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INDUSTRIAL AUTOMATION & PROCESS CONTROL

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Your key to the latest industrial automation and process control information

Cover Stories: Bedrock, Wonderware, Inductive Automation User Groups, Petrobras, and more...

Bedrock Bares All

After a year of running up to it, Bedrock Automation held its partner conference and press briefing in early September in a hotel in Boston that once



Bedrock CEO Bob Honor asks us to

was a jail. In a clearly symbolic way, Bedrock is breaking out of the technological jail that control systems have been in for a generation.

CEO Bob Honor, formerly of Rockwell, gave a welcome to the assembled press and partners, and noted that shipping for all of the products was beginning and would be in full swing by the end of the year. He then turned the briefing over to Co-Founder and CTO Albert Rooyakkers, formerly of Foxboro. Rooyakkers explained the concepts behind the Bedrock controller and its components.



Bedrock CTO Albert Rooyakkers

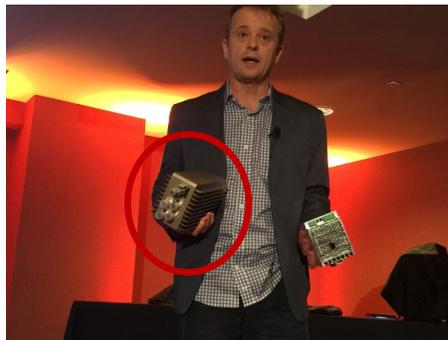
The most important concepts are scalability, robustness and security, with security the "bedrock"

of the system. Rooyakkers noted that every microprocessor component of the system is protected by a multiple private key encryption system that is proprietary and patented by Maxim Integrated, Bedrock's parent company. This is the fu-

ture of industrial controllers, especially in the Industrial Internet of Things.

Rooyakkers introduced the SPS500 power supply, the SIOU.10 Universal I/O module, the SIO4.E module with 5 Ethernet ports, with power over Ethernet (POE) on all five ports, with 25 watts per port, and multi-concurrent stack support. He introduced the

UPS500 uninterruptible power supply, which, like its sister component the SPS500 is itself encrypted, with advanced security to power the Industrial Internet of Things. The UPS500 has an embedded OPCUA Server!



Rooyakkers with SPS500 and competitor

The SPS500 power supply is an incredibly robust switching power supply, designed for "extreme robustness" with a NEMA 4X enclosure, detailed diagnostics, and, like the UPS500, has an embedded OPCUA Server.

The controller component can run, Rooyakkers said, 100 PID loops in 267 microseconds, and 200,000 rungs of Ladder in 6.63 microseconds. "That's 22 times faster than the fastest controller on the market."

Bedrock, Wonderware, Inductive Automation, Petrobras, and more (continued)

Bedrock showed their expandable controller backplane, with the patented Black Fabric interface.



Secure I/O Module with Black Fabric

Rooyackers noted that the Bedrock system is ISASecure, and is completely encrypted, end to end. It is, he said, “Simple, scalable, and secure.”

He showed a chart that made clear what he was talking about when he said, simple. That would be one I/O module, one con-

Module Type	Typical ICS	Bedrock
AI/AO/DI/DO/PI	~ 20	1
Controllers	Multiple	1
Power Supply	Multiple	1
Cables	Dozens	1

troller, one power supply, one UPS, and one set of cables.

Bedrock also introduced several of their integrator and distributor partners, some of whom (see the July issue of the INSIDER) served as beta testers.

ISA and Beamex Partner for First Annual ISA Calibration Conference

The International Society for Automation and its Calibration Strategic Partner, Beamex, held a calibration conference at ISA Headquarters in mid-September. Mixed with hands-on use of Beamex calibration tools, there were talks given by both Beamex and customers from various industries. By locating in RTP, North Carolina, many of the 50+ attendees were from the pharma industries, where calibration is an advanced topic.

The opening keynote, entitled “Automation’s Perfect Storm” was by the editor of the INSIDER, Walt Boyes. Boyes discussed the trends that are all impacting the automation related industries and manufacturing simultaneously. The afternoon keynote, which echoed many of Boyes’ themes, was about

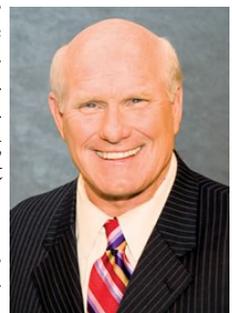
certification and licensing, and was given by former ISA President, Gerald Wilbanks.

“We are quite pleased with the turnout and the results,” said Beamex president Greg Sumners. ISA CEO Pat Gouhin said that if there had been more attendees, they’d have had to move the conference. “We expect a larger crowd next year,” he said.



Wonderware User Group Meets After All

In the face of the sorta acquisition of Aveva, or the other way round, depending on who you talk to, Wonderware decided to hold its user group meeting anyway. It was seriously short notice, and the INSIDER was not able to attend, but was able to cover the event with the help of some friends. One of the most important announcements was Avid Solutions’ IoT implementation using System Platform and MQTT instead of OPC UA. IBM has been pushing MQTT as a “lightweight” IoT protocol, and it is starting to catch on.



Terry Bradshaw

Schneider made a number of announcements during the event. A new version of Wonderware Intelligence Software was released, as a Industrial Big Data manager, and Schneider announced that they have been elected to the board of the Industrial Internet Consortium (they bought a board level membership) and they’ve made a collaboration agreement with the HKUST-MIT Research Alliance Consortium, and have released a new global brand strategy, called “Life Is On.” This is intended to show how Schneider’s customers are helped through the transition to the Industrial Internet of Things by all things Schneider.

