



TRANSFORMING PROCESSES USING AUTOMATION TRENDS

RAPIDLY INCREASING ADOPTION OF AUTOMATION IN PRODUCTION ARE GOING TO BE DECISIVE FOR THE FUTURE OF MANUFACTURING IN INDIA

BY LITTLE YADAV

Automation has become a crucial part of any industry. It is difficult to imagine a world without automation. It has come to a point where it is not about the importance of automation, but the efficiency it brings to the table. High energy savings, reduction in the total cost of ownership, and decentralisation

ensure whether a product is a success. The benefits of automation are to make operations leaner, while using lesser materials and reduce waste.

This year, however, brought in a plethora of hardships for all industries across the world with the pandemic shoving everything to a standstill. Most com-

panies suffered huge losses during the lockdown, but most of them have gotten back on the track and are already finding ways to better their services.

The covid-19 pandemic has accelerated the adoption of automation technologies by both global and Indian companies. The ongoing situation has helped organisations realize the benefits of digitization, which is not only about improving productivity but also keeping the business on track. The manufacturing plants that adopted automation technology were not affected majorly as they already had remote operations up and running. However, those who were dependent on traditional production processes faced multiple challenges.

One of the key challenges brought in by the pandemic, in the manufacturing world is the enhanced desire to produce quality products locally. To realise the goal of making world-class in India, the makers need to come up with an optimum product scoring



high on quality, consistency, reliability and hygiene. And this requires them to take care of many other things on the way. For example, they need agility and flexibility to deal with varied scenarios introduced by the pandemic like the social distancing on the shop floors, unreliability in the availability of skilled and sufficient manpower, the need to achieve high-mix-low-volume (HMLV) operations and most importantly, realignment of global supply chains.

MOVING AHEAD

Covid19 has been an awakening call for the manufacturing industry amongst the others to adapt to automation to ensure that there is close to no downtime. Automation is a pivotal aspect for achieving greater efficiency and taking a step towards a sustainable future. With the onset of industry 4.0, automation has become the top agenda across every sector. Every company is trying to come up with the best solutions for its customers by adopting the latest advancements in their automation processes.

Ravichandran Purushothaman, President, Danfoss Industries (India Region) explained, said, "Industry 4.0 is already an integral part of our day-to-day operations at Danfoss and is ready for integration on all levels of our customer installations. Smart Manufacturing, fundamentally linked with industry 4.0, along with access to vast amounts of data and new communications technologies, has made it possible to offer greater levels of automation throughout the production line and supply chain."

Gautam Rawal, Head, Factory Automation, Digital Industries at Siemens said, "Covid-19 has presented many challenges for the manufacturing industry. Both demand and supply side of the supply chain has got impacted. Manpower availability and new norms on safe working has resulted in less manpower in manufacturing plants and also affecting the movement of experts & technicians



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2. Optimum ways of manufacturing is now being put into action.

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to resolve shutdowns and maintenance issues. Siemens is helping its customers to address these challenges and turning them into opportunities for future growth.”

Talking on the solutions, **Ninad Deshpande, Head- Marketing & Corporate Communications, B&R Industrial Automation** explained, “With the pandemic, our predictive maintenance, condition-based monitoring, secure remote maintenance and factory automation solutions have seen increased demands. With our Secure Remote Maintenance solutions, our customers can diagnose and maintain machinery and equipment easier than ever. This remote solution utilizes the latest IT and security standards and allows for significant savings with low investment costs. With our remote solution, a service technician or engineer can access machines from anywhere in the world to retrieve logbook entries, application data and much more.”

CHANGING NATURE

Automation driven by advances in electronics, software and data analytics is a rapidly evolving field. Hence, new and advanced products are introduced regularly. These solutions offer incremental advantages on the shop floor. But for a manufacturer to be able to take advantage of these incremental benefits, it does become necessary to invest at regular intervals to retrofit or add solutions which were earlier not available. Companies are adapting to the latest



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technologies and advancement processes to make their products and services better and in return give the best to their customers.

Commenting on the advancements, **Sameer Gandhi, MD, OMRON Automation, India** said, “While this advancement is inevitable, we always advise our customers to develop a solid future vision for automation on the shop floor and then invest in the latest available technologies. This can help increase the interval between new investments for automation and thus reduce the corresponding CAPEX spend.”

The investment in automation technology depends on the requirement of the business. While the initial

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costs are moderately high, the kind of benefits it will yield in the future will overcome the money spent on the adoption of technology. Technology and automation can help a business improve efficiencies across functions – from supply chain to manufacturing to marketing, and ensure costly errors are prevented



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from happening. It is true that older industrial equipment does not offer connectivity, has less strength and lesser memory for data storage.

Meenu Singhal, Vice President, Industry Business, Schneider Electric said, “However, rushing to discard old equipment with new ones will not be economical for many. We believe that digitalization need not necessarily be in-built in the equipment. Our IoT enabled Ecostruxure architecture enables adaptation of existing infrastructure. Retrofitting / Augmentation can be a good option to ensure maximum return on investment and will help keep a check on capital expenditure.”

