report— Phoenix Contact Expands in SEA (continued)

By Steven Las Marias

more than 50 international subsidiaries and more than 30 representations worldwide.

In March, Phoenix Contact officially opened its new facility in Singapore in March as part of its plans to strengthen its focus on Asia, in particular, the Southeast Asia region.

"In the last 15 years, the fastest growing growth we've ever seen in the history of the company happened in Asia," said Ralf Massmann, Vice President and Head of Corporate sales Network Overseas, Phoenix Contact.

On average, Phoenix Contact posted double-digit growth rates in the past 10 years— with major contributions from Asia, in particular, China and Southeast Asia, according to Massmann.

"We are looking at business development in Southeast Asia in a very positive way," said Massmann. "The opening of the new office here is clearly a sign for that. We will continue to invest here as we have high hopes for

Pte Ltd. Of Phoenix Contact's 100 employees in Southeast Asia, 60 are based in Singapore.

One of the new features of the company's expanded Singapore facility is its Value Added Center. "We have always been doing this— adding value to our products," said Massmann. "Today, it is something that every Phoenix Contact subsidiary can do when it comes to rail assemblies. This value-added center idea came from our central market segment, Industrial Components and Electronics. We set up Value Added Centers in several hubs to focus more on Ex-certified box assemblies, mainly passive box assemblies."

The center is new for the Singapore facility. With the VAC center here, the company can now add full Ex-certified box assemblies to its offerings in the region. "We are very close to launch Ex-certified stainless steel boxes, with all the types of terminal blocks or assemblies," said Massmann. "So that's really the new thing, which we believe will add significantly to our growth in the future."

The Singapore facility also has a bigger warehouse—slightly over 2,000 square feet—to store inventory for the Southeast Asia region.

Key growth areas

One of the strong points of Phoenix Contact, from a product standpoint, is that it covers a wide range of industry.

"We are quite fortunate that we are diversified as far as the industry is concerned," said Seet. "But in the past few years, it's always been focused in two big areas: one is in oil and gas, and the other is in infrastructure.

"But infrastructure is a very wide term, because for us, it is not just for buildings, it's for train systems, water ways. These are the two big areas we are focusing on, water management

Université Laval and ABB deliver a unique measurement instrument for astronomy

Université Laval and ABB announced the final phase of a major development project for an astronomical measurement instrument named SITELLE (Wide-field Imaging Fourier Transform Spectrometer). This instrument will be located at the summit of Mauna Kea on Hawaii's Big Island. SITELLE will analyze the characteristics of the light emitted by each component of large astronomical objects such as nebulae and galaxies, making it possible to analyze these celestial objects as never before. The design of SITELLE presented a tremendous technical challenge. The heart of the instrument is based on the displacement of a mirror to an accuracy of one millionth of a millimeter assisted by laser beams. SITELLE must operate in difficult weather conditions at 4,200 meters/13,778 feet above sea level at the top of the highest volcano in the Hawaiian archipelago, while following the course of the stars in the sky. "Standing 2 meters tall, weighing more than 400 kg/882 lbs, with lenses the size of dinner plates, SITELLE will be the largest and most ambitious Fourier Transform imaging spectrometer ever built and the most powerful of its kind in astronomy," said Marc Corriveau, general manager of the ABB Measurement & Analytics' Analyzer factory in Quebec City.



Ralf Massmann, vp and head of corporate sales network overseas, Phoenix Contact at the opening of the new Singapore facility

this region."

Singapore will be the main hub for the whole region for Phoenix Contact not just because of stability standpoint, but also the fact that it's been set up as a trading hub, according to Seet Cher Hung, President, Phoenix Contact (SEA)

INSIDER Special Report— Phoenix Contact Expands in SEA (continued)

By Steven Las Marias

and railway industry. I see that in the years to come, rail is going to be very important, just like the high-speed rail from Singapore all the way to Thailand—that will be a great opportunity. Also, throughout Southeast Asia, there is a lack of good clean water, so water development is important to us.”

