GST Develops Technology to Enhance Highway Safety, Security

By CYNTHIA McCLOUD
For The State Journal

In the not-so-distant future, cars will be able to tell how the weather is affecting road conditions and also inform their drivers, other cars and the infrastructure, which will then respond by brightening streetlights or reducing the posted speed limit.

Brian Bell, vice president of innovation at **Global Science & Technology** in Fairmont, paints that picture of the future, and he said the company is working on the technology to make it happen right now. It just received a $2.8 million contract to expand its project.

GST's Mobile Platform Environmental Data (MoPED) System has been awarded a second-year contract from the **National Oceanic and Atmospheric Administration — National Weather Service**.

"We're proud to have this outstanding opportunity from NOAA and the National Weather Service," said GST President **Chieh-san Cheng**. "This project will add to the great work taking place on the I-79 High Tech Park located in the heart of West Virginia's High Tech Corridor."

MoPED's primary goal is to fill in the gaps of the NWS's three primary weather collection methods: satellites that monitor Earth, **Doppler** radar and fixed weather stations located primarily at airports.

GST designed a weather sensor that takes readings of ambient temperature, barometric pressure and more, facts meteorologists already use to make predictions in forecasts. The prototype debuted on 32 buses that travel routes in the northeast.

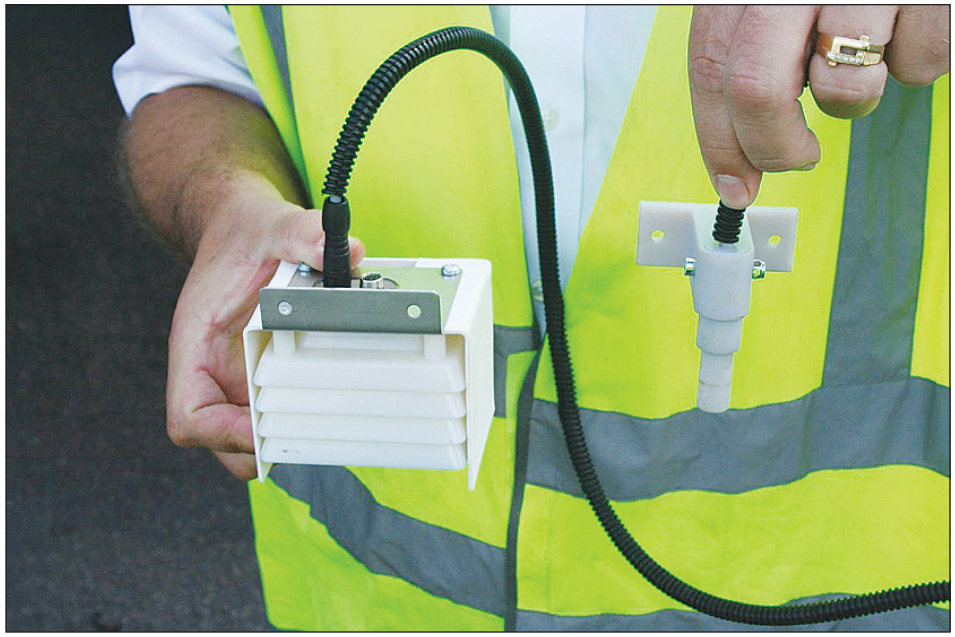

Photo courtesy of Global Science & Technology

The WeatherSensor will take readings of ambient temperature, barometric pressure and more.

With the new contract, 2,000 buses nationwide will receive refined sensors.

Greyhound buses were chosen because they travel routes around the country around the clock. Researchers know where they are when the data is collected and because they already were equipped with equipment that detects and reports location, driver behavior and vehicle performance.

The telematics company that services Greyhound's fleet installs the sensors on the buses and feeds the data to GST. Telematics is how cars talk to drivers. For example, services like **OnStar** can tell emergency personnel that a specific vehicle has been in an accident or provide information about low tire pressure.

"This is going to be ubiquitous, and it's going to save lives and protect property," Bell said.

"The whole objective was to provide more info to the NWS so they can improve how they predict the weather," Bell said.

GST realized someone in transportation would be interested in the data MoPED collected to determine road conditions. From there, developers added another sensor that looks at a vehicle's emissions and the CO2 in the surrounding air to determine its carbon footprint. A few months ago, when there were reports of a bomb in an SUV in New York's Times Square, GST said: "What if we could add another sensor that would detect radiation?"

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"Weather, roads, energy/environment and national security: All these applications continue to grow and grow," Bell said.

GST set out to build a multi-mission, multi-sensing system that will create the largest surface observation and surveillance system in the world.

"Primarily, our focus is at this point to work with the federal government to develop meaningful and relevant information for the needs they have," Bell said.

"What we're really trying to do is use these assets to make our country safer, more secure and more sustainable," Bell said. "We would never install this technology on a passenger car just for the sake of keeping tabs on its driver. We're not Big Brother. That's not our goal."

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