The pared down conference featured 11 customer presentations, a keynote speech by Terry Bradshaw, renowned TV personality and pro football quarterback from the days when quarterbacks actually called their own plays.

Inductive Automation’s Ignition 2015 Conference

Concurrently with the Wonderware User Conference, which was probably intentional for competitive reasons, and also concurrently with the ISA/Beamex Calibration Conference, was the Inductive Automation Ignition Community Conference for 2015. Since the

Bedrock, Wonderware, Inductive Automation, Petrobras, and more (continued)

INSIDER is not self-actualized enough to attend three conferences at the same time, and keynote one of them, we did not attend the Ignition Conference this year. We know we missed one of the most interesting conferences of the year, because of Inductive Automation's unique business model, as expressed by CEO Steve Hechtman and CSO Don Pearson. The company celebrated its partnership with integrators and customers, and reveled in the fact that in May,



Inductive Automation's Steve Hechtman

they were named Integrator Partner of the Year by CSIA. Excellent coverage of the conference by Gary Mintchell of *The Manufacturing Connection* can be [obtained here](#), and some additional excellent coverage by Stephanie Neil of *Automation World* can be obtained by [going here](#).

It isn't much of an accident that the Inductive Automation conference was at the same time as Wonderware's User Group. Wonderware and the other "old line" SCADA players continue to downplay Inductive Automation's phenomenal growth rate, and the way the Ignition Community has grabbed hold of their revolutionary business model, with single site licences, an app based structure, a strong certification process from Inductive University, and very robust customer service by promoting from within.

This is only the third annual conference for Inductive Automation, and they had over 400 attendees. Mintchell reported that sessions were swamped, with over 100 attendees each, and the attendees were excited and dedicated to the Ignition product line. Attendees were from many different sized companies, from Exxon-Mobil to small system integrators. International attendees like LaFarge Cement complemented attendees from the United States.

This year, as both Mintchell and Neil reported, the topic was the Internet of Things. SCADA, at least according to Steve

Hechtman, is essential to the IoT, which is about collecting data. Hechtman has been right about so many things in the past 15 years, it is not a good idea to doubt here. We will be watching, at the INSIDER, for further developments from the world of Inductive Automation.

The Petrobras Scandal Continues Unabated

Here is a brief update on the Petrobras scandal in Brasil that continues to play itself out. Background information can be found in the July and August issues of the INSIDER.



The investigation is in at least its 19th phase (with more to come). More Petrobras managers, politicians and owners of major construction firms were arrested on suspicion of corruption, money laundering and conspiracy and convicted for same --- including some of the major participants.

There have been several huge riots against Petrobras and the regime...

The devaluation of the Brazilian Real continues --- increasing from approximately 2.25 to approximately 4.00 Reals per US dollar in the last 13 months. Brazil is a net importer of instrumentation so the 75 percent price increase (in Reals) has adversely affected overall investment, instrumentation sales in general and the import of instrumentation in particular. The falling price of crude oil in conjunction with the Petrobras scandals adds to the uncertainty. The INSIDER has learned that several major international instrumentation and automation companies have trimmed their workforces substantially (up to 30-50 percent) while other such companies hope that sales increase before they have to do same.

The INSIDER opines that this situation will continue at least the next few months and beyond --- especially as investigations expand into other government-controlled enterprises such as Electrobras. Electrobras is the state-owned electric utility, which is apparently as corrupt as Petrobras is. — David W. Spitzer, PE

Nick Denbow's Roundup

Offshore Europe in Aberdeen

Offshore Europe, in Aberdeen, a four day exhibition for the oil and gas industry, is not just for offshore interests: perhaps just as well after the turn-down in most exploration investment. But the attendance this year was visibly lower than two years ago, on Day 2, when you could actually walk down the aisles through the crowds: the reports were that Day 1 was even quieter. Despite that, the engineering exhibitions at the NEC in Birmingham would be well satisfied at the visitor numbers and interest shown. At the end of the week, the organizers claimed a total of 55,947 visitors, the second highest on record, ie down on the attendance two years ago.

Yokogawa at OE2015

Straight through the door the first thing everyone sees is the Yokogawa stand. There's absolutely no chance of you missing that one, in such a prime position. This year, 2015, is a big year for Yokogawa, as it marks the 100th Anniversary of the foundation of the Company in 1915, by Dr. Tamisuke Yokogawa, to make electricity meters, in Shibuya, Tokyo. The main celebrations are reported to be planned for around the actual anniversary date, in November. But there were plenty of birthday cakes to offer to the OE2015 visitors.

Products on display

First seen on the Yokogawa presentation was the stand-alone ISA100 wireless adaptor unit, that can power any HART sensor from its internal battery pack and convert other signals such as 4-20mA into ISA100 wireless, including digital inputs and outputs. This offers device connectivity to ISA100 and then on to higher level plant networks such as the Yokogawa Centum system, with fully redundant connectivity. The unit also offers a retrofit upgrade for already installed sensors. This is not as far as Yokogawa want to go in co-operative integration with other manufacturers, they will allow other people to integrate the Yokogawa wireless and antenna system into their own products.

It seems that Yokogawa are also keen to allow specialised manufacturers to adapt and incorporate Yokogawa units in their own skids or systems, for example their pressure transmitters and HIPPS logic solvers are incorporated in offshore skids and even Subsea for pressure protection systems. An example of such a system was on display at an adjacent stand, showing the HIPPS systems engineered by Mokveld of The Netherlands, using Yokogawa logic solvers and redundant transmitters.

