5 Questions For Automotive Leaders In The Connected Vehicle Value-Chain
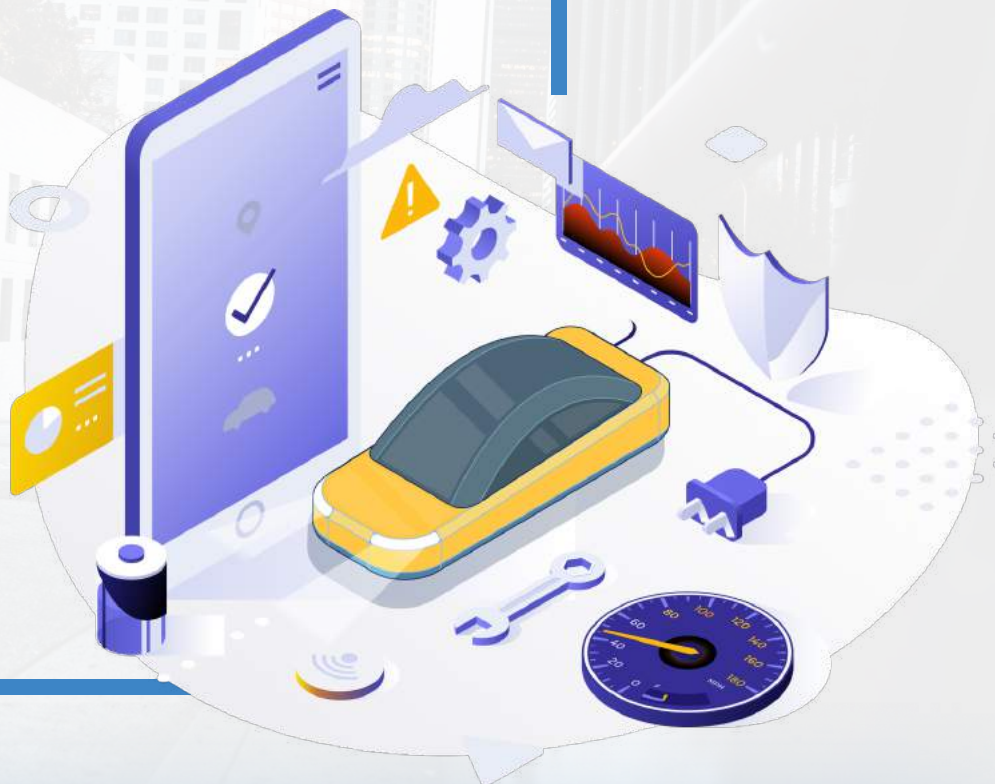
MOVE TOWARDS INTELLIGENT CONNECTIVITY

#RoadToAutomotiveUtopia

Today's digital-first era has changed customer expectations drastically. Now, they expect the same kind of technology and experience personalization that they get from their bank or on their mobile devices from the vehicles they drive. As the need for seamless, personalized, integrated experiences increased in the automotive sector, so has the rate of innovation by the market leaders in terms of the technologies used inside cars and trucks.

Gartner predicts that there will be more than 740,000 autonomous-ready vehicles in the global market by 2023. While convergence between the automotive, communications, and technology industries is relatively new, the demand for it is increasing at an unprecedented pace. While automakers used to develop vehicle technologies in a closed manner, the OEM's priorities are changing.

Vehicle connectivity is the new avenue for growth and a new horizon for customers looking for great experiences.

As the vehicle experience lies at the heart of its technology, it has become paramount for OEMs to invest in bringing connectivity to the vehicles in order to cater to modernization and customer demands. This scenario has also led to discussions around the following interesting questions for stakeholders in the connected vehicle value chain:

- Are Automotive OEMs responsible for pre-selecting content to be made available in the vehicle?
- How can OEMs balance in-vehicle connectivity and distracted driving?
- How can the technology of the vehicle remain compatible with new technological advancements?
- What can be an attractive fee for services structure for the consumer's delight?
- How can vehicle connectivity boost use-cases including vehicle safety, reduce the impact on the environment and extend the vehicle's life with remote diagnostics?

Let's look at some of the latest trends in the automotive industry in order to find answers to the above questions—and to explore the state of technological innovation and OEM priorities.

