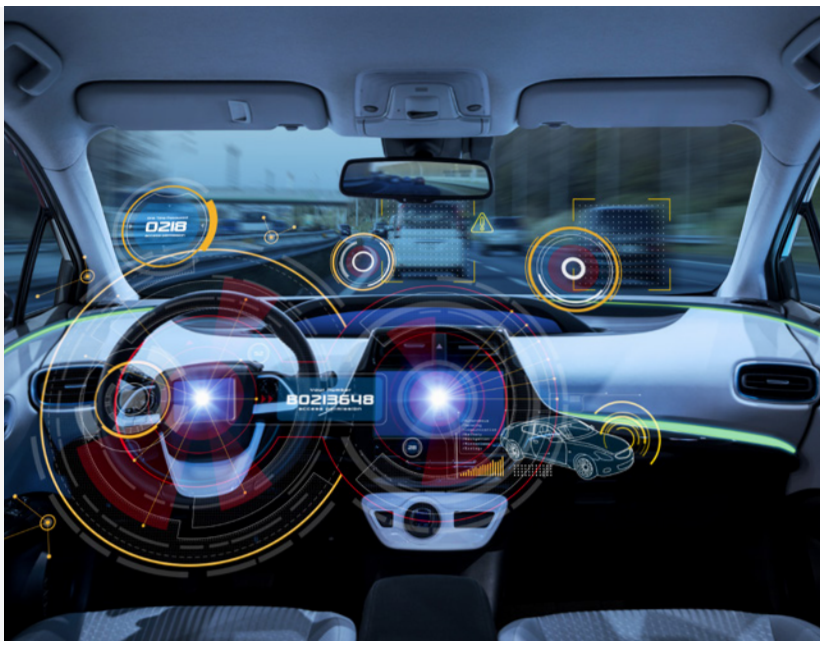
AV CUSTOMER
Case Study

CORESITE

AUTONOMOUS VEHICLES
CORESITE'S SOLUTION

Leading autonomous vehicle platform controls costs and improves scalability with CoreSite's colocation and dedicated cloud connectivity solutions.



AV CASE STUDY **AT A GLANCE**

CHALLENGE

- Transmitting data with little or no latency to computing resources
- Ingesting and analyzing high volumes of telemetry and other in-car data
- Reducing operating costs and resolving last mile delivery

SOLUTION

- A leading AV platform developer is using CoreSite's colocation solutions to house essential core infrastructure and securely transfer massive amounts of data via direct cloud connections for instant analysis with AI- and machine learning-powered computing.

RESULTS

- Reduced data transmission costs by up to 70%
- Predictably manage overall operating costs
- Achieved low-latency data transfer from vehicles to compute resources
- Gained faster insights from data, accelerating feature development and product enhancement

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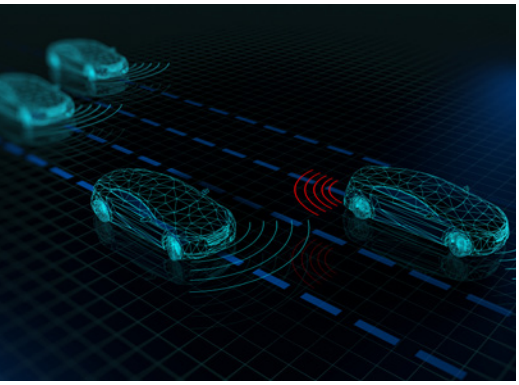
DATA BEYOND **THE SPEED LIMIT**



Specifically, the AV developers needed access to powerful GPU-based processors to handle concurrent operations, which requires a high-density power and cooling environment that many legacy data centers cannot effectively manage.

THE CHALLENGE

Leveraging Big Data, Fast

Autonomous vehicles (AV) — once a sci-fi fantasy — are soon becoming a reality.

And one innovative robotics and artificial intelligence platform provider is helping bring the far-fetched to the mainstream with an emphasis on local goods delivery using driverless cars.

Creating the next generation of intelligent cars isn't just a matter of perfecting the onboard technology. It also means being able to analyze enormous amounts of data quickly, apply AI and machine learning algorithms to uncover valuable insights, and updating it back to the vehicles for the next drive. This is repeated continuously, providing ongoing improvements to the platform.

