THE CONTROL/ARC **TOP 50**

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The 50 Largest Automation Companies Around the World Keep On Keepin' On Despite the Recession

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We called it "Mr. Toad's Wild Ride" last year, as we noted that automation sales had remained strong while the rest of the economy had dropped into the pot. It didn't take long, however for the automation vendors to follow like lemmings over the recession cliff. Starting in the first quarter of 2009, sales softened and, in some cases, plummeted. Sales funnels vanished, and some companies began cutting and gutting in a frantic attempt to maintain profitability. Which portion of the manufacturing economy the company faced determined how fast and how deep the cuts had to go. Companies working in the process industries generally had to cut less, at least at first, than those in the discrete manufacturing sector. Those servicing the automotive industries and their suppliers were hurt the worst as the big automakers flailed and both GM and Chrysler filed for bankruptcy protection.

The numbers we present here, however, do not reflect the precipitous decline in the performance of the sector since the end of 2008, because, as always, we've used the last full year of financial performance data we can get to establish the Top 50 rankings. In this case, the data are normalized to 2008 financial performance. So you can take it as given that we'll be able to show you the whole sorry story next December, after all the 2009 performance data have come out.

TOP 50 GLOBAL AUTOMATION VENDORS

		2008 Worldwide
	Total (in millions)	87,651.7
1	Siemens	12,850.5
2	ABB	9,405.4
3	Emerson Process Management	6,782.8
4	Rockwell Automation	5,058.4
5	Schneider Electric	4,375.0
6	Honeywell Process Solutions/Sensing & Control	3,632.5
7	Mitsubishi Electric	3,551.9
8	Yokogawa Electric	3,466.8
9	Omron	3,032.0
10	Danaher Industrial Technologies	2,539.4
11	FANUC	1,890.6
12	GE	1,887.2
13	Endress+Hauser	1,775.3
14	Invensys	1,763.9
15	Phoenix Contact	1,735.7
16	Cameron Valves & Measurement	1,473.3
17	Ametek EIG	1,402.7
18	Flowserve Flow Control Division	1,381.7
19	Spectris	1,298.7
20	Azbil Group (Yamatake)	1,077.7
21	Metso Automation	1,026.1
22	FMC	883.0
23	National Instruments	821.0
24	Weidmuller	781.4
25	Bosch Rexroth	747.7
26	Wika	707.3
27	Fuji Electric	706.7
28	Roper Industries Industrial Technology	687.6
29	IMI Fluid Controls Severe Service PLC	664.5
30	Hitachi	658.5
31	MKS Instruments	647.0
32	Wago	560.0
33	Turck	540.2
34	Advantech	527.0
35	Pepperl+Fuchs	526.3
36	Toshiba	507.1
37	Burkert	464.3
38	Dresser Industrial	463.0
39	Krohne	448.6
40	B&R	439.8
41	Beckhoff	405.9
42	Teledyne Instruments	399.0
43	Samson	329.0
44	Aspen Technology	311.6
45	Badger Meter	279.6
46	Hirschmann (Belden)	275.0
47	Parker Industrial	272.4
48	Vega	263.9
49	Pilz	238.0
50	ThermoElectron Measurement & Control	234.0

Honorable Mention: MTL, OSIsoft, Horiba, Tyco Flow Control, Mettler-Toledo, Hollysys, MTS, SMAR, SPX Valves & Controls, Matrikon, SupCon, Iconics, Cashco, Magnetrol Racine Federated/Preso, Dynasonics, Flotech, Opto 22, Pyromation

How Do We Do It?

Here's what we are including in our definition of the fifty largest companies:

- Process automation systems and related hardware software and services
- PLC business, as well as related hardware, software, services, I/O and bundled HMI
- Other control hardware components, such as third-party I/O, signal conditioners, intrinsic safety barriers, networking hardware, unit controllers and single- and multi-loop controllers
- Process safety systems
- SCADA systems for oil and gas, water and wastewater, and power distribution
- AC drives
- General motion control systems
- Computer numerical control (CNC) systems
- Process field instrumentation, such as temperature and pressure transmitters, flowmeters, level transmitters and associated switches
- Analytical equipment, including process electrochemical, all types of infrared technology, gas chromatographs for industrial manufacturing, and related products
- Control valves, actuators and positioners
- Discrete sensors and actuators
- All kinds of automation-related software, from advanced process control, simulation and optimization to third-party HMI, plant asset management, production management (MES), ERP integration packages from the major automation suppliers and similar software
- All other automation-related services provided by the automation suppliers
- Condition-monitoring equipment and systems
- Ancillary systems, such as burner management systems, quality control systems for pulp and paper, etc.

