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Schneider *Non!*

In the aftermath of the collapse of the not-quite-an-acquisition of Aveva by



Schneider's Jean-Pascal Tricoire

Schneider Electric, lots of people are standing around, looking at the wreckage and trying to figure out what went wrong.

Schneider Electric, having just come off its first full year of owning a huge software business (that it bought from Invensys), had been trying to figure out what to do with it.

Schneider's track record with software companies (can you say Citect) hasn't been very good, and the acquisition came together at the same time that some of the software businesses were showing soft results because of the downturn in oil and gas. Also, Schneider had picked up a bunch of debt they wanted to try to get rid of. So they went looking for somebody who could manage the software business for them. In-

terestingly, Aveva was trying to sell itself at the same time.

What appears to be true is that Schneider did not have enough purchasing power to simply



AVEVA's Richard Longdon

snap up Aveva, which would have been the smart thing to do. So, instead, they decided on a very complicated and ultimately unsuccessful sort-of merger. The way it was supposed to work was that Schneider was going to sell its software group (Wonderware, Aventis, et al.) to Aveva, in return for 55% of Aveva.

This was clearly a strange way to go about acquiring Aveva, if that's what Schneider actually wanted to do. Aveva would run the merged units, and Schneider would be left to do...what?

It wasn't clear.

What knowledgeable insiders think is that this is part of the revolt of the Paris contingent that has been expected since the acquisition.

Schneider *could* have simply rolled all of their automation businesses into the two divisions they'd made out of Invensys. And in fact, it looked for a year as though they would do that. That would have been the

"The two parties have decided to stop their discussions by mutual consent as no agreement could be reached on the terms of transaction."

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money shot. They could have taken all the “StruxureWare” products and taken a decade-long leap by simply replacing them with the Foxboro products and others. They did, in fact, get substantial synergy from combining Citect and Vijeo with Wonderware.

But the minute they had it done, and were starting to hit on all cylinders, the oil and gas bust hit, and they apparently got scared.

Now they’ve spent six months trying to put together some kind of deal with Aveva. Unfortunately, on December 15, Aveva announced that they were done playing. Their statement said that there were, “significant integration challenges...that could not be overcome without considerable additional risks and costs. This was exacerbated by the highly complex structure of the proposed transaction. As a result, the Board has determined that the anticipated uplift in shareholder value was unlikely to have been realized to the extent previously considered.”

Schneider’s statement was even balder. “The two parties have decided to stop their discussions by mutual consent as no agreement could be reached on the terms of transaction.”

Having wasted the last half year, Schneider now can either put up the cash to buy the whole thing; Aveva could go on the block to somebody else; or Schneider could go back to the original plan with Schneider Software and Schneider Hardware, and give everybody else a good run.

Cameron Oui!

Two days after the Schneider-Aveva deal went blooey, Schlumberger and Cameron announced that their shareholders had given final approval to the \$14.8 billion cash and stock deal that will make Schlumberger a significant player in the automation industry, as well as giving them their own captive oil and gas automation products group. The deal is expected to close in Q1 2016, and no problems are expected, since the US Department of Justice has already cleared the merger.



New Cameron CEO Scott Rowe

When the deal finalizes, Cameron shareholders will receive 0.716 shares of Schlumberger and a cash payment

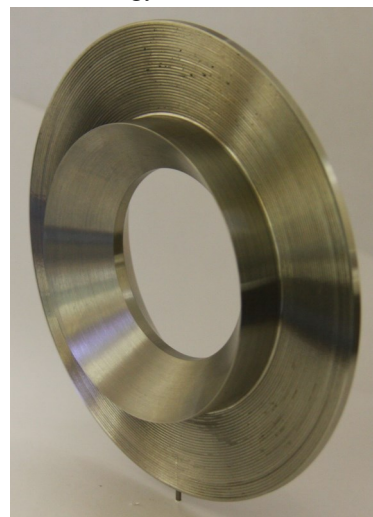
of \$14.44 a share. One hopes they’ll take the \$14.44 and invest it in Schlumberger.

“The combination of the two organizations,” said the new Cameron CEO Scott Rowe, “will create a premier oil field equipment and services company uniquely positioned to deliver superior value to the industry.” Unique, at least, until the Halliburton-BakerHughes merger goes through, if it ever does.

Does Old School Rule?

A press release from Bell Technologies LLC claims that the Torus Wedge, about which we have previously written, has claimed that test results showed that the product “outperforms the Coriolis in multi-phase flow measurement.”

“This is something we have known since the product was created,” said Dave Bell, owner and chief technology officer for Bell Technologies LLC. But, we needed an independent test against the standard in the industry to see just how well it would perform. This test on water-based drilling mud as well as the test we are currently running in oil-based drilling mud seem to prove all of our assumptions. This strengthens our belief that the Torus Wedge can resolve a number of drilling fluid flow measurement issues.”



The Torus Wedge

The release quotes Jason Norman, Senior Drilling Fluids Manager for Zaxxon Instruments LLC, who oversaw the test. “After conducting our flow loop testing on both water-based and oil-based drilling fluids (at fluid densities all the way up to 18 PPG), I am now convinced that we have found the right solution.”

Apparently, the Coriolis meter (manufacturer and condition not specified) was used as a master meter.

