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Your key to the latest industrial automation and process control information

Inside this issue:

Yokogawa User Group Americas

New Company Organization and New Key Alliances

Once every two years, Yokogawa's User Group in the Americas meets, this time in Houston. Yokogawa USA CEO Chet Mroz noted to me that it wasn't really Yokogawa's user group. It was the users of Yokogawa products' user group meeting. There were over 500 attendees registered, from 160 countries, and Yokogawa provided more than 27 subject matter experts to interact with the users.

Simon Lam

Simon Lam, the retired leader of the CNOC CSPCI and Shell Chinese joint venture was insightful, as he said, "I am not an instrument engineer or control expert. I am a user and business owner of IA systems with 40 years in the oil and gas industry, starting as a process engineer."

Lam talked about the issues, and how they would create a reliance on the IA vendor as complexity increased. Then he talked about a key goal: Human Reliability.

"At minimum, we need a reliable DCS platform, with software packages to make the total IA system a powerful tool to achieve its short and long term financial objectives," he said. "Use of IA tools to reduce maintenance costs through reliability based maintenance and inspection will be critical. Maintenance costs of automation are only a small part of the costs. We are talking about maintenance of *systems*. We need to have intelligent alarm management systems, use simulation software to optimize production, enhance training and retraining of operators and system testing through dynamic simulators. We need to use artificial intelligence to capture the experience of operators to avoid costly and dangerous mishaps, avoid costly downtime or safety infringements and provide an audit trail for statutory compliance." Lam went on, "A site manager should expect an effective IA system supplier to understand the business concerns and challenges through effective use of industry knowledge bases, information management and production processes. We are driven to collaborate with suppliers and consultants for advanced business architecture and embedded knowhow and best practices. A long term relationship with suppliers is needed to ensure continuity and support, and the supplier needs to be able to supply human resources to supplement business units' needs."

Tall order.

Satoru Kurosu

Satoru Kurosu, executive vice president of Yokogawa Electric Co., and certainly on the short list to succeed Nishijima-san when that worthy retires, talked about who Yokogawa thinks they are, and how they want customers to see

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Health Watch

You can find the Insider Health Watch on page 18 in this issue, ...and we have a whole lot more inside!!

Cover Story: Yokogawa User Group Americas (continued)

them. He noted that next year will mark Yokogawa's 100th birthday. He also made a point of saying how important the US is to Yokogawa.

"We believe in a shared vision with long term relationships," he said. "Working side by side with our customers, we share your challenges and innovate solutions to your business challenges."
He talked about sensor to enterprise integration, which Yokogawa is easily capable of, and talked about smart engineering and integration with Yokogawa being the single point of responsibility, in the spirit of *Omotenashi* (selflessly caring for the customer).


Chet Mroz

Chet Mroz, CEO of Yokogawa USA described "some of the progress we have made in growing YCA." He declared 18% per year growth at YCA, and gave a brief description of the new corporate organization, in which R&D and other functions will be moved out of Japan into the regions, of which the USA is one.

At a formal press conference, Yokogawa executives Chiaki Itoh and Nobuaki Konishi introduced Joyce Mullen, vice president and general manager of Dell OEM Solutions as they talked about a new global alliance with Dell. This will permit Yokogawa to drop ship already configured servers and computers from any Dell warehouse to anywhere in the world. It is a great deal for Yokogawa. I asked Mullen if this would change in any way their very highly ballyhooed alliance with Emerson, and she said, "We want to work with everyone."

At the press conference, Itoh spoke of Yokogawa's desire to make strategic alliances and how that will serve the customers well. Konishi spoke about the need to standardize servers and software and gave the lead in to the Dell announcement.


Mike Phillips

Yokogawa also revealed an alliance that may, in the long run, prove more beneficial than the one with Dell. Mike Phillips, from McLaren talked about the lessons of Formula 1 racing, and how they apply to other endeavors, like, well, automation and controls. McLaren is working on human telemetry—from sport to healthcare. What McLaren is working on with Yokogawa is complex advanced modeling and simulation, decision support systems, and integrated intelligence and knowledge management systems. Yokogawa is much more likely to gain from this relationship than the one with Dell.


Mike Peters

Mike Peters from Pennwell, long time oil and gas guru, talked about the rapidly changing face of oil and gas as the US becomes a net exporter of oil and gas for the first time in 50 years. He noted that there has been a 15 year pause in climate change due to the shift to natural gas with fewer CO_2 emissions. He described an industry resoundingly on the rebound, and said that shale oil and gas and unconventional drilling was the proximate cause.

He expected there to be a huge shift from coal to natural gas for environmental reasons. He expects to see considerable infrastructure investment with more capacity and more facilities, as the US dollar goes higher.

Of course, all this is predicated on geopolitics and environmental concerns. I asked him what happens if the wildcatters keep screwing up with fracking. He didn't want to think about that, because the point of his talk was that fracking was the future and where the money is.

Another keynote was given by this editor which you can see on my Soundoff! Blog at http://waltboyes.livejournal.com/294984.html,
and by Steve Anderson of Integrated Leadership Systems on creating a culture of leadership and safety.

There were a number of very interesting products on exhibit, but by far the one that interested me the most was a novel approach to online corrosion monitoring, using a magnetic sensor array, with 50 small sensors mounted to the outside of the pipe. This isn't a product yet, but it probably will be one soon, since there is a very large market, which hasn't been served with the right product yet.

As the former keeper of the Process Automation Hall of Fame, I very much enjoyed seeing Paul Studebaker, the new ex-officio keeper presenting Yokogawa's Dave Emerson with his trophy following his induction into the Hall this year. Dave has been instrumental in developing the ISA88 Batch Standard, the ISA95 Manufacturing Standard, B2MML and Batch2MML, and the ISA106 Procedure-Controlled Automation Standard. My hearty congratulations to Dave.
—Walt Boyes

FF and HART Become FieldComms, and other stories

As we announced last month in the ***INSIDER,*** two have become one, with a third member on the way.

After a period of bellowing and stamping akin to the mating of elephants, the final step in the merger of the HART Communication Foundation and Fieldbus Foundation took place on August 30. This completes a yearlong study and diligence period by a dedicated team of volunteers representing each of the foundations, and over 20 years of sometimes hot sometimes cold relationship.

Siemens' Hans-Georg Kumpfmueller

The new corporation, called FieldComm Group, will be led by a board of directors composed of representatives of the collective companies from the current boards of each foundation. Hans-Georg Kumpfmueller has been elected as the inaugural chairman of the board. Mr. Kumpfmueller will lead the direction of the FieldComm Group and oversee the addition of FDI LLC in mid-2015.

New CEO Ted Masters

As had been expected, the board appointed Ted Masters as president and CEO of FieldComm Group. Masters had been hired at the HART Communication Foundation with the specific intention of merging the two foundations under his leadership.

During the transition and integration of the two organizations, Richard J. Timoney will serve as executive vice president of FieldComm Group. Mr. Timoney currently is president and CEO of the Fieldbus Foundation. FieldComm Group will consolidate offices in Austin, Texas, and function as a single entity beginning January 1, 2015. Until that time, the HART Communication Foundation and Fieldbus Foundation will continue to operate independently.

IS Hollysys In Trouble?

Several articles, including this one on investing site SeekingAlpha.com (http://seekingalpha.com/article/2494385-is-hollysys-hiding-something) believe that in their August 13 statement of Q4 results, management seriously misstated their AR portfolio and understated the bad debts from its Instrumentation business.

There are also rife rumors that Hollysys is underpaying its employees, leading to dragging morale and good people exiting the firm.

The author of the SeekingAlpha article, Li Li, said, in answer to a comment on the article, "...for a small cap (like) HOLI to compete successfully against domestic and multinational rivals, innovative and motivated workforce, and management integrity are important. For a small-cap company to succeed against a slew of established players, even doing everything right does not guarantee your success; not doing everything right certainly diminish your chances."

The *INSIDER* will be watching closely.

Schneider Electric Moves US HQ, Opens Global R&D Center

On September 10, Schneider Electric, a global specialist in energy management, announced the grand opening of its new North American research and development (R&D) center in Andover, Massachusetts. The Boston One Campus will also serve as the company's new North America headquarters and is built to house approximately 750 employees across all disciplines of Schneider Electric's business segments. Laurent Vernerey, President and CEO of Schneider Electric's North America Operations, will relocate to the new headquarters as part of the company's mission to drive innovation and efficiency in North America.

