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## ***DENSO's New Cockpit Simulator Connects People, Vehicles and Society***

***- Designed for the future automotive society -***

People want to be connected. So, the challenge is how to enable/increase connectivity within the vehicle while ensuring safety. DENSO is working to bring interesting new technologies driver's *want* and will soon expect in the vehicle, while also looking to prevent the distraction of safe driving.

Based on this philosophy, DENSO has developed "Resonance 2021," a vehicle cockpit simulator designed for the automotive society in 2021. In an automotive environment where people, vehicles, and society are all connected by communication devices and sensors, the "Conductor," a human-vehicle interface of Resonance 2021, helps people drive more safely as well as providing content driver's want in the vehicle.

The Resonance 2021 offers the following three functions:

### **1. Active Steering Wheel System for safer driving**

Based on information from technologies such as millimeter-wave radar, sonar sensors, and vehicle-to-vehicle and vehicle-to-infrastructure communication, the Conductor assesses the real-time risk of a potential collision between your vehicle and another. When the system detects an imminent collision, it vibrates the steering wheel to alert the driver of the situation and also automatically takes controls of the steering wheel to help the driver stay safe when needed.

### **2. Smart Map Monitor System for more comfortable driving**

The Smart Map Monitor System informs the driver of real-time road conditions and changing traffic hazards based upon vehicle probe information - provided by information centers - and local traffic information - gathered through vehicle-to-vehicle and vehicle-to-infrastructure communication and other sources. The system is designed to ease traffic congestion and make driving more convenient and comfortable. The driver can get information from a head-up display, the car navigation monitor and/or the instrument cluster display.

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### **3. Information Guide System gives Driver's Information they want and expect**

The Information Guide System connects the vehicle and the driver's personal computer and/or Smartphone to an information center that analyzes the driver's preferences. Based on the driver's oral request, the system uses the Conductor to immediately select and show or voice information in which is specialized to the driver's preference. This system allows the driver to find a preferred type of shop or restaurant when visiting new places, in turn making driving more enjoyable.

DENSO will continue to develop technologies to help create an automotive society where people can safely enjoy the driving experience by increasing the availability of technologies that interlink people, vehicles and society.

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