Although the news release claimed that test data showed proof that, when used to measure mud flow under multi-phase conditions, the Torus Wedge performs reliably and consistently. It would appear that the Torus



Test Rig for Torus Wedge v. Coriolis meter

Does Old School Rule? And To Ireland We Will Go!

Wedge outperforms the Coriolis under the most difficult application conditions, the data itself was not forthcoming.

The INSIDER asked to see the data, and, according to Bell, he will only show you a presentation of the test report, unless you are willing to sign a non-disclosure agreement. He will not produce a copy of the data.

Spitzer and Boyes LLC, the publisher of the INSIDER is one of the most knowledgeable consultants in flow measurement in the world. We aren't going to express an opinion on this story unless we see the data.

ther than Milwaukee, will contain a balanced mix of HVAC and Controls, Fire, and Security products, plus Power Solutions.

The benefits, basically, are tax synergies of \$150 million, partly because of maintaining Tyco's legal domicile in Ireland in a so-called tax "inversion," and annual operating synergies of \$500 million, which are supposed to be achieved by the end of the third year, combining \$150 million from corporate redundancies and cost-cutting and \$350 million from operational synergies. Of course, these synergies rarely materialize.

What this will really do is to make a huge building automation company. Here's a nice graphic provided by Johnson Controls to indicate all the technological synergies. Note that there are significant Johnson Controls strengths, as well as Tyco strengths, and they appear to be throughout the building. There are a lot of over-

Johnson Controls and Tyco International to Merge

The late January announcement of a merger agreement between Tyco International and Johnson Controls Inc. brings different strengths together. Adding Tyco's fire and security systems to Johnson Controls' heating, ventilation, and air conditioning, or HVAC, solutions will create a leading player in the commercial building-products marketplace. However, Johnson Controls also contains a Power Solutions and Automotive Experience business (car batteries, and car seating and interiors, respectively).

The merged company will then carry out Johnson Controls' existing plan to spin off its Automotive Experience segment, to be called Adient. The resulting company, based in Ireland ra-

Combination Creates Ability to Deliver on Integrated Vision for Buildings of the Future



Advantaged Position for Building Automation and Systems Integration

laps with the world of process and factory automation, especially when the Internet of Things becomes a consideration.

Of course, the tax inversion strategy has already garnered some significant criticism.

Things Are Not Quite As They Appear, by David W. Spitzer PE

It happens everywhere --- things are not quite as they appear. On your home turf, you usually know roughly where the problem will be. However, on foreign soil, the problem could lurk anywhere. Let me start with a personal experience and then move to its application to instrumentation.

My wife and I went to a local restaurant for an “executive lunch” a few days ago. Most restaurants in Brazil have only one menu (dinner). But they often offer a selection of lunchtime meals at reasonable prices --- an “executive lunch.”

Our “executive lunch” included dessert. As the plates from our meal were being removed, we asked a seemingly knowledgeable waiter the choices of desserts that came with our lunches. He told us that *pudim* (similar to flan) was the dessert. Having eaten at other restaurants in this local chain and having seen 3 of 4 people at the next table eating melon we asked if melon was one of the desserts. He thought for a second or two and then said it was. Unprompted, a few seconds later, he added that ice cream was also available in certain flavors. We ordered and then looked at each other in disbelief as the waiter went to get our desserts.

You might ask --- What does this have to do with business in general and instrumentation in particular? Consider how Coriolis mass flowmeters are introduced to potential customers. They are touted as measuring the mass of liquids, gases and steam directly so as to avoid the drawbacks associated with other technologies that measure velocity, volume or inferentially. Shortly thereafter, their excellent performance is quantified as a small percentage of the actual flow rate.

However after questioning, the salesperson reveals that the zero cannot be located precisely so its “zero stability” can significantly affect its previously-stated “excellent performance”. Then there are pressure effects that can affect some measurements. Gas applications present an additional series of challenges. These flowmeters can also measure temperature but additional questioning will reveal that the measured temperature is the temperature of the tube --- not the process. Sometimes this is a problem... sometimes not. There are probably a few additional subtleties that I forgot to mention.

Both the waiter and the Coriolis mass flowmeter salesperson have engaged in a process that I call “progressive disclosure”. The meal was in Brazil and the Coriolis mass flowmeter was in the USA. I spared you a number of other examples in other parts of the world but overall, this approach is like pulling teeth.

Changing gears... Some time ago, a client asked me to investigate the purchase of a product in Brazil. In the USA, this would amount to calling the supplier and asking how much the item costs --- end of story. I used this approach and the Brazilian supplier provided the requested prices. Understanding that the Brazilian tax code is complicated and knowing that

things are not quite as they appear (especially in Brazil and especially with regard to Brazilian taxes) I asked which taxes were included.

The supplier responded by providing a list of the included taxes and their percentages. Then I asked if ALL taxes were included, to which the vendor replied unequivocally --- yes. However, a conversation with my client revealed yet another significant tax needed to be paid by the purchaser after the purchase to complete the transaction. In the end, the supplier was correct in that he included all of the taxes that he was required to include to sell the product. However not ALL of the taxes that needed to be paid were included --- just all of the taxes that the seller paid. This may sound like semantics... but the difference was over 10 percent.

