

- Connected components at the forefront
- It's all about data
- Shared mobility is here to stay
- Electric vehicles is on everyone's watch list

THOUGHTPAPER | AUTOMOTIVE

EXECUTIVE BYTES

**BISHWANATH GHOSH**

CIO- Enterprise –
Manufacturing Systems
& Corporate Functions,
Mahindra & Mahindra

“Competition is continually increasing and so are customer expectations. There is a pressure is to think out of the box and bring newer innovations, reduce costs, give value to the customer, and increase efficiency of the entire ecosystem.”

**LISA ZINN**

Group Head – Global IT
& Business Services,
Apollo Tyres

Shared mobility has changed the game for auto component manufacturers. The agenda has shifted to improving tyre life. For instance the ‘intelligent tyre’ - it uses an RFID chip which continually performs analytics. It reads the load bearing capacity and determines optimal speed to maximize tyre life and proactively determine tyre failure

**RICHARD D'SOUZA**

CEO, Mahindra
Integrated Business
Solutions,
Mahindra & Mahindra

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IT leaders and CIOs from the automotive space discuss trends and technologies driving the sector, challenges ahead, and the best course of action to take on the road ahead at CIO100.

INDIAN AUTO 2020:

IMPACT OF SHARED MOBILITY AND E-VEHICLES

With shared mobility and electrification of the powertrain transforming business models, the Indian automotive industry is turning towards connected components and predictive analysis to face competition from unexpected quarters.

India is well on her way to become the third largest auto market by 2020. The rapidly-evolving auto industry is at the cusp of transformational changes.

Electrification of the powertrain, connected cars and shared mobility will bring in changes one cannot anticipate.

In fact the very business model the sector operates on and the idea of competition from unexpected quarters is seeing CIOs turning towards telematics, AR/VR, and ‘as-a-service’ model to gain that edge. Bishwanath Ghosh, CIO- Enterprise – Manufacturing Systems & Corporate

EXECUTIVE BYTES



RAJESH SHEWANI

Head - Presales,
Technology and Solution
Architecture, India,
Teradata

“The question now is how we can use data for setting up a new line of business for companies. Harnessing mechanical information to data is what is happening in the industry.”



PRATAP PAT JOSHI

CIO
Mercedes-Benz India

“The lack of charging stations is one of the biggest hurdles in electric vehicle penetration in India. Collaboration between private companies and the government is imperative, and the drive must be led by state governments.”



JP YADAV

Senior Executive Director,
Maruti Suzuki

“We cannot move to electric cars or solar energy cars unless we have a plan. This is a problem in India, but we can find ways to overcome these challenges.”

Functions at Mahindra & Mahindra painted a holistic picture of the scene playing out in the automotive space today.

“Competition is continually increasing and so are customer expectations.

There is a pressure is to think out of the box and bring newer innovations, reduce costs, give value to the customer, and increase efficiency of the entire ecosystem,” he said.

Connected components at the forefront

The evolution of connected, autonomous, and semi-autonomous vehicles promises to create new revenue generation opportunities for automotive terminal manufacturers. The global connected car market is projected to reach USD 219.21 billion by 2025, at a CAGR of 14.8 percent from 2017 to 2025.

CIOs from the auto sector are betting on the proliferation of connected cars, the usage of artificial intelligence over telematics, and increased digitization of backend processes like sales. “The connected car will be synced to a datacenter where all kinds of analytics can be carried out on various vehicle parameters and driving trends. This information can be fed directly to the vehicle owner,” said Richard D’Souza, CEO of Mahindra Integrated Business Solutions, Mahindra & Mahindra. Auto component manufacturers are turning their focus towards intelligent

components. Lisa Zinn, Group Head – Global IT & Business Services at Apollo Tyres said that the hot topic in the industry right now is the ‘intelligent tyre’. The intelligent tyre uses an RFID chip which continually performs analytics and reads data.



As long as price is going to be a pressure point for automobile manufacturing, automation will be seen as a key component towards managing the cost, improving efficiency and productivity. When things are automated, the processes will be much more scalable and the quality will be much better.”

– **Vikas Malhotra,**
Senior GM – Information
Systems, Hero MotoCorp

“It can read the load bearing capacity and determine the optimal speed to maximize tyre life. Additionally, it can help proactively determine tyre failure before it occurs,” she said.

Data at the core

The industry has woken up to the ease and operational efficiency of cloud-based apps and pay-per-use models. Not too long ago, auto component manufacturers stepped up the drive towards telematics, they are now beginning to realize the immense

potential it holds and the prospects of harnessing AI in telematics.