Laurent Vernerey

Designed to create an environment that encourages collaboration with customers, R&D engineers and employees, the new campus was also built with the company's vision of sustainable design and energy efficiency. The Boston One Campus incorporates approximately $8 million of Schneider Electric's own products and solutions and is expected to achieve about a 30 percent operating cost reduction in its first year.

"As we imagined the design of the new campus, it was important to us to leverage our own technology and

Cover Story: Honeywell User Group Americas

create a facility that enhances our customers' experience while exemplifying Schneider Electric's core objective of making the most of our energy," said Vernerey. "With the integration of a world-class R&D center and employees from multiple disciplines housed under one roof, the new Boston One Campus demonstrates Schneider Electric's commitment to our North American customers."

Schneider CTO Pascal Brosset

"The new Boston One campus will serve as Schneider Electric's North American R&D hub, driving global innovation in collaboration with our four existing global R&D centers located in Bangalore, Shanghai, Grenoble, and Monterrey," said Pascal Brosset, Senior Vice President of Innovation and Chief Technology Officer, Schneider Electric. "We look forward to working closely with our customers in the region to develop new classes of technology that advance efficiency and energy management."

Center for Operator Performance Announces Important New Method of Improving Performance and Capturing Expertise

Dr. Gary Klein, noted author and expert in real time decision making, recently completed a pilot project on use of the ShadowBox technique to speed transfer of knowledge from expert to novice console operators. The project, which has origins in research conducted for the Defense Advanced Research Projects Administration and was funded by the Center for Operator Performance, developed training scenarios that run on a tablet PC. Novices are given screen shots that progress through a plant event and are later asked a series of questions. Explanations of both correct and incorrect answers to those questions from expert operators are provided to the student. The training has time constraints, ambiguity, traps to highlight imperfect understanding, and feedback on trainee performance.

One way to help trainees develop expertise is to let them see the world through the eyes of experts. This approach enables the trainee to shadow the thinking of the experts. The use of actual scenarios provides a means to capture the knowledge of expert operators in context. The use of a tablet platform for presenting the exercises eliminates the need for a facilitator and associated scheduling issues.

A second study is being undertaken to build upon the success of the pilot. The follow-on will answer four key questions: (1) Can the same problem solving skill be adapted to different process equipment, (2) how valuable are the scenarios for operators on units other than those for which they were developed, (3) how would ShadowBox fit into the overall plant training toolkit, and (4) can ShadowBox be integrated with high fidelity simulator training?

The two scenarios developed for a fluid catalytic cracking unit were presented at the May 2014 meeting of the Center for Operator Performance, which is a collaboration of operating companies and DCS suppliers that researches operator performance issues.

CSIA Certification Expands to Africa

For the first time, the Control System Integrators Association (CSIA) has certified a control system integrator company in Africa.

CSIA's Bob Lowe

GIL Automation is the first company in Africa to reach the CSIA certified level. A system integrator based in Nigeria, GIL Automation serves the oil and gas, food and beverage, power, water and mining industries.

Bob Lowe, executive director of CSIA, said: "With GIL Automation achieving CSIA certification, we are proud to say that we now have certified members on every continent with the exception of Antarctica."

CSIA certification requires integrator companies to undergo an intense third-party audit and follow strict performance standards. Members must meet or exceed the 79 criteria taken from CSIA's Best Practices and Benchmarks Manual to become certified. An audit is required every three years to maintain CSIA certification.

Lowe said, "Certifications are important to all industries. Being CSIA certified is the only way that directors of manufacturing, plant operations managers and other industry leaders know they are choosing and working with one of the most professional and capable control system integrators available."

ABB Explains It All to You at Capital Market Day

ABB sees strong organic growth, and reinforces PA strength

Last month in the ***INSIDER*** Walt Boyes highlighted some of the problem areas evident from the ABB Group Q2 financial figures, and raised some questions. Led by CEO Ulrich Spiesshofer, the ABB Capital Markets Day presentations, delivered in London on 9th September, explained the background to the current ABB situation, and (naturally) concluded that the company "is well positioned in attractive markets", enabling the delivery of healthy returns in the next periods arising from purely organic growth, and a 'market-focused' approach. A major benefit to shareholders will be in the form of a $3-4Bn share buy-back programme over the 2014-2016 period, 75% for cancellation and 25% for use in employee share incentive schemes.

ABB's Ulrich Spiesshofer

While the ***INSIDER*** had commented that only a few Process Automation projects had been evident within the recent press releases, that most projects had been extolling the virtues of the ABB combined power and process automation contracts, this was stressed and praised by ABB executives as evidence of the profitable collaboration between their different businesses, and a really positive differentiator between ABB and other suppliers. Such "partnerships" are seen as a major part of future business strategy, whether between divisions or between ABB and other major companies. Examples quoted for the latter were in working with Philips on building automation systems (using their lighting technology), and with BYD in China over automotive and electronics battery systems, particularly targeting grid energy storage solutions.

Spiesshofer commended the successful divestment activities carried out by ABB over the last year, which "in a very well executed programme" had realized around $1Bn from sales of parts of the recent acquisitions. Other major features of their current portfolio were their claimed World #1 ranking as the major DCS supplier, and also a recent $800m order received in the UK for a 160km undersea HVDC link across the Moray Firth, transmitting up to 1200MW of renewable energy - generated from wave, wind and solar technology in the most northerly parts of Scotland - down to the more densely populated south. ABB justifiably claims leadership in such HVDC power transmission technology, having completed 13 of the 14 World installations of such systems. Obviously working to a different definition, later in the presentations it was mentioned that ABB had undertaken 19 of the 24 HVDC transmission projects installed to date in China, including the largest one, a 1670km 8000MW west to east transmission line.

Worldwide business spread

Always quoted as an ABB strength, their business revenue split - 29% Americas, 34% Europe and 37% Asia/Middle-East/Africa, with a 60/40 split automation/power – is possibly now not such an ideal scenario, as they express concern that their business within Africa is not as significant as it should be. Despite strong operations in South Africa they are looking carefully at the rest of the continent. There was also a mention that there was some localised R&D in South America, but just that statement almost implies that there is another hole in the profile there. To address such regional issues, ABB are to appoint three Regional business leaders, to manage the business activities of these three world areas: Frank Duggan (previously regional manager for India, Middle East and Africa, but also Head of Global Markets since 2011) for AMEA, Veli-Matti Reinikkala (previously head of Process Automation Division) for Europe, and Greg Scheu (previously North American regional manager) for the Americas.

These new posts leave a major gap at the Head of Process Automation Division, and it is certainly with enthusiasm that the ***INSIDER*** welcomes Peter Terwiesch back into the limelight in the role of Process Automation Divisional Head. Peter started as a process engineer in the control and automa-

ABB (continued)

tion business, then was appointed Chief Technical Officer of ABB for 6 years, 2006-2012. Having more recently spent three years running the ABB German operations and as head of the ABB central European region – effectively adding a slice of commercial experience – the media can expect some strong process and technology oriented presentations in the future from ABB. From the process automation point of view, although Spiesshofer explained that he had only a selection of four presentations from the many businesses in ABB for the current Capital Markets Day, it was still disappointing to have such a lack of emphasis on process expertise.

ABB's Peter Terwiesch

More process expertise

Maybe Spiesshofer himself has a concern about the ratio of power to process expertise available at the top of ABB too, as there is another significant appointment scheduled for next year, at Board level. Spiesshofer's approach to organic expansion using his favoured PIE method - Penetration, Innovation and Expansion - when coupled with his view of the business opportunities available by spreading out sideways from his current ABB positioning as a product/systems/solutions provider, leads to becoming a business partner who can also be involved in planning/design and engineering consultancy, i.e. before the main supply, and also to being involved in operations after the plant is operational, by offering software based services, maintenance services etc. He has seen this work already in China in his power business, of which maybe more later.

David Constable

So to be credible, ABB must be seen to have more of a process emphasis: this starts with the appointment of David Constable, President and CEO of Sasol, as an ABB Main Board member next May, if it is agreed by the Board. For ABB this strengthens their Board level knowledge of the process industries, of Africa, and of EPC business, either as a customer or as an activity. Constable, aged 52, has extensive knowledge of EPC activities and process projects, from his time at Sasol, and from his previous role as President of Operations for Fluor.

