Productive teamwork

June 14, 2017

MSU and the University of Michigan team up to advance the state’s autonomous vehicle research

This year’s recent Mackinac Policy Conference (MPC) served as the backdrop to show off some of what Michigan has to offer in autonomous vehicle technology and research.

Autonomous vehicles from Michigan State University and the University of Michigan, and some of the engineering students working on them, were under a tent on Shepler’s Ferry dock May 30-31 as visitors headed to the 2017 MPC on Mackinac Island.

The event was hosted by Michigan Planet M, a statewide effort to elevate Michigan as the national hub of mobility innovations. Planet M, which was launched at last year’s MPC, is part of the Michigan Economic Development Corporation (MEDC).

State officials attending this year’s MPC visited the tent en route to the Mackinac’s Grand Hotel. One of them was Kirk T. Steudle, director of the Michigan Department of Transportation, who said the focus is on how people and goods move around the state, country, and world.

“The technology being developed right here in Michigan will be the center of it all,” Steudle said. “It will morph into the entire world in ways that society interacts with machines, and moving goods and products.”

Steve Arwood, MEDC chief executive officer, said the state’s newest round of mobility innovations are just beginning.

“When you think about what mobility means in Michigan, it’s our legacy in the auto industry obviously, and our future,”
Arwood said. “That’s only one part of it. But when you think about all the different ways that mobility is going to change civil engineering for our roads, legal, insurance, and all the opportunities for people who might not have mobility -- it’s very exciting.”

To hear more on this mobility conversation, visit the website of the Michigan PBS TV show: Under The Radar.

Here’s a sampling of some of the Twitter tweets that promoted events on the dock at Mackinaw City:

• **#MSU #SpartanEngineer** Saif Imron explains some of the intelligent **#autonomous** devices featured at @MichiganPlanetM @sheplersferry. **#mpc17.**

• **@michiganstateu** leads in **#autonomous** computer vision, radars, antennas & hi-assurance computing. Pleased to rep at **#MPC17 w/ @UMichMcity**

• From Shepler’s Ferry: There’s our own Andrew M. - maintenance extraordinaire and security chief for our **@MichiganPlanetM** guests. It's a great day on the Straits!

• From PlanetM: “**#AutonomousVehicles** also open up a whole new world for people with disabilities - and for our seniors.” - **@onetoughnerd #MPC17 #mobility**

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**More on autonomous research at MSU**

Autonomous or self-driving vehicles take a warehouse full of technology – cameras, radars and other sensors, security and recognition technology, and a trunkful of computers – to make it happen.

MSU’s autonomous research technology is part of a project known as CANVAS – Connected and Autonomous Networked Vehicles for Active Safety. Spartan scientists are focusing on the key areas of recognition and tracking objects such as pedestrians or other vehicles; fusion of data captured by radars and cameras; localization, mapping and advanced artificial intelligence algorithms that allow an autonomous vehicle to maneuver in its environment; and computer software to control the vehicle.

“Much of our work focuses on technology that integrates the vehicle with its environment,” said Hayder Radha, a professor of electrical and computer engineering and director of CANVAS. “In particular, MSU is a recognized leader in computer vision, radars and antenna design, high-assurance computing and related technologies—all areas that are at the core of self-driving vehicles.”
CANVAS is part of the larger MSU Mobility Studio initiative, consisting of CANVAS, plus smart infrastructure and mobility management vehicles, pedestrians and cyclists. Another important aspect of a future connected-and-autonomous vehicle is its ability to communicate with other vehicles and the infrastructure surrounding it. Such communications will, for example, enable a car to detect other vehicles that are approaching an intersection and recognize whether the other vehicle is going to stop in time.

AutoDrive Challenge
The growth of connected technologies will spread into the undergraduate student population this fall when General Motors donates a Chevrolet Bolt EV to MSU as part of a new Society of Automotive Engineers (SAE) International team competition called AutoDrive Challenge.

MSU is among eight North American universities selected for the new autonomous vehicle design competition to create a fully autonomous passenger vehicle. The technical goal is navigating an urban driving course in an automated driving mode.

“This competitive program represents an intriguing intersection of research and education in autonomous vehicle engineering,” Radha said. “And this intersection of research and education is becoming quite essential for the emerging area of autonomous driving.”

Radha noted that all of this summer’s events are to resolve the urgent need to train the engineers and scientists who will lead this new era in automotive engineering.

“One of our core missions here at MSU, and especially under the CANVAS initiative, is to address both the research and education aspects of autonomous vehicle engineering. The AutoDrive Challenge is an example of a compelling program that enables us to achieve this mission,” he added.

More at:

MSU Mobility Studio
AutoDrive Challenge begins
Photo gallery - MSU autonomous vehicle
MSU contributes to autonomous-vehicle research
Related Website: Communications contact: Patricia Mroczek

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