



Being future ready!

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By Shaju S

Industry 4.0 is a term that has been attracting eyeballs from all across the globe. This technology-driven phenomenon is expected to transform production and manufacturing systems across industries, especially with respect to the automotive sector. It majorly involves the acceleration of production services and engineering solutions with the use of smart technologies such as Artificial Intelligence, Internet of Things, Cloud Computing, Big Data and Machine Learning.

One of the pioneers of Industry 4.0 has been the global automotive industry, deploying smart technologies to develop production equipment, smart products and modern manufacturing techniques. The Indian automotive industry is one of the largest in the world and is also in line with these advancements. It is expected to be the third larg-

est automotive market by volume in the world (from: India's Readiness for Industry 4.0 – A focus on Automotive Sector). Industry 4.0 is based on connectedness; where machines interact with each other and also with humans providing real-time data which can be accessed from anywhere at any point of time. Although the complete connected state is not ready, the automotive industry here is readily adopting these technologies. Implementation of industrial internet of things, 3-D printing, advanced robotics, and immersive technologies such AR, VR and MR and other such technological advancements are also bringing about significant breakthroughs in the Indian automotive industry.

The three mega-trends that will contribute the most to the automotive industry's transition are:

1. **Cloud-based services:** In order to branch out & maximise internal capabilities, automotive OEMs will begin to work with cloud-based systems to manage services, maximise real-time computational power & reduce licensing costs
2. **Cyber-security services:** In addition to connected vehicles, OEMs will work towards creating a holistically connected ecosystem that includes security as the core element of every process. Moving in line with the speed at which the industry is transforming, OEMs will have to integrate se-

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curity protocols at all touch-points and new technologies and services such as V2X communication that strengthens the vehicle as well as the infrastructure.

3. **Use of Big Data and Analytics:** Management of risks, improvement of processes, analysing consumer behaviour and needs, and optimisation of resources will be carried out effectively using existing data. This would help automotive OEMs in gaining deeper insights into upcoming trends and direct their business processes accordingly. Additionally, everyday technology in the automotive sector will be integrated with newer innovations such as video analytics and voice recognition

The Indian consumer is also asking for more and more connected features in automobiles, giving the industry more

reason to embrace the shift. Additionally, warming up to new technologies and ensuring end-to-end digitisation of processes will also make India a preferred market for manufacturing for other countries. Indian OEMs such as Bajaj Auto, Maruti Suzuki and Tata Motors have been taking significant steps towards implementation of Industry 4.0 leading to increased profitability. Having said this, some challenges that need to be addressed by OEMs for seamless and secure production systems are integration of contractors into the supply

chain, vulnerability to cyber-security threats that rise from openly accessible data and efficient use and management of Big Data, cloud storage and analytics. It is important for key players to overcome these to continue their journey towards complete autonomy.

Given its massive potential to contribute to the country's economy, the Indian government is also creating enabling policies and better infrastructure. The Make in India programme is one of the biggest announcements by the India government that strives to promote manufacturing in India. Such initiatives by the government will give the required push to MNCs to develop their products and services in India.

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