Sales of Automotive Proximity and Gesture Recognition Systems Shift into High Gear

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Northville, Mich. (Sept. 11, 2013)—Having already evolved from knobs and dials, to touch screens and voice recognition, automobiles are on the cusp of a new evolution in user-interface technology, as sales of automotive human machine interface (HMI) proximity and gesture recognition systems rise by a factor of 50 during the next decade.

The global market for automotive proximity and gesture recognition systems that allow motorists to control their infotainment systems with a simple wave of their hand will grow to more than 38 million units in 2023, up from about 700,000 in 2013. Nearly 40 percent of all new automobiles sold worldwide in 2023 will come with some degree of proximity or gesture recognition, according to a new IHS Automotive report entitled “Emerging Technologies: New Human-Machine Interface Trends,” from IHS Inc. (NYSE: IHS), a leading source of critical information and insight.

The attached figure presents the IHS forecast of global sales of automotive human machine interface (HMI) proximity and gesture recognition systems.

“Gesture is a natural method of human communication, one that is used subconsciously in everyday interpersonal communications,” said Mark Boyadjis, senior analyst and manager, automotive infotainment, for IHS Automotive. “Because of this, gestures can be used in control automotive infotainment functions ranging from navigation to satellite radio with minimum driver distraction. This, and other factors, will cause sales of proximity sensing and gesture recognition systems in cars to undergo a rapid expansion in the coming years.”

Compared to other types of emerging automotive HMI systems, proximity and gesture recognition will prove most valuable to end users and be the most widely applicable across different brands, regions, languages, and cultures, IHS predicts.

New technologies beckon

Gesture recognition is defined as the use of cameras or sensors to track and convert a user’s movements into inputs for the infotainment system without any physical touch input. This would include things like waving a hand to the left or right to change radio presets or go to the next song in a playlist, or turning the hand clockwise or counterclockwise to raise or lower the volume.

Proximity sensing is the use of smaller, less expensive proximity sensors, typically infrared technology, to detect the user’s hand or another object approaching the display or control knob. This technology may or may not understand a gesture but rather the presence of the hand or object in proximity. Proximity sensing can be used to bring up menus on a car’s display with frequently used functions, which disappear when not in use.

Basic automotive proximity recognition systems made their debut in 2012 in cars sold by Cadillac and Volkswagen. IHS predicts the first high-resolution gesture systems will appear in 2017.

Wave hello to proximity sensing for cars

The Cadillac User Experience, or CUE, was the first system to offer proximity sensing in a mass-market-production vehicle. A
A pair of infrared sensors just below the screen can detect when the user’s hand approaches the screen and activates frequently used menus, such as a list of mixed presets and navigation options. These menus would otherwise clutter the screen if displayed constantly, and the proximity sensors are used to reduce the graphical user interface’s complexity after users have made their selection.

A similar system has also been deployed on the seventh-generation Volkswagen Golf with its midrange and premium display radios and navigation systems. This illustrates that proximity systems will not be reserved for premium brands alone.

**Beyond gestures**

Further in the future, newer automotive HMI technologies are expected to emerge, including augmented reality displays. Augmented reality is a content stream projected through a display, primarily head-up display (HUD) systems, that would change or augment the driver’s perception of the road or points of interest ahead. Sales of automotive augmented reality systems in vehicles are expected to start in 2015.

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