What we're not including are:

- Pumps and motors
- Robotics
- Material-handling systems
- Supply chain management software
- Building automation systems
- Fire and security systems
- Processing equipment such as mixers, vessels, heaters, etc., as well as process design licenses from suppliers that have engineering divisions
- Electrical equipment, such as low-voltage switchgear, etc.

It will be many years before we see the levels of growth that we saw in 2007 and 2008, if ever.

What Recovery?

The recovery is already underway in our opinion, at least in the process industries. Will we see a return to the high growth of 2007 and 2008? Not likely. The recovery is going to be slow, and it will be many years before we see the levels of growth that we saw in 2007 and 2008, if ever. The discrete industries continue to be plagued by the situation in the automotive industry and machine business, and their recovery will lag that of process automation by several months.

The question is what will fuel the recovery? In North America and Western Europe, unemployment is forecast to remain high until at least 2012. Jeremy Leonard, economist, Manufacturers Alliance/MAPI, said in a speech at Rockwell Automation's Manufacturing Perspectives event on Nov. 10 that emerging markets, including the so-called BRIC countries (Brazil, Russia, India, China), will lead the recovery, while Western Europe and Japan will lag. "High debt lev-

Driving Toward Recovery

Mark Douglass is a senior analyst at market analyst firm Longbow Research, which covers Rockwell Automation, Emerson Electric, Eaton, Parker and others. We value his opinions highly because he has a background in manufacturing and plant engineering. Here's his commentary on the future of the Top 50 companies:

It's a little challenging to come up with growth drivers for large automation companies in the near term with industrial capital spending expected to continue to be challenged in 2010 and capacity utilization still at recessionary levels, but we see a few growth opportunities. In general, we think more opportunities exist for process vs. discrete automation. Specifically, oil & gas automation and instrumentation will likely have a modest rebound with oil prices appearing to stabilize at $70-$80/barrel; waste/water applications are likely to see continued capital investment, particularly in automation, and food and beverage should hold up. Investment in packaging should be decent. Emerging economies, particularly China, should lead the recovery. And with industrial production slowly recovering, there could be some natural uplift for everyone as distributor and customer inventories rebuild (obviously, not to pre-recessionary levels) and companies make overdue repairs/upgrades that were delayed when production was shut down for extended periods in 2009.

els and cautious consumers augur a sluggish U. S. recovery," he said. "Consumers are still very worried about the unemployment rate, which is expected to continue to be over 10% throughout 2010, and only reduce about 1% per year until at least 2012." The table on page 27 shows the numbers, and they are not grim, but not good either.

This is bad news for the consumer packaged goods and automotive industries because cautious consumers don't buy things with the reckless abandon we've come to delight in since the early 2000s.

The process industries, however, are already on their way back. The biggest growth industries for process are currently oil and gas, water and wastewater, and power generation. Mining is another promising sector. And, life sciences still offers a lot of opportunities related to regulatory compliance.

Leonard agrees. "The industrial equipment sector was down over 22% in 2009, but will slowly rise to a positive 3.5% in 2010, before increasing at a 22% bounce back in 2012," says Leonard. His numbers though, show declines after 2012, which, when combined with the continued high unemployment rate, are indicative of a shaky economic recovery in the U. S.

Leonard did say that he believes that manufacturing is not only not dead in North America, but that it's actually growing, as he shows in the chart on page 26. Manufacturing is actually tracking the GDP, and has shown a signficant increase since 2002. Of course the last part of the chart shows GDP and manufacturing dropping precipitously, but as you can see from the chart on the next page, Leonard believes this drop to be both painful and temporary.