Energy distribution and transmission is also growing well over the past few years, according to Massmann. “We are seeing a new era right now, and that goes directly in line with renewable energies, because we have this big trend now for smart grid technologies all over the world.

If you look at Germany today, a private household is not just a consumer of energy but also a producer. We call it prosumer—and this makes the grid management quite difficult for the utility companies. That’s really a big trend,



Seet Cher Hung, Phoenix Contact president SEA

which also boosts our growth in the area of energy,” he explained.

Expansion plans

The key to Phoenix Contact’s success in the region is being

closer to the customer. “We’ll do whatever is necessary to become close to them,” said Seet. “So probably in the region, the next step to look forward to is new rep offices in Myanmar, and also possibly converting some of our rep offices to full-fledged offices.”

Andrew Ang, Vice President of Phoenix Contact in Singapore, said they aim to grow from a more generalist technology provider to a more specialist one. “In terms of addressing the customers’ needs, we want to become specialists. We want to expand ourselves in a broader sense, to be able to attend to each in-

dividual aspect of the customer.”

Seet said Phoenix Contact has plans to put more people in the ground as well as open offices nearer to customers. “For example, Indonesia is composed of more than a thousand islands, even the Philippines,” he said. “We have to start reaching out, of course not to everyone, but at least to the main cities. So this idea of having branch offices in all the cities is a very necessary thing that we have to do in the coming years.”

“We have changed our structure substantially in the past three to four years, from very much product push to market pull,” said Massmann.

“From having all-around sales people

who sell the complete product range to having a more-specialized sales people working in market segments. But to really implement takes a while, and it has kept us busy for the last two to three years.

“Now, it is really absolutely key and fundamental. I call it ‘feet on the street’. We need people out there. And that’s probably the biggest investment that we are going to make in the next couple of years.

“Whatever the structure is, whether they work in a full-fledged subsidiary or in a rep office, it doesn’t make a big difference. We have to add people to work with our customers. To find people, train them and integrate them in our company culture—we are really committed and determined to do that.”



Andrew Ang, vice president of Phoenix Contact in Singapore

E+H Expands Into Colombia

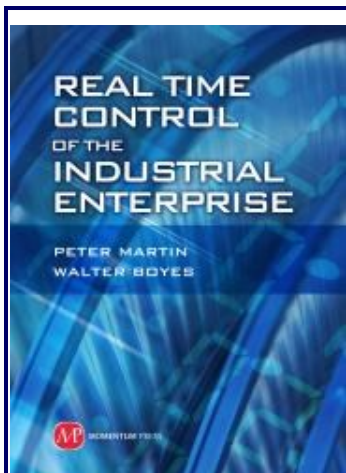
After two decades serving the Colombian market, Endress+Hauser is acquiring its longtime sales and service partner in Bogotá, the process automation business of Colsein Ltda., whose portfolio includes a wide range of services such as calibration, maintenance and engineering, in addition to its sales activities.

Colsein’s process automation business will be transferred to a new Endress+Hauser sales subsidiary on 1 January 2016.

The company will continue to maintain its headquarters in Bogotá. Gabriel Navas, founder and managing director of Colsein, will continue as a member of the board. Of Colsein’s roughly 250 employees, nearly a third work in the process automation business. The company has represented Endress+Hauser in Colombia since 1993.

With a population of almost 50 million, Colombia is one of South America’s most populated countries, second only to Brazil. After Chile, it is considered the continent’s largest growth market.

Although the oil and gas industry is the main driver of economic development, state-of-the-art measurement and automation technology is also helping to make process technologies efficient, safe and environmentally compatible in the food & beverage, water & wastewater and power & energy industries.



SMART MANUFACTURING? INTERNET 4.0? READ THE BOOK!

In 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 sustainable manufacturing 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.

