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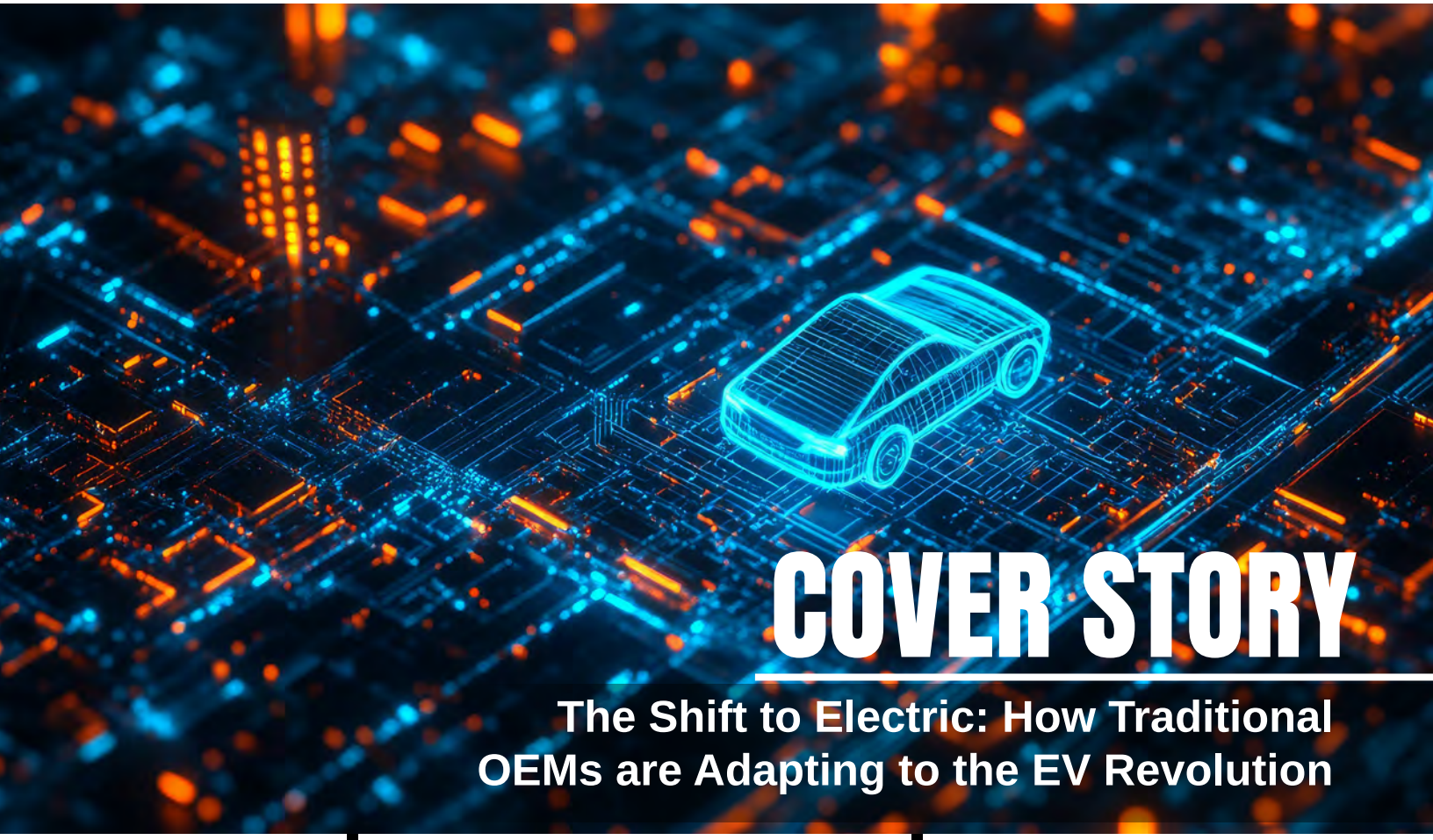

COVER STORY

The Shift to Electric: How Traditional OEMs are Adapting to the EV Revolution

INSIDE

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ATTRACTION

JAINAM SHAH
Managing Director
Mindra

MITULL BATRAA
Co-founder
Udaan E Vehicles

Integrating Smart Assistant in EV Infotainment

The Automotive Skills Development Council (ASDC) is dedicated to continually developing and upgrading automotive skills to drive higher value additions within the industry. This focus on skilling aims to foster capital creation, generate increased economic activity, and create additional job opportunities. ASDC also seeks to make skills aspirational by integrating them with academic pathways, while honoring and celebrating skilling achievements.

To achieve these goals, the council relies on the full commitment of key industry bodies such as SIAM, ACMA, and FADA, who already play a significant role in skilling efforts. Additionally, ASDC ensures the credibility, reliability, and robustness of the skill assessment process. It also facilitates and supports the organization of skill competitions, promoting excellence and recognition in the industry.