The new ABB management structure appointments will be made on 1st January 2015: Spiesshofer sees the new structure as simplified and streamlined, with a market focus. The dream of every CEO, but it depends on the people, co-operating within this matrix structure, and there seem to be 11 major reportees into the CEO himself.

Sadara!

OK, there was a mention for at least one major ABB process control project. One that could be the biggest process control system in the whole world, for the Sadara petrochemical complex in Saudi Arabia, a JV between Saudi Aramco and Dow Chemical that incorporates 28 separate plants. ABB has undertaken the task of providing the overall control system, which involved working with 15 EPC contractors, and handles 150,000 I/O. Frank Duggan mentioned the $500m+ Sadara system, which required the engineering co-ordinated between six separate ABB execution centres, in his quick worldwide set of examples of ABB projects. The rest of these projects were full scope power and automation systems for Exxon in Alaska, in Ohio for BASF, and in Queensland for the QGC/BG complex of 1700 wells, eventually producing LNG for export.

A word about China

Another essential footnote to the CMD presentations is to reinforce Walt's comment in the ***INSIDER*** last month that for ABB, China is the focal point! The presentation showed that after being present in China, through current subsidiaries, for over 100 years, the Group employs 19000 people there, and has invested $1.8Bn. Chinese graduates have voted ABB to be the best local employer in 2013. Country revenue in 2013 was $5.4Bn, of which 80% came from local production, maintaining the 40% power, 60% automation split common in the rest of the group. It was maybe in 2007 that Peter Terwiesch, in his CTO role, explained their major business headquartered there, developing and making apartment door enquiry/entry systems. China and USA are the Group's two largest markets, and we would not wish to suggest that the USA might be second.

The current 5 year plan forecasts a $370Bn investment in smart grid electricity supply systems in China, and ABB is pushing their operations westwards, as these inner regions are brought up to standard. No surprise then that the new PCS100 medium voltage uninterruptible power supply series will be launched in China first. With rising labour rates, ABB sees a large potential for small parts assembly automation, and has already seen good growth in robots used in 3C manufacturing, as well as automotive factories.

—Nick Denbow

UK Nukes Shut Down for Boiler Issues, Should Restart in December

Four operational nuclear reactors in the North of England, run by EDF Energy, have been shut down as a result of an anomalous NDT examination of a boiler spine at one reactor.

Heysham 1 Power Station

All are of the same design of AGR, Advanced Gas-cooled Reactors, and the shut-down follows the discovery of abnormal results in testing of the boiler spine structure at Heysham 1 power station, which has two reactors.

The other two reactors are at Hartlepool, which is identical in design to Heysham 1: the other AGR stations were built to a different design, in terms of the affected boiler spine.

Heysham 2 continues to operate normally, with its two reactors. The reactor at Heysham 1 was also shut down after smoke was seen coming from the plant last May: this plant also suffered a faulty boiler pump last January, when as a result it was taken offline.

Each of the reactors has eight boilers, in separate pods: each boiler pod has a boiler spine, a central forged metal tube that supports the weight of the boiler tubes, coiled around the spine. The cooling gas from the reactor core is circulated through this boiler spine, to extract the reactor heat. The defect at Heysham 1, later described as a crack, was found in the spine associated with one of these boiler pods: it was first found in a routine inspection in 2013. This boiler was isolated and he reactor operated at reduced power, until the further inspection in June 2014. Inspections of the remaining boiler spines in all the reactors have not indicated any similar defects, but EDF have from August 11th shut them all down to be seen to take "appropriate and conservative action in the interests of continued nuclear safety."

Workers inspect the reactor in June 2014

The inspection work was completed by early September, and EDF then suggested that the stations will be off-line until December.

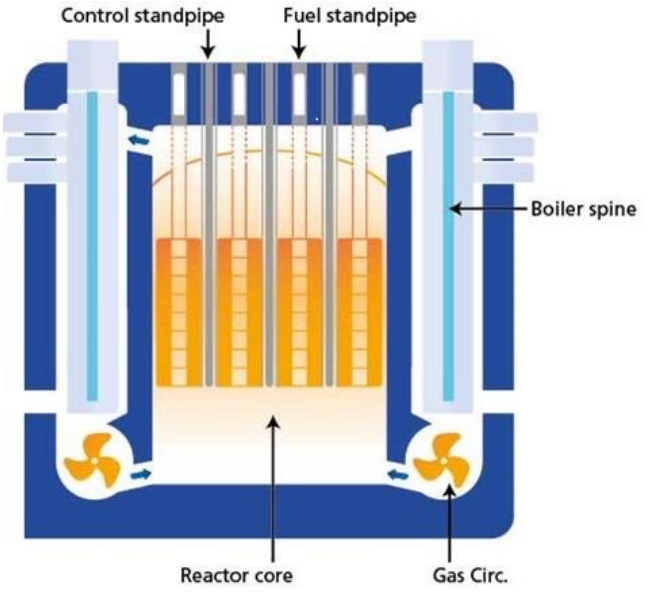


Diagram of an Advanced Gas Cooled Reactor like Heysham

"Depending on the progress of the programme (sic) and any necessary modifications, the company expects there to be a phased return to service between the end of October and the end of December, 2014." EDF's press release on September 4, 2014 said.

Heysham 1 and Hartlepool were both commissioned in 1983 and are due to come out of service in 2019, although EDF is hoping to extend their operational license, typically by 10 years to 2029, when Hinkley Point C might be available – but construction of this new plant is currently held up by the EEC over a "State Aid" legal enquiry.

The National Grid said the shut-downs would have no current effect on the UK's supply of electricity, helped by low seasonal demand and multiple energy sources available at this time of year. Nuclear generation provided 20% of the UK's power supply in 2013. "EDF Group has already identified actions to mitigate the financial impact of the lower nuclear output," the September 4th press release from EDF concluded.

—Nick Denbow

KSB Invests in LNG Valves; Rotork Powers Ahead on Projects

KSB Invests in LNG Valves

The KSB Group, with headquarters in Germany, is a major manufacturer of pumps and valves. Last Month KSB announced an investment of Euro12m ($16m) in their La Roche-Chalais valve factory in Western France, to enhance the production and test facilities for Liquefied Natural Gas (LNG) and other cryogenic valves. A new 4400 square meter building will contain machining, welding and test facilities for the KSB triple-offset butterfly valves, mainly used in liquefaction, gasification and natural gas transport. They are operated on platforms or factory ships, both in off-shore and on-shore production facilities.

KSB LNG Valve Testing Facility

The La Roche-Chalais factory has supplied cryogenic valves to almost 60% of the liquefied gas tankers operating globally. KSB has been very successful with its Danaïs cryogenic shut-off butterfly valves for these extremely low temperatures. Their market leading AMRI butterfly valves are available with a large range of electric, pneumatic and hydraulic actuators, gear units and various control accessories.

Half year result for the KSB Group published in August showed the business significantly adversely affected by changes in currency rates, leading to a 50% reduction in the earnings before taxes for the first half year.

Half year result for the KSB Group published in August showed the business significantly adversely affected by changes in currency rates, leading to a 50% reduction in the earnings before taxes for the first half year. Sales revenue totalled Euro 1012m ($1330m), 7.2% down on the previous equivalent half year. Full year results are expected to be moderately down on 2013.

Rotork powers ahead on projects

In contrast to the results from Germany based KSB pumps and valves, Rotork in the UK, the valve actuator and flow control technology providers, reported record order intake and first half revenue, despite the strengthening currency headwind. The order intake was GBP303m ($500m), and the order book increased by 7.4% to GBP203m ($334m): interim dividend was increased by 6.4%. CEO Peter France commented: “During the first half, we saw an increased level of activity in many of the markets that we serve

Ineos Explores for Shale Gas

Last month we reported that Ineos in Grangemouth had achieved a GBP230m ($378m) loan guarantee from the UK Government to help support plans for an import terminal for ethane feedstock, derived from US shale gas, plus a large storage tank for the ethane.

Now Ineos has acquired a 51% stake in a 127 square mile shale gas exploration block that surrounds its Grangemouth refinery complex in Scotland. The remaining 49pc of the shale section is owned by Dart Energy, which is in the process of being taken over by fracking firm IGas Energy. No shale gas exploration has so far taken place in the area, but estimates suggest it could contain 4.4 trillion cubic feet (tcf) of gas. If 10pc were recoverable, this could provide enough gas to meet Scotland's needs for more than a year.