Rajabhadur V. Arcot: B&R views India as a strategically important growth oriented market

B&R, a leading player in the machine automation market entered India in 1998. B&R took all the right strategic decisions; India's economy was opening up then and B&R recognized the growth opportunities that India offered; it registered its subsidiary, B&R Industrial Automation Pvt. Ltd, in Pune, a city which is an automotive and industrial

hub located close to Mumbai, the country's financial and business capital. Pune, because of its long association with the country's industrial growth, also provided the company ready access to well-qualified and trained workforce.

The company's entry-level strategy was to gain machinery manufacturers' acceptance by leveraging their familiarity with B&R in Europe and by providing the after sales support services to various industrial machineries that the country was importing from Europe. India imports a broad range of machinery such as packaging, plastics, textiles, automobiles, pharmaceuticals, and others. Opening of the office in India ensured that the company's global customers viewed B&R as their dependable partner extending support services in the emerging Indian market. It reinforced in the minds of the domestic customers the view that B&R is a proven and a leading machinery automation supplier.

The positioning of the company as a provider of integrated automation solution to industrial machines further helped B&R to take a strong foothold in the market and expand.

Recently, I met Mr. Sivaram P.V, Managing

Director, B&R Industrial Automation Pvt. Ltd, India at a seminar in Bangalore where he made a presentation on Safety Instrumented Systems. Seminars and confer-

The company's entry-level strategy was to gain machinery manufacturers' acceptance by leveraging their familiarity with B&R in Europe and by providing the after sales support services to various industrial machineries that the country was importing from Europe.

ences are places where I meet him most often! We grabbed the opportunity to share our thoughts on the automation industry trends, the growth prospects that India offers to control system suppliers in general and B&R in particular, and the company's

India strategy.

B&R in India

Having read the statement made by the company's General Manager Peter Gucher at a press conference that B&R has achieved record worldwide sales revenue of €535 million in 2014, I congratulated Sivaram on the company's achievement.

Sivaram, who has made a significant role in the emergence of B&R as a leading supplier of integrated automation systems and process control technology in the Indian automation market, said that "Asia and in particular India had played a substantial role in this achievement."

In 2014, the company's revenues in India were around €25 million. According to Sivaram, "Indian operation revenues have grown by almost 30 percent year-on-year in the last couple of years and the company is confident of maintaining this growth trend in the coming years."

Even as of now, India is a highly growth oriented market for B&R, and the country's economic expansion prospects would make the market more important and gar-

Rajabahadur V. Arcot: B&R views India as a strategically important growth oriented market...(continued)

ner B&R's strategic attention.

B&R India's growth plans

Explaining the reasons behind his optimism about the growth prospects of the automation market in India, Sivaram said, "India is making tremendous progress in adopting high end automation technology and the country has shed the traditional view that it is comparatively under-automated." The country's growing middle class, on one hand, spurs greater consumption and on the other demand global quality products. He further added, "these developments have resulted in an exponential increase in the demand for industrial automation." He also envisions the "Make-in-India" initiative to provide additional fillip to manufacturing in the country. The country needs a robust manufacturing industry to sustain its economic growth momentum and create jobs for people moving out the non-too-productive agriculture sector. The "Make-in-India" initiative aims at making the country a global manufacturing hub.

Encouraged by the company's success, Sivaram is confident about B&R's growth in the future. Elaborating further on the company's expansion plans for India, he said, "2015 is going to be a milestone in terms of infrastructure expansion. We plan to grow our presence through opening offices at new locations so that we can be close to Indian manufacturers apart from increasing our employee strength at current five locations i.e. Pune, Delhi, Ahmedabad, Bengaluru, and Chennai so that we accelerate the growth trend."

This year, the company plans to open two or three more offices and scale up human resources by about 20 percent.

B&R's growth strategy

Sivaram avers that the company's global strategy of investing in people and in con-

tinually developing the cutting edge technology solutions are among the key reasons for the company's success. The company follows the same strategy in India too.



P.V. Sivaram, B&R India

He goes on to add, "new product launches in India take place alongside global launches and encouraging continuous learning is part of its corporate culture. As a result employee attrition, which adversely affects many other companies in India, is not an issue for B&R India."