Even reading the fine print, asking probing questions and obtaining definitive answers are often not enough to get things right. Consider the plight of a person living in Brazil who applies to become a permanent resident and is subsequently issued an identification card indicating his status as such. In Brazil, this identification card is valid for a number of years before it must be renewed.

This seems straightforward but it can get complicated quickly. The identification card becomes invalid and will be confiscated if the person leaves Brazil for a period of more than two years. This would be an unpleasant surprise for a foreign national who transferred to Brazil, became a permanent resident, left Brazil for (say) 2.5 years, and then returned with a seemingly valid identification card. The identification card would be confiscated and (depending upon nationality) the person may not be able to enter the country because they do not have a visa.

Not only that, but if the identification card is valid when the person reaches the age of 60, the card does not have to be renewed and is good for life. Let’s assume that the expiration date on the card of a 61 year-old person was last month. In Brazil, the identification card is still valid because the expiration was after his 60th birthday. Anecdotally, one such person flying on a Brazilian airline from JFK in New York to Brazil was referred by the ticketing agent to two supervisors before being issued a boarding pass --- and then only after presenting an explanatory website printout in Portuguese. Try explaining that to an airline person in a small airport who has limited international experience and does not understand Portuguese.



David W. Spitzer, PE is a partner in the technology consulting firm of Spitzer and Boyes, LLC, which is the publisher of the Industrial Automation INSIDER. He is an ISA Life Fellow, and is an expert on field devices, variable speed drives, and technology transfer in the automation space. He can be reached at dspitzer@spitzerandboyes.com.

David W. Spitzer, PE lives for part of each year in Rio de Janeiro, Brazil.

The *INSIDER* Roundup for January 2016

Zero Cost Trial for Condition Monitoring as a Service

Senseye has released their Prognosys software as a service solution. Prognosys helps manufacturers maximize Overall Equipment Effectiveness (OEE) and save expenses for manufacturing businesses by reducing machine downtime. For a limited time only, manufacturers can trial Prognosys for zero cost.

Using the principles of condition monitoring enabled by advanced machine learning and the Internet of Things, Prognosys predicts costly failures in machinery months in advance, helping businesses to save money by avoiding downtime.

To help manufacturers prove the value, Senseye has introduced a limited-time onboarding program to help manufacturers learn about the value of Prognosys for zero cost. This program provides a no-cost installation and use of the cloud-solution for a period of three months.



Senseye CEO Simon Kampa

Prognosys works by taking in measurements like vibration, humidity, acoustic emissions and power usage and uses technology like artificial intelligence and machine learning to predict when and how machinery is likely to fail. It's designed to be affordable for all manufacturers and used with any type of machinery. It's also entirely cloud-based so there's nothing to maintain.

Simon Kampa, CEO of Senseye says "We've been working hard on developing this complex technology from its origins in Aerospace and Defence to be easy to use and accessible to the manufacturing industry. We're thrilled to be running this pilot to show off Prognosys and demonstrate the power of the Industrial Internet of Things".

Senseye is accepting applications to join the web-based pilot program at no cost, on a first-come-first served basis.

Schneider Electric One of the Global 100 Most Sustainable Corporations

Schneider Electric, the global specialist in energy management and automation, has been recognised as one of the 2016 Global 100 Most Sustainable Corporations in the World, coming 12th overall and 1st in its GICS Industry. It's the fourth year running the Group ranks among the top 15 corporations in the sustainability index by Corporate Knights, the magazine for clean capitalism, released every year at the World Economic Forum in Davos.

Companies that make the Global 100 ranking are the top overall sustainability performers in their respective industrial sectors, selected from a starting universe of 4,353 listed companies with a market capitalisation greater than \$2 billion (USD) on October 1, 2015. Schneider Electric ranks first in its sector and is among the 11 French companies listed. The Global 100 is determined using 12 quantitative sustainability indicators, as the amount of revenue companies generate per unit of energy consumed for example.



Jean-Pascal Tricoire

Jean-Pascal Tricoire, chairman & CEO, Schneider Electric commented, "With overall score up to 70.5% in 2016 from 68.4% in 2015, we have achieved our best Global 100 score ever, ranking 1st in our sector and demonstrating our commitment to put sustainable development at the heart

of our strategy. Even so, we've dropped three places in the global ranking, which means that the overall standards have risen. That's great news for everyone and invitation to increase our efforts."

Schneider Electric is listed in various major sustainability indices, such as the CDP A-List & the Climate Disclosure Leadership Index, the Dow Jones Sustainability World & Europe Indices and the World's Most Ethical Companies. This confirms the commitment of the Group, which measures its efforts with its own Planet & Society Barometer, the company sustainable development scorecard since 2005. Moreover, last November, Schneider Electric took 10 new commitments, as part of the Paris Climate Change Conference (COP21), around its products and solutions but also around its R&D and supply chain, to make the company and its eco-system neutral in the next 15 years.

The Global 100 tied for the best overall ranking in the world for its relevance, insight, trustworthiness, and convincing methodology in a ranking by the Branding Institute. The ranking is featured in the 2016 winter issue of Corporate Knights, the magazine for clean capitalism.