Ineos said it intended to become “a major player” in the onshore gas production sector in the UK and was “one of very few businesses that can use shale gas as both a fuel and a petrochemical feedstock.”

Gary Haywood, CEO of Ineos Upstream, said the deal was “a logical next step”: over the last year Ineos has assembled a team of shale exploration and development specialists from the US.

KSB Invests; Rotork Powers Ahead

(continued)

and our geographic reach and broad product portfolio enabled us to secure a number of major projects."

Rotork CEO Peter France

Continuing a long record of acquisition activity, Rotork recently acquired Young Tech Co (YTC) in Korea, a manufacturer and supplier of valve positioners and accessories mainly associated with pneumatic actuation. Also last month Rotork acquired Xylem Flow Control (XFC) Ltd, in Wolverhampton, UK. XFC is a manufacturer of solenoid valves and instruments under the Midland-ACS, Alcon Solenoid Valves and Landon Kingsway brands. The acquisition from water technology provider Xylem Inc cost Rotork GBP18m ($30m) in cash: XFC generated EBITDA of GBP2m ($3.3m) on turnover of GBP14.9m ($25m) in 2013.

Rotork Chief Executive Peter France said "XFC is a long standing supplier of high quality solenoid valves and an excellent addition to our Instruments division. This acquisition further enhances our range of instrumentation products and will enable us to expand the sales and coverage of

Xylem CEO Patrick Decker

Midland-branded products utilising our existing sales channels."

"This sale enables us to focus more sharply on our strategic core businesses and our strengths as a water technology focused company," said Patrick Decker, president and CEO of Xylem. "At the same time, this business is a strong fit with Rotork's portfolio and leading brands. I am confident that this business will benefit from its integration into Rotork's portfolio and alignment with their long-term goals."

An ISO9001 certified company, XFC has been designing and manufacturing stainless steel control equipment for the oil and gas industries for over 60 years, and will now be called Rotork Midland, part of the Rotork Instruments division. It brings with it an enviable reputation for delivering innovative solutions for a wide range of applications, including control systems for pneumatic and hydraulic control valves, electro-pneumatic and electro-hydraulic actuators, local control panels, manifolds and components such as solenoid valves, level controls, gas detection and fire-fighting equipment.

The Rotork Midland product range complements the high-precision pneumatic control devices and motion control equipment manufactured by Rotork Fairchild, the Soldo range of control accessories for valve automation and the Young Tech Company's market leading range of valve positioners and accessories.

—Nick Denbow

Ebb and Flow in Tidal Power

Siemens-owned Marine Current Turbines has had its GBP10m ($16.5m) grant allocation from the UK Department of Energy and Climate Change for the 10MW Skerries tidal array cancelled. Work installing five SeaGen underwater turbines off the west coast of Anglesey in Wales was due to start in 2015, but Siemens now say the project has been suspended.

Another project off Anglesey, for the Rhiannon wind farm, was also recently cancelled by the developers because the Irish Sea bed geology is too difficult, and

Siemens SeaGen Tidal Turbine

the footings and foundations required made the project no longer economically viable.

The Skerries project would have been the first full-scale commercial project. Siemens is now looking for other opportunities. However, Atlantis Resources is to start work soon on the MeyGen tidal stream project in Scotland, and Tidal Energy unveiled the first commercial scale tidal turbine in Wales.

Phoenix Contact Changes Shape

In July, Gary Mintchell, in his "TheManufacturingConnection.com" blog mentioned that Phoenix Contact were to integrate their manufacturing software activities into their Control Systems business unit on January 1st 2015. To be prepared for this, you might try to look into the background. But Phoenix Contact is one of those suppliers we all know, but maybe don't quite know. Their catalogues are weighty, full of pages of connectors and terminal blocks and whatever, and the turnover is equally big too, at Euro1.64Bn ($2.16Bn).

In 2012 they restructured their International Sales into three pillars: Device Connectors; Industrial Components and Electronics; and Control and Industry Solutions, providing products like surge protection, redundant power supplies, Ethernet communications, and monitoring systems. Add on some other product ranges that have been seen in press releases etc, and you can include PLC systems for industrial process control and HMIs, and Radioline wireless communication systems, under the name "Trusted Wireless" (which recently achieved UL hazardous area listing).

KW-Software, based at the Centrum Industrial IT (CIIT) in Lemgo, Germany, has been part of Phoenix Contact since 2001, but retained its separate name. With around 70 staff, it also has offices or operations in the USA, since 1992; Japan, since 1996; and China, since 2004. Such arrangements might be the legacy of the original acquisition deal, but it appears the time is right to consolidate.

Consolidation in 2015

The Phoenix Contact Control Systems Business Unit will change its name to Phoenix Contact Software GmbH on January 1, 2015. The KW-Software release says "Current KW-Software Managing Director Andreas Orzelski and Detlev Kuschke, Director Research & Development in the Business Unit Control Systems at Phoenix Contact, will serve as the Executive Board at the new Phoenix Contact Software GmbH. Staff at the Lemgo site will join with the software developers from Phoenix Contact, who have been working at the Centrum Industrial IT (CIIT) in Lemgo for the past four years."

Roland Bent, Executive Vice President for marketing & development, and member of the board at Phoenix Contact, said, according to the release,

Phoenix Contact EVP Roland Bent

"Software is increasingly seen as a decisive criterion of differentiation on the market. IT and production are becoming more closely integrated. That's why it's paramount that we expand our software expertise in order to sustainably expand our control systems portfolio and our industrial solution services.

"This step allows us to pool our collective resources in order to be strategically oriented towards the technological requirements of Industry 4.0. The new CIIT building provides

"Software is increasingly seen as a decisive criterion of differentiation on the market."

End Device Firewalls

Innominate is a German-based security specialist within the Phoenix Contact Group. A recent application story for their mGuard solution for remote connectivity describes how for the last five years remote servicing using a broadband internet connection has been applied for automation contractors supplying the plants and test stands in Inteva Products, a supplier of sun roofs and other products to the automotive industry.

However, despite using a secure VPN connection for each contractor, to guard against other risks, an industrial firewall seals off any access to the rest of the plant network. Using the Innominate mGuard technology, the activation of VPN tunnels can be controlled by the operator: each IP/VPN connection must first be actively switched on using a key switch – so the plant operators know at all times who is doing what on which devices. Operating the system without additional software installations was also considered very important, in order to avoid impairing the plants from the very start. The remote service solution is used for ten plants, six test stands and one server - the IS System Manager at Inteva has been very satisfied with the solution. Enhancements and ongoing local support are provided by the Innominate certified partner, Propius GmbH of Dresden.

Phoenix Contact Changes Shape (continued)

us with more space for further growth. KW-Software's existing business with external customers will continue under the new name. This way, customers can take advantage of a wider range of software technologies from the Phoenix Contact Group," adds Andreas Orzelski, current Managing Director at KW -Software.

Andreas Orzelski

"Fully integrating KW-Software into the Phoenix Contact company demonstrates further commitment by Phoenix Contact to the control system technology business," said Dave Skelton, Vice President and General Manager of Phoenix Contact development and manufacturing. "Phoenix Contact's 'Solutions for the Future' are increasingly enhanced by software. The KW-Software USA team will join our Phoenix Contact Control Systems team in Ann Arbor, Michigan."

We look forward to seeing more information from Phoenix Contact Software! But what else did we learn about KW and CIIT?

KW-Software business

The product list for KW identifies three major business areas. First are Software Solutions for safety/security technology certified to IEC61508, including IEC61131 PLC programming system "SafeProg" for safety controllers, "SafeConf" secure tool of configuration of safety relays or drives, and other similar software.

Second is Profinet technology and services, including devices such as interface controllers and configurators. Third are software solutions for control systems and applications using IEC61131, including NET-based programming tools, COM-based programming tools, and ProConOS eCLR NET-based PLC runtime system for hardware using IEC61131 and C# applications.

CIIT – an IT-based automation technology centre

CIIT at Lemgo was established in 2010 as the first German science-to-business center in the field of industrial automation: market leaders from the world of electrical engineering work at CIIT together with well-known research institutions in the field of IT-based automation technology.