Yet another reason for B&R's success in the Indian market, according to Sivaram is "the outstanding expertise and consultations we offer through our engineers to customers."

In comparison to its traditional markets, B&R in India has a far greater diversified customer base. Its clients in the country include sunrise industries such as renewable energy and pharmaceuticals in addition to packaging, plastics, textiles and automobiles. B&R is being recognized as a provider of an excellent software platform to create solutions for virtually every industry. It caters to the needs not only of the traditional original equipment manufacturers but also to plant owners, operators and builders. The company is planning to expand its footprint to include distributed control systems for plants and energy & condition monitoring solutions.

At the global level, Sivaram pointed out that "the longer lifecycle of plants and machineries forces a tradeoff between benefits of the new technology vs cost of replacing older technology. We address the challenge by offering a scalable hardware as well as software platform under our program "Scalability+."

"New hardware can be seamlessly integrated into existing architecture and older software can be reused without writing application software again."

Yet another approach is the modular develop-

New TDLS Spectrometer from Yokogawa

Yokogawa has announced the release of its TDLS8000 tunable diode laser spectrometer. Yokogawa's laser gas analyzer instruments make use of tunable diode laser spectroscopy (TDLS) to measure the gas concentration. The TDLS8000 is being introduced as the successor to the TDLS200 to satisfy the need for improved



TDLS8000

operability and to allow for greater adaptability in difficult applications.

Highly reliable measurement

The TDLS8000's laser module includes a newly developed reference cell board and the receiving unit employs a new auto gain function. The TDLS8000 is designed to meet the requirements for SIL2 certification (certification pending). Yokogawa plans to certify the TDLS8000 to the IECEx, ATEX (Europe), FM (US), cFM (Canada), and TIIS (Japan) explosion-proof standards. It will be suitable for installation in hazardous areas that require the use of an explosion-proof enclosure.

Improved efficiency

The TDLS8000 comes with a 7.5-inch LCD touchscreen. The light source module is fully sealed and damage resistant and able to store up to 50 days raw data that can be accessed anywhere in the world.

Compact size

The new TDLS8000 is three-quarters the size and weight of the old model.

Rajabahadur V. Arcot: B&R views India as a strategically important growth oriented market...(continued)

ment of application software and pre-packaged function blocks. This helps end users on one hand to minimize the application development and testing time as they will be using well proven and tested templates.

Quoting an outside agency's report, Sivaram believes that this approach would result in reducing the development time by 67 percent.

Forging long term partnership helps build growing base of loyal customers in India

Regarding India's emerging industries that offer excellent growth opportunities, Sivaram listed agriculture sector and agro-processing industry. India, with an agricultural production of around \$325 billion, ranks second globally in agricultural GDP and many of the industries in this segment fall under the category of small scale enterprises.

If B&R can get its act together and work closely with the industrial units and the newly established Micro Units Development Refinance Agency (Mudra) Bank, the company and all its stakeholders can immensely benefit.

The State has recently announced about the setting up of the Mudra bank that will provide credit at reasonable cost to small business units.

About new launches, Sivaram said that B&R is in the process of launching their DCS solution

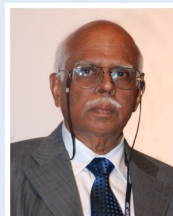
— APROL in India. B&R's unique proposition is that system integrators will play an important role of executing the projects.

"Our firm belief in long term partnership coupled

with our trend setting solutions are drivers behind growing base of loyal customers in India," Sivaram concluded.

If B&R can get its act together and work closely with the industrial units and the newly established Micro Units Development Refinance Agency (Mudra) Bank, the company and all its stakeholders can immensely benefit.

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



Progea USA Announces New Bosch Rexroth Driver

Progea's Movicon 11.4™ platform has a new communication driver, developed in collaboration with Bosch Rexroth to provide the vast community of Movicon users with the option to communicate directly with all logic control, and motion control devices produced by Bosch-Rexroth.