Rockwell and Sunset Learning Institute Team Up to Teach IIoT

Rockwell Automation and Sunset Learning Institute (SLI) are teaming up to improve and increase access to continuing education and certifications surrounding the Industrial Internet of Things (IIoT).

Rockwell Automation is increasing its investment in an IIoT training curriculum. The company has rolled out several courses and a certi-

The INSIDER's Roundup (continued)

fication program over the last year with its Strategic Alliance Partner Cisco. New courses and certifications can help both IT and OT workers gain the skills needed to manage, administer, design and operate converged industrial networks. These include the Managing Industrial Networks with Cisco Networking Technologies (IMINS) training course; Managing Industrial Networks for Manufacturing with Cisco Technologies (IMINS2); and CCNA Industrial certification.

SLI specializes in delivering and developing authorized Cisco training. SLI has been a top-tier Authorized Cisco Learning Partner for 20 years. The courses and certifications supported by Rockwell Automation-SLI collaboration include:

- **Interconnecting Cisco Networking Devices Part 1 (ICND1):** A five-day course on how to install, operate, configure and verify basic IPv4 and IPv6 networks.
- **Interconnecting Cisco Networking Devices Part 2 (ICND2):** A five-day course on how to install, configure, operate and troubleshoot a small enterprise network.
- **Interconnecting Cisco Networking Devices Accelerated (CCNAX):** An advanced, five-day course consisting of ICND1 and ICND2 content in its entirety.
- **Implementing Cisco Unified Wireless Networking Essentials:** A five-day course designed to prepare for the CCNA wireless certification, an associate-level certification specializing in the wireless field.

Students can register for courses via the Rockwell Automation and SLI websites.

"Our customers are tasked with building and managing networks and information systems that are different from anything their predecessors confronted," said Glenn Goldney, former global business manager for training services, Rockwell Automation. "Pairing SLI's qualifications with our own expertise in OT provides IT and OT professionals with premium quality IoT training. These are the skills workers need to take advantage of IoT to drive new opportunities, and unite traditionally disparate practices."



CSIA and ISA Partner for Project Management Course for SIs

CSIA has joined forces with ISA to provide **Project Management for Automation and Control System Integration (MTo8W)** specific to system integration companies and consistent with CSIA Best Practices. Jeff Miller of Interstates Control Systems and Eric Shaefer of Stone Technologies have collaborated extensively in the customization of the content to ensure complete rele-

vance to system integrators. The instructor is Cameron Kamrani, who holds a masters degree in engineering and an MBA. Kamrani has three decades of project management experience in the automation industry.

The course will be offered on successive Tuesdays and Thursdays in March, as a web-based class with live instructor.

The cost is \$1500 for CSIA/ISA members, \$1765 for others. According to CSIA, the capacity is limited.

HIMA Gets PDVSA Project on Lake Maracaibo

PDVSA, Venezuela's state-owned oil and gas company, has selected MCL Control S.A. as the system integrator (SI) and HIMA as the safety systems provider to implement state-of-the-art turbomachinery control at the Planta de Compresión Tiajuana 3 on Lake Maracaibo.



The Tiajuana 2 plant in 2004

The selection continues PDVSA's preference for high level engineering system integrator and safety system provider. The new system will enable the gas plant to benefit from a single platform for turbo compressor critical control.

Fast response times for surge and fuel control applications and easy integration with the GALBA SCADA were important to PDVSA. The company required integrated alarms, diagnostics and events, using standard communication protocols.

The GALBA SCADA is a system developed by PDVSA in order to advance in the independence and control of industrial process supervision technologies.

The HIMA turbomachinery solution, based on three HIMax(r) SIL 3-rated safety systems used in the A and B compressor chains and refrigeration areas, meets IEC 61511 and the latest API turbomachinery protection standards. The system will be programmed using SILworX(r) software and serve more than 1150 I/O. Communication will be accomplished via OPC AE, Modbus TCP master and slave, and Send&Receive TCP.

"Years of positive experiences with HIMA's safety solutions and MCL Control automation engineering and services reinforced our confidence in their abilities to implement this new turbomachinery solution," said Automation Gas Plant Project Team, Eng. Enrique Davis and Msc. Gerardo Queipo. "With the strategy considered by PDVSA the objective is to benefit more at the technology level: technology independence, guarantee of maintaining the investment associated with the life cycle of the product and guarantee of technology transfer."

Digging a Little Deeper: Our Own Automation Top 20

INSIDER
INDUSTRIAL AUTOMATION & PROCESS CONTROL

Health Watch

By Mary Samuelson

On January 17, 2016 Nick Denbow published his commentary on US-based magazine *Control*'s Top 50 analysis of the world's process control and automation suppliers.

The *Control* magazine analysis ranks automation control companies for both total world sales and North American sales and it is put together by ARC Advisory

Denbow points out that *Control*'s analysis is based primarily on information from sales for 2014, which fails to take into account the effects of reduced oil industry sales investment and the general economic upheaval of 2015.

Control concedes that automation revenues in 2015 were down 2-3% in Q2, and

that decrease indicates that the outlook for the average results in 2015 will be 7% down.

From our point of view, however, this is somewhat of an oversimplification.

The main issue is that not all companies

performed equally well or equally poorly in 2015. These differences, if taken into account, could cause shifts in company positions of the Top 50 List.