HP/HT transmitters

Sensors for submersible or extreme environments are getting particular attention from Yokogawa, with the latest generations of their well established DPhar EJA and EJX pressure

transmitters. Always delighted to show what developments they are planning, Yokogawa had some models of high pressure high temperature variants of the standard transmitters on show, with a target specification of 29,000psi and 200C temperature rating, which will be well accepted offshore for HT/HP applications. A development programme will also see designs suitable for subsea deployment, in addition to the models with a more conventional HP/HT specification, for use on topside applications.

The company is also quite prepared to work the other way round with measurement product suppliers, and last year announced a distribution and marketing agreement with GasSecure of Norway, to offer their GS01 ISA100 wireless flammable gas detector. This has now been followed by the presentation in Aberdeen of a new temperature measurement LCD display module from PR Electronics, in a Yokogawa branded field housing. The module can be configured using IP push buttons, actuated by reflections from a finger placed on the outside of the window of the hazardous area display.

Sea trials of light-weight housings

Also on display, maybe for juggling practice, on the Yokogawa stand, were two alternative temperature transmitter housings, one manufactured in stainless steel and the other, the same size, in the new Yokogawa ultra-low copper aluminum alloy head. The latter, weighing in at maybe a quarter of the weight of the stainless version, is now undergoing sea exposure trials to prove the lifetime in the offshore salt spray environment: the interest in this alternative housing offshore is not only in the reduced weight, but the reduced stress this lower weight would put on impulse lines and supporting structures under sea impact and vibration.

Endress+Hauser at OE2015

From Yokogawa at the entrance to Hall 1 at Offshore Europe, take a diagonal route across the Shell stand, and it is easy to find the Endress+Hauser stand, in an intimate embrace with that of Rockwell Automation – but not quite married together as yet, as the carpets are a different colour. Nevertheless the partnership continues, with no product range clashes, it's just a colour scheme problem.

The first guy you meet is Andrew Morsman, Oil & Gas Business Development Manager for E+H, who spent a few years working at Rockwell in the UK before moving over. The object of interest here was for me to understand why E+H were featuring the gamma ray density meter system for separator measurements, when I had thought these were being phased out because of Health & Safety Executive rules over sources. Andy had some impressive models to show off their range of separator instrumentation, including the Levelflex, which combines GWR and Capacitance techniques, mounted in its own built-in stilling well, to monitor the top level of oil (emulsion), and water/emulsion interface level in the separator control system.

Gamma-ray level and density survives!

Nick Denbow's Roundup (continued)

Also shown was a level and density probe that uses a point gamma ray source inserted down into the centre of the tank, approximately. In the demo rig three separate scintillation detector tubes on the outside detected the radiation penetrating through the liquid contents in various directions, through the emulsion, through the water, and lower down through the build up of sand in the bottom of the tank. It is the sand and solids in the separators that tend to become the largest problem for operators as a field ages, and traditional GWR systems and other styles of sensor in external bridles become blocked with sand, giving false readings. To handle the sand extraction and level control the gamma-ray system, with its long detector tubes, gives valuable information across the whole of the separator.

The Endress system uses a low intensity source system, which uses a small single point emitter, rather than an extended length source, so is much more acceptable to the HSE people, and is easier to manage and control on site. "These are widely used by BP in the Azerbaijan oilfields, and several systems have been supplied recently on North Sea refits", added Andy, with a nod towards the stand across the alley, ie Shell, who have been using E+H Gamma systems in the North Sea for many years.

Specialist systems for Offshore use

Andy was also very proud of the models shown on the E+H stand, which were produced in the Manchester engineering workshops and specialist manufacturing unit, and are to be used in the E+H training centre in Manchester, along with other flow, pressure and DCS training rigs. Other models on display at OE2015 showed a water injection measurement system, with a Magmeter rated at 420bar (over 6000psi) used in High Pressure/High Temperature fields; and a Venturi orifice flowmetering skid, both of which E+H regularly produce for customers, even as fully submersible variants for subsea use. The E+H SpectraSensor system Tuned Diode Laser Absorption Spectroscopy (TDLAS) gas analyser was also on display, having been extensively applied in the North Sea.

CompEx training

The E+H Training Centre, in Manchester, is one of the few places within the UK where companies can send their engi-

neers and installation technicians to gain certification that they are competent to work on circuits and equipment installed in an area classified as hazardous.

CompEx was set up by EEMUA to satisfy the general competency requirements of BS EN 60079 (IEC 60079), parts 10, 14 and 17. This is now a required qualification for anyone working on Zoned sites, and E+H in the UK has set up approved training schemes and test installations using simulated systems with built-in faults, which can test the proficiency and methods used by engineers involved in such work. A list of further training centres is available on www.compex.org.uk. CompEx was also present at OE2015. For the USA, CompEx has developed core competency modules covering NEC505 Ex01-Ex04, and these are available via ATEC Training and Certification in Houston.

Industry training is important!

The training and qualification of instrument engineers is not taken seriously by the so-called engineering institutions involved in the instrumentation area, and the lead rôle for this training was taken up by EEMUA, the Engineering Equipment and Materials Users' Association, and a few forward looking companies, who deserve therefore to reap the benefits that arise - as these engineers choose will prefer the systems they were trained on in preference to anyone else. Forget your high level fieldbus and wireless standards wars, the real choices are made by training people at the ground level.

Perhaps this is something that could be a focus for further attention from the professional institutions? An example has been set by PI, with their Profibus Competence Centres across the world, already set up to train and qualify instrument engineers in all aspects of their specific networking technologies.

Rockwell Automation at OE2015

The other half of this block at OE2015 was showing the latest systems and services from Rockwell, including a large example of an Allen-Bradley motor drive and controller. Rockwell acquired ICS Triplex in 2007, with its major involvement in offshore systems and software, particularly safety systems. Following the recent fall in the oil price, several of their planned major projects have been delayed: their business has changed to have a greater emphasis on servicing of existing installations, expansion projects and obsolescence assessment and management.