Phoenix Contact Gets Its OWLs

CIIT is based on the campus of the OWL University of Applied Sciences - this technology network, known as "it's OWL" (short for Intelligent Technical Systems OstWestfalenLippe) is an alliance of 174 businesses, universities, research institutes and organizations working together to make the innovative leap from mechatronics to intelligent technical systems.

Part of the German Federal government's the aim is to support high-performance clusters and strengthen the regional potential for innovation. The technology network 'it's OWL' receives Euro40m ($53m) in subsidies and the right to call itself a "Leading-Edge Cluster."

The cluster sounds like an ideal place for engineers to work, with lots of similar companies vying for their services. Other well known manufacturers present: Weidmuller, Harting, Wago, Beckhoff, GEA, Lenze, Kemper, Wittenstein.

—Nick Denbow

Metso DNA Systems for Energy from Waste Plant

For the eighth time Metso DNA automation systems have been chosen for an energy-from-waste (EfW) plant to be built near Aylesbury in the UK. The turnkey EPC contractor on this project is Hitachi Zosen Inova (HZI).

The EfW facility will be operated by FCC Environment and Buckinghamshire County Council. The new single-line

Artist's Rendering of New EfW Plant

facility will have a thermal capacity of 102MW, reducing the volume of waste sent to landfill by treating 300,000 tons per year, and generating 22MW of electricity – sufficient for some 36,000 homes.

Metso's delivery scope to the plant will consist of a Metso DNA automation system, a Metso DNA information management system and a safety system.

With Metso's advanced automation solutions, the facility will be able to reach high process availability and extract maximum energy value from the thermal treatment of residual waste.

Clean Water Alphabet Soup: CWA and VFDs and the 316(b) Rule by David W. Spitzer, PE

Instrument manufacturers concentrate on designing, improving and manufacturing their instruments On the other hand, instrument users tend to focus on where and how to use the instrument in the process.

Nonetheless some manufacturers take the initiative to provide specialized engineering solutions to help instrument users improve process performance. This can be helpful because many users do not have the time or resources to develop solutions to implement these improvements. These manufacturers generally identify potential improvements that can be applied industry-wide and develop equipment to implement them.

Matt Grant, POWER

The presentation of one such application was hosted by Matt Grant (Associate Publisher at POWER magazine) on 27 August 2014. Dr. Tom Englert (Vice President and Clean Water Act Expert at HDR) provided background process information. Note the rather circuitous route that this application follows. The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

The EPA's new Clean Water Act section affects more than a thousand existing power plants and factories. Under section 316(b), facilities are required to use the "best technology available to minimize harmful impacts on the environment." What this means has been open for discussion. The final draft version was only published a few days ago.

Dr. Tom Englert, HDR

The 316(b) rule addresses the intake structures of certain industrial plants with large water intake flows (generally over 2 million gallons per day) so as to minimize environmental impact of withdrawing water.

Adverse environmental impacts include impingement and entrainment, examples of which include the trapping of large fish in the inlet screen and the passage of small aquatic organisms respectively.

The EPA's new Clean Water Act section affects more than a thousand existing power plants and factories. Under section 316(b), facilities are required to use the "best technology available to minimize harmful impacts on the environment."

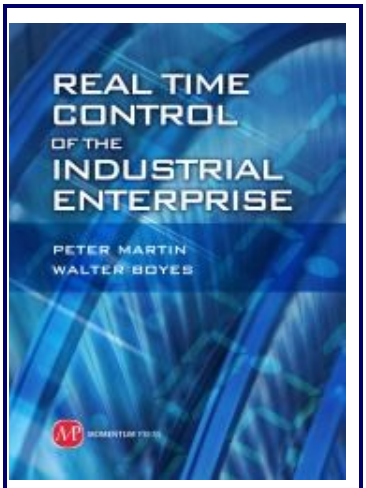
Options for pre-approved impingement compliance (onshore) include closed cycle cooling and reducing the water velocity in the screen below 0.5 feet per second. Other solutions requiring more vigorous study and approval include modified traveling screens, combinations of technologies, and proving that mortality is under a given threshold. In particular, plants with intakes over 125 million gallons per day must have a site

MTL Introduces New Adaptor

MTL has introduced the F30 Ex ic, and a fieldbus power supply module, the 9192-FP, suitable for use with equipment in Zone 2 hazardous areas. The new adaptor is designed for use in conjunction with MTL F300 series Megablock wiring hubs, and uses the same simple fieldbus input/output (I/O) and power supply cabinet design as is used in general-purpose installations, reducing the number of cabinets required and helping to enhance safety. The MTL solution provides clear separation between the non-arcing (Ex nA) trunk and the intrinsically safe (Ex ic) spurs, thereby avoiding complex rules for wiring in the marshalling cabinet. The new units provide users with a straightforwardway of connecting field devices to Foundation fieldbus networks in Zone 2 hazardous area applications, and the architecture supports Ex nA, Ex d and Ex i devices on the same segment.

At the same time the adapter makes it easier for users to demonstrate that their solutions fully comply with Ex ic requirements, eliminating the need to declare host H1 systems as safety extra-low voltage/protected extra-low voltage (SELV/PELV) compliant.

"Our solutions help meet the growing and rapidly changing demands of customers working in Zone 2 hazardous areas," said Roger Highton, MTL product manager in the Eaton Crouse-Hinds Division.



READ THE BOOK!

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

Alphabet Soup

(continued)

specific determination that requires studies to evaluate alternative technologies and their benefits such as the value of the fish saved. The impact on health, noise, safety, thermal discharge, water consumption, and other related issues may also be quantified to develop a cost/benefits evaluation on which to base an approval decision. It is estimated that approximately 1000 existing facilities in the USA will be subject to this rule --- approximately half are power plants and the remainder are manufacturing plants. There are various approaches to compliance to include closed-loop cooling to reduce the intake flow, relocating or expanding the intake to reduce the velocity below 0.5 feet per second (can be expensive), installing different screens to reduce velocity (typically expensive), installing behavioral solutions that are species-specific (such as ultrasonic noise), and installing variable frequency drives that can reduce flow (among other operational benefits).

Al Giesecke, Siemens

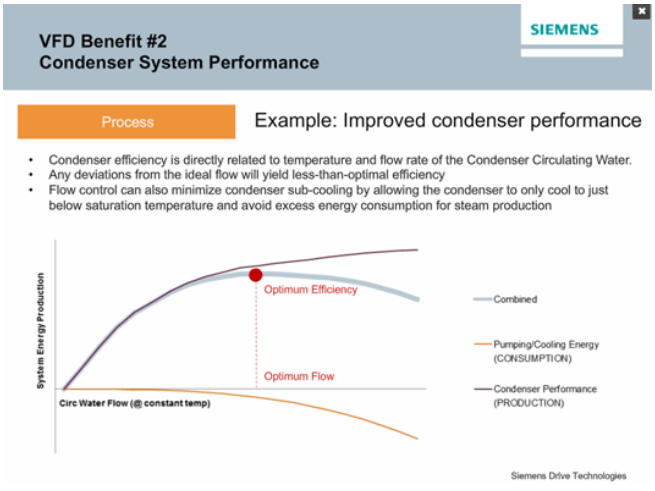
Al Giesecke (Director of Advanced Drive Applications at Siemens) stated that the typical plant can require impingement and entrainment reductions of over 80 percent. Installing variable frequency drives is the only approach that offers potential improved process performance, increased energy efficiency, reduced costs, and a return on investment (ROI).

Benefit 1 --- Energy Savings

The installation of variable speed drives is often justified based on the electrical energy savings generated by better matching the hydraulic energy produced by the pumps to their load. Additional savings include improved power factor that effectively reduces transformer loading and heat losses. Many variable frequency drive manufacturers focus on the resultant electrical energy savings and use these savings to calculate a return on investment (ROI) to justify variable frequency drive projects. However they are but a small part of other more important benefits in this application.

Benefit 2 --- Process Improvement

Water circulated through condensers in power plants are used to condense low pressure steam. Condenser design is predicated on the cooling water flow at a given temperature in conjunction with allowances for the worst case operating conditions and other factors. Condenser operation will vary with steam flow, cooling water flow, cooling water temperature, condenser temperature, and other variables.