The development of a native driver for the Bosch-Rexroth devices allows connectivity between SCADA/HMI and field control devices with greater efficiency, reliability, performance and a drastic cut in development times. When using the Bosch-Rexroth's Motion Logic Programming Interface (MLPI) libraries, Movicon will simplify the work of design engineers by allowing them to directly import the "IndraWorks" project variables to Movicon allowing immediate connectivity with field devices. This direct import will greatly reduce development time and eliminate errors.

Movicon can now instantly connect to all the Bosch-Rexroth devices such as **IndraLogic XLC** and **IndraMotion MLC**.

In addition to the Movicon 11.4 driver, connectivity tests between Automation Platform.NExT™ and the Bosch Rexroth devices using the OPC UA technology were also run and completed with great success.

The Bosch Rexroth MLPI driver for Movicon 11.4 is available for all those users interested by downloading it from www.progea.us.



THE WAY I SEE IT

Editorial

What Will Young People Do When Their Jobs Go Away?

For the past decade and more, I've been trying to encourage end users, asset owners, vendor companies and system integrators to work harder to attract young people to fill the jobs in automation and manufacturing that are going begging now. And make no mistake, there are open jobs a plenty. The CEO of a robotics company in the Detroit area told me last month that he had over 125 open positions, and that he was so anxious to fill them that if I could promise him 125 trained people, he'd wake up his HR director and set up a hiring hall right then.

We have been told for a long time (and I've been one of the people who has been doing the telling) that we need to encourage young people to take STEM classes. STEM stands for Science, Technology, Engineering, and Mathematics. We want STEM-enabled young people, so they can step into those manufacturing jobs that are empty.

We will need those young people for some time yet. But there's a dark cloud on their career horizons. It has been estimated that as many as 47% of skilled jobs, both tech-

nical and managerial, in the manufacturing sector will be automated in the next ten to fifteen years.

In the first decades of the 20th century, agriculture went through a similar process, we are told. From more than half of all Americans working in agriculture in 1900, the num-

What will young people do if we encourage them to work in manufacturing and then their jobs are automated without a way to find a new one?

ber of jobs declined to considerably less than 10% by 2000.

But there's a huge difference between what happened in agriculture and what is predicted to happen in manufacturing and other sectors.

When agriculture automated, we were able to redeploy those workers to the manufacturing sector. They became assembly line workers, technicians, and the like.

But as manufacturing jobs become even more automated by a combination of Big Data, Smart Manufacturing and the Internet of Things, it won't just be the assembly line

workers who will become surplus. It will be supervisors, middle managers, and all sorts of workers who work with data.

As with agriculture, it wasn't the fault of the workers that they were surplus. It won't be the fault of the young people we are encouraging into STEM and manufacturing careers, either.

So, what will young people do if we encourage them to work in manufacturing and then their jobs are automated without a way to find a new one?

Our culture places a very high premium on what someone does for a living. The phrase itself, "for a living," is telling.

But what happens when half of the population simply can't get a job? There is a horrible stigma on welfare and public assistance. Are we condemning half our population—our young people—to lives of uselessness and desperation? Consider that many of the problems in Ferguson, MO, have their cause in the closure of the automobile plants in St. Louis county. Do we want that for our children and grandchildren?

What will we use to measure people's worth if there simply aren't jobs for them, regardless of how educated or trained they are?

Walt Boyes

Comments? Talk to me!
waltboyes@spitzerandboyes.com

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

Eddie Habibi

by Joy Ward



INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

Eddie Habibi is the outspoken and brilliant CEO of PAS, Inc. Prior to PAS, he was with Honeywell Process Solutions, and before that, Schlumberger.

Joy Ward: How did you get into automation?

Eddie Habibi: My first introduction to automation was my joining Honeywell in 1987. It was a change of technologies as well as industries. I was with Schlumberger.

JW: What made you go with Honeywell?

EH: I had finished university. I had gone to night school so it took me a while to finish. It was an opportunity to do something different; a totally different industry, different technology.