Darcy Sand Control

Darcy is a sand control engineering specialist providing unique down-hole technology for the oil and gas industry. Founded in Kintore, Aberdeenshire in 2009, Darcy offers a range of hydraulic screens that offer an alternative to costly and labour intensive gravel packing methods of sand control. Two successful installations have been made in the North Sea, the first of which was on the mature Statfjord field for Statoil. Darcy's system provides 'pump free' sand control delivering increased operational efficiency and simplifying logistics to reduce time and costs.

Nick Denbow's Roundup (continued)

Legislation and process requirements have changed over the lifetime of some North Sea assets: indeed RA quote an ARC assessment that there are \$25Bn worth of control and safety automation systems in the world today that have been installed for more than 25 years. The obsolescence management team from Rockwell has been created to promote awareness and assist with the management of risks associated with ageing offshore assets and onshore facilities. The UK Health and Safety Executive requires that every operator must have plans in place to meet their KP4 initiative of obsolescence risk in safety systems, and Rockwell has developed procedures and methods to assist with this, using the long experience gained by ICS Triplex in the North Sea. Key features are the repair or production of obsolete pcboards originally sourced from third party suppliers: indeed pcboards can now be repaired in-house that originated from over 7000 suppliers. When this is not possible, phased migration is used to replace the obsolete sections of safety systems, with either hot 'live' migration, or fast switch overs.

Another interesting comment was that there is now no customer discussion over whether to use a virtual server, all new Rockwell Automation systems are supplied to run on such servers. Running on servers in the cloud is possible, when the customer asks, but this is still only an occasional request, in the North Sea area.

Honeywell support for Lundin

Honeywell's new Assurance 360 programme will help Lundin achieve continual and optimal performance of its safety and automation systems at the Edvard Grieg field in the Utsira High area of the central North Sea. The programme will cover four years of support, including hardware refresh, software updates and upgrades, and remote support.

Kari Nilsen, Head of Operations at Lundin Norway, said "This contract forges a close partnership with Honeywell that gives us certainty in terms of both costs and performance of the automation system at Edvard Grieg. With Honeywell providing all the technology and people necessary, it allows Lundin to maintain its lean operating structure, even as we grow and look to develop existing and new opportunities more fully."

Production from the platform is expected to start up in the fourth quarter of 2015, and the field's reserves are estimated at 186m barrels of oil equivalents. Gross plateau production is expected to be 100,000 BOE per day.

Emerson and BP upstream

BP and Emerson Process Management have signed a global agreement to provide automation technologies and aftercare services for the BP upstream oil and gas operations over the next 10 years. This is to support the BP Field of the Future programme for enhanced operating efficiency and oil recovery.

The new agreement expands builds on the successful collaboration between BP and Emerson on upstream projects. Emerson will continue to supply automation system technologies, including distributed control systems and safety instrumented systems, and under this new agreement will now also provide valves and measurement instruments, as well as technologies for supervisory control and data acquisition, asset management, and machinery health monitoring.

Emerson is currently providing automation services to BP for a floating production, storage, and offloading (FPSO) vessel for the Quad 204 development and Clair Ridge offshore platform, both in

[Expro Wins \$25m]

Oilfield services company Expro has won \$25m worth of new contracts in the North Sea, from the UK and Norway, where it will open a new facility next month. Neil Sims, VP for Europe and the CIS, commented: "In Norway, we have underlined our commitment to projects in the region with significant investment in our new base and technology – including over \$10m in capital expenditure for new equipment to service well test projects – since 2012". The new 19,000sqm facility at Tananger will be used for rig-up and service of multiple Well Test and Drill Stem Test packages. Expro has been the leading supplier of well testing services to Premier Oil since 2009, and are currently working in the Solan field development, west of the

Nick Denbow's Roundup (continued)

the North Sea to the west of Shetland, and for the Chirag Oil Project and Shah Deniz Stage 2 project in the Caspian Sea.

Schlumberger and Cameron to merge (see article in last month's INSIDER as well)

In an announcement at the end of August, Schlumberger, the world's premier oil field services company, said that it will acquire oil field equipment maker Cameron International in a deal valued at \$14.8-billion. Each Cameron share will be replaced by \$14.44 in cash, and 0.716 of a Schlumberger share, a total value of \$66.36 and a premium of 56% on the previous closing price.

"We believe that the next industry technical breakthrough will be achieved through integration of Schlumberger's reservoir and well technologies with Cameron's leadership in surface, drilling, processing and flow control technologies," Schlumberger Chief Executive Officer Paal Kibsgaard said in a statement. The transaction combines two complementary technology portfolios into a "pore-to-pipeline" products and services offering to the global oil and gas industry.

Kibsgaard added: "This agreement with Cameron opens new and broader opportunities for Schlumberger. At our investor conference in June 2014, we highlighted how the E&P industry must transform to deliver increased performance at a time of range-bound commodity prices. With oil prices now at lower levels, oilfield services companies that deliver innovative technology and greater integration while improving efficiency, which our customers increasingly demand, will outperform the market.

Deep reservoir knowledge further enabled by instrumentation, software and automation, will launch a new era of complete drilling and production system performance. In addition, we will achieve significant efficiency gains through lowering operating costs, streamlining supply chains, and improving manufacturing processes while leveraging the

Schlumberger transformation platform. We look forward to welcoming the talented employees of Cameron and are pleased that they will be joining the Schlumberger team as our fourth product group."