However, with the proliferation of connected components, auto CIOs brought to light the fact that data privacy and security could spell growing concerns. Rajesh Shewani, Head – Presales, Technology and Solution Architecture, India at Teradata stated that as of now, we are thinking of a car as a mere mechanical vehicle.

The industry is moving towards data monetization. “The question now is how we can use data for setting up a new line of business for companies. Harnessing mechanical information to data is what is happening in the industry,” he explained.

Creating digital platforms to collaborate and engage customers as well as rolling out digital experience centres is gaining traction among the top players. Additionally, harnessing digital for billing and digitization of the sales process is also seeing widespread adoption.

Shared mobility disrupts business models

Shared mobility will open up a new space in the automotive sector. When shared mobility sees increased proliferation, it will leave an impact on component manufacturers. The next generation of customers do not want to own assets; they want to just pay and use it.

This is foreseen to have a huge impact on the current business model of OEMs. “Today, you are only making a certain type of car and selling it to customers. Currently, the utilization of a vehicle is only 2-5 percent. So that has to improve,” opined Udiptya Pal, Senior Industry Consultant, Manufacturing, APAK, Teradata.

Zinn said that with the shared mobility model gaining significance, tyre manufacturers are expected to deliver better tyre-life and mileage.



Electrification of the powertrain is on everyone’s watchlist

Although the automotive industry has begun its journey towards electric vehicles, tech leaders believe that the drive towards manufacturing electric vehicles and meeting specific guidelines could be a challenge.





It cannot be denied that electric vehicles faced its fair share of obstacles in the automotive space. Initially dampened by the lack of incentivization in manufacturing e-vehicles, the industry got a much-needed boost with the FAME II scheme that provides incentives for all forms of electric vehicle manufacturing.

Additionally, the Faster Adoption and Manufacturing of Hybrid & Electric Vehicles scheme (FAME) includes an investment of close to Rs 5,500 crore over five years. However, it's not just the lack of incentives holding back the e-vehicle drive. It poses as a challenges from the infrastructure point of view as well.

“The lack of charging stations is one of the biggest hurdles in electric vehicle penetration in India. Collaboration



“Today, we need to come with new products in a very short span of time and people want the best of it. Another way to go about is aggregate and collaborate. Global players need to collaborate to deliver state of the art products in a very short span of time.”

**– Richard D’Souza,
CEO, Mahindra
Integrated Business
Solutions, Mahindra &
Mahindra**

between private companies and the government is imperative, and the drive must be led by state governments,” said Pratap Pat Joshi, CIO - Mercedes-Benz India. Ghosh also pointed out that the rarity and cost of lithium core – an essential component in lithium-ion batteries – poses as a challenge from the cost-effectiveness factor.

In fact, an interesting point brought forth by Pal was that the battery could be a new service model. Also, the auto industry isn't just looking at lithium-ion batteries. Rajeev Mittal, CIO at Endurance Technologies shared that solar cell prices are dropping. “In the last 15 months, solar cell prices have dropped by about 15 percent. The efficiency is increasing and cell prices are decreasing,” he said.

Effectively, this will lead to a scenario where solar cells will become affordable and the whole energy industry will change. “What we are likely to see is solar-powered batteries for regular needs and autonomous vehicles,” he added. Changing competitive landscape – challenges ahead and the way forward

Competition in the Indian automotive space arose from foreign manufacturers. With ride-sharing companies storming the market, auto manufacturers were left with little choice but to tune accordingly. And now, with the imminent proliferation of autonomous cars, auto manufacturers are facing competition

from new entrants like Google and Uber. Additionally, the expectations of the user will be focused on more automation in the connected car segment.

Automotive CIOs believe that taking these disruptions head on would require increased collaboration between auto manufacturers. In addition to this, the industry would also be looking at methods to monetize the data generated by cars.