The consumption of data has grown exponentially with the arrival of streaming audio and video; many consumers will likely come to expect increased in-vehicle connectivity moving forward.
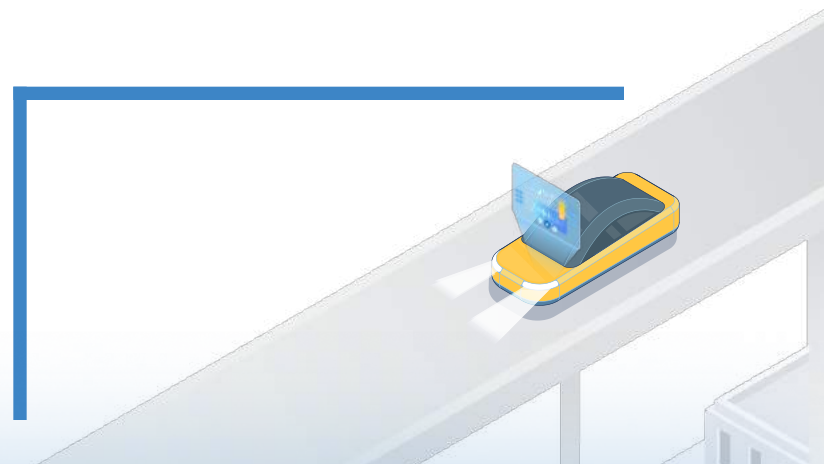
This has led to the transformation of in-vehicle infotainment. In-car or in-vehicle infotainment has evolved from radio, cassettes, and CDs to automotive navigation systems, video players, USB and Bluetooth connectivity, carputers, in-car internet, and Wi-Fi. In addition to this, the large availability of entertainment content and the need for driving-related information are factors further fuelling the demand for feature-rich infotainment systems.

OEMs need to consider developing and integrating infotainment systems and apps, including interfaces with home devices and links to offices. Adding an aggregation layer to the Over-The-Top (OTT) platforms can help achieve an enhanced customer experience. In other words, content recommendations should be aggregated and flow in from existing user accounts from OTT and music streaming platforms based on existing user preferences. Also, app preferences should be captured, and personalised dashboards should be enabled based on driver/rider preferences.

Advanced infotainment features integrate both user behaviour and the next level of data-based infotainment systems. They can add power to in-vehicle infotainment (IVI) by manually personalising the media source playlist or automating the choice of entertainment based on user behaviour data. User behaviour data is derived through analytics inputs from interactive voice recognition based on the vehicle owner's mood. Thus, helping you provide a better customer experience.

According to a study done by Capgemini Engineering, 54% of new car buyers agree that they are afraid that people can hack into their car and manipulate it whilst connected to the internet.

Be it OTA updates or any other way data is being shared either from vehicle to the server or vice-versa, security has become one of the most paramount concerns for OEMs. IoT devices are often targeted by hackers because many have security vulnerabilities by design. And there have been incidences that have exposed certain vulnerabilities to OEMs.

With the rise and rapid adoption of V2X (vehicle-to-everything) communication comes a new risk—now, the car is sharing data with a wider IoT ecosystem that includes, including traffic management and parking control systems, hazard warning mechanisms and emergency services.

While one of the top concerns lie with the safe transmission of data and the protection of user data (as well as preventing hacking), digital identity solutions can be stored on the SIM, ensuring that only trusted communities have access to data.

That leads us to the top of Driver distraction while driving a connected vehicle. OEMs need to invest in delivering connected services in the vehicle, that is truly built to enhance the in-vehicle experience and not merely a duplication of the mobile services.

As laws addressing distracted driving continue to evolve, automakers will experience increased complexity in delivering in-vehicle connected services and safety systems. Integrating voice-activated hardware and services into a cohesive user experience are options automakers should consider. OEMs should also look to leverage connectivity to facilitate vehicle safety through features like:

Automatic Emergency Braking
This braking allows the driver to avoid accidents and vehicle damage as they are engaged automatically if the car's system senses a potential collision—before the driver can react to it.

Lane-Departure Warning (LDW)
This feature allows drivers to receive an alert if their car crosses over lane markings when their turn signal is not on.

Lane-Keeping Assist (LKA)
Similar to LDW, Lane-Keeping Assist will help steer or stop a vehicle if it starts to move out of a lane.

Seamless Connectivity. The new automotive buyers and influencers firmly fall within the digital-native category. They refuse to compromise on seamless connectivity services and are willing to pay to obtain them.

Drivers want their cars to act as peripherals to their smartphones so that they can remain connected and productive while on the move. It further cautions OEMs that cars will have to interface with other tools to keep pace with (and leverage) the fast-moving consumer electronics industry.

OEMs should look to understand the requirements of their digital native customers, to meet and exceed customer expectations. This includes connecting the vehicle to their digital world—and also intuitively responding to their requirements. For example, the in-vehicle connectivity should extend beyond the regular smartphone connectivity and reading out messages or tweets but should facilitate pairing assist, navigation assist and remote diagnostics. While interacting with the driver like an AI assist, for instance, simply stating "I'm hungry!" an in-vehicle virtual personal assistant should initiate a process to search, review, recommend and navigate to a restaurant of choice.