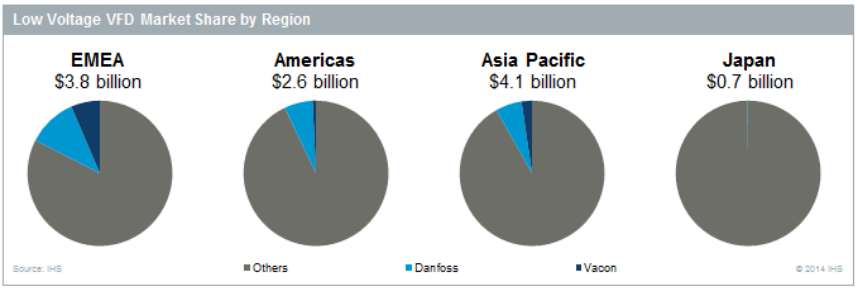
Danfoss Acquires Vacon VFDs

Danfoss to acquire Vacon: Two of the top ten low voltage VFD suppliers 'join forces'

Here's some analysis fromKevin Schiller of IHS.

According to the Danfoss press release, the combination of the Vacon and Danfoss drive businesses is expected to create 'a new AC drives business with the clear ambition to build a leading position in the AC drives market'.

Denmark's Danfoss A/S has bid $1.34 billion for the acquisition of Finland's Facon Oyj, which would result in the union of two of the ten largest variable frequency drive suppliers globally. According to IHS, the combined low voltage drive revenue from the two companies represent over 10% of the global market value; this is slightly less than the estimated market shares for ABB and Siemens, the two largest suppliers of low voltage drives globally.



As the figure above indicates, both companies have strong market share in EMEA and Asia Pacific regions. The combination of the Vacon and Danfoss VFD businesses will compete heavily in these regions, where traditionally only ABB and Siemens have competed for top market share. Further, the Danfoss announcement lauds Vacon's strengths in China, Finland, India, Italy, and the United States.

The combination of the Vacon and Danfoss drive businesses is expected to create 'a new AC drives business with the clear ambition to build a leading position in the AC drives market'. Kevin Schiller from IHS agrees that the acquisition will secure a stronger foothold for the Danfoss and Vacon drive products, the newly formed drives business resulting from the acquisition of Vacon by Danfoss will not resemble its competitors. "ABB and Siemens cultivate much of their drives business alongside their sizeable share of the integral AC motor market, and are able to offer complete system solutions across all power ranges. Conversely, Danfoss has a comparatively undersized standalone motor market share. However, with significant market share in drives integrated with motors and end equipment, the new Danfoss and Vacon integration will most likely affect the competitive landscape in lower power ranges – below 50 kW."

Danfoss hopes to become the leading supplier of drives within the Nordic region, which has an estimated market size of over $500 million. This region is expected to grow slightly slower than the market average, at just over 7 percent CAGR, from 2013 to 2018. While Danfoss has traditionally concentrated on the HVAC industry, the addition of Vacon's business will diversify sales channels and strengthen product portfolios in the power generation and building automation sectors.

10 Finalists for TriCorder XPrize

Eliza Strickland reported in the IEEE ***Spectrum*** Test and Measurement enewsletter on September 16 that XPrize announced 10 finalists for the Qualcomm Tricorder XPrize at the IEEE Engineering in Medicine and Biology Society (EMBS) annual conference.

The 10 teams are vying to make a Star Trek-style medical scanner available to 21st-century consumers...and win $10 million USD.

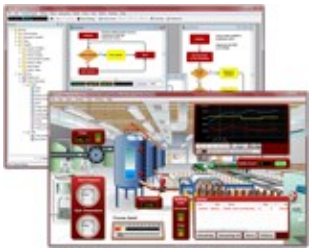
Each team must now build a consumer device that can diagnose 15 diseases and measure 5 vital signs. The meeting was full of talk about distributing healthcare technologies, shifting power from doctors to patients, and letting people manage their own care with sensors and data analytics. Or, as XPrize put it, "Healthcare in the palm of your hand."

Opto22 Releases PAC Project 9.4

Industrial automation manufacturer Opto 22 has announced PAC Project 9.4, an upgrade to its PAC Project suite of software applications and utilities that provide control programming, HMI development, OPC connectivity, and database integration. This latest PAC Project upgrade supports Opto 22's new HART protocol SNAP I/O modules, adds the option of logging HMI data to SQL and other ODBC databases, and uses Unicode (UTF-16) text to support Asian, Middle Eastern, and other languages in an HMI. Also, all PAC Project software components now work on PCs running Microsoft Windows 8.1. PAC Project is part of the Opto 22 SNAP PAC SystemThe SNAP PAC System and all other Opto 22 products are designed and made in the U.S.A.

PAC Control, PAC Project's flowchart-based programming application, and other PAC Project components add support for Opto 22's new HART protocol SNAP I/O analog input and output modules.

HART is the most widely used digital communications protocol in process automation, and process engineers and other end users can use new HART-specific commands in PAC Control to exchange status and command data with HART "smart devices" such as field-mounted process transmitters and analyzers. Data from smart devices can be incorporated into a control system just like the analog, digital, and serial signals received from other SNAP I/O modules. This information can be used by the automation system as well as other enterprise systems to increase uptime, improve productivity, and enhance safety.



PAC Project 9.4

PAC Display, PAC Project's HMI development and runtime application, can now optionally write data from trends, historic logs, and operator logs to an ODBC database. This makes realtime control system and plant-floor data readily available for ERP (enterprise resource planning), MRP (manufacturing resource planning), and other business systems.

Supported databases include MySQL, Microsoft Access, and Microsoft SQL Server. Database data logging is only available in PAC Display Professional.

PAC Display also adds support for the Unicode (UTF-16) text standard, which expands the languages that can be used in a PAC Display HMI. On-screen objects such as trends, windows, buttons, and labels can now use text from many different languages, including Asian, Middle Eastern, and other languages with non-Roman character sets. Data logs that record information from trends, alarms and other sources can also use these character sets.

All PAC Project software components now support Microsoft Windows 8.1 (both 32-bit and 64-bit versions). Microsoft Windows 8.0 is not supported.

PAC Project 9.4 software will be available September 22, 2014.

The complete list of PAC Project components:

- PAC Control
- PAC Display
- PAC Manager
- EtherNet/IP Configurator
- SoftPAC
- OptoOPCServer
- OptoDataLink.

Details on all of the PAC Project components is available from the Opto 22 website, www.opto22.com.

Longbow Research Releases New Reports

Here are some of the most recent reports from Longbow Research.

Notes from LBR's Industrial Manufacturing & Tech Conference (Sept. 15)

IMTS: Industry Focus on Potential Strengthening of Growth in 2015 (Sept. 12)

U.S. Welding: 3Q14 Market Growth Remains Tepid (Sept. 8)

The INSIDER has a very high regard for Longbow Research's acumen and industry experience. We read Longbow's reports about the automation industry with great interest.

I bet you didn't know that they have awards for analysts. In 2014, the StarMine Analyst Awards gave Mark Douglass from Longbow, who covers this industry, the #2 earnings estimator rank on "Electrical Equipment," which is where Wall Street categorizes automation and control systems.

If you haven't been availing yourself of their point of view, you might try subscribing to their newsletters.

Contact them at http://www.longbowresearch.com.

THE WAY I SEE IT
Editorial

Manufacturing Day: a Modest Proposal

October third is Manufacturing Day. It is about time. It has been so easy for us, these last fifty years, to move the dirty stuff of manufacturing and process plants offshore and only manage the money that we forgot that we will always have to make stuff to back the money with. Money isn't backed with silver or gold, it is backed by the stuff we make, and the labor we make it with.

We have known for over a decade and a half that we weren't getting enough young people to enter the world of manufacturing to replace us older workers who are leaving soon. We got a reprieve in 2008 when the banks destroyed the economy and many people's retirements had to be delayed, but it is now nearly 2015 and many of those people are retiring now.

Whether we have been able to transfer these retirees' knowledge base to younger workers isn't material any more, because the issue is getting those younger workers themselves.

Discovery Networks has jumped in with both feet. They are running Manufacturing Day specials, Manufacturing Day commercials and publicizing this one day where we are supposed to glory in American manufacturing. My favorite of the commercials is the one that barely mentions it is by Exxon-Mobil with four or five kids, who are all interested in doing something to change the world, and they decide that the best way to do that is to become engineers. Go, Discovery Networks!

"...humans need to provide the reality check and the superheterodyne BS detectors."

