



Visteon Demonstrates Augmented Reality Driving Experience and Latest Head-Up Display Technology at CES® 2017

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- Unique visual and acoustic in-vehicle experience shows path to autonomous driving
- Latest windshield and combiner head-up displays (HUD) provide drivers with line-of-sight information, helping reduce risk of distraction
- New combiner HUD concept increases field of view by 50 percent compared with typical systems, putting more information at eye level

LAS VEGAS, Jan. 5, 2017 /PRNewswire/ -- Visteon Corporation (NYSE: VC) – a technology leader at the epicenter of the fast-growing automotive cockpit electronics segment – will showcase the latest advancements in head-up display (HUD) technology at CES® 2017 in Las Vegas Jan. 5-8, including an augmented reality driving experience designed to help minimize distraction by alerting drivers to critical information, while allowing them to keep their eyes on the road.



A highlight of Visteon's exhibit is a demonstration vehicle equipped with an augmented reality system, which overlays graphics in the driver's line of sight to represent objects in the vehicle's path; provides navigation guidance; and displays relevant information, such as a lane departure warning.

Complementing the vehicle's HUD, embedded front-view and driver monitoring cameras trigger "smart alerts" in the form of lights and sounds when the driver is not paying attention to the road, if the vehicle strays from its lane, or if the vehicle is at risk of potentially hitting an object. For example, when a pedestrian or bicycle is present on the side of the road, an LED light projects onto the windshield within a 90-degree angle of the driver's line of sight, giving a visual alert without the driver needing to turn his or her head.

"We are excited to showcase our latest innovative technology in head-up displays," said Visteon President and CEO Sachin Lawande. "Augmented reality HUD is the next big step in the application of advanced automotive data processing and sensor fusion technologies, which ensures that the vehicle recognizes its precise positioning and what is happening around it. Our demonstration vehicle showcases a unique visual and acoustic experience that is designed to improve safety beyond the capabilities of traditional HUD systems."

Designed to help keep the driver's attention on the road, HUD applications are gaining popularity as a preferred interface for vital information, such as vehicle speed and warning messages, to be displayed as a virtual image directly in the driver's field of vision. Affordable technology solutions, the adoption of advanced driver assistance systems (ADAS), and consumer demand for safety are bringing HUD applications into mass-market vehicles at an annual growth rate approaching 30 percent.

Visteon, which has delivered more than 1 million HUD units for production vehicles, will exhibit several scalable HUD solutions at CES, targeting all segments from entry-level to luxury vehicles. These include windshield HUD – a product for which Visteon has recently been awarded multiple contracts – and a range of first-to-market combiner HUDs, which project a virtual image in front of the driver using a compact transparent screen mounted on top of the instrument panel.

Windshield HUD

In addition to delivering the benefits of augmented reality, the windshield HUD in the demonstration vehicle has a wide-field image, which, at 10-by-4 degrees, is about twice the size of a normal windshield HUD and allows the driver to see information not usually displayed in HUD systems, such as menus for multimedia and simple maps. The image is projected at 10 meters from the eyes, instead of the normal two meters. This is designed to place less strain on the driver's eyes and to help minimize fatigue that can occur when a driver's eyes continually shift from the windshield to the instrument cluster. Visteon is also presenting an advanced windshield HUD application with a 6-by-2 degree field of view, featuring robust color, contrast and brightness to enhance content and the user's experience.

Combiner HUD

Visteon is also presenting four levels of combiner HUD that expand head-up technology beyond the luxury segment to mass-market vehicles. These include applications for emerging markets, entry-level applications requiring an economical solution, small- to medium-sized vehicles, and high-end and luxury vehicles. These solutions offer various levels of kinematics, optical quality, brightness, color definition and display surface sizes to meet the specific needs of the automaker and the vehicle's target customers.

Visteon's new premium combiner HUD has a large field of view – 50 percent bigger than traditional combiner HUD units – allowing more information to be displayed in the driver's line of sight. It features a 10.6-by-2.65 degree viewing angle with a 3.1-inch color thin-film transistor (TFT) display. In addition to information typically displayed on a HUD, such as vehicle speed, automatic cruise control, navigation and a low-fuel warning, the larger field of view allows for additional information to be displayed such as phone caller identification or music menus.

About Visteon

Visteon is a global company that designs, engineers and manufactures innovative cockpit electronics products and connected car solutions for most of the world's major vehicle manufacturers. Visteon is a leading provider of instrument clusters, head-up displays, information displays, infotainment, audio systems, telematics solutions and SmartCore™ cockpit domain controllers. Visteon also supplies embedded multimedia and smartphone connectivity software solutions to the global automotive industry. Headquartered in Van Buren Township, Michigan, Visteon has approximately 10,000 employees at more than 40 facilities in 18 countries. Visteon had sales of \$3.25 billion in 2015. Learn more at www.visteon.com.

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