Visualizing a new user experience with Visteon's integrated cockpit solution

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Visteon's latest concept – the integrated cockpit experience – highlights vehicle occupant visualization and perception in a new user experience, demonstrating the company's DriveCore™ and SmartCore™ domain controller platforms working in tandem as part of a new vehicle architecture enabling autonomous driving. The interface manages the experience of drivers and passengers as the vehicle seamlessly takes control from the driver, or gives it back, during the transition from Level 2 to Level 3 autonomy.

The integrated cockpit provides a fully digital in-car experience. The platform encapsulates the fundamental relationship between DriveCore™ and SmartCore™ – and how Visteon's unique domain controllers can work together. DriveCore™ controls the autonomous driving features, passing information on to SmartCore™ which, in turn, powers the user interface and delivers a graphical representation of the automated driving experience.

SmartCore™ presents a wide range of functionalities tailored to the needs, requirements and expectations of the end-consumer. In its high-end version, the cockpit domain controller incorporates **Tencent's** internet technology, which adds artificial intelligence to the vehicle, augmenting Visteon's cockpit domain controller.

The system intuitively reacts to different unique elements – such as recognizing which driver is behind the wheel and what time of day it is, so the user experience is optimized in terms of navigation and communication; and personalized when it comes to in-car considerations like temperature and entertainment.

The integrated cockpit has a driver-facing camera that can be used to monitor the occupant behind the wheel. From this, the system can identify the driver and build a profile without the need for manual log-in or identification.

Features favored by the driver will automatically migrate to the forefront of the interface and user experience – similar to streaming services or online retailers suggesting related content based on previous activity.

The second element of Visteon's solution integrates DriveCore™. The autonomous driving platform enables an open ecosystem for third-party development – simplifying new development and shortening the time-to-market. The plug-and-play system starts with Visteon's modular and flexible approach to ADAS and autonomous driving functionality – the hardware coming together with middleware that makes algorithm integration simple with the DriveCore™ Studio software development kit.

With DriveCore™, Visteon can address all levels of automation beginning with Level 2 and scaling up toward a Level 5 fully autonomous system – capabilities that set Visteon apart in the industry currently.

Visteon demonstrates both domain integration and HMI expertise in the integrated cockpit. Offering a range of capabilities – for global customers with a rich design studio environment, or a more rudimental platform – Visteon's cockpit experience can be scaled to all levels of technical complexity.