



Otonomo Car Data Density Map of Europe

Taking Car Data to New Places



Ben Volkow, Otonomo CEO and Founder

→ Automotive data offers new value by enhancing driving experiences and safety

By Ben Volkow

By the end of next year, there will be 255 million connected cars around the world. That is what research firm, Gartner, is predicting. These cars are ones that transmit data and send it to their manufacturers for use in vehicle operations. Otonomo offers a car data services platform that receives, reshapes and enriches this data so companies can use it to develop new apps and services. The huge quantities of data generated by connected cars – up to 25 gigabytes per hour – provide tremendous possibilities for improving the driving experience, safety, as well as the way that everyone interacts with transportation in urban environments.

I am Ben Volkow, a serial entrepreneur, and Otonomo is my fourth company. Shortly after I sold my previous company, Traxx Systems, to F5 Networks in 2012, I was approached by a large automotive manufacturer to do a special engineering project. The project was to build a database for the data coming out of connected cars. As I learned more about these cars and worked through the problems inherent to car data, the initial idea that ultimately became Otonomo began to take shape.

I realized that within a few years, virtually every vehicle on the road would be generating data and that automotive OEMs (original equipment manufacturers) would collect it. I could imagine many possible uses for this data, from diagnostics to fleet management,

streamlining traffic and new apps and services for consumers. I also realized that each make and model of each car would collect and store data in a “different language,” and that a universal translation engine would be needed for this data to be successfully used. Even these days, there are no acknowledged standards emerging when it comes to connected car data. Even within the same OEMs or Tier-1 suppliers, we often see among other topics, inconsistent field names, units of measurement and measurement intervals. With the vision of creating Otonomo, I approached Bessemer Venture Partners, a previous investor in my companies, to help me get the company off the ground.

Why OTONOMO?

So why did we decide to call our company Otonomo? We came up with the idea of

connecting the Hebrew word “oto” (meaning car) with the four wheels of a car (the four O’s). The name made it easy to come up with a captivating logo that really speaks to what we do. There have only been two downsides:

Some people think the Oto means autonomous and have confused us with the many start-ups building software to power self-driving vehicles. We don’t compete with those companies; in fact, a number of them are using our data to train and operate their machine-learning algorithms.

People who speak different languages tend to pronounce the name in very different ways. In the US, I hear “AH-ta-no-MO.” In Japan, “oh-to-NO-mo.” In Great Britain, “A-tonomo” Pronouncing au-TO-no-mo can be an interesting conversation starter!

Making Car Data Useable and Accessible

Creating an ecosystem for connected car data turned out to be a much bigger task than software development. Otonomo had to invent ways to reshape car data, which is designed for operating a vehicle, to make it compatible for diverse service providers

and their unique purposes. In fact, we have registered 22 new (pending) patents, which make our innovative solutions compatible for all users and standards. However, we have faced several additional challenges. We’ve had to develop a business model for using the gathered data. How does it get repackaged from the groupings from which it exits in the car, into bundles of data parameters that make sense for a specific service, like roadside assistance or traffic management? What are the right licensing models? What are the best practices for protecting consumers’ privacy? How do we convince global OEMs to share data with innovative start-ups when there are few precedents? We faced the classic problem: “Which came first? The chicken or the egg?”

Global OEM Partners

After testing out these ideas in pilots with early-adopter OEMs and service providers, we have a clear idea of how to execute. We are currently engaged with 15 OEMs, have 18 million cars from 112 countries and ingest over 2 billion data points a day. We have a network of over 200 service providers both testing and using car data all over the world. Daimler AG has selected Otonomo as its partner for managing consent for personal services and for its neutral server initiative, which stems from principles set forth by the European Automobile Manufacturers Association (ACEA) to promote fair competition within the connected car revolution.

A Host of New Services

Service providers are using car data to offer personal services such as:

Fleet management: Optimizing workloads and routes based on real-time conditions on the road. For example, PTV Group is a software provider with which we’re collaborating.

Usage-based insurance: Capturing odometer readings and driver behavior directly from vehicles to support Pay-As-You-Drive (PAYD) and Pay-How-You-Drive (PHYD) insurance products. Connected cars eliminate the cost and failure points of traditional tracking mechanisms such as dongles or smartphone apps.

Parking payments, fueling, subscription-based fueling, and EV charging: These services all become simple and seamless with data generated by connected cars.

We’re also working with service providers who are creating what we call “conciierge services,” including apps that

help drivers with roadside assistance, real-time hazard notifications, “car-as-a-wallet,” and even in-car package delivery.

Service providers are using aggregate anonymized data for traffic optimization, real-time weather, smart cities, and similar use cases. Waycare and Fleetonomy are two interesting Israeli companies with whom we’re collaborating on optimization and smart-city applications. Before long, we believe that car data will be a central part of how drivers and passengers experience their time on the road.

Evolving Towards New Capabilities

As these varied use cases have taken shape, our developers have continued to evolve new capabilities within the Otonomo Platform.



Our development strategy has been two-fold:

First, we’re focused on making car data as easy to consume as possible, so that the ecosystem grows faster. We believe that the nature of car data – its disparate formats and varied uses – creates powerful network effects. The easier we can make it for companies to realize the value from car data, the faster our network will accelerate. We’re investing in machine-learning algorithms to address data quality and standardization. We’re also working on ways to reshape the data so that it’s more usable. For example, we make location data more usable with precise polygons, which are created on a map layer to represent boundaries of closed geographical areas. These small changes make a big difference in route optimization and smart-city applications.

Data Protection and Privacy

Even more importantly, we’re focused on putting driver privacy first. Beyond simply

meeting regulations such as the EU General Data Protection Regulation (GDPR), we’re looking for ways to put consumers in the driver’s seat, so to speak, when it comes to their car data and personal privacy.

The Otonomo Consent Management Hub provides a simple, straightforward process for drivers to give or take away permission for the specific services they want that consume their personal car data, and for OEMs to ensure that data is not shared with service providers without explicit consent. Drivers can make changes at any time using a mobile app.

We also offer a Dynamic Anonymization Engine that applies a sophisticated combination of techniques to protect driver data when it’s aggregated for different anonymous uses. The purpose of this engine is to preserve the value of data when it’s being used for specific purposes while preventing it from being combined in ways that could re-identify the driver. It looks at data points such as location or trip patterns that are not traditionally considered personally identifiable information (PII). For example, a route optimization application simply needs to know how many cars are traveling at what speeds at which headings on a particular GPS coordinate, whereas a weather application may need aggregate observed temperature, windshield wiper usage and GPS coordinates.

From Vision to Reality

Otonomo has now been in business for almost four years, and we’re growing fast. Our Herzliya office houses our research and development team, which has doubled in the last year. Our engineering leadership team brings experience from the 8200 intelligence corps of the IDF, which has really helped with our focus on data security and privacy. We’re building a strong culture around collaboration at work and team fun and charity activities after work. My favorite activities have been volunteering with the elderly, handing out food to poor families, and going on weekend hikes as a team.

Internationally, we now have a presence near the major automakers: in Detroit, Frankfurt and Berlin, and Tokyo. We also have a presence in Silicon Valley near our investors, and the auto-tech innovation centers.

Since I started Otonomo, the connected car revolution has gone from a big vision into something that will be mainstream in the next few years. I’m proud of what we’ve accomplished, but also respectful of what’s still left to do.