And if what I wrote about last month, "No Humans Need Apply," comes true, some of the last real middle class jobs will be engineers and technologists, scientists and researchers. Yes, computers can do research better than humans, but they need to be told what to research, and humans need to provide the reality check and the superheterodyne BS detectors.

Here's a modest proposal.

We know from experience that kids coming out of high school aren't competent to enter the work force directly. We know that many kids cannot go on to college because they just barely made it past high school, or they dropped out.

What we also know is that these people aren't stupid, subhuman people who don't want to work. What they were never given is good instruction, support, and praise. Instead they were told they were too stupid, too lazy, too something to succeed.

What might happen if end user companies, asset owners, vendor companies, system integration companies— all of us, invested in direct training for our own workforces?

What might happen if we stopped waiting for the education system, which is being whipsawed by political pressure and religion, to develop skilled, thinking people instead of people with sheepskins on their walls? There is even a precedent for this. That precedent is Kettering University. Founded in 1919 as a trade school, the institution was purchased by General Motors in 1926, and named General Motors Institute of Technology. GM didn't do this out of philanthropy, but rather need. They needed engineers, technologists, scientists and researchers— and this was the only way they found to do it. Now named Kettering University, it is considered one of the best STEM undergrad schools in the US.

What worked once might work again. What do you think?

Comments? Talk to me!
waltboyes@spitzerandboyes.com

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

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

Profile

A Visit to the Endress+Hauser "Family Reunion"

by Joy Ward

With an event part family reunion and part pep rally, Endress+Hauser continued its investment in the North American market with a state of the art 80,000 square feet, 16 million dollar investment in the form of a sparkling new Customer Center in the Greenwood, Indiana facility. Endress+Hauser has invested approximately 150 million dollars in the last five years in the North American market.

Attendees ranging from current corporate partners and employees to retired Endress+Hauser employees. The event celebrated the history of the company's founding in 1953 through its healthy and somewhat steady growth in North America and globally. Endress+Hauser is a company that puts a strong emphasis on providing a family feeling and atmosphere, which came through as the speakers walked the crowd down the memory lane of corporate history. One of the high points of the evening occurred during sa speech by General Manager of the Endress+Hauser USA Sales Center Todd Lucy, as he verbally applauded the efforts of those Endress+Hauser managers who came before him. Klaus Endress, President of Endress+Hauser, AG Advisory Board and son of co-founder Georg Endress told stories of his time as the US manager as the Greenwood, Indiana facility grew from one small building in a big field to a sprawling campus from which Endress+Hauser shipped products all over the world.

Klaus Endress and Matthias Altendorf

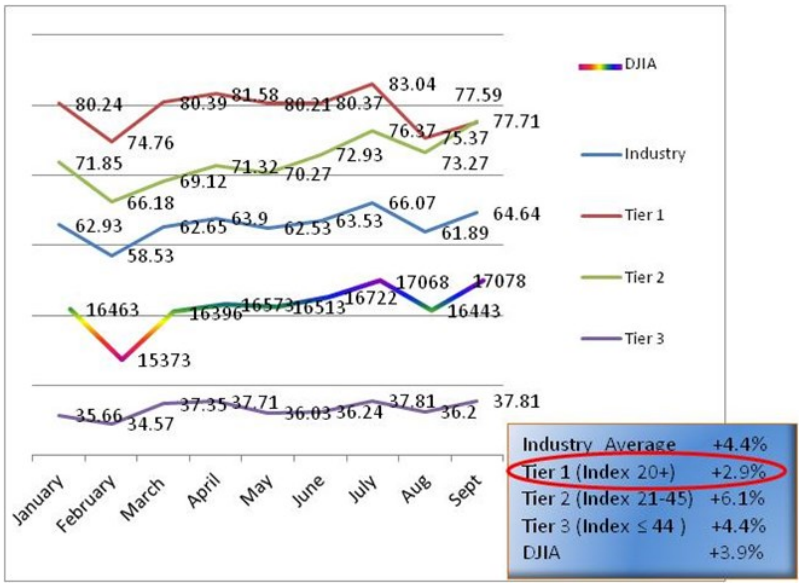
On a personal note, Endress recounted when the campus went smoke-free and he was forced to find smoking solace standing on the railroad tracks which run next to the location. The train added a moment of levity when it made an appearance during his talk. Endress then went on to hand over the baton to new CEO (and first non-family member) of the privately held Swiss company, Matthias Altendorf, who encouraged the Endress+Hauser team to focus on solutions orientation not just sales. He continued the corporate stress on corporate partnerships and relationships.

New 80,000 Sq. Ft./$16 million Customer Center in Greenwood, IN includes a gourmet cafeteria and a Starbuck's coffee bar.

The obligatory ribbon cutting

No one exemplified the family-oriented spirit more than Loren Puck, former General Manager of Endress+Hauser SC USA. Puck made us all feel like extended family as he talked about he had hosted European Endress+Hauser employees in his own home and been hosted in turn. But everyone in the audience shared an intensely sweet moment when Puck thanked his wife of fifty plus years for being a part of the team, helping him with events and being an caring unsung addition to the Endress+Hauser family.

The evening ended on a high note with the actual cutting of the ribbon to the Customer Center and dinner. The Customer Center (CC) provides excellent learning experiences for customers with cutting edge classrooms and Endress+Hauser's largest Process Training Unit (PTU). The PTU is controlled by Rockwell Automation's PlantPax system with over 120 measuring points. The CC also has a focus on employee wellness with a wellness center and a cafeteria where employees can discuss ways to improve their customer solutions while drinking their Starbuck's coffee.



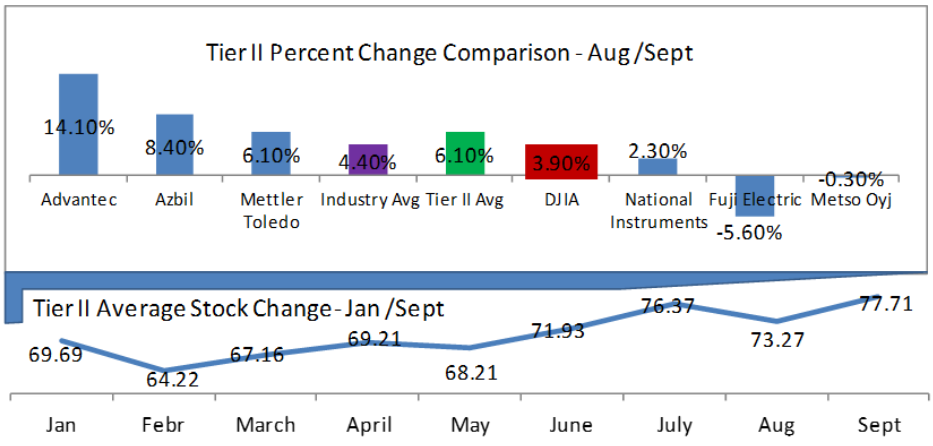
INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

By Mary Samuelson

Industry Recovering From Mild Summer Slump

After taking a downward turn in August, the industry as a whole recovered well in September. There are some differences between tiers, with the larger Tier 1 companies showing less ability to rebound than Tier 2 (medium sized) and Tier 3 (smaller) companies, compared to the DJIA. A couple of exceptions to the slowed upswing seen across the majority of large companies is Siemens, with an increase of 5.8% since last month, and Flowserve, posting a 6.8% increase over the past month.



Flowserve is Ahead of the Game

Flowserve's smaller than average drop in August and larger than average jump in September is due in part to the impressive 22.5% return on investment shown for the past year and a 10.1% profit margin posted in June. In addition, On August 19, Flowserve board of directors approved a quarterly cash dividend of $0.16 per share to be paid October 10 to shareholders of record as of close of business on September 26th.

Concern for Spectris

On the flip side, Spectris, whose stock declined over 13% between August and September, points toward a continued sluggish economy for its decreased revenue and stock value. Spectris Plc stock plunged the most since 1989 after the U.K. maker of production-testing gear reported that a sluggish world economy prompted clients to defer orders. With a plethora of delayed orders, Spectris remains positive. "There is no reason to expect the delayed orders will be canceled", Spectris said.

First-quarter organic revenue fell 9 percent on a constant currency basis, the Egham, England -based company said in a statement posted in mid-April. Mi-

HONEYWELL'S NEW TECHNOLOGIES FOR UPSTREAM OIL AND GAS CAN BOOST PRODUCTION PERFORMANCE BY 3 TO 5 PERCENT

Honeywell Process Solutions has announced the release of Digital Suites for Oil and Gas, an innovative set of software and comprehensive services that can help oil and gas producers boost production performance by 3 to 5 percent while improving operational safety.