We decided to look at the top 20 companies on *Control*'s list based on more current revenue figures (3rd and 4th quarter of 2015), to see how the economic cacophony of the past year has affected the rankings and sales of these industry giants.

First we looked at changes to sales ranking by applying the percentage of change between revenue for the latest quarter available

Group.

then 5% in Q3, and Denbow further comments that adjusting revenues based on

and that posted 1 year prior, to the 2014 numbers.

Chart 1

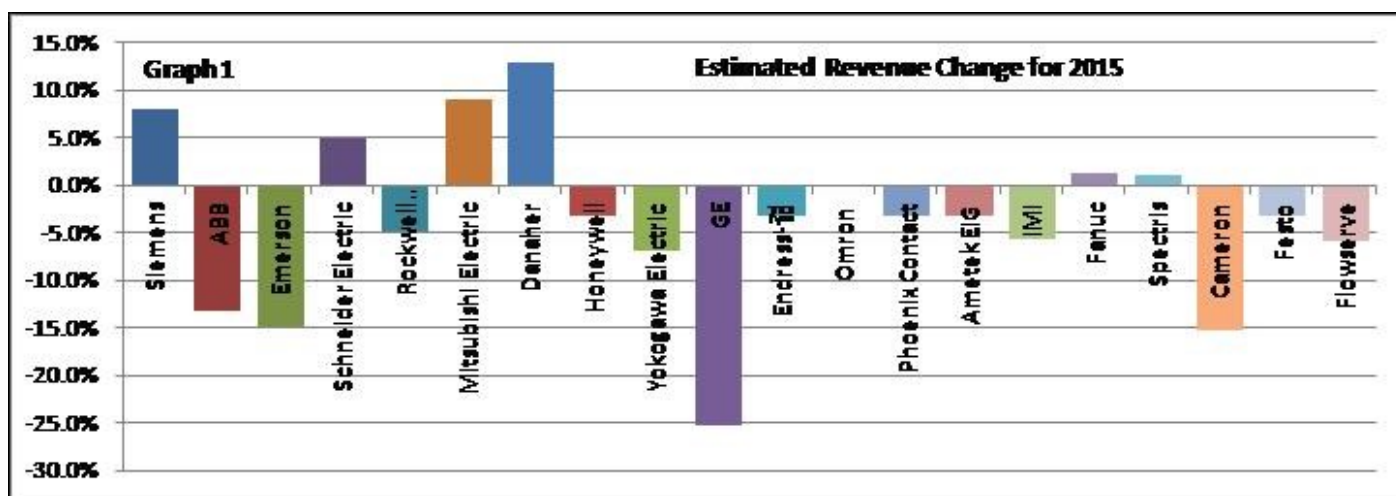
New Ranking	Original Ranking	Company Name	Original Sales (Billions)	Revised Sales (Billions)
1	1	Siemens	\$ 13,403,230,000	\$ 14,475,488,400
2	2	ABB	\$ 11,168,110,000	\$ 9,716,255,700
3	3	Emerson	\$ 9,538,200,000	\$ 8,145,622,800
4	4	Schneider Electric	\$ 7,511,000,000	\$ 7,881,470,963
5	5	Rockwell Automation	\$ 6,296,570,000	\$ 6,000,631,210
6	7	Mitsubishi Electric	\$ 3,805,010,000	\$ 4,147,460,900
7	8	Danaher	\$ 3,525,800,000	\$ 3,984,154,000
8	9	Honeywell	\$ 3,493,680,000	\$ 3,388,869,600
9	10	Yokogawa Electric	\$ 3,373,730,000	\$ 3,149,376,955
10	6	GE	\$ 3,840,160,000	\$ 2,880,120,000
11	11	Endress & Hauser	\$ 2,720,910,000	\$ 2,639,282,700
12	12	Omron	\$ 2,439,010,000	\$ 2,439,010,000
13	13	Phoenix Contact	\$ 2,391,890,000	\$ 2,320,133,300
14	14	Ametek EIG	\$ 2,276,720,000	\$ 2,208,418,400
15	15	IMI	\$ 2,183,050,000	\$ 2,065,165,300
16	17	Fanuc	\$ 2,014,480,000	\$ 2,040,265,344
17	18	Spectris	\$ 1,937,900,000	\$ 1,957,279,000
18	16	Cameron	\$ 2,125,000,000	\$ 1,806,250,000
19	20	Festo	\$ 1,615,680,000	\$ 1,567,209,600
20	19	Flowserve	\$ 1,615,700,000	\$ 1,525,220,800

Digging a Little Deeper: Our Own Automation Top 20 (continued)

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Health Watch

By Mary Samuelson



For example, on December 31, Siemens released their Qtr 1, FY 2016 Earnings Report. It indicates an 8% YOY increase in sales for the 4th calendar quarter of 2015 compared to the same quarter for 2014. The percentage was factored into the 2014 sales number, raising Siemens sales from the reported 2014 number of \$13,403.23 to a more accurate and current \$14,475.49, an increase of over \$1B.

Chart 1 shows the revised information and ranking for the Top 20 in Control's list.

