

Holographics, robotics, and virtual reality top DENSO's technology displays at CES 2017

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DENSO features technology for smarter mobility, living

SOUTHFIELD, Mich. – From a holographic haptic controller for vehicles, to collaborative robots for homes, DENSO will feature future-focused technologies designed for Smarter Mobility and Smarter Living at CES 2017. These innovative technologies will be demonstrated January 5-8 at the 2017 International Consumer Electronics Show (CES) in the North Hall at the Las Vegas Convention Center (LVCC), Booth #5431.

Conceptual technologies being featured during the show include:

- **DENSO's Holographic Haptic Controller** uses light to project holograms and ultrasonic sound waves to create haptic feedback, allowing the user to control the vehicle systems mid-air without physically touching a button.
- **VIVE™, the Virtual Reality Experience** – Users will be able to select from two game scenarios played in glass cubes visible to the CES show floor.

The first experience will feature DENSO's **V2X (vehicle to vehicle and vehicle to infrastructure)** technology, where users will learn about managing traffic flow in a city environment. The game will demonstrate how V2X technology can help to manage complicated traffic situations, efficiently and safely.

The second experience focused on **Manufacturing**, will enable the player to help assemble a DENSO product. Users will experience the

complexity of manufacturing and assembly and improve their understanding of the uses of robotics in manufacturing for safety sensitive tasks.

- **DENSO and the Massachusetts Institute of Technology's (MIT) next generation Persuasive Electric Vehicle (PEV)**, will provide a glimpse into the future possibilities of autonomous transportation using today's technology. The concept includes wireless charging, glowing exterior lighting for autonomous, semi-autonomous and regular driving modes, as well as a micro-HVAC system that heats and cools the PEV.
- **Touchless Human-Machine Interface (HMI)** – As an experimental look at the future of vehicle cockpit control, this technology features a gesture control system that tracks eye and head movements using sensors, enabling the driver to make decisions in the vehicle without having to take their hands off the wheel.
- **DENSO's COBOTTA** robots show the potential for humans and robots collaborating for improved quality of life. Practical applications of this futuristic robot include working together as a cooking aid in the kitchen, serving as a lab assistant in research, or simply helping accomplish everyday tasks. The company's demonstration will include one robot taking the visitor's photo and the second sketching their portrait within minutes. Additionally, the booth will include a "Barista-bot" which will prepare, brew and serve coffee to visitors.
- **DENSO's ProFarm Monitor Kit** allows farmers in Japan to remotely monitor greenhouses, temperature, humidity and CO2 levels from a smartphone to improve crop production, efficiency and stability. It creates a vertical greenhouse environment that will increase the ability to harvest food due to land constraints or during labor shortages in countries around the world.

"Our goal is to develop technology that creates a better world," said Doug Patton, executive vice president, Engineering, DENSO International America. "We are looking at ways that our technology and

components can be used beyond the automobile—in agriculture, health care and the home.”

About DENSO in North America

DENSO is a leading global automotive supplier of advanced technology, systems and components in the areas of thermal, powertrain control, electronics and information and safety. With its North American headquarters located in Southfield, Michigan, DENSO employs more than 23,000 people at 30 consolidated companies and affiliates across the North American region. Of these, 28 are manufacturing facilities located in the United States, Canada and Mexico. In the United States alone, DENSO employs more than 15,000 people in Alabama, Arkansas, California, Iowa, Georgia, Kentucky, Michigan, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee and Texas. DENSO’s North American consolidated sales totaled US\$9.9 billion for the fiscal year ending March 31, 2016. For more information, go to www.densocorp-na.com. Connect with DENSO on Facebook at www.facebook.com/DENSOinNorthAmerica

DENSO Worldwide

DENSO Corp., headquartered in Kariya, Aichi prefecture, Japan has more than 200 subsidiaries and affiliates in 38 countries and regions (including Japan) and employs more than 150,000 people worldwide. Consolidated global sales for the fiscal year ending March 31, 2016, totaled US\$40.2 billion. Last fiscal year, DENSO spent 8.8 percent of its global consolidated sales on research and development. DENSO common stock is traded on the Tokyo and Nagoya stock exchanges. For more information, go to www.denso.com, or visit our media website at www.denso.com/global/en/news/media-center/

About DENSO’s North American Aftermarket Group

DENSO’s North American aftermarket group supplies parts for original equipment service dealers, independent aftermarket service centers and retailers. In addition, the company distributes heavy-duty diesel and electrical components, portable commercial air-conditioning units and industrial robots. The company employs approximately 500 people in Long Beach and Murrieta, California. The company’s product line includes heavy-duty and automotive alternators, starters, oil, cabin and air filters, spark plugs, AC compressors, oxygen sensors, ignition wires, fuel pumps, fuel injectors and wiper blades. For more information, go

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