Inside the Numbers

What the numbers may not show immediately is the impact of acquisitions outside the traditional "automation" space, namely the continued snatching up of small-to-medium size sys-

TOP 50 NORTH AMERICAN AUTOMATION VENDORS

		2008 North America
	Total (in millions)	22,870.04
1	Emerson Process Management	3,400.0
2	Rockwell Automation	2,865.8
3	ABB	1,950.0
4	Siemens	1,367.9
5	Danaher Industrial Technologies	1,269.7
6	Honeywell Process Solutions/Sensing & Control	1,184.4
7	Schneider Electric	1,031.4
8	GE	970.4
9	Cameron Valves & Measurement	810.3
10	Ametek EIG	729.4
11	Invensys	635.0
12	Flowserve Flow Control Division	538.9
13	Roper Industries Industrial Technology	455.6
14	Omron	394.2
15	Yokogawa Electric	367.0
16	MKS Instruments	365.7
17	National Instruments	355.8
18	Spectris	293.7
19	Metso Automation	276.0
20	Phoenix Contact	260.4
21	Endress+Hauser	252.1
22	Badger Meter	246.0
23	FMC	211.9
24	Teledyne Instruments	179.6
25	Mitsubishi Electric	159.7
26	ThermoElectron Measurement & Control	154.3
27	Advantech	142.3
28	Toshiba	116.1
29	Turck	113.4
30	Aspen Technology	113.4
31	IMI Fluid Controls Severe Service PLC	113.0
32	Bosch Rexroth	106.0
33	Pepperl+Fuchs	100.0
34	Dresser Industrial	92.3
35	OSIsoft	89.3
36	Wago	84.0
37	Parker Industrial	81.3
38	MTL	80.0
39	Wika	70.7
40	FANUC	59.4
41	Krohne	49.3
42	Weidmuller	48.4
43	B&R	48.4
44	Burkert	46.4
45	Tyco Flow Control	44.5
46	Fuji Electric	44.3
47	SPX Valves & Controls	43.8
48	Hirschmann (Belden)	41.3
49	Beckhoff	40.6
50	Mettler-Toledo	38.5

Honorable Mention: Hitachi, Iconics, Horiba, Matrikon, MTS, Cashco, SMAR, Pilz, Samson, Racine Federated/Preso, Dynasonics, Flotech, Vega , Magnetrol, Pyromation, Opto 22, azbil Group (Yamatake)

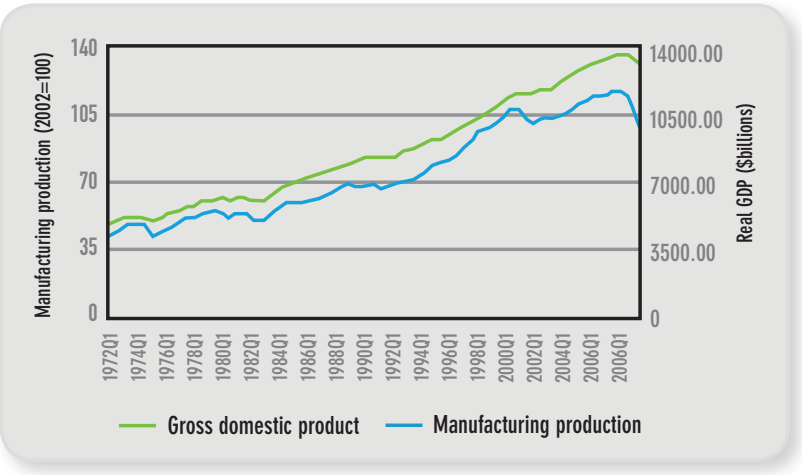
tem integrators that fill specific gaps in industry expertise or regional expertise, such as the acquisition of Ber Mac by ABB, Rutter Hinz by Rockwell Automation, and The Automation Group by Emerson. Many of the numbers here mask the effect that the global recession had on what was otherwise a great year on the fourth quarter results. Up until the fourth quarter, 2008 was shaping up to be a great year just like 2007. The downturn in Q4 2008 was sudden and in many cases violent. The numbers also do not show the large transition that is going on related to system migration and modernization, as competitors continue to go after each other's installed base amid a rapidly aging base of automation systems that must be replaced.

