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Automation in life sciences gains muscle

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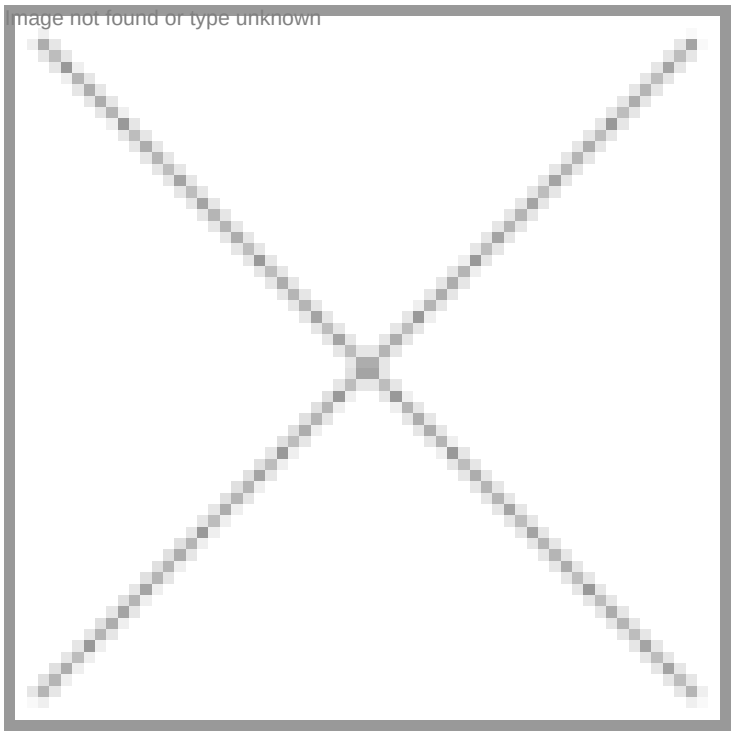

Automation in life sciences gains muscle

In the era of industrialization and globalization, automation is a step beyond mechanization.

The Indian biotechnology and pharmaceuticals sectors are expected to grow to $5 billion and $25 billion in revenues by 2010, with bulk of these revenues coming from exports. While the biotechnology industry has been growing at over 35 percent, the pharma industry has been registering a growth of 10 percent. Today, India has the largest number of FDA approved sites outside the US. Companies like Bharat Biotech, Biocon, Dr Reddy's Labs, Nicholas Piramal, Ranbaxy, Reliance Life Sciences, Sun, Serum Institute of India, Shantha Biotechnics, and Wockhardt are vying for a major share in the global markets.

"The Indian pharmaceutical companies, keeping abreast with the global developments and adopting new technologies with relative ease, have created GMP complaint facilities to produce and formulate drugs," said Raja Bahadur V Arcot, director, South and South East Asian Operations, ARC Advisory Group.

The industry's main forte continues to be generic drug market, though some of them have adopted the drug discovery path too. "With generics pipeline worth around $30-40 billion, the Indian pharmaceutical companies have ample growth opportunities and some of them have taken the route of growing through mergers and acquisitions. While these companies are expanding their reach beyond the Indian market, it is time for them to evaluate how well they are leveraging automation technologies to achieve agility, supply chain efficiencies and productivity improvement across globally-extended and

networked enterprises."

According to Harshavardhan Chitale, vice president, strategy and global marketing, Honeywell Process Solutions, companies will have to invest in automation as a business enabler and not as a technology enabler to become more agile, gain visibility across the extended supply chain and synchronize their production and business decisions.

Emerging industry

Automation is finding acceptance not just in large integrated manufacturing industries but also in medium and small units. The size of the total automation industry in India is about
Rs 4,000 crore and is expected to grow at 20-25 percent per annum according to the Automation Industry Association of India.

Pankaj Joshi, general manager, marketing, Rockwell Automation India, said, "The market for automation in the life sciences sector is worth
Rs 130 crore in India and is growing at a rate of 20 percent. Although there are not many players in this space, there is competition in the low value market wherein the solutions have been offered to the OEM players for as low as Rs 1 lakh." Globally the automation market in life sciences space is about $1 billion.