I had outgrown the role I was in. The technology was not moving fast enough. We were developing and manufacturing Measurement While Drilling (MWD) and I was on the manufacturing side of it. I had an interest in process control because I had taken several process control courses in undergraduate studies. It made a lot of sense and Honeywell being a process control systems company would be a good place to come.

I was looking to get away from the upstream business as well as get to technologies that are the new wave, the transformative technologies, technologies that leveraged what I had learned in my undergrad studies. Transformative to me means essentially change. Change from the ways of the past to new ways that we do business. Automation in my view is one of the most transformative technologies man has come across.

In fact, in terms of manufacturing I believe we have been through at least 3 transitions over the history of mankind; one was moving into farming using the beast of burden to help us cultivate the fields, the next wave was mechanization of that work which literally decimated the farming workforce, which is really a good thing because its back-breaking work. There is a statistic I like to share with people where by in 1900 43% of the American population worked in and

around the farm. Today it is less than 3%. That's an incredible transformation.

The next wave of transformation came as a result of computerization and miniaturization of computers and computer technologies. Automation was in the center of that.

JW: Where do you see that transformation going?

EH: I think automation is going to take us in a lot of great places, but also with it, it will bring new challenges.

JW: Such as?

EH: Unemployment. There is a gentleman at MIT by the name of Andrew McAfee who is a forward thinker, who has written a book on the topic as well, where he recognizes and I agree with him, that automation inherently is designed to replace man's manual work and as it does that it both provides opportunities as well as challenges. Opportunities are obvious to us all automation engineers. But in terms of challenges, unemployment is one that we have to take seriously going forward. I think up until now we have managed to redeploy the manual work that was being done by operators, for example, at a process plant. Going forward, that

But in terms of challenges, unemployment is one that we have to take seriously going forward. I think up until now we have managed to redeploy the manual work that was being done by operators, for example, at a process plant. Going forward, that will change, not only in our industry but also in other industries. Its uncertain to tell where the new opportunities for employment will come from.

will change, not only in our industry but also in other industries. Its uncertain to tell where the new opportunities for employment will come from.

I think the challenges are ubiquitous regardless of the vertical markets. As I speak to my counterparts on the automation side of the business, as well as our customers, safety as a main challenge, as the number one concern, never goes away. So safety is

number one. Right up there with it today is security.

Now you might want to ask, "Why security?" I'm glad you asked that. I try to break it down to where it makes sense and that is why would someone breach your control system? They breach your control system because they have ill intent. Now I'm pushing aside those friendly mistakes that could lead to issues. But inherently if a hacker attacks you they are not attacking you for

Eddie Habibi, continued

by Joy Ward



INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

fun, to say oh I broke into this PLC or this control system. They do that for the sole purpose of causing harm – financial harm as well as harm to personnel. So at the end of the day cyber security breaches are a means to an end and that end is safety and financial damage. Safety and security are the top of the priorities. After that you have another set of concerns-- environmental compliance. Some of the most responsible folks I have worked with are executives within the chemicals industry, power industry, refining industry. They are concerned with meeting regulatory compliance and beyond so regulatory compliance continues to be a challenge.

JW: With PAS, you are part of these changes and challenges. What's important for you to be part of these?

EH: I'm driven by the optimism for a better future. I'm driven by what we can do collectively as a team here at PAS to make a substantial difference in the world. We hope to believe that, as grandiose as it may sound, that we make a difference in the world and that difference we really have crystallized in a message. My message to my team is we all should be able to tell a 6-year-old how we make a difference in the world and they should understand it easily and that is what we do saves lives. It's that simple. In our work we save lives. We save lives by making process plants more secure and safer.

Inherently, like every other human being, we want to be a part of something that's bigger than us individually. If you look back, we've always searched for the meaning of life. We all endeavor to give our lives meaning and I think that's why we got together as small communities of 50 to 100 when we had just come down from the tree, when we were living in the caves. To bring about that community where we could help each other both survive at the bottom layer of human needs but as well as self-actualization at the top of the pyramid, which is giving meaning to one's life.