Biswajyoti Mandal, Vice President and Head – Technology, Schaeffler India, said, “We have incubated few advanced development projects to address several automations needs for our customers under the automotive and industrial space. We have made significant progress in terms of ideation and advancements on these projects by local R&D en-

4 & 5. There are a gamut of products available in the Indian market to make processes simpler.



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gineers, and we are expecting to see more results with time.”

Mandal further added that they have a portfolio for advanced development projects, developing products towards automation for their customers and they have seen good progress in the last year. Soon, they will be coming out with a different product line for their customers to help them adopt automation in their production line.

It is no secret that the modern technological landscape is a consistently and rapidly evolving one, often rendering certain technological solutions obsolete. It is therefore crucial that there should be a lot of focus on the R&D function for any industry to thrive.

Purushothaman explained, “Since its inception, Danfoss has had a robust R&D function in place, as it is on this solid foundation, that our business can stay one step ahead in engineering and ensure a better tomorrow globally. In recent years, we have spent up to 7% of our earnings on R&D and innovation initiatives.”

CUSTOMER CENTRICITY

2020 has been a year of digitisation and the primary reason behind that has to be the covid 19 pandemic and the restrictions that it created. Working remotely

has been embraced by organisations across the globe. Working remotely is here to stay and 2020 has only forced us to embrace it better and faster. Not only are managers working from home but are tracking machine behaviours from remote locations. However, with the lockdown during the first half of the year, a lot of workers had to return to their hometown due to lack of employment. Things are now slowly and steadily going back to normal.

This said, there is another problem that manufacturing industries face in India. Despite India having a population of 1.3 billion, manufacturing industries have always reported a shortage of skilled labour. To compensate for this shortage, the industry is adapting to latest technologies to ease out the manufacturing processes. Automation solutions help companies to not only automate operations but also optimize them and ensure profitability.

Deshpande said that through creativity and a high level of commitment, development engineers at their company's headquarters in Eggelsberg and seven other Austrian engineering offices contribute to B&R's global success. “Every year, B&R invests nearly a fifth of its revenues in R&D activities. In interdisciplinary teams, young professionals straight out of college or university work together with highly

experienced professionals to create tomorrow's automation trends. Recently B&R has invested in R&D offices in Salzburg, making room for 50 new highly skilled positions in the development of industrial communication, robotics and control technology. Moreover, ABB has invested €100 million in Austria to build a state-of-the-art innovation and training campus at B&R in Eggelsberg laying the foundation for around 1,000 new high-tech jobs in Austria. The innovation and training campus will develop technologies for the factory of the future, based on ABB Ability, in which production will be undertaken auton-

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omously by smart and cloud-connected machines and robots,” he added.

Talking about the advancement in Omron Automation, Gandhi stated, “OMRON’s solutions are valuable in helping the factories turn smarter and connected by helping them cope up with their biggest challenges like reducing downtime, decreasing frequency of sudden failures, improving changeover efficiency and real-time data-based predictive maintenance.”

Similarly, Mandal pointed out that Schaeffler is inherently a technology-focused organisation and being a global organisation, they can foresee the pain points that need to be addressed with new technologies. “Considering this environment and the fast pace of digitisation we have already embarked on the digital and automation pathway. Our customers

are very happy with the product and we have been receiving very good feedback. As of now we have launched a product for the cement, paper and pulp industries but the response is so encouraging that we are considering to offer it to other industries, as well,” he added.

“Today people talk about products with a solution in mind, our products enable a host of solutions,” Singhal said. “Our solutions are based on total expenditure approach to optimize the capital expenditure and deliver long-lasting operational value, the idea is optimising CAPEX and OPEX (we call it TO-TEX). Our products provide Digital lifecycle solutions, Energy Management solutions, Process & Machine Automations solutions while helping achieve sustainability, efficiency and expenditure goals.”

He further said that during this pandemic, their customers were faced with incredibly challenging situations. There was an incapacity, in many cases, to send staff or trained engineers on-site to manage installations. So, they worked together to make sure that they could operate their installations remotely: monitoring what’s happening through a unified operation centre, and then helping operators on-site through augmented reality.

Every company is adopting automation advancement to keep up with the pace. “Siemens offers the right controller for a wide range of automation requirements. Within our common engineering platform, TIA Portal, all SIMATIC Controllers have consistent integrated functionality and scalability to make the customer’s life easier. Integrated and scalable Simatic technology not only saves valuable engineering time, but it also ensures maximum efficiency and flexibility,” Rawal said.

Companies are opting for a perfect combination and coordination of hardware and software solutions to bring unprecedented increases in performance and quality, giving their customers a substantial competitive edge. On the other hand, machine builders are also benefitting from automated engineering, automation simulation, machine simulation & virtual commissioning to shorten their engineering efforts and enabling faster time to market. Customers prefer products and services that help reduce CAPEX, reduce downtime, improve energy usage and profitability among other things.

Rapidly increasing adoption of automation in production with an inherent prowess in the software is going to be decisive for the future of manufacturing in India. The ability to respond flexibly and efficiently to rapidly changing demand and new challenges, with the integration of automation and digitalization, is an opportunity for Indian manufacturers— be it Food and Beverages, Pharmaceuticals or the Automotive industry. **■**

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