The two companies had previously moved closer together by combining their subsea businesses to create the OneSubsea joint venture for drilling in deeper waters, back in November 2012.

Jack Moore, Chairman and Chief Executive Officer of Cameron, added, "This exciting transaction builds on our successful partnership with Schlumberger on OneSubsea and will position Cameron for its next phase of growth. For our shareholders, this combination provides significant value, while also enabling them to own a meaningful share of Schlumberger. Together, we will create a premier oilfield equipment and service company with an integrated and expanded platform to drive accelerated growth."

Schlumberger's rivals, Halliburton Co and Baker Hughes, are in the process of

obtaining the required regulatory approvals for their own merger, which was announced in November last year. Their merger will create a company with higher revenue than Schlumberger and Cameron combined, which would have been \$59Bn in 2014. Schlumberger expects the Cameron acquisition to add to earnings by the end of the first year after closing, which will be in Q1, 2016.

Schlumberger, Cameron and OneSubsea, their joint venture company, all attended OE2015 in Aberdeen this week, independently.

Emerson acquires another fire/gas detector business

In a gas and fire detection business acquisition spree vaguely reminiscent of that demonstrated by Honeywell some years ago, Emerson has acquired yet another sensor supplier by buying up New Jersey based Spectrex, who manufacture flame and open path gas detectors. Emerson said that "With this addition, Emerson will have the most comprehensive line of flame, gas and ultrasonic leak detector solutions used for safety monitoring in the industry. Spectrex will join the Rosemount portfolio of measurement and analyti-

[Expro (continued)]

Shetlands. A new contract in the central North Sea, Expro will provide surface well testing and fluid analysis services on 22 subsea wells for three years, with options for extensions.

With Wintershall Norway is a new five year contract on their Maria project in the Haltenbanken area for multi-well completions. Expro will supply a complete workover riser system including surface test tree and subsea landing string systems. Support services will include global riser analysis and lifecycle fatigue monitoring.

Nick Denbow's Roundup (continued)

cal technologies, joining the capabilities already available with the gas leak detection systems acquired in Groveley Detection.”



Ken Biele— former president of Emerson Process Management Analytical Group

It also joined with the fire/gas detectors acquired with Net Safety Monitoring (July 2011), and the gas measurement systems of Cascade Technologies (December 2014).

Groveley Detection was acquired in June 2013, when Ken Biele, then president of the Emerson Process Management Analytical Group, said: “The acquisition of Groveley expands our capabilities

to offer the most comprehensive solution to our customers for their total safety monitoring requirements”.

Comprehensive product range?

The Cascade Technologies gas measurement systems serve a totally different market area, and that laudable acquisition extends the Emerson capabilities in other process applications, and was a significant business expansion move. Tom Moser, group vice president of the Emerson Process Management measurement and analytical businesses reported at the time: “The acquisition of Cascade Technologies is an exciting step as we further strengthen our gas analysis portfolio”.



Emerson's Tom Moser

But obviously the Groveley range did not quite deliver the “comprehensive solution” expected, as Tom Moser now adds - “We are very excited about adding the Spectrex product line to our flame and gas detection portfolio. Emerson is committed to helping our customers protect their employees, facilities, and the environment, and we are now better positioned to serve that need.”

[Better positioned, maybe, until the next addition. That was the Honeywell story too, as reported after each of their multiple acquisitions! – Ed]

Spectrex market position

The Emerson press release advises that for nearly 34 years, Spectrex has been the leader in flame and open path gas detection. It claims to have developed one of the world’s first ultra-violet-infrared (UV/IR) and the first triple infrared (IR3) flame detectors and also claims to be first to introduce xenon flash lamps in open path detector design, increasing the detector resilience against atmospheric conditions while reducing power consumption. Their innovative advances in safety monitoring were said to provide a powerful solution for customers in the oil and gas, petrochemical, chemical and power industries.

So maybe Emerson had noticed the Spectrex success in supplying these markets, which are the main target areas for Emerson sales. Significantly, Spectrex is the leading fire and gas detection supplier for Ichthys, the large scale LNG project in north-west Australia, where they have installed over 500 SharpEye triple IR flame detectors, accompanied by over 200 SafEye Open Path Gas Detectors (although the Spectrex website suggests this latter product is now discontinued).

Footnote:

The Spectrex/Emerson press release text claims Spectrex launched the world’s first UV/IR detector, but does not quote a launch date. At 34 years old, Spectrex was established in 1981. It was 1983 when Armtec Industries launched what was reported as the world’s first industrial UV/IR fire detector. Armtec are no longer in this business, so cannot challenge the claim: but your reporter was the guy who launched their product in the UK, for Bestobell Mobrey (another recent Emerson acquisition). The Armtec unit was the only one known at that time!



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>.

Odds and Sods from the Industry: Schneider Eire Changes; GE Global Changes to Chase IBM



Martin Walder—new UK and Ireland vp of Industry at Schneider

[Schneider Electric](#), the global specialist in energy management, has announced the appointment of Martin Walder as its UK & Ireland Vice President of Industry. Walder who has held senior managerial roles at Rockwell Automation and ABB, and who currently chairs The Engineering & Machinery Alliance, joins Schneider Elec-

tric as it reshapes its leadership team for future growth. This follows the [recent appointment](#) of Tanuja Randery as UK & Ireland President.

“One of the biggest challenges for UK industry at the moment is that many organisations are being held back by outdated factories and infrastructure. This doesn’t enable the kind of visibility and control that is required to optimise energy use and overall business performance. Schneider Electric is perfectly placed to address this pain point, offering migration paths to new technologies. It’s what sets them apart from traditional automation competitors,” said Martin Walder.

