Startup targets drowsy driving with next-generation driver safety system

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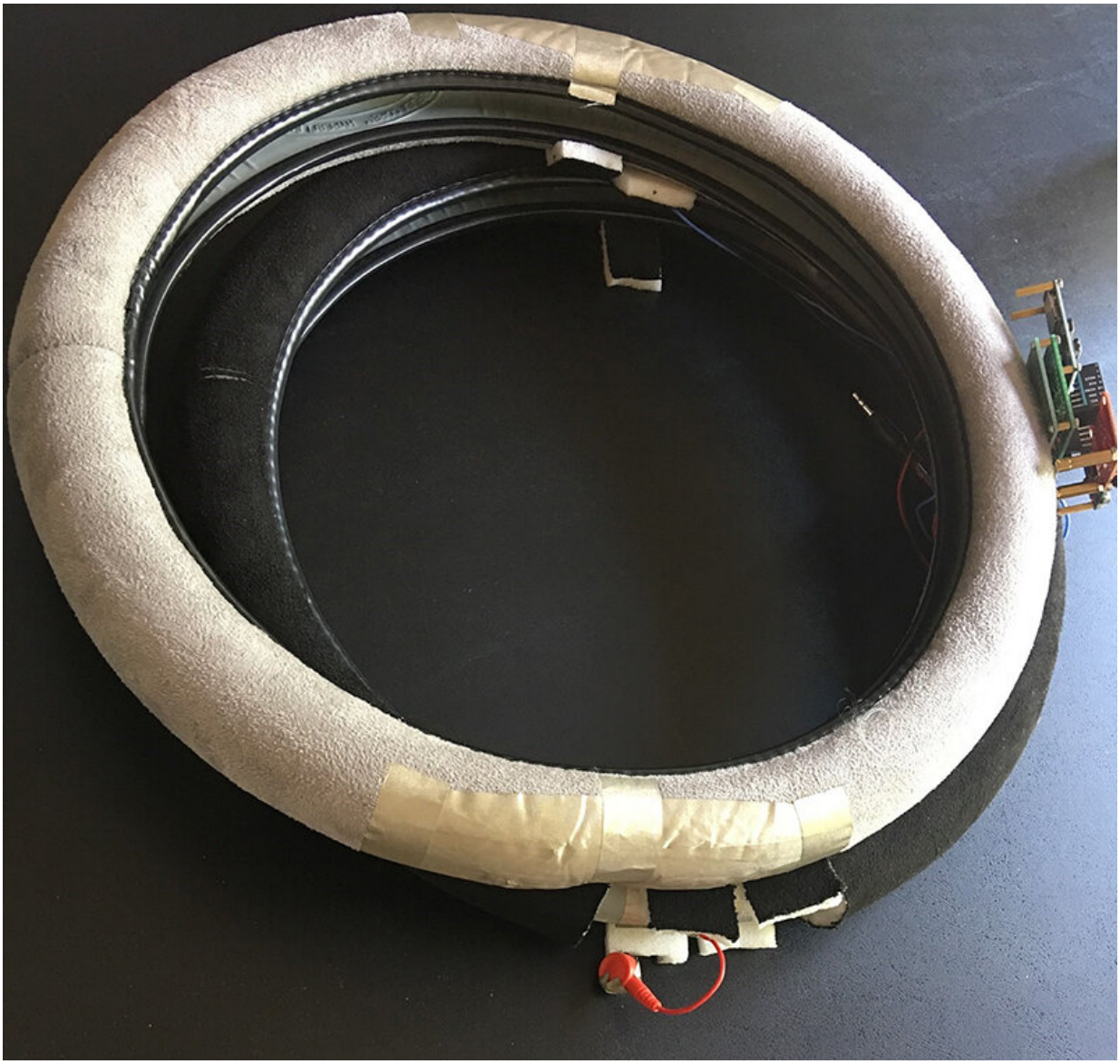

Vastra Inc., a Purdue University-affiliated student startup is developing

“TriSense,” a next-generation driver safety system that can monitor health. Credit: Vastra Inc.

Drowsy driving is blamed for hundreds of deaths each year in the United States. According to the National Highway Traffic Safety Administration, more than 4,000 people were killed in vehicle crashes involving drowsy driving from 2013 to 2017.

Vastra Inc., a Purdue University-affiliated student startup is developing "TriSense"—a next-generation driver safety system that can monitor health.

"A fabric steering wheel cover can detect fatigue and drowsiness and alert the driver," said Harsh Somani, president and CEO of Vastra and an alumnus of industrial engineering in Purdue's College of Engineering. "The driver interacts only with the steering wheel while the vehicle is in motion to minimize distraction, and we also provide a software application as part of the system solution."

The startup is developing high-performance hardware that collects electrocardiogram data, which can give detailed feedback on heart rate and medical informatics. In the event of predicted drowsiness or fatigue onset, the driver is alerted. This is integrated with optimized software in the form of a smartphone application or dashboard for guardian alerting.

The founding team of Vastra also consists of Andrew Sooy, William Wyckoff, Nikhil Dhingra and Scott Dauer. They placed second in Boiler 2019, which is Purdue Anvil's early-stage startup accelerator competition. Each team is paired with a mentor and can apply for microgrants to do things such as beta testing, prototyping and more.

"It was a great experience working with advisors who were very generous with their time and expertise to guide us through tough navigation points," Somani said. "It always helps to be part of an ecosystem and surround yourself with other teams working on challenging problems."

Vastra was also one of 20 finalists presenting for the Purdue Black Award, developed by the Elevate Purdue Foundry Fund (EPFF), which invests in Purdue-affiliated startups with pre-seed, seed and early-stage or co-investment programs.

The startup was invited recently for the Innovation Showcase at Defense TechConnect and plans to participate in more programs to bootstrap development and growth.

"Purdue has been instrumental in our inception, which includes various student and professional organizations," Somani said. "Hand, head and health monitoring will be the new seat belt for next-generation drivers. Our company will participate in the automation efforts for transportation with a focus on safety and biometrics."

Vastra is looking to partner with fleet operators to assist in upgrading systems through either software or add-on hardware. The startup has a long-term vision of using the technology into different verticals such as clothing or home automation.

Provided by Purdue University