



otonomo



AWS and Otonomo Accelerate
Vehicle Data-based Innovation

SUMMARY

AWS Select Technology Partner Otonomo has transformed the way the automotive industry handles data in 70 countries worldwide using AWS. When Otonomo, a provider in the vehicle data marketplace, recognized the industry's need to organize and enrich unused, unstructured car-generated data, it developed a connected vehicle data solution in months using AWS. The solution scaled from 18 million to 40 million vehicles and doubled ingested data points from two billion to four billion in less than 1 year, ultimately improving data accessibility and insights for Otonomo's customers. Now CMS on AWS is enabling auto industry customers of AWS to access their stored vehicle data faster and with more efficiency and compliance. Being an AWS Partner helped Otonomo better aid its customers in using vehicle data to improve their business.

BENEFITS

- Established a connected vehicle data solution in months
- Optimized costs and reduced complexity of data collection and distribution
- Scaled from 18 million to 40 million vehicles in less than 1 year
- Doubled ingested daily data points from two billion to four billion in less than 1 year
- Improved data accessibility and insights for customers

AWS PRODUCTS USED

- Connected Mobility Solution on AWS (CMS on AWS)

CHALLENGE

As a marketplace for vehicle data, Otonomo wanted to create a novel solution that would give its customers in the automotive industry secure, compliant, and unprecedented access to stored data that could generate valuable insights and services. The company securely ingests data from connected cars across the globe and from multiple automakers, then must standardize, cleanse, and label that data so its customers can accelerate the innovation of valuable services for drivers, smart cities, and the transportation sector.

To make this data more accessible, Otonomo built a solution on Amazon Web Services (AWS) that pipes unstructured data out of storage and cleans and organizes it. Recently, Otonomo, an AWS Select Technology Partner, took advantage of a new offering, Connected Mobility Solution on AWS (CMS on AWS), to provide rapid and direct access to Otonomo's data and marketplace. CMS on AWS delivers a broad and advanced set of building blocks to aid original equipment manufacturers and suppliers in becoming mobility service providers. By using AWS and being an AWS Partner, Otonomo's data marketplace has revolutionized the way automakers and mobility service providers use vehicle data to inform a wide variety of use cases—from fleet and traffic management to smart cities and value-added services.

"As the number of connected vehicles increases, so does the demand for data-driven products and services, and the opportunities for data utilization. The relationship between otonomo and aws will empower our automotive customers to unlock new opportunities for consumers and the entire mobility system. With this expanded relationship, global automakers can rapidly deploy one of the most advanced vehicle data solutions using their existing cloud infrastructure and capabilities."



BILL FOY, Director of Automotive, AWS

OTONOMO OPTIMIZES VEHICLE DATA ACCESS, STORAGE, AND USAGE FOR CUSTOMERS USING CMS ON AWS

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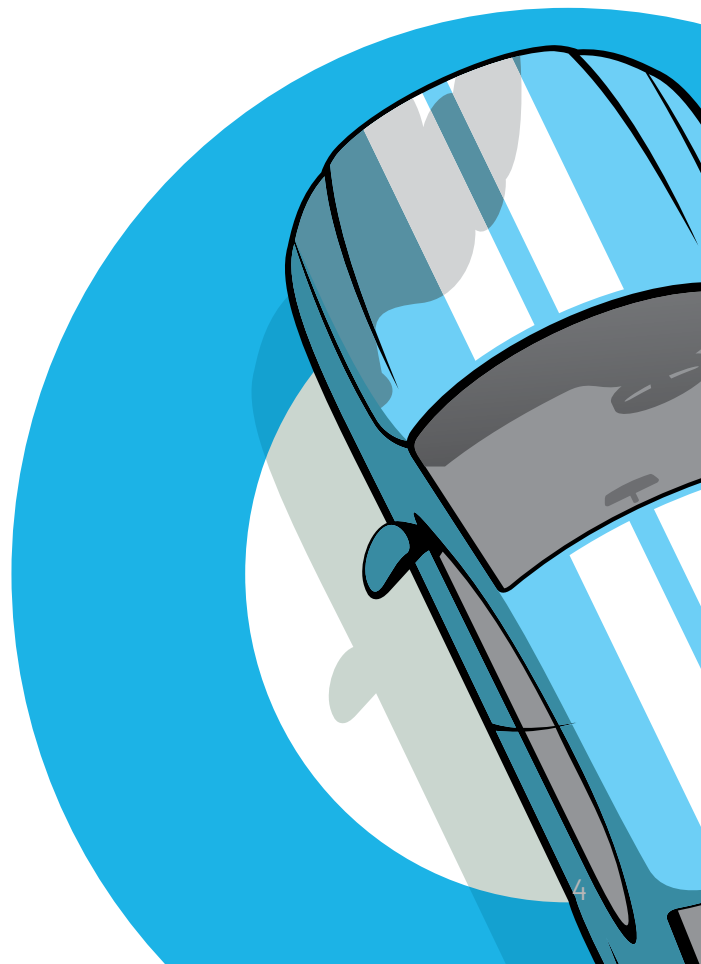
TAPPING INTO UNUSED, UNSTRUCTURED VEHICLE DATA

Otonomo offers a vehicle data marketplace that provides compliant personal and aggregate data. It acts as a neutral intermediary between data providers and data consumers. Having grown significantly from 2015 to 2021, the company has a large and diverse collection of data providers among automotive original equipment manufacturers. "Privacy and neutrality are at the core of our system, and that enables us to build an environment based on trust. We put drivers' data privacy first," says Ben Volkow, CEO and founder of Otonomo. "That enables the organizations who provide the data to feel comfortable doing so."

