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Applying Thought

Automotive Industry Shifting Gears

Monday 7:30 AM: Travis Smith is in a rush to leave home for office in the city center when his mobile beeps with a notification. Nautilus (his car's alter-ego) is checked, all set for the drive and that he should start in 15 mins to avoid the peak traffic. Travis starts driving and as he enters the freeway he realizes he needs to update the documents for the upcoming meeting. He calls out to his car, "Nautilus, please take over steering". As the car slips into an autonomous driving mode, the head up display splits to show the road on the top and an information pane at the bottom. Travis asks Nautilus to download the document. He then proceeds to dictate some edits that Nautilus shows on the screen. As they are nearing the destination, Nautilus suggests to Travis, "Travis, we are reaching in 5 mins, shall I email this document to meeting invitees?" Travis nods and the document is emailed.

Rise of
software within
the vehicle

Well, these scenarios aren't somewhere in the distant future. Winds of technology led transformation blowing across the automotive world will make this scenario a reality soon. With the advent of convergence of connectivity, artificial intelligence and big data analytics, speed of transformation in the automotive industry has grown manifold. The traditional outlook of long cycle times had inhibited rapid adoption of technologies. This is changing swiftly with software penetrating key components of the vehicle. As per Morgan Stanley Blue Paper on Autonomous Cars, the value of the car was 90% hardware with only 10% software. In the future, with autonomous cars, it will feature only 40% for hardware, with an equal 40% for software while 10% would be content.

Looking beyond automotive, the Internet of Things (IoT) brings in other devices, systems and people within the ecosystem. As per CISCO, by 2020 things will outnumber humans by 5:1. Each person essentially becomes a roaming IP node. Emergence of smart systems is enabling creation of 'intelligence' from data that is spewed out from interactions of people, things and systems. For automotive industry, it is spurring growth in V2X applications (Vehicle to Vehicle, Vehicle to Infra, Vehicle to Device, Vehicle to Home, etc.). New landscapes are opening up in data monetization through machine learning and in hyper personalized customer engagement through natural language processing. This opportunity is attracting a clutch of new entrants like technology players, semi-conductor manufacturers, telecommunication giants and content kings. However, the key to driving mass adoption of these systems would be the development of safe and reliable technology.

Emergence of new players

While these players are looking at the technology ecosystem to aid OEMs in launching new technologies, there is another set of players that have upended the contemporary assets based business model. Mobility players have tapped into the changing demographics, urbanization and increasing preference for asset access rather than asset ownership. Rapid urbanization has led to piling of traffic, overused infrastructure and dipping quality of air. UN expects 70% of the population to be in cities by 2025 further highlighting the trend. Millennials have increasingly grown wary of owning cars and are shifting towards accessing vehicles when they need. This has driven the surge for mobility players who revolutionized the world of taxis making the OEMs and Tier-1 suppliers relook their business models. OEMs have made significant investments in ride hailing players signaling their commitment to this new way of doing business.

Regulatory pressures

Electric vehicles have been part of the OEM showcase for many years, but it was Tesla Motors that cast limelight on them and then lit the path for electric vehicles to become mainstream. Tax exemptions are also adding to the lure for masses to adopt electric vehicles. Many countries have already put in long term plans to completely rely on electric vehicles – Netherlands parliament has voted to make 100% new car sales to be emissions free by 2025. By 2030, share of electrified vehicles will touch 10-50% of all new car sales. These trends imply OEMs and Tier-1 suppliers would need to recalibrate their value chains along with the technology stacks to stay relevant in the market.

Regulations is another challenge staring the industry in its face. While e-Call mandates have been issued, the complete implementation is yet to materialize. Governments across the globe are formulating regulations for autonomous vehicles to curb untoward incidents. With global concurrence on Paris Agreement under United Nations Framework Convention on Climate Change, governments are expected to further tighten the emissions norms on gasoline engines.

Evolving with the ecosystem to remain relevant

As automotive OEMs transition to this new world of operations, they will need a dynamic, efficient and nimble technology backbone. While the journey is exciting and at times unpredictable, the challenge is to remain relevant and thrive in this rapidly evolving ecosystem. The Automotive team at Wipro Technologies brings in a strong automotive domain led technology integrated solutions approach to partner with OEMs, component suppliers, dealers to draw out market winning strategies and execute them with the right blend of cloud hosted platforms, digital solutions and new age operating models.

About the authors

Raj Kumar Ravuri

Raj is a General Manager and the global head for Wipro's Automotive Domain practice and the Center of excellence. He leads a global team of automotive domain consultants and is responsible for driving technology led innovation and domain expertise based solutions and consulting offerings to Wipro's automotive clients. Raj and his team have led the development of several innovative solutions for Wipro in the areas of Sales, CRM, Dealer systems, Aftersales service, warranty, and Telematics. He has over 25 years' experience in IT industry with the past 15 years in Automotive delivering complex systems integration and consulting services to global OEMs and Tier-1 suppliers across NA, Europe, and Japan.

Amit Holey

Amit Holey is a Principal Consultant with Wipro's Automotive Centre of Excellence. He helps drive innovation use cases and domain led sales by infusing Wipro integrated services offerings and IP for compelling value propositions for automotive clients. Previously, he has handled project implementations, solution designs and has played a key role in project analysis, proactive domain proposals and sales. He has experience in design and execution of small to large programs across Sales, Marketing and After Market segments for Automotive OEMs across geographies.

Amit holds a Master of Information Technology from Virginia Tech, USA, and a Post Graduate Diploma in Systems Management from S.P. Jain Institute of Management & Research, Mumbai.

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