Panelists

2018 CIO100- AUTOMOTIVE

JP Yadav, Senior Executive Director, Maruti Suzuki

Pratap Pat Joshi, CIO – Mercedes-Benz India

Richard D'Souza, CEO, Mahindra Integrated Business Solutions, Mahindra & Mahindra

Vikas Malhotra, Senior General Manager – Information Systems, Hero MotoCorp

Rajeev Mittal, CIO, Endurance Technologies

Bishwanath Ghosh, CIO - Enterprise – Manufacturing Systems & Corporate Functions, Mahindra & Mahindra

Lisa Zinn, Group Head – Global IT & Business Services, Apollo Tyres

Rajesh Shewani, Head – Presales, Technology and Solution Architecture – India, Teradata

Udiptya Pal, Senior Industry Consultant, Manufacturing, APAK, Teradata

WHAT'S DISRUPTING THE INDIAN AUTOMOTIVE SPACE

- Electrification of the powertrain
- Shared mobility
- Connected components
- Competition from non-auto companies
- Process automation

ROADBLOCKS AHEAD

- Infrastructural challenges for EVs (Lack of charging stations)
- Scarcity of lithium-ion core for car batteries
- Lack of collaboration between manufacturers and the government
- Reskilling and upskilling employees on emerging technologies

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INDUSTRY 4.0 IN ACTION POWERED BY TERADATA

The increase in embedded in-car connectivity and integrated smartphone platforms have made connected cars one of the fastest growing sectors in the industry today.

Almost all major automotive manufacturers are investing in this technology, as well as other industry players such as telecommunications, next-generation technology and telematics specialists.

According to an industry estimate, connected cars will account for \$40 billion worth revenue by 2020, driven by infotainment, navigation, fleet management, remote diagnostics, automatic notification, safety, user-based insurance, traffic management and autonomous driving.

Vehicles are no more 'just mechanical', they have become a communion of advanced software and hardware.

Today, features like cruise-control, driver-assist, anti-collision-systems, geo-location (GPS), sensors, computing tools and processors as well as mobile connectivity integrations among others have made cars

into warehouses of data. With connected cars, this information can now be processed via big-data analytics tools for actionable insights and performance improvements.



SOUMA DAS

Managing Director, Teradata India

As the automotive sector continues to experience significant changes, Teradata can help automotive organisations achieve "Industry 4.0" by helping them to improve efficiency to create new business models that stabilize yield, manage uncertainty and reduce risk.

Teradata believes that it is imperative to empower organisations to achieve operational excellence enabling them to grow revenues, optimise asset uptime, boost product quality and improve efficiency in the face of growing global disruption and competition.

Predictive maintenance

Imagine if the car has to go for an urgent oil change or is running low on coolant or radiator fluid, the auto manufacturer can review the information remotely and inform the owner to bring it in for an oil change or refill.

For example, Volvo has launched a system in association with Teradata that takes preventive action by predicting car-component failures beforehand. This allows the company to better plan for its parts inventory.

Reduced inventory means reduced costs and a more efficient supply chain, which in turn means customer satisfaction.

Volvo states that 80-90% of its new cars are 'connected' (post customer permissions) to gather data-driven information about driving behaviour, car related

warranty data, customer data and reactions on the road.

This is to enhance current models and develop future models that interact seamlessly with the consumers.



“According to an industry estimate, connected cars will account for \$40 billion worth revenue by 2020, driven by infotainment, navigation, fleet management, remote diagnostics, automatic notification, safety, user-based insurance, traffic management and autonomous driving.”

Focused marketing and advertising

Today, analytics can convert personal data from cars into a corporate asset for manufacturers.

As they garner real time information about the vehicles, they can not only help manufacturers enhance driving quality and customer happiness, but enable the automobile sector to gain design efficiencies, develop smarter supply chain, make performance changes right at the assembly line, as well as ramp up distribution and marketing.

Saving overall costs

The use of analytics can be for something as simple as improving fuel efficiency by studying historical data and giving optimised suggestions, or as complex as predicting a breakdown by studying sensor data from fleets of vehicles.

For example, when it comes to fleet management, using big data in connected cars will enable the monitoring and upkeep of vast numbers of vehicles through aggregated data.

As the sensors in the vehicle collect data about speed, braking and route, the management can take informed decisions to direct the drivers, improve efficiency and eventually save costs.

And this does not only stand true for fleet-management but also individual drivers or cab-hailing services like Uber and Ola in India.

Increase product and output quality

Teradata solutions enables you to use factory level IoT data and advanced analytics to boost quality, create automated continuous improvement programs and achieve zero accident/zero defect production.

Raise productivity, attain scalability and create a “Predictive Asset Management” methodology to apply across end-to-end processes by implementing analytically driven quality routines.

Improve profitability—use advanced analytic models to deliver insights from any data source to map ideal customer and product experiences.

Proactively manage the whole value chain, enhance Customer Relationship Management (and improve Customer Lifetime Value) to grow revenue, achieve rapid return on investment and reduce cost, re-work and scrap.

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