Free access to content. The digital native customer is in the habit of getting free access to content, applications and services through mobile devices, resulting in similar expectations from the connected vehicles.

This, in turn, makes it tricky for automotive OEMs to monetize connected vehicle services and data. Automakers should acknowledge and anticipate consumer demand for a 'free content business model.' However, this should not be the only model considered, as it may not directly align with an OEM's customer base. At the other end of the spectrum, some OEMs may plan to target demographics that would be better served by a business model that rolls all subscription costs into a vehicle's cost.

OEMs need to communicate to the end customers exactly what is in it for them. Benefits for consumers typically fall into four broad categories: safety, convenience, time savings, and cost reduction.

In the safety category, car data can enable SOS calls and road hazard warnings. Remote diagnostics and connected infotainment are the go-to services in the convenience space.

Finally, customers who are willing to receive in-car advertising and share information with insurers could save money at the retail point of sale and on their insurance premiums, respectively. Participation in automated payment schemes could also present customers with an opportunity to save on tolls or municipal road-related taxes.

Conclusion

As these trends suggest, the way consumers see vehicles has changed completely over the last few years. From content to safety, OEMs need to give it their all to customize and deliver. Here are some of the key takeaways for automotive IT leaders looking to develop engaging, successful Connected Vehicle programs:

- Driver experience needs to be at the forefront of the entire concept of connected vehicles. Content, as well as experience personalization, will play a huge role when it comes to customer affinity moving forward, be it in infotainment or when it comes to using the dashboard itself. The other piece of that puzzle is data security.
- Safety features need to be a huge consideration when it comes to tailoring connected vehicle experiences, with features like Automatic Emergency Braking, Lane-Departure Warning, and Lane-Keeping Assist taking the lead in terms of priority.
- IoT and Intelligent Transportation Systems (ITS) need to be at the centre of connected vehicle technology, using sensors, cameras and RFID readers for intersection monitoring, roadways monitoring, insight derivation, congestion identification and even traffic rerouting.

- 5G is another thing to consider when designing your Connected Vehicle program. 5G will drive not only new connected services but also foster a shift towards cloud-based vehicle architecture. With Software design re-use and other software-based innovations, the technology has the power to turn cars into 'smartphones on wheels.'
- With the consent of the driver, telematics-enabled insurance programs can also be deployed. They will connect the vehicle from their point of purchase to the CCC to partnered insurers who can offer them personalized insurance deals and even rewards for good driver behaviour.

Without a doubt, connected vehicle technology has become a platform for expanding the user's experience to a domain that was previously untouched. OEMs that can meet the demands of their customers when it comes to personalization, safety, and overall vehicle experience, will be able to foster deep customer relationships. This is where Tata Communications helps OEMs build the kind of platforms that can tend to evolving customer demands, checking every point from infotainment to safety, so that they can deliver unparalleled driver experiences.
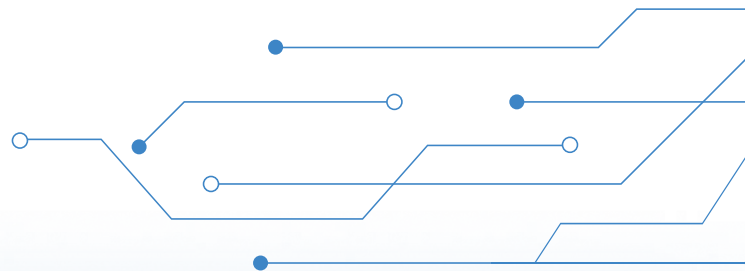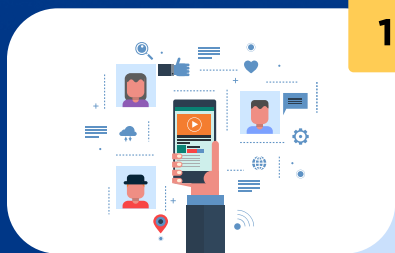
1 A leading Auto insurance company, is looking to increase the digital engagement and conversion of potential insurance buyers.

2 Insurer designs a discount led, usage based insurance model based on the driving behavior for the customers who own connected cars.

With proactive prospecting, discount notifications are sent to the right audience by using driver behavior-based insights from consenting drivers.

3 Sending...

4 John, who was looking to renew his insurance plan, receives the discounted promotional offer from the insurer, as his driver score falls in the range of being awarded with a discount.

20% Discount

5

John responds to the notification and begins the process to obtain a quote.

Insurer 3kms away

6

Insurer uses historical driving data for John from the Data Exchange to deliver their behavior-based discounts instantly at point of quote – bypassing the traditional multiweek driving observation period.

7

Discount 20%

John is delighted to see the discount, as an award to his safe driving, and after a thorough reading of the terms and conditions, confirms and securely pays the premium to renew his car insurance.

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