To bring that back to PAS we hope to collectively make a difference by making other people's lives better. Now that's on the customer side of the business. For our busi-

ness, we as a management team as well as all of our people believe life is too short not to have fun at work. What I like to tell people is, "break it down to you spent more of your time at work with your colleagues than you spent with anyone else, including your family if you exclude sleeping time. If you're not having fun, you're not doing yourself or family a favor. So we want to make a difference in the lives of the people who work with us as well.

Like every other human being I have my needs and my needs are to feel that I am not selfish, that I do good. So it's that self-actualization if you will, by being part of a team. Another part of it is related to a book I read many, many years ago *Grow or Die*. There's this belief that I have that as a natural organism, and specifically the brain part of the natural organism, we are either growing or decaying at any given time. There is no steady state in natural organisms so if I'm not growing I must be decaying. That applies to business as well. Helping our business grow is key objective of mine because it helps the collective organization. And the way I know how to grow the organization is to work with my team to make sure we're all aligned around a purpose that's bigger than any of the individuals involved, that we are aligned,

I tell them it is going to be the most fun they could ever have! If they liked to tinker, if they liked to play with toys (which every child does) this is the industry to be in. You will be challenged to think. You'll be challenged to diversify you're thinking and you will be rewarded better than most other industries.

that we work together as a community trusting one another. Trust is extremely important in those kinds of relationships.

JW: What do you say to young people who are looking at getting in this area?

EH: I tell them it is going to be the most fun they could ever have! If they liked to tinker, if they liked to play with toys (which every child does) this is

the industry to be in. You will be challenged to think. You'll be challenged to diversify you're thinking and you will be rewarded better than most other industries. Automation is a very prosperous industry. It takes care of its people, whether on the vendor side or on the manufacturing side.

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Rajabahadur V. Arcot: Are automation companies ready to play the lead role in the emerging Industry 4.0 era?

There is lot of buzz about the transformation of the manufacturing industry. The new era is vari-

ously described as Industry 4.0, smart manufacturing, or factory of the future. The building blocks of the

Manufacturing industry's successful transition to the new era calls for the development of standards relating to new interoperability, communication, and embedded systems.

manufacturing industry's transformation are Industrial Internet of Things (IIoT), big data analytics, cloud computing, and such others. Embed intelligence & computing power in sensors and actuators on machines or equipment and connect & empower them to communicate using the Internet as the platform are the concepts that are contributing to the manufacturing industry's transformation. Becoming cyber-physical systems (CPS), sensors, actuators and other end devices act as data and information sources. The manufacturing entity becomes a connected data / information driven enterprise if the IIoT are connected and made to communicate with each other. The mass of data or information available from these IIoT can be analyzed using the data analytical tools and the intelligence built into them. The concept is to use the Internet infrastructure to access all end devices such as sensors and actuators to generate big data, store and analyze them, initiate actionable information, and

implement them. A possible extension of this architecture is to use cloud computing which may either be a private cloud or a public cloud depending

on user preferences, the application, and its requirements.

While the details of Industry 4.0 are still at a conceptual stage, it is suffice to say

that it is all about smart sensors and actuators, networking, big data, and data analytics.

In a sense, many enterprises are already either Ethernet or local or wide area network connected and they are already information driven. It would be correct say that even though the information flows they are not seamlessly connected. Information flows not only from field transmitters to control systems but also from control systems such as DCS, PLC, and SCADA to manufacturing execution systems and other business solutions such as ERP, SCM, CRM and others using standards that govern them. IIoT, Industry 4.0, and such others take it to the next higher level of connectedness, mobility, and networking. Manufacturing industry's successful transition to the new era calls for the development of standards relating to new interoperability, communication, and embedded systems. Far more important is to ensure that such a connected enterprise do not fall a victim to cyber vulnera-

Rajabahadur V. Arcot: Are automation companies ready to play the lead role in the emerging Industry 4.0 era? (continued...)

bilities. It is absolutely vital that security remains the foundation on which future systems are built.