“It is an exciting time to be joining the company and I am looking forward to further expanding Schneider Electric’s range of intelligent equipment. By focusing on customer experience and aggressively developing our services organisation, I believe we can start a new exciting chapter for Schneider Electric and our customers.”

In Walder’s previous role as the head of Product Businesses and Marketing at Rockwell Automation, he successfully guided the company through a period of over 50 per cent growth. As managing director of ABB Robotics, he shaped the business into a clear market share leader.

GE Transforms to Chase IBM in the IIoT

GE announced the creation of GE Digital, a transformative

move that brings together all of the digital capabilities from across the company into one organization. GE Digital will integrate GE’s Software Center, the expertise of GE’s global IT and commercial software teams, and the industrial security strength of Wurldtech. This new model will be led by Bill Ruh, chief digital officer.

“As GE transforms itself to become the world’s premier digital industrial company, this will provide GE’s customers with the best industrial solutions and the software needed to solve real world problems. It will make GE a digital show site and grow our software and analytics enterprise from \$6B in 2015 to a top 10 software company by 2020,” said Jeffrey Immelt, Chairman and CEO of GE.

“With this alignment – backed by sustained investment – we will accelerate our efforts to build GE’s digital strength and win in the Industrial Internet. We are building the playbook for the new digital industrial world by harnessing our horizontal capabilities including Predix, software design, fulfillment and product management, while also executing critical outcomes for our customers. This is the strength of GE.”

GE plans to update advancements and customer collaboration at the Minds & Machines event on September 28-October 1 in San Francisco, CA.

Ruh has been leading GE’s Software COE and building the foundation of strong software experience for GE since 2011. Under his direction, GE has grown to over 1,200 software experts at the Software Center in San Ramon, CA. He is leading the team as they work on a diverse set of projects that capture the nimbleness of a start-up, while harnessing GE’s powerful industrial intelligence to deliver better outcomes for customers.

GE Leadership Changes

In addition, the company announced a series of key leadership changes. Mark Begor is retiring from GE. Russell Stokes will succeed Mark at GE Energy Management and Jamie Miller will succeed Russell at GE Transportation. All of these changes are effective October 1.

Mark Begor is retiring after 35 years with GE. Begor began his career at GE in 1980, was named a company officer in 1996 and a GE senior vice president in 2005. He led a turnaround at Energy Management, preparing for growth from the Alstom acquisition. Prior to Energy Management, Mark held key leadership positions in GE Capital, including Commercial Real Estate and Synchrony. “I would like to thank Mark for his contributions, dedication and service to GE. I can always count on Mark to deliver and I value him as a friend,” stated CEO Jeffrey Immelt.

Russell Stokes, 44, will lead GE’s Energy Management business as president and CEO, which will become a \$13B business when combined with Alstom. Stokes, an 18-year GE veteran, most recently led Transportation through paramount shifts as they launched revolutionary products ahead of the



Tanuja Randery, UK and Ireland President of Schneider Electric



GE’s Bill Ruh

Odds and Sods from the Industry: IBM Changes to Chase GE

competition and outperformed the market.

Jamie Miller, 47, will succeed Russell as the president and CEO of Transportation. Miller, who joined GE in 2008, is the right leader for this business to take digital solutions and service offerings to Transportation customers. In her most recent role as senior vice president and CIO, she drove GE's digital transformation through global IT strategy, services and operations, and delivered innovative solutions for GE, its customers and employees. Jim Fowler, a 15-year IT leader at GE, will succeed Miller as CIO.

"All of our business leaders will be critical to our success as a digital industrial company and will help lead us through this generational change for GE," added Immelt.

IBM Reorganizes to Chase GE

IBM has announced two new business units that will apply the company's considerable strengths in Big Data, advanced analytics and cognitive computing to the Internet of Things (IOT) and Educations markets, respectively. Harriet Green, formerly CEO and executive director of the Thomas Cook Group and of Premier Farnell plc, has joined the company as vice president and general manager for the new units, and will be responsible for developing these and other new growth businesses.

Ms. Green left Thomas Cook Group under somewhat of a cloud, and there was much speculation where she might land.

"Harriet brings to IBM a strong, proven track record as a transformative leader," said John E. Kelly, senior vice president, solutions portfolio and research. "Throughout her career, across multiple geographies and cultures, she has consistently shown a deep understanding of the needs of her customers and clients, and how to help them achieve their goals and aspirations. Her creativity and vision will help organizations transform themselves to take fuller advantage of emerging data and cognitive technologies."

IBM announced in March 2015 that it will invest \$3 billion over the next four years to deliver new industry-specific cognitive computing technologies, cloud data services and developer tools to help clients and partners integrate data from an unprecedented number of sources across the Internet of Things. Ms. Green will lead a team that will soon comprise more than 2000 consultants, researchers and developers dedicated to helping clients unlock value in new insights. IBM has helped thousands of organizations to deploy IOT solutions, working with leading partners such as The Weather Company, ARM, AT&T and oth-

ers to make cities smarter and safer, to transform automobile and electronics manufacturing, and to safeguard food and water supply chains, among other applications.

The new Education unit will formally launch later this year. IBM watchers speculate that this group will need at least \$7 billion to compete with the rest of the automation industry in the Industrial Internet of Things.

"I'm honored to join IBM and to become part of a team that is shaping this exciting and transformative moment for industries," said Ms. Green.

"The Internet of Things will help enterprises and governments at every level unlock entirely new areas of opportunity and growth, and no company is better positioned than IBM to be the partner of choice as these organizations embrace its potential. Likewise, education is being transformed by technology and IBM is incredibly well positioned to help leaders in the field enable this change."

