

DENSO, MIT AgeLab and Touchstone Evaluations Establish New Consortium to Study Driver Distraction

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OEM Members include Honda, Subaru and Jaguar Land Rover

SOUTHFIELD, Mich., – Leading a new effort to address the continuing challenge of driver distraction, global automotive supplier DENSO, Massachusetts Institute of Technology (MIT) AgeLab and Touchstone Evaluations have founded a consortium, **Advanced Human Factors Evaluator for Automotive Demand (AHEAD)**, that aims to develop new perspectives and methodologies for a holistic and objective approach to measuring driver demand. Honda R&D Americas, Inc., Subaru Research & Development and Jaguar Land Rover have joined the program as initial partners, and discussions with other global automakers and portable electronics suppliers are ongoing.

The new consortium brings together leading researchers, automakers and suppliers to take a fresh look at methods to reliably and repeatedly assess the demands associated with in-vehicle interactions. Further,

this work aims to provide the auto industry with an evaluation platform that better supports driver safety as the potential for automotive human-machine interface (HMI) complexity increases.

“We know drivers want to be connected while driving, but how do we safely give drivers what they want?” said Doug Patton, senior vice president of Engineering at DENSO International America, Inc. “We need to evaluate driver workload – but currently there is no quantifiable and objective metrology model in place. Not to mention, there’s a high price tag attached to researching and developing something like this. With that said, forming a consortium will help reach the goal of establishing a common methodology.”

The Goal of AHEAD:

Current evaluation methods for HMI technologies are primarily based upon criteria developed before the advent of modern integrated technologies such as voice interfaces, touch screens and multi-function controllers. Perhaps most importantly, the evaluation methods utilized to date don’t consider the tradeoffs that exist as demand is moved between modalities such as vision, touch, sound, haptics, gesture and cognition. The effort aims to make early stage prototype evaluations more feasible where design changes can be more effectively achieved – in contrast to evaluations that frequently take place later in the vehicle development process.

“Establishing a common understanding of human performance of in-vehicle tasks that can distract drivers from the primary task of operating the vehicle safely is an important goal for the industry,” said Steven Feit, Chief Engineer of Infotainment Development at Honda R&D Americas, Inc. “This type of research and collaboration will lead to new automotive innovations and the inclusion of exciting features and consumer technology that can be operated safely in vehicles.”

The goal of AHEAD is to create a quantifiable objective evaluation toolkit that will be useful across the industry for supporting new HMI development; and, one that will improve the effectiveness and reliability of data, helping manufactures and portable electronics suppliers offer intuitive, convenient and safe interfaces to the consumer while more effectively meeting industry and governmental guidelines.

Joining forces to lead the technical effort are researchers from the MIT AgeLab and Touchstone Evaluations, Inc. The MIT AgeLab has lead efforts to utilize multi-dimensional assessment by holistically combining physiological, visual attention and performance measures as part of HMI evaluation. “Physiological measures complement traditional visual attention and performance measures to provide a more complete picture of the interacting demands of modern HMI.” Dr. Bryan Reimer, a Research Scientist in the MIT AgeLab, the Associate Director of The New England University Transportation Center at MIT and the MIT technical lead for AHEAD.

About MIT AgeLab:

The MIT AgeLab was created in 1999 as a global research program to invent new ideas and creatively translate technologies into practical solutions that improve people’s health and enable them to “do things” throughout the lifespan. Based within MIT’s School of Engineering’s Engineering Systems Division, the AgeLab has assembled a multi-disciplinary team of researchers, business partners, and universities, to design, develop and deploy innovations that touch nearly all aspects of how we will live, work and play tomorrow. Core research themes include transportation, health and wellness, and longevity planning.

About Touchstone Evaluations:

Touchstone Evaluations, Inc. was founded in 2008 in Detroit, Michigan. It is a new-generation human factors firm that provides research and consulting services in the automotive and consumer-product sectors. It is distinguished by the priority it places on scientific rigor, and by its focus on creating the “next practices” of user interface development, which will lead to effective and pleasing products. Touchstone’s founders are award-winning scientists and engineers in the field of driver performance assessment and vehicle evaluation, who collectively have over 85 years of experience in the automotive industry. Of the client-customized services which Touchstone delivers annually, typically 75 percent are focused on driver multitasking, attention, and distraction-assessment, 15 percent on active safety and emerging automotive technologies (including automation), and 10 percent on User Interface innovation. For more information, visit <http://touchstoneevaluations.com/>.

About DENSO: Currently, in North America, DENSO employs more than 17,000 people at 32 consolidated companies and affiliates. Of these, 22 are manufacturing companies that have 28 production locations in the United States, Canada and Mexico. In the U.S. alone, DENSO employs more than 12,000 people in California, Michigan, North Carolina, South Carolina, Tennessee, Kentucky, Georgia, Iowa, Ohio, and Arkansas. DENSO's North American consolidated sales totaling US\$6.8 billion for the fiscal year ending March 31, 2013.

DENSO Corporation, headquartered in Kariya, Aichi prefecture, Japan, is a leading global automotive supplier of advanced technology, systems and components in the areas of thermal, powertrain control, electronics and information and safety. Its customers include all the world's major carmakers. Worldwide, the company has more than 200 subsidiaries and affiliates in 38 countries and regions (including Japan) and employs more than 130,000 people. Consolidated global sales for the fiscal year ending March 31, 2013, totaled US\$38.1 billion. Last fiscal year, DENSO spent 9.4 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.globaldenso.com, or visit our media website at www.densomediacycenter.com

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