Further convergence of information technology and automation largely contributes

to the emerging trends. Germany with a robust manufacturing industry has taken SG8 Smart Manufacturing initiative and it is an important step.

The proposed scope of SG8 includes, among others, defining Industry 4.0, summarization of the status of standardization in this field, enhancing

the cooperation between various committees and institutions such as IEC, ISO, ISA, and IEEE. Another significant step is the launch of a new standards development project, IEEE Standard for an Architectural Framework for the Internet of Things (IoT), IEEE P2413. IEEE announcement highlights that the standard, upon completion, “will provide a robust architectural framework for the IoT, reducing market fragmentation, improving interoperability, and serving as a catalyst for continued IoT growth and advancement.” All these developments should augur well for the future manufacturing industry if

the extensive use of IIoT along with the advanced analytics can result in addressing the manufacturing industry challenges. However, at the present juncture, the entire initiative is largely driven by technology companies with IT companies such as Microsoft, Cisco, IBM, and others. IT companies are seen more proactive compared to automation companies.

While automation companies have a much deeper knowledge about the operations management systems including those such as control systems that interpret and act on plant information,

companies which have expertise such as networking, big data, advanced analytics, cloud computing are in the lead in driving the IIoT and Industry 4.0 initiatives. They are centered around IP-based devices and IT so-

lutions and less on improving the real-time components such as sensors that are more accurate and reliable and actuators that have better response times & repeatability, securing the real-time control solutions from cyber

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vulnerabilities, process optimization and simulation, and such others.

In the past, control and instrumentation suppliers, focusing on accuracy, repeatability, reliability and such other performance parameters, introduced new products using scientific discoveries and technological developments. Their design focus was on meeting the plant performance benchmarks. In many instances, they led from the front in harnessing or adopting technological innovations. They embedded the performance prerequisites into their products during design and engineering phase itself. They developed new materials, sensing technologies, field devices, and transmission standards. They built cams, bellows, springs, amplifiers, and such others to

extract square root, compensate, balance in instruments. The advent of computers spurred them to embrace the information technology. The rapid development of the information tech-

nology acted as a springboard to incorporate processing and communication features. With micropro-

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Rajabhadur V. Arcot: Are automation companies ready to play the lead role in the emerging Industry 4.0 era? (continued)

processors becoming more reliable, powerful, and cheaper and software coming to the center stage, information technology became the backbone of plant automation, such as DCS in process industries, PLC in discrete industries, and SCADA in remotely operated pipeline and electrical transmission and distribution industries.

When IT became ubiquitous, automation companies began to leverage its power. Automation

companies, which initially depended on proprietary hardware, software, and communication protocols, began to deploy more and more commercial off-the-shelf (COTS) products

and technologies. Many companies, having recognized the importance of integrating plant automation systems with enterprise solutions, moved forward and embraced open systems. Somewhere along that road that automation suppliers took, they seem to have lost the purpose and direction. To some extent, they compromised by not focusing, on one hand, on the demands of real-time plant operations and on the other began to build systems around technologies without paying attention to their drawbacks. Instead of adapting IT technology to suit their needs they merely adopted it! The cyber security threats that critical infrastructure industries currently face today are a direct outcome of that approach. Making systems feature-rich, which is easier, became more important at the expense of security and safety. For example, some of the best data analytics solutions that collect, record, and interpret data that are available from search engine and web companies, such as Google and Ama-

zon have attractive features. Automation companies are better off in evaluating them and deploying them after necessary modifications to meet the plant level operational needs. It is time that the automation fraternity takes stock and learns the necessary lessons. End users still have lot of confidence in the automation fraternity and want them to stay in command and

deliver plant level management solutions even as manufacturing enters Industry 4.0 era.

"It is time that the automation fraternity takes stock and learns the necessary lessons."

We are proud to announce the appointment of Rajabhadur V. Arcot as Director Asia Operations for Spitzer and Boyes LLC, the publisher of the Industrial Automation INSIDER. Contact him at rajabhadurav@gmail.com.

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