Rankings did not change dramatically, but there were some surprises. GE dropped from 6th place to 10th, moving Danaher, Honeywell, and Yokogawa up one place in the rankings. Cameron moved from 16 to 18, with other minor shuffling in the bottom five as well. Of course, Cameron is only on the list because the acquisition by Schlumberger hasn't completed yet. (see cover story). This will move Schlumberger onto the list, we expect.

With the 2015 revenue change percentages applied, total sales for the Top 20 fell almost \$3Billion, for an estimated 2015 industry sales decrease of 3.4%, slightly less than the predictions of Control and Mr. Denbow.

More interesting, however, is what is happening with the individual companies when we look at the YOY numbers for the individual players. Graph 1 shows the disparity between companies, based on their reported YOY change for the latest quarter reported. While the graph is extremely busy, at first glance it is obvious that there are many more downs than ups and as a general rule, that smaller companies show less volatility than their larger counterparts. To determine the reasons behind some of the changes seen, we took a look at a few of the individual companies to see if we could determine what, besides oil prices and currency woes, might be causing the differences.

Here is what we found.

Siemens

Joe Kaeser, President and Chief Executive Officer of Siemens AG reported a strong 1st quarter for FY16 (Oct-Dec 2015). Because of the gains Siemens is seeing, including major contract wins in Europe and Africa combined with orders up 27% year over year, Siemens is raising its earnings outlook for 2016, even though Mr. Kaeser comments that "the macroeconomic and geopolitical developments remain a concern for our markets."

Part of Siemens confidence comes from their continued focus

Digging a Little Deeper: Our Own Automation Top 20 (continued)

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on addressing structural challenges in the company while further developing markets and strengthening innovation. Diversification is paying off for Siemens, with its Industrial Business profits up 10% year-over-year due to margin expansion which includes strong increases in Healthcare, Energy Management and Mobility, which more than offset declines in Digital Factory, Process Industries and Drives and Wind Power and Renewables

ABB

ABB reported a 13% loss of revenue for Qtr 3 comparisons, with the largest losses recorded for Process Automation (-23%) and Discrete Automation and Motion (-16%). In addition, Process Automation orders are down 48%, and backlog has shrunk to 13%. While ABB announced in September that they are realigning to provide unique offerings, provide additional value to customers, and promote a new Electrification Products division, they are also focusing on organic growth and reducing white collar staff. The company has realigned its revenue growth target to make it more attainable considering "new market realities." In some ways it appears that ABB is simply trying to hang on and ride out the storm. One wonders if the Process and Discrete Automation divisions could be for sale? Nice stuff, bargain basement prices.

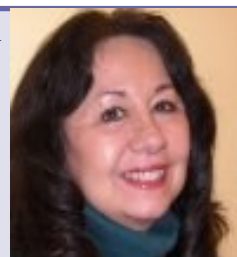
Emerson

Emerson also appears to be moving into a 'batten down the hatches and wait it out' mode. Sales dropped 14.6% for Emerson YOY, and in their Annual Report released 11/03/15, there are myriad statements concerning the doom and gloom they expect for

2016, with little written about how they proactively plan to counteract it. As an example, Chairman and Chief Executive Officer David N. Farr is quoted as saying, "While we continue to take important steps to balance our assets and manage costs, underlying order rates remain slow in our key served markets as a result of reduced levels of capital spending. We expect these difficult market conditions through at least the first half of fiscal 2016." The report continually reflects an attitude of cost cutting and hanging tight until the storm blows over, with nary a thought for potential positive steps that might be implemented to lessen the damage. Emerson has sold itself to Wall Street as a company that is going to grow by acquisition, but there's no sign of a major acquisition on the horizon, in the areas that Emerson is weak. Emerson Process Management is a major player, but Emerson Industrial Automation is not. There are companies around that could make it one, but it doesn't look like Emerson is really interested.

It appears that there are two ways to look at what is happening in our industry. On the one hand, companies can take a proactive stand and seek to negate the damage being caused by the economic whirlwind, adapting their offerings to industries such as pharma and food that are not so drastically impacted, or they can try to furl their sails, (or is that sales?) and hope they don't drown. Any bets on who will come out ahead?

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



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

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

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

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

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

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THE WAY I SEE IT

Editorial

Strategies for Coping With a Sinking Economy

As is becoming really, really obvious, the oil and gas business is not coming back any time soon. By this I mean, years may pass before the oil and gas business regains its lost luster from the good old days of 2014.

At the same time, we are seeing pressures on automation suppliers from the Internet of Things, new entrants into the business from outside the automation space, highly developed software for the kind of analysis automation engineers used to be hired to do, and other harbingers of real and profound change in the automation business, for end users, vendors, A&E firms, and control system integrators.

The Internet of Things appears to be turning control systems on their heads, with the sensor network now being the most important part of the system, and data moving around the control system to the cloud for analysis and then back to the control system with value added information to be used to control the process. This totally unhierarchical methodology isn't prevalent now, but think about what you could do with it. Perhaps you could create a system that does away with the control stations, like the DeltaV did away with Provox

and RS3. I remember visiting a Monsanto plant with Provox systems rolled into the corner and covered with plastic tarps.

