Quantum Accelerates Data-Intensive Autonomous Vehicle Research at Mississippi State University

The Center for Advanced Vehicular Systems (CAVS) defines the future of autonomous vehicles with Quantum R-Series Edge Storage

SAN JOSE, Calif., Jan. 5, 2022 /PRNewswire/ --Quantum Corporation (NASDAQ: QMCO) today announces its role in accelerating all-terrain autonomous vehicle research at the Center for Advanced Vehicular Systems (CAVS) at Mississippi State University (MSU), one of the premier university automotive research centers in the world. CAVS collects vast amounts of unstructured data using Quantum R-Series Edge Storage, a high-performance, ruggedized solution purpose-built for capturing massive data volumes in edge environments. The data is generated by vehicles and used for further analysis and machine learning (ML) model development in the CAVS data center.

Data storage and processing needs for autonomous vehicle (AVs) development are growing. Mobility Foresights research estimates that 20% of new cars sold globally will have at least Level 3 autonomous driving capability by 2030. An estimated 90 million connected and autonomous vehicles will each generate up to 10 Terabytes (TB) of data per day or one Zettabyte (ZB) per day across the industry. The automotive industry increasingly requires storage solutions that are flexible, scalable, easy-to-manage, and highly reliable to address the big data challenge.

At the CAVS facility, featuring a 55-acre off-road proving ground, test vehicles equipped with a variety of sensors collect a wide array of data about the outdoor terrain. This data is then used to create a digital twin of the environment for running driving simulations. These simulations are leveraged to create navigation software that guides AVs through the outdoor

terrain.

Creating a digital twin of the environment requires high-quality data collected in the field. The CAVS team needed vehicle onboard storage systems that could flawlessly collect field data and enable engineers to quickly transfer that data to the large-scale centralized data center storage for simulations.

"We needed storage that could reliably collect critical sensor data as vehicles traverse rough trails and other challenging terrain, which Quantum R-series Edge Storage provides for us," said Daniel Carruth, associate director for advanced vehicle systems, CAVS. "With Quantum, we can move data from a vehicle to the data center quickly and easily. We have an end-to-end data management workflow that lets us stay focused on the insights that all of this data can deliver."

Integrating the Quantum R-Series Edge Storage into a single, shareable storage platform enables CAVS engineers to make data readily available to multiple development organizations. To offload the collected vehicle data, technicians can simply remove the storage magazine from the in-car storage device and slide it into a data center chassis or use the 10-GbE network port for data offloading.

The autonomous systems developed at CAVS will be vital for the military and organizations in agriculture, energy, construction, forestry, and more. "Using the information collected in our test vehicles, we are building a comprehensive data set that will be valuable to several other teams at MSU and beyond," says Clay Walden, executive director of CAVS. "We're eager to see how this data will fuel breakthrough research and development in a wide variety of fields."

"Data is a critical component in supporting the continued growth and success of the autonomous vehicle market," said Plamen Minev, technical director, AI & Cloud, Quantum. "Working with the CAVS team is a wonderful opportunity for us to provide a data management solution that makes storing, moving, and analyzing this critical field data simpler and more streamlined for the CAVS engineering team."

"The researchers at CAVS are capturing massive amounts of data in demanding off-road environments and then using that data to design, develop, and validate algorithms that can power self-driving military vehicles. The Quantum R-Series Edge Storage enables them to store, quickly offload, and analyze the data for simulations and further research," said Graham Cousens, ADAS/Autonomous Vehicle Solutions practice lead, Quantum. "We are thrilled to partner with such a cutting-edge research facility to power the future of autonomous vehicles."

To learn more about how Quantum and CAVS are working together, clickhere. For more information on Quantum's solutions for Advanced-Driver Assistance Systems (ADAS) including the R-Series, click here.

About Quantum
Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing

enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter. Quantum is listed on Nasdaq (QMCO) and the Russell 2000® Index. For more information visit www.quantum.com.

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About the Center for Advanced Vehicular Systems
Mississippi State University's Center for Advanced Vehicular Systems (CAVS) is one of the premier university automotive research centers in the world. A team of more than 300 students, staff, and faculty researchers work with government and industry partners to develop solutions that will enhance transportation safety, improve vehicle efficiency, and increase workforce productivity. The autonomous vehicle program capitalizes on top-rated high-performance computing (HPC) resources and a one-of-a-kind vehicle test site to conduct cutting-edge R&D for operating autonomous vehicles in complex environments.

Forward-Looking Statements
The information provided in this press release may include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 ("Exchange Act"). These forward-looking statements are largely based on our current expectations and projections about future events and financial trends affecting our business. Such forward-looking statements include, in particular, statements about the anticipated benefits and features of the Quantum R-Series Edge Storage, and our business prospects, changes and trends in our business and the markets in which we operate.

These forward-looking statements may be identified by the use of terms and phrases such as "anticipates", "believes", "can", "could", "estimates", "expects", "forecasts", "intends", "may", "plans", "projects", "targets", "will", and similar expressions or variations of these terms and similar phrases. Additionally, statements concerning future matters and other statements regarding matters that are not historical are forward-looking statements. Investors are cautioned that these forward-looking statements relate to future events or our future performance and are subject to business, economic, and other risks and uncertainties, both known and unknown, that may cause actual results, levels of activity, performance or achievements to be materially different from those expressed or implied by any forward-looking statements.

These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected, including without limitation, the following: the need to address the many challenges facing our business; the potential impact of the COVID-19 pandemic on our business, including potential disruptions to our supply chain, employees, operations, sales and overall market conditions; the competitive pressures we face; risks associated with executing our strategy; the distribution of our products and the delivery of our services effectively; the development and transition of new products and services and the enhancement of existing products and services to meet customer needs and respond to emerging technological trends; whether the market for active and cold data

storage develops as anticipated and whether our products meet the developing needs of this market; and other risks that are described herein, including but not limited to the items discussed in "Risk Factors" in our filings with the Securities and Exchange Commission, including our Form 10-K filed with the Securities and Exchange Commission on May 26, 2021 and our Form 10-Q filed on August 9, 2021. We do not intend to update or alter our forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law or regulation.

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