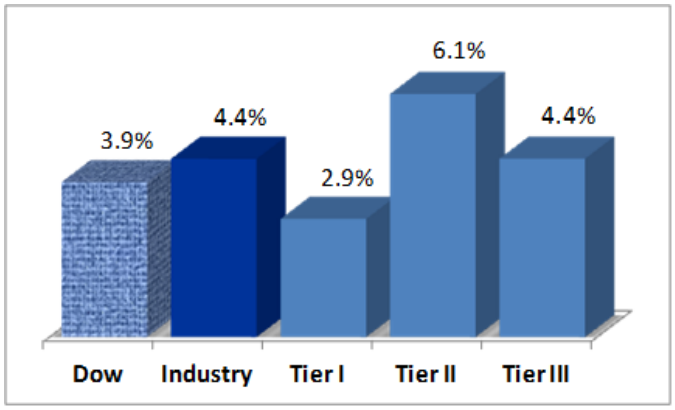
The production improvements, which have been validated through customer testing, are driven by a combination of better productivity, higher uptime and more efficient remote operations, and can produce a return on investment in as little as six months.

Digital Suites for Oil and Gas software helps to ensure that essential safety procedures perform as designed, operators are fully trained, alarms are managed and enforced, and production performance is instantly available to detect and mitigate potential events. These software solutions make collaboration through remote operations a reality, helping to manage the number of local personnel, especially as the upstream industry moves farther offshore into higher-risk conditions.

Digital Suites for Oil and Gas is a fully integrated offering, but each suite is also available separately, letting customers address the specific issues they face.

INSIDER Health Watch *continued*

chael Blogg, an analyst at Investec Securities is slightly less enthusiastic. He reported in a note to clients, "While we anticipated a deceleration in the first quarter, the slowdown was broader and deeper than expected," Spectris is hopeful, commenting that full-year revenue is still likely to be ahead of last year, based on the company's "opportunity pipeline," It has proactively put into motion plans to reduce costs by 10 million pounds this year so that profit will be "broadly in line" with its forecast at the start of the year, the company said. Scott Cagehin with Numis Securities is less optimistic. "Despite this [plan], the shares will be under pressure as we now clearly have a lack of earnings momentum," Scott said in a note to clients. The stock has fallen 16% since June, and one year ROI is a concerning -5.39%



Tier II Companies Looking Good!

Mid-sized companies' average increase beat the DJIA by over 2% in the month of August, and the Industry average by 1.6%. Several mid-sized companies' stocks increased well above the average, more than making up for the losses seen for this group in July. In fact, the Tier II September stock average is over $1 per share higher than was reported in July.

Taiwan based Advantech leads the Tier II pack with a 14.1% increase since last reporting, and 69.36% ROI over the past year. Other Tier II companies of note are Azbil Group (Yamatake) which increased 8% since last month, and Mettler Toledo with an increase of 6.1%. Azbil's increase is potentially due, at least in part, to an August order from Japan Marine United Corp for the integrated automation system of LNG carriers to be used for a U.S. shale gas LNG project. Olivier Filliol, President and Chief Executive Officer of Mettler Toledo ascribes Mettler's successful increase to market conditions and growth strategies. He stated, "Market conditions were

Shell Uses XBox Technology in Experimental Drilling Rig

An article in the Boston *Globe* talks about Shell's TechWorks Lab, in Kendall Square, Cambridge MA. The Shell team is trying to remove people from the oil well drilling loop altogether, by using a concept borrowed from Kinect, the motion-control system developed by Microsoft Corp. The Shell team used Kinect gear from the local Best Buy to develop a robotic system to align the pipe. When perfected, the system should allow drillers to handle the entire process from a remote-control center, safe from any flying steel and with no need for eyeballs or joysticks.

"We get rid of the humans," Murphy said. "You press a button and it just goes."

It can take anywhere from three to 13 minutes to add more pipe on today's rigs. Murphy said that his team's robotic system will be able to add a length in three minutes — every time.

It should save money, too. Running an oil rig is expensive, as much as $1.9 million a day. Speeding up the addition of pipe by just five minutes, for example, would save Shell up to $6,600 every time it is done. And the system should be relatively cheap, because it relies on inexpensive video cameras and software.

INSIDER Health Watch *continued*

good in the Americas and solid in Europe, and we are benefitting from our growth strategies. China's market conditions continued to stabilize, which contributed to improved growth in Asia / Rest of the World in the quarter. Despite currency headwinds, we generated solid EPS growth as we continue to benefit from our various margin and cost control initiatives." EPS in the 2nd quarter was $2.49, compared with the prior-year amount of $2.24. Adjusted EPS was $2.57, an increase of 9% over the prior-year amount of $2.35. Sales were $608.8 million, a 4% increase in local currency sales, compared with $578.7 million in the prior-year quarter.

Tier III Is Also Doing Well

Tier III finished slightly above the DJIA, and right in line with the industry average. Many of the smaller control automation related companies did very well, while others performed significantly worse than the average. Companies beginning September with a month over month increase of over 10% include Vishay Precision Group (12.2%), Alps Electric (10.6%), Horiba (11.4%), and MTS (16%).

The *INSIDER* Health Watch(tm) is written by Mary Samuelson, Quantitative Research Practice Lead at Spitzer and Boyes, LLC. Ms. Samuelson was director of research at Maritz Research, and vice president at Rockhopper Research, and a Senior Project Manager with The Right Brain People. "The Health Watch shows what we are capable of, in quantitative research, at Spitzer and Boyes, LLC.," she said. "If you are looking for research that is different from the kind you get from the usual suspects, give us a call." Spitzer and Boyes, LLC has a complete qualitative and quantitative research capability, focused on the automation industries. For more information, contact Walt Boyes at waltboyes@spitzerandboyes.com .

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Rajabahadur V. Arcot: Economic Growth Imperatives: Job Creation and Workforce Education and Skills Training

While talent crunch confronts employers, about which Victor Marinescu wrote in the August issue of INSIDER, lack of job opportunities is a source of serious concern among the global workforce.

Presently, over 100 million people are unemployed and around 447 million live on less than $2 per day across G-20 member nations. According to the report, at the global level, just to keep up with current levels of population growth, 600 million additional jobs are required by the year 2030.

The report "G20 labor markets: outlook, key challenges and policy responses," prepared jointly by the ILO, OECD, and World Bank for the G20 labor and employment ministers meeting in Australia, focuses on these issues and asserts that countries need more and better jobs to ensure sustained growth and the wellbeing of their societies.

Rajabahadur V. Arcot is an Independent Industry Analyst and Business Consultant with 40 years of senior management experience. Until recently, he was responsible for

The report identifies jobless growth, large unemployment, and persistent weakness in job quality, wages, and incomes in many G20 countries as the reasons for the slow global economic recovery.

With domestic consumption accounting for the largest share of total demand in many economies, weak consumer demand has a negative influence.

While lack of job opportunities and stagnating wage incomes constrain both consumption and investment as sources of aggregate demand, creation of disposable incomes and confident outlook of the future has the potential to spur consumption and improve the economic outlook.

The report's recommendations to overcome the challenges in achieving sustainable job-rich economic growth include initiatives relating to aggregate demand creation; reducing unemployment, underemployment, and informal employment; and increasing labor market participation.

The report makes specific recommendations regarding workers' skills and training.

It records that basic education, training, and lifelong learning foster a virtuous circle of higher productivity, more and better employment, and growth and development.

Skills upgrading is an ongoing necessity for all economies as changing patterns of production, trade, international competition, and technological innovation impose varying new skill requirements.

Availability of quality and relevant training for in-demand skills and occupations is a key factor and partnerships between education and training providers and firms, trade unions and civil society are necessary to ensure that the workforce has access to the necessary education and training. Especially, people with lower education and skill levels face greater challenges when job opportunities are weak.

The report broadly recognizes that while in advanced G20 economies, large jobs gap and stagnating wages are major challenges, in emerging G20 economies high levels of under-employment and informality undermine both current consumption and investments necessary to improve long-term growth prospects. In conclusion, it says that it is important for policy makers to seek job-rich inclusive economic growth and I agree with the report's analysis and recommendations.