To accomplish that objective, the company needed to create a robust, scalable computing capacity coupled with high performance network capable of rapidly and securely transferring enormous amounts

of data to cloud resources for its AI and machine learning algorithms to get to work.

COMPLEX DATA CENTER REQUIREMENTS

Self-driving cars used for local deliveries have a challenging road ahead of them. While all autonomous vehicles must make real-time decisions to avoid collisions, delivery-focused driverless cars face greater traffic density, pedestrians, and a complex network of side streets and lower speed roads that make "last mile delivery" — actually delivering items to end-consumers — exceedingly difficult.

As other, more complex decision models emerge such as navigating street signs

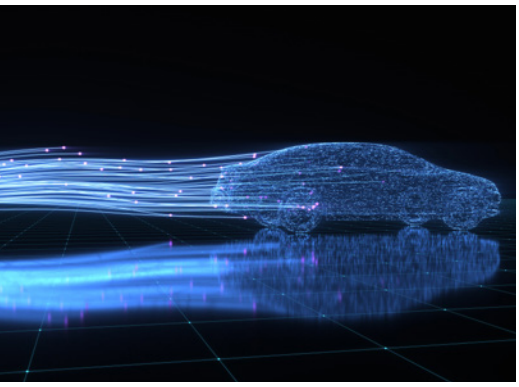
with similar names, obscured addresses, or driving inclement weather, the amount of data needing to be analyzed and operationalized grows exponentially. That

means that both the vehicles themselves as well as the computing systems that supply the vehicles with their core intelligence need to be capable of sharing data instantly and adapting operations in real-time as they continue to learn.

In response, the company needed to create a high-performance infrastructure to handle it. Specifically, the AV developers needed access to powerful GPU-based processors to handle concurrent operations, which requires a high- density power and cooling environment that many legacy data centers cannot effectively manage. In addition to computing power, the team also needed to account for the impact of latency on its operations.

Vehicles individually collect enormous amounts of data from their daily trips. But transferring that raw information back to a computing platform via conventional Internet connections for analysis is slow, very expensive, and not particularly reliable or secure. And since the safety and functionality of the vehicles depends heavily on updating decision algorithms with massive volumes of processed telemetry and location data, direct

connectivity to cloud computing resources was the only option for rapidly and reliably transporting huge batches of data without breaking the bank.



Now, the company has a flexible and highly scalable on-premise array for storage and compute, with on-demand access to additional, nearly limitless compute capacity through direct connections to cloud providers.

THE SOLUTION

Fueled by colocation and direction connection

After evaluating various data center providers with previous experience in the AV space, the company chose CoreSite's colocation solutions because of the company's flexible cage deployments, reliable campus scalability, and direct connection capabilities to the leading public clouds.

With CoreSite, the company can easily add new capacity within its existing footprint and expand within the campus as its operation grows. The teams can connect deployments in different parts of the building or even among other CoreSite facilities directly with fiber to maximize performance, resilience, and cost control.

At the same time, CoreSite's hyper connected data centers feature onramps to leading cloud providers and other network providers from within the same facility.

Now, the company can directly connect with cloud providers like Google Cloud Platform to transmit massive data volumes and move workloads around quickly, securely, and at a fraction of the cost of traditional internet connections.

CUSTOMER EXPERIENCE AND BENEFITS

Manage costs, scale and drive innovation

Partnering with CoreSite has put the company on a more secure path to achieving its business objectives and company mission. CoreSite's seasoned staff of industry experts helped the organization strategize and map its present and future infrastructure needs.

Now, the company has a flexible and highly scalable on-premise array for storage

and compute, with on-demand access to additional, nearly limitless compute capacity through direct connections to

cloud providers. As a result, the company can better leverage its enormous amount of data to feed analytics and gain new insights to train its vehicles which means faster development of new features and safer, more reliable cars.

From an operations perspective, the company slash data transmissions costs by as much as 70% using CoreSite's direct cloud connections and helped to reduce overall operating expenses. The company expects to continue building out its infrastructure in its current location, but is eager to extend its reach into other markets served by CoreSite as its business and adoption of autonomous vehicles in general grows.