Ms. Green is widely recognized for the transformation of the Thomas Cook Group during her tenure as group CEO and executive director. Earlier in her career, she was CEO and executive director of Premier Farnell, a high-service distributor of technology products and solutions for electronic system design, maintenance and repair, and spent over a decade in executive roles at Arrow Electronics, a global provider of products, services and solutions to industrial and commercial users of electronic components and enterprise computing solutions.

Ms. Green was named Leader of the Year 2013 in the UK National Business Awards, as well as the Sunday Times Business Leader of the Year 2013. She was awarded the Order of the British Empire (OBE) by Queen Elizabeth II for services to electronics in June 2010.

GE to Close Alstom Deal in Q4

French power and transport group Alstom said in a statement that it aimed to close the sale of its energy business to General Electric as early as possible in the fourth quarter of 2015. The \$13.8 billion deal sets GE up as the major global force in power generation, while freeing Alstom to concentrate on its transportation business. Earlier on September 8, GE won European Union antitrust clearance to buy Alstom's power business after agreeing to sell some of its assets to Italian competitor Ansaldo Energia. "While the energy businesses will secure a future in General Electric and in the joint ventures to be formed, this transaction will enable Alstom, focused on its transport business, to pursue an ambitious growth strategy," the company said. Alstom said after the deal closes it will put a public share buy-back offer to shareholders at a shareholder meeting.



Harriet Green OBE joins IBM



THE WAY I SEE IT

Editorial

Changing the Perceptions

The new series of television ads being run by GE is instructive as we come up to the 2015 Manufacturing Day. In them, a young man announces he has gotten a job at GE...whereupon he is stunned when everybody thinks he will be humping a sledge hammer, or worse yet, writing boring software.

He goes on talking about what he will be doing at GE, making software to run turbines, to make electricity, to make smarter cities and the like, while in one commercial his father says, "You can't even pick up the hammer, can you?" and in another, his friends make fun of him because one of them has gotten a job working for a gaming company, and designs cute animals.

GE is trying very hard to make a point, and it is a good one. They are trying to show that it takes brains and good software skills to operate modern manufacturing companies, transportation companies, and the like. Not just the skill necessary to run a sledge hammer.

What they are doing in this series of ads is trying to change the meme that manufacturing is brutish, dirty, and stupid. Those of us who work in manufacturing, and even those of us

Comments? Talk to me!
waltboyes@spitzerandboyes.com

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

who, like me, theorize about it, are pretty clear what the future of manufacturing is, whether we call it Industrie 4.0 or Smart Manufacturing, or whatever. We also are terrible about explaining it to the general population.

We need many young people to want, like the hero of the GE television commercials, to work in

...when you compare the actual worth of somebody like Dick Morley to somebody like Steve Jobs, it sticks out like a sore thumb that Jobs was famous, and Morley is not.

manufacturing. The only way we are going to get them is to make that young man a hero.

When I wrote about needing an Automation Hero a year or so ago, I got a lot of comment that centered on, "We don't need a hero. We don't want to be heroes. We just want to do a good job and go home in the evening."

Well, yes. I understand that. But when you compare the actual worth of somebody like Dick Morley to somebody like Steve Jobs, it sticks out like a sore thumb that Jobs was famous, and Morley is not.

It could be that we *do* need heroes, and we need to see ourselves as heroes. Because the rest of the world needs to see what heroes actually do, and how they do it. Heroes rarely puff themselves up, like Jobs did. Heroes do their jobs, like Morley.

A long time ago, the actor Spencer Tracy said that the way to be a great film star was, "Show up on time. Know the jokes. Say the jokes. Go home on time." That's how to be an automation hero, too. But somewhere in there, we need to be able to let

the world know who makes their goods and how they are made.

GE is making a great effort with their commercials. I predict that if they keep it up, they will get a whole group of young people who want to do something more than program "Angry Birds." Young people who want to do something that has enduring meaning and substance, like manufacturing.

There's a reason that the Science Channel brought back the wonderful show, "How It's Made." The reason is that curiosity about how things work is endless, and it is really cool to see how things are made.

We all need to start sounding like the GE commercials, whether we work for GE or not. We need to attract the best and brightest to manufacturing, or Industrie 4.0 or Smart Manufacturing will be stillborn.

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Rajabhadur V. Arcot: Premier Automation Exposition in India

I attended the *AUTOMATION@2015* event which was recently held in Mumbai, the industrial hub and the financial capital of India. This exhibition cum conference ranks as one among

the major automation events in India and is organized by a homegrown company, IED Communications Limited.

The theme of the event was *"Big things in Automation Innovation, Automation for Industry, and Automation in Emerging Markets."*

In the coming months, the country will also be hosting few other Automation related fairs and they are the Hannover Milano's Industrial Automation India event at New Delhi in December 2015 and Messe Frankfurt's SPS Automation India at Gandhinagar in April 2016.



Automation 2015 in Mumbai

In India, with manufacturing industries geographically dispersed over a wide area, face to face meetings between suppliers and end users is time consuming and expensive. However, such meetings are important and play a decisive role in establishing business relationship.

Therefore, exhibitions in the country continue to have great relevance in bringing suppliers and end users together to communicate with each other and share information. While such events provide visitors an opportunity to gain insights about automation trends and techno-

logical developments, for automation providers, the event is an excellent place to showcase, demonstrate, communicate the value proposition of their offerings to their potential end-user customers and do business with them.

While *AUTOMATION@2015*'s major focus was the display and demonstration of automation products, systems and solutions, the event also included CEO Summit on "Business Performance," a seminar

on "Fieldbus Technology," and a conference on "Safety and Security for Plants to Avoid Disasters."