Being cutting edge isn't a great survival strategy, but being right behind the cutting edge of technology certainly is. Customers are aware of just how much intellectual property is being held

If you have a vested interest in keeping prices for field instruments high, think about the vested interest you also have in continuing to keep those customers.

prisoner in their control systems, and the company that comes up with a really simple way to extract all that information in a way that it can easily be re-used will win. Maybe not the first company, but the second, and the third will be the winners.

Customers are aware of what the gross margin on field devices is. They are looking for less costly systems, and they will get them. If not from you, from somebody else. If you have a vested interest in keeping prices for field instruments high, think about the vested interest you also have in continuing to keep those customers.

A&Es and Control System Integrators need to rethink how they do business, both with their customers and with the vendors from whom they buy. The straightforward "bid to spec" process is moribund, but what will you be able to replace it with, for your customers?

Now is the time, in this downturn, to start looking at what you do, and asking yourself why you do it. Do you do it because you've always done it? Ask why! You may find out that the reason is because

Joe, who is now departed, figured it might work better that way, and nobody bothered to check if it did.

Use this opportunity (and it really is one) to transform your business. Save and cultivate your employees, because your intellectual property is in their heads, as well as in your software and engineering designs.

Ask yourselves, "If we weren't doing this, what could we be doing differently?" You will certainly be surprised at the answers. But it is not enough to ask yourself this, you also have to be prepared to act on what you learn. If you do that, you will survive the economic downturn ahead. If you just keep on playing politics as usual, business as usual, you will probably not survive.

The IoT, Big Data, and new control strategies are opportunities. They aren't going to let you dress up old systems in new clothes.

Walt Boyes

Comments? Talk to me!
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Rajabahadur V. Arcot: India's Economy is in a Sweet Spot

It is the time of the year to look back and evaluate the performance of the global economy in the year that has gone by and assess its growth prospects in the coming years.

In recent weeks, reports relating to state of the global economy and growth potential have been released by numerous organizations, such as the World Bank, International Monetary Fund, United Nations, and others.

India...will be the fastest-growing major economy in the world in 2016, despite challenging global conditions.

Their unanimous opinion is that overall the year 2015 has been a bad year for the global economy and that they are not overly optimistic about its significant revival in the near term. Most of the reports also project India to continue to remain as the fastest growing large economy in 2016 and 2017.

India's economy shines in the midst of subdued global economy

The International Monetary Fund's *World Economic Outlook Update 2016* reports that "in 2015, global economic activity remained subdued." It goes on to say that in advanced economies, a modest and uneven recovery is expected to continue. According to the report, "the picture for emerging market and developing economies is diverse but in many cases challenging. Risks to the global outlook remain tilted to the downside and relate to ongoing adjustments in the global economy: a generalized slowdown in emerging market economies."

According to the report *World economic situation and prospects 2016* released recently by the UN, the "world economy stumbled in 2015", amid weak aggregate demand, falling commodity prices, and increasing financial market volatility in major economies. It has lowered the growth for 2015 to 2.4 percent from the 2.8 projected earlier in the *World*

Economic Situation and Prospects as of mid-2015 report. Regarding the growth prospects, the report says that India, which accounts for over 70 per cent of South Asia's GDP, will be the fastest-growing major economy in the world in 2016, despite challenging global conditions.

It projects the Indian economy to grow at 7.3 per cent in 2016 and at 7.5 per cent in 2017. China, which until now has been the growth engine of global economy, is expected to slow

down and grow at 6.4 and 6.5 percent respectively in the years 2016 and 2017.

While the overall global economy, supported by generally less restrictive fiscal and still accommodative monetary stances worldwide, is expected to post 2.9 percent and 3.2 percent growth in 2016 and 2017 respectively, the US and the European Union growing at slower pace.

The rider to the global growth is also predicated on easing of downward pressures on commodity prices. The report highlights that since the onset of the global financial crisis, developing countries have largely generated much of the global output growth; with developing countries expected to grow by 4.3 per cent and 4.8 percent in the next two years, the trend will continue.

The World Bank report *Global Economic Prospects - Spillovers amid Weak Growth* released earlier this month also makes the observation that global growth fell short of expectation in 2015 and decelerated to 2.4 percent from 2.6 percent predicted in 2014.

It attributes the dismal performance of the global economy to "continued growth deceleration in the emerging and developing economies amid post-crisis lows in commodity prices, weaker capital flows, and subdued global

Rajabhadur V. Arcot: India's Economy Is in a Sweet Spot (continued...)

trade.” The report projects the global growth to improve albeit slowly in the coming years, “reaching 2.9 percent in 2016 and 3.1 percent in 2017 - 18.”



World Bank Chief Economist,
Kaushik Basu

Kaushik Basu, Chief Economist and Senior Vice President, World Bank in his foreword highlights that “the global economy will need to adapt to a new period of more modest growth in large emerging markets, characterized by lower commodity prices and diminished flows of trade and capital.” According to the report, the notable exceptions in an otherwise gloomy outlook for developing countries include South Asia, reflecting reduced macroeconomic vulnerabilities and domestic policy reforms in India.

The region, dubbed as *bright spot* among the emerging and developing economies, is projected to grow at 7.3 percent in 2016 from 7 percent in the year just ended.