In 2015 Otonomo noticed there was no standardization or straightforward access to embedded vehicle data in the automotive industry, rendering the data almost unusable. Additionally, data storage is expensive, and it is not cost effective for automotive original equipment manufacturers to store data that they cannot benefit from. "Data comes in many forms, and in the automotive industry, there is no standard for what data should look like or how it should be named," says Volkow. The unstructured data needed to be cleaned, organized, and labeled to be used effectively. "Accessibility isn't just about opening up the faucet—it's also about knowing what's going to come out," says Volkow. The solution Otonomo aimed to create would grant access to the data

for the automotive industry, the emerging mobility sector, and beyond. Transportation providers and smart cities could solve problems ranging from traffic congestion and last-mile delivery to user-based insurance, improving road safety and the driver experience.

Creating that solution was a novel challenge: it required storage and distribution and needed to be scalable, compliant, simply integrated, and global. "These were all things that AWS offers, so it was the logical choice to work on AWS from the beginning," says Volkow. Otonomo has been a customer of AWS since Otonomo's founding in 2015 and later became an AWS Select Technology Partner. The company planned to build its solution on AWS and use AWS to help its customers use the data. "Being a customer and an AWS Partner helps us because the majority of companies we're interconnected with are using AWS as their foundation too," Volkow says. "It enables our customers and partners to be more successful. It's symbiotic."



INCREASING SCALABILITY AND ACCESS TO DATA AND INSIGHTS

At the end of 2020, Otonomo and AWS began to work on an integration between CMS on AWS and Otonomo data resources. The solution acts as an accelerator and pipeline for using connected vehicle data and making it available through the Otonomo marketplace. Otonomo ingests, normalizes, cleanses, and enriches that data; performs trip aggregations; and exposes mobility-related datasets through its software-as-a-service (SaaS) solution and simple application program interfaces. It includes a broad set of advanced building blocks to accelerate the development and global-scale deployment on a pay-as-you-go basis. "AWS acts as the pipeline that delivers the solution," says Volkow. "We organize and label the data to create one dictionary for all the makes and models for different companies."

Otonomo delivers additional SaaS capabilities, which can be accessed as an extension of the services that CMS on AWS already offered by default. These SaaS capabilities include, for example, a dynamic blurring engine and a consent management hub. "The Otonomo and

AWS data systems work together in a synergy and complement each other's capabilities," says Volkow. Now companies can access vehicle data from Otonomo with ease and use it to inform a wide variety of use cases and innovative services to improve fleet management, insurance, in-vehicle management, emergency services, electrical vehicle management, in-vehicle services, traffic management, and smart cities.

Using CMS on AWS helps AWS customers swiftly integrate and access vehicle data through Otonomo. The company designed its scalable architecture, improving from handling two billion data points to over four billion points collected daily from 70 countries. "We were ingesting data points from 18 million vehicles a day, and one year in, we're at 40 million vehicles and growing," says Volkow. The company also used AWS for architecture reviews, troubleshooting, and cost optimization. Otonomo not only built a novel solution on AWS but also gained access to guidance, education, and best practices on how to achieve scalability in the most cost-effective, secure way.

CONTINUING TO INNOVATE AND INCREASE DATA ACCESS

On AWS, Otonomo built a solution that grants its automotive customers unprecedented access to data that can improve their business. "We have extended CMS on AWS to work seamlessly with the Otonomo marketplace solution," says Dov Amir, solutions architect at AWS. "With one-click deployment, connected vehicle data will start flowing to the Otonomo marketplace for consumption." Otonomo continues to develop and expand its core solution and SaaS offerings.

As the company continues to grow, its status as an AWS Partner has been a huge advantage. "When you're a startup and you get to walk into a meeting alongside AWS, it's a different experience," Volkow says. "Using AWS has been a terrific opportunity for us, and we hope to continue fully using that opportunity."

ABOUT OTONOMO

A provider of the pioneering vehicle data marketplace, Otonomo delivers secure access to hundreds of data attributes from multiple automakers, delivering insights into driver behavior, vehicle health, road hazards, and traffic trends, fostering innovation of emerging value-added services for drivers, fleets, and smart cities.

ABOUT AMAZON WEB SERVICES

For over 15 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud offering. AWS has been continually expanding its services to support virtually any cloud workload, and it now has more than 200 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 81 Availability Zones (AZs) within 25 geographic regions, with announced plans for 21 more Availability Zones and seven more AWS Regions in Australia, India, Indonesia, Israel, Spain, and Switzerland, and the United Arab Emirates. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit aws.amazon.com



"When you're a startup and you get to walk into a meeting alongside aws, it's a different experience."

BEN VOLKOW CEO and founder, Otonomo





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Please contact us if Otonomo can be of assistance.
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