Devendra Fadnavis, the Chief Minister of Maharashtra State, whose capital is Mumbai, inaugurated on August 24th 2015 the four-day annual event. The



theme of the event was *"Big things in Automation Innovation, Automation for Industry, and Automation in Emerging Markets."* Since its inception about a decade ago, this International Automation Industry Show has emerged as an important event both for automation product & system supplier companies and continuous & batch process and discrete industrial firms.

According to the organizers, around 450 leading automation and other associated technology companies from over 40 countries participated in *Automation@2015*. More than 46,000 delegates, visitors, and speakers, attended the exhibition, conferences, and seminars. The exhibition and the related events were sponsored by automation companies, industry asso-

Rajabhadur V. Arcot: Premier Automation Exhibition in India (continued...)



Georg Fischer stand at Automation 2015 in Mumbai



BR Mehta , Reliance Industries

In the next two years, the country’s refining capacity is expected to go up to 310 million tons per annum from the present 220 million tons. Therefore, the keen interest seen among the leading global automation suppliers to showcase their offerings and success stories is understandable.

While I, as an invited speaker, and Mr. Pithawa, Director, Bhabha Atomic Research Center presented our thoughts on Industrial Control Systems Cyber Vulnerabilities and their threat to critical infrastructure industries, others from end user and engineering procurement consulting companies spoke on the role of

ciations, standards organizations, government establishments, and others. Exhibitors included suppliers of robotics; field devices such as sensors, transducers, transmitters, valves, actuators; electric drives; control systems such as programmable logic controllers, distributed control systems, supervisory and data acquisition systems; human machine interfaces; system design and engineering services; bus and wireless technology products; and various other control system components that are extensively applied in process, batch, and discrete industries.

While major suppliers such as ABB, Honeywell, and Siemens who are already well established in the market place in the country were conspicuous by their absence, others seeking to build their presence in the market such as Fiji Electric, Omron, and Mitsubishi from Japan and B&R and Beckhoff from Europe participated in a major way.

Safety Instrumented Systems and the relevant standards.

Dr. B R Mehta, Senior Vice President, Reliance Industries presided over the CEO Summit that deliberated on the topic of Business Performance Excellence.

The panel members included among others Vikas Chadha, MD, Honeywell Automation India, Amit

Pathankar, MD & Vice President, Emerson Electric, Rajat Kishore, MD, Invensys India, and Pramod Kaushik, GE Energy.

Concurrently held seminars were equally well attended. India has a robust refining and petrochemical industries that typically extensively use safety instrumented systems and fieldbus technology. Therefore, seminars on “Safety and Security for Plants to Avoid Disasters” and “Fieldbus Technology” attracted significant interest.

Rajabhadur 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 rajabhadurav@gmail.com



They shared their perceptions on business performance excellence and how automation helps them in achieving performance benchmarks.

According to the event organizers, the visitors profile included engineers, professionals, production managers, key decision makers, senior executives, functional heads, and CXOs, from technology solution & system supplier companies, system integrators, engineering procurement and consulting firms, industrial corporations gener-

ating electric power; producing cement, steel, chemicals, paper, drugs & pharmaceuticals; extracting oil and refining; making au-

Rajabhadur V. Arcot: Premier Automation Exposition in India (continued)

tomobiles; and such others. Apart from the exhibitors' booths, conferences and seminars provided the networking ambience.

While major suppliers such as ABB, Honeywell, and Siemens who are already well established in the market place in the country were conspicuous by their absence, others seeking to build their presence in the market such as Fiji Electric, Omron, and Mitsubishi from Japan and B&R and Beckhoff from Europe participated in a major way.

I believe leading Japanese automation suppliers are now making a determined effort to establish their presence in the Indian market, which they had ignored in the past.

Yokogawa is an exception as it entered the Indian market, almost three decades ago, and thus has a strong presence especially in the DCS market.

B&R and Beckhoff are proactively creating niche space for their offerings.

In recent years India has emerged as an important market for automation suppliers. With the recent policy initiatives by the State to expand the manufacturing industry's share in the country's GDP to 25 percent from the present share of less than 15 percent, the Indian market holds the promise of becoming even more important for automation suppliers in the coming years.

The fact that India is expected to emerge as one among the fastest growing large-sized economies also explains the exhibitors' interest in the event. The large number of greenfield projects that are expected to come up in the years to come in India is of significant interest to automation suppliers.

Presently the country's total automation market is close to US\$ 4.5 billion and is one among the fastest growing.

DCS and PLC together account for almost 22 to 25 percent of the overall market. As a developing country India has a robust process industry and as such DCS market alone accounts for 14 to 17 percent of the country's total automation market.

Sensors, transmitters, final control devices, motion control and computerized numerical control systems, and such others account for the rest.

If the automation suppliers can reach out successfully and place their value proposition to numerous small and medium scale

enterprises (SME) that abounds in industrial verticals, such as auto components, pharmaceuticals, sugar, textiles and such others, the market size would be significantly bigger and expand more robustly. India also has numerous process plants that are in dire need of automation upgrades.

Exhibitions are an excellent platform for automation suppliers to get the message across to end users about the benefits of increasing their investments in automation technologies.

Since its launch in 2002, IED communications has been successfully conducting the annual events. Apart from organizing the automation exhibitions, IED communications also publishes Industrial Automation, a monthly journal with a significant circulation. I understand that the focus on the next year's exhibition will be on the futuristic trends in manufacturing industry and automation, Industry 4.0 and Industrial Internet of things.

Presently the country's total automation market is close to US\$ 4.5 billion and is one among the fastest growing.

Rajabhadur V. Arcot is 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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