In a recent interview, **Abdullah** interacted with **Vinkesh Gulati, Vice President, ASDC** in which he discussed about platforms and operating systems will the smart assistant need to be compatible with in the EV infotainment system, data privacy and security, smart assistant be integrated into the vehicle's user interface, smart assistant integrate with navigation systems to provide real-time traffic updates and route recommendations, smart assistant suggest charging stations based on the vehicle's current battery level and travel route, smart assistant interface with other vehicle sensors and systems, integration of the smart assistant comply with automotive industry regulations and standards.

What platforms and operating systems will the smart assistant need to be compatible with in the EV infotainment system?

The smart assistant must be compatible with multiple platforms and operating systems, including Android Automotive, Apple CarPlay, and proprietary systems developed by OEMs. This ensures a seamless experience for users, regardless of their device preferences. The focus will be on delivering a unified experience across smartphone integration platforms, voice assistants, and cloud-based services, enabling connectivity with various apps and services that modern EV owners rely on. The OEMs have to be cautious that the connection should be seamless and the customer should not be hassled.

What measures will be taken to ensure data privacy and security?

Data privacy and security are paramount. The smart assistant will employ end-to-end encryption for all data transmissions, adhering to global data protection regulations like GDPR. User consent will be prioritized, with options to customize data-sharing preferences. Additionally, firewalls and intrusion detection systems will monitor for any suspicious activity, and the system will regularly receive over-the-air (OTA) updates to mitigate emerging security threats. Though India does not yet have a comprehensive data protection law, but there are several framework like Information technology Act and others which are taken in to consideration to ensure data privacy.

How will the smart assistant be integrated into the vehicle's user interface?

The smart assistant will be intuitively integrated into the vehicle's user interface, accessible through touchscreens, voice commands, and physical controls. The integration will ensure a distraction-free experience, allowing drivers to interact through natural language processing and voice recognition. The interface will be user-friendly, offering real-time responses while syncing with the vehicle's dashboard and heads-up display for easy accessibility and visibility.

How will the smart assistant integrate with navigation systems to provide real-time traffic updates and route recommendations?

The smart assistant will sync with navigation systems to offer real-time traffic updates, rerouting suggestions, and estimated time of arrival (ETA) adjustments. By analyzing traffic data, road closures, and accidents from multiple sources, it can optimize routes. It will also suggest alternative paths based on live conditions, helping drivers avoid delays while ensuring safety and efficiency on their journeys.

Can the smart assistant suggest charging stations based on the vehicle's current battery level and travel route?

Yes, the smart assistant will use the vehicle's battery status and real-time location to recommend nearby charging stations. It will factor in the vehicle's current battery level, the distance to the next station, and the driver's route. The assistant can also provide information on available chargers at each location, their charging speed, and whether they are occupied or available.

How will the smart assistant interface with other vehicle sensors and systems?

The smart assistant will be deeply integrated with the vehicle's sensor network, enabling it to monitor and interact with systems like climate control, tire pressure, and battery management. By interfacing with these systems, the assistant can provide proactive maintenance alerts, adjust settings based on user preferences, and improve overall vehicle performance while ensuring a personalized driving experience.

How will the integration of the smart assistant comply with automotive industry regulations and standards?

The smart assistant will be designed in full compliance with automotive industry standards such as ISO 26262 (functional safety) and UNECE WP.29 regulations (cybersecurity). Additionally, it will adhere to guidelines related to AI ethics and data privacy. Collaboration with regulatory bodies will ensure the technology meets safety and performance benchmarks, providing a secure and legally compliant solution.

How will AI and machine learning be used to improve the smart assistant's performance and capabilities?

AI and machine learning will be central to enhancing the smart assistant's performance. These technologies will enable the assistant to learn user preferences, driving habits, and environmental patterns over time. This learning ability allows it to make personalized suggestions, optimize system responses, and improve voice recognition accuracy, ultimately delivering a more intuitive and adaptive user experience.

What unique features or capabilities will the smart assistant offer that others do not?

The smart assistant will offer unique features like seamless integration with advanced vehicle sensors, real-time learning of driver habits, and predictive maintenance alerts. It will also provide AI-driven suggestions, such as eco-friendly driving tips, and utilize machine learning to optimize energy consumption. This level of customization and efficiency, combined with its deep integration across vehicle systems, sets it apart from competitors. Many EVs also offer smart voice-activated virtual assistants that provide weather updates, control interior features like air conditioning, or manage entertainment without distracting the driver and many more.

Vinkesh Gulati
Vice President, ASDC

"The smart assistant will be intuitively integrated into the vehicle's user interface, accessible through touchscreens, voice commands, and physical controls."