Internationally, the former design institutes of China are being spun off into independent system integrators. The transition to private enterprise is agreeing with many of these companies, but not so much for others. Rockwell Automation acquired one of these companies, called Xian Hengsheng, at the end of 2008, for example.

Leonard says, "U.S. manufacturing remains an "engine for growth in the global economy." Productivity and wages have consistently outpaced the rates of other U.S. industries, as well as foreign manufacturers. Manufacturing productivity has more than doubled in the last two decades, almost twice the growth for the overall economy.

"This is a boom for our competitiveness and the general prosperity of the economy," Leonard said. "Contrary to popular belief, the U.S. economy is not de-industrializing."

According to Leonard, this is a good thing for the automation companies and for automation workers in general. Leonard adds the "actionable items" manufacturers need to focus on include capital-intensive automation improvements, and to start to reach out to emerging markets where capital-intensive investments are growing. While he expects the overall economic recovery to be "tepid," Leonard forecasted that the manufacturing sector over the next two years will grow "quite a bit faster" than the economy as whole. This should translate as faster growth for the automation industry than the manufacturing industry itself, and thus faster than the economy as a whole.



Federal Reserve Board and Bureau of Economic Analysis

Figure 1. Contrary to popular belief, the U.S. economy is NOT de-industrializing

Winners, Losers and Why

Overall, winners will be determined by their strength in the services business, both project services and, more importantly, after-sales services. The companies that will weather the recession the best are the ones with the strongest emphasis on services. Take the DCS market, which is over 50% services already. Services are renewable business, and they are directly tied to plant performance and the labor crisis that is affecting so many end users today.

Consequently, what is going to happen when the economy comes back full steam and end users find they need to add capacity? They are not going to have the human resources necessary to meet demand, and they will increasingly turn to automation suppliers to provide them with outsourced maintenance services, training services and other plant-performance-related services.

Companies that provide a value-added service will have greater success as the recovery improves than companies who just provide a product. Years ago, the argument among automation marketers was how to "productize" services and software. In the years ahead, the argument will be how to "service-ize" products, so they do not become commodities.

> If you are an automation professional with a good idea, it may be that now is the time to take a flyer and see if the marketplace agrees with you.

Something else that will happen in the near term is that offshoring in the classic sense of closing factories in North America and Western Europe to open them up again in Asia is becoming a thing of the past. Companies are beginning to realize that engineering, R&D and manufacturing of very complex products are sometimes done better in the First World, and that offshoring is sometimes false economy. What will happen is that plants will be located close to markets, and since the U. S. and North America are still the world's

GDP Expected to Improve as Unemployment Stays High

GDP Expenditure (Inflation-Adjusted Percent Change)	2009(F)	2010(F)	2011(F)	2012(F)	2013(F)	2014(F)
Gross Domestic Product	-2.5	2.4	3.5	4	3.2	2.5
Equipment & Software	-17.2	9.1	15.2	12.8	8.3	4.9
Information Processing Equip.	-6.5	6.9	7.8	8.3	7.3	7.7
Industrial Equipment	-22.7	3.5	22.6	13.7	1.9	-1
Economic Indicator						
Unemployment Rate (%)	9.2	10.0	9.1	8.0	7.3	6.9

largest market, they will be located here. It appears that GE's Jeffrey Immelt's idea that the U. S. economy requires about 20% manufacturing is taking root and being listened to by CEOs and analysts. Commodities will continue to be made in the cheapest location possible, but many automation products are not commodities.

Some of the things that always accompany recessions are layoffs and restructuring. Automation companies removed all the fat from their employee base long ago. Every automation company has let go personnel in 2009, and not all of them were, in a word, turkeys. In every recession, many of these quality personnel who have been furloughed come back into the market as entrepreneurs with a new product or service that they were unable to produce "back at the farm." This trend will continue throughout the 2010-2012 recovery time frame. If you are an automation professional with a good idea, it may be that now is the time to take a flyer and see if the marketplace agrees with you. ■