In that context, the report highlights that India's economy “remained robust, buoyed by strong investor sentiment and the positive effect on real incomes because of the recent fall in oil prices. In contrast, the developing-countries' growth slowed in 2015 to 4.3 percent, its weakest showing since 2009.

Recovers to emerge as the fastest growing

India, whose economy was considered fragile until a few quarters ago because of its high levels of fiscal and current account deficits, has emerged in 2015 as the fastest growing large economy in the world due to corrective policy initiatives and falling commodity prices.

The World Bank report states that “India is well positioned to withstand near-term headwinds and volatility in global financial markets due to reduced external vulnerabilities, a strengthening domestic business cycle, and a supportive policy environment.”

India has sharply reduced its current account deficit, to about 1 percent of GDP in from about 5 percent of GDP in mid-2013 resulting from outflow of foreign funds from India due to the turmoil over U.S. Federal Reserve policy. India's central bank has since then rebuilt the country's foreign reserves, restoring the investors' confidence

and as a consequence net FDI flows have remained positive. In addition, India has reduced the central government's fiscal deficit to around 4 percent of GDP down from a peak of 7.6 percent in 2009.

Driven mainly by domestic demand and aided further by the expected massive investments, growth is expected to continue to strengthen in India.

The State's efforts to accelerate infrastructure development and other policy initiatives, such as the plans to make India a manufacturing hub through the *Make in India* Mission, set up 100 GW of solar power, fund the building of 100 smart cities, and others.

The World Bank report points out those and such other investments “will also lift potential growth over the medium term.

Low international energy prices and domestic energy reforms will ease energy costs for Indian firms that tend to be energy intensive and contribute to offsetting the impact of any tightening of borrowing conditions resulting from tighter U.S. monetary policy” and the consequent pressure on country's currency.

The World Bank reports also points out that the country's “better growth prospects relative to other major developing countries will also help flow of funds from investors to remain resilient during the transition to tighter global financing conditions, although there may be volatility in the near term.”

In recent months India has initiated various measures which are aimed at job creation, asset formation, growth of the manufacturing industry, driving the country to take the path of sustainable development, and leveraging the technology to achieve its economic growth agenda.

Apart from launching the program to develop 100 smart cities and setting the target to generate 100 GW of solar power, India, at the

recently concluded 21st Conference of the Parties (COP21) at Paris, made a highly ambitious voluntary pledge of bringing 40 per cent of its installed power capacity under renewables in the next 15 years, compared to 13 per cent currently.

Prior to the conference, India submitted its plan relating to the Intended Nationally Determined Contribution (INDC) to the United

Nations that aims to cut the country's carbon emissions per unit of gross domestic product by 33-35 percent by 2030 from its 2005 levels.

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



Rajabhadur V. Arcot: India's Economy Is in a Sweet Spot (continued...)



Environment Minister Prakash Javadekar

According to the country's Environment Minister Prakash Javadekar, India will be spending between now and 2030 around US\$ 2.5 trillion at current prices to meet the obligations.

CEOs are optimistic

PwC's annual global survey released at the WEF annual meeting shows the high level of confidence among the CEOs from India in the economic and business growth

prospects.

According to the survey which covered 1,409 CEOs spread across 83 countries, "India, which has continued to do well under Prime Minister Narendra Modi's pro-business government, is now among CEOs' five most promising overseas markets." Regarding threat perception, while 66 of the CEOs from global companies see more threats, only 41 from India subscribe to that view. With respect to the global economy, 39 per cent of Indian executives expect an improvement whereas the global average is 27 per cent. Around 75 per cent of CEOs of Indian companies believe there are more growth opportunities for them today than three years ago. While 70 per cent anticipate increase in head count during the next 12 months, 56 per cent expect cost-reduction measures during the same period.

The PwC's global survey findings in a way are an endorsement by the captains of the Indian companies of the positive sentiments expressed in the various reports about the Indian economy.

Regarding the growth opportunities that India offers, PwC India Chairman Deepak Kapoor said "With India as the fastest growing large economy in the world, it offers one of the best opportunities for both Indian and global companies in a world that is still coming to terms with a slower growth paradigm and increasing geopolitical uncertainty."



PwC India Chair Deepak Kapoor

Industrial control system and automation companies may like to develop appropriate strategies to benefit from the immense opportunities that India offers.

They can work with companies in the metals and mining space to make them more energy and resource efficient, less polluting, and globally competitive.

They can help the pharmaceutical and life science companies in India to achieve and ensure statutory compliance and data integrity, challenges which are confronting them now.

India, with an installed generating capacity of around 284 gigawatts (GW) of electric power, is the world's third largest producer of electricity and yet people living in the country's remote villages do not have access to electricity.

In response, the country is witnessing massive investments in power generation, transmission, and distribution. Distributed generation may soon become a reality in India.

Automation suppliers can work closely with electric power generation companies to reduce greenhouse gas emissions and improve their operational efficiencies & plant availability.

They can work with the electric power transmission and distribution companies to build smart and micro grids that India needs to meet the country's needs.

India is now a global automotive hub and a refining-industry center of excellence. These industries are growing and closer collaboration with them would be mutually rewarding.

Opportunities are galore to build win-win relationships.

Meeting the commitments that India made at the Paris Conference on environment would call for extensive use of sustainable technologies supported by automation.

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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