Automation Solutions

Automation plays an increasingly important role in the global economy as engineers have been able to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities.

There are several different types of automation tools tools.

- Artificial Neural Network (ANN)
- Batch Management System (BMS), Manufacturing Execution System (MES)
- Distributed Control System (DCS)
- Human Machine Interface (HMI)
- Laboratory Information Management System (LIMS)
- Programmable Automation Controller (PAC)
- Programmable Logic Controller (PLC)
- Simulation
- Supervisory Control and Data Acquisition (SCADA)

"At present the share of life sciences in the Indian automation industry is in the range of Rs 100â€“150 crore growing at a rate of 12-15 percent," stated JP Singh, president of Automation Industry Association (AIA). The contribution of the life sciences industry to the overall revenues of the automation industry is very small because the pharma and biopharma plants are not as big as those in the oil and gas or power generation and distribution sectors. "It would increase in the near future as most of the companies in the life sciences industry are going global and want to be very competitive at the global levels," said Singh.

According to Jeffrey Sladecek, business manager, Rockwell Software, Asia-Pacific, FDA regulatory compliances, in-patent production ramp-ups, and quality through corrective and preventative action are driving the pharmaceutical and biotechnology industries to look at automation. "Automation will help the companies to take care of their functional needs like document management, product tracking, and electronic signature or batch records."

Life sciences sector, an important focus area

ABB, Emerson Process, Honeywell, Invensys, Rockwell, and Siemens are some of the major players in the Distributed Control System (DCS) in India. Besides these, there are other technology providers, system integrators and information technology integrators who have been active in automation systems in India.

Emerson Process is a leading player in the DCS space in India and has close to 40-50 percent share of the total DCS market. The other major players in this segment are Honeywell and Siemens. Currently this market is growing at nearly 20 percent year on year. Besides sheer growth, there is also a qualitative shift in terms of market characteristics.

Sunil Khanna, managing director, Emerson Process Management India, said, "Over 100 life sciences companies have made investments on automation. But they are yet to automate their entire facilities or plants. Emerson has over 60 installations in the life sciences space, 17 of which were done in the last one year."

Gerhard Klement, president and CEO, biopharmaceuticals, Reliance Life Sciences, said, "We have been making investments on automation systems so as to integrate our systems and enhance the networking activities." Sunil Khanna added, "Earlier the life sciences companies' annual spending on automation was about Rs 2 crore, but this figure now is going up to Rs 25 crore."

Ravi Uppal, vice chairman and managing director, ABB Ltd, noted, "In the present competitive market, every company, including that in the life sciences industry, wants to outdo the other and provide the best to the customer. It's a healthy sign for the growth of the automation industry. However, the lack of awareness and knowledge about automation is a big impediment. It needs to be addressed immediately."

"To bring in awareness about the benefits of automation, AIA has been conducting programs in association with the sector-specific industry bodies and government. We haven't yet conducted any such program for the life sciences sector. AIA is keen on organizing such awareness programs in life sciences too," reiterated JP Singh.

Companies are now no longer looking at automation as an infrastructure, but as an enabler of productivity, quality and safety. "Pharma companies today are buying advanced applications such as MES, tracking and supply chain solutions as the experience of last few years has established the high ROI potential of such solutions. Process control solutions are no longer a luxury that only large chemical plants would implement. Even smaller enterprises in industries such as dairy and specialty chemicals have started reaping the benefits of automation. Companies have started realizing that the true value comes not from 'hardware' but from applications and engineering and the propensity of Indian customers to pay for the same has gone up significantly," added Harshavardhan Chitale.

The life sciences companies, clearly, are beginning to leverage automation and information technologies to achieve global competitiveness. They are beginning to install automation systems and enterprise solutions extensively to benefit from the global growth opportunities by enhancing productivity, ensuring better deployment of resources and gaining time to market advantages.

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