Connected and Automated Vehicle Weekly News Update – 01/14/2019

Includes coverage of ride-sharing and other smart mobility technologies. The majority of this is direct quotations from the respective articles. I claim none of this text content as my own, having only sifted through the web to find already-existing pieces relevant to these topics.

# Business and Market Analysis

# Technology, Testing, and Analysis

# Policy and Government

## Communication, Teamwork Necessary to Adopt Autonomous Technology, Experts Say at TRB

WASHINGTON — Cooperation from both private sector and federal partners can ease the process for states that are in the midst of adopting automated technology, according to Washington State Transportation Secretary Roger Millar. Speaking about automation alongside a group of panelists at the Transportation Research Board’s annual meeting Jan. 14, Millar said educational materials and communication would help bring state, local, federal and private entities to the same page. He also said coordinated efforts to adopt automated technologies can benefit freight haulers. “We very much want to electrify our highway systems. A great opportunity to do that would be our rest areas. A great opportunity to do that efficiently and effectively would be to work with private-sector partners on our rest areas,” Millar said. “I think truck platooning is important. I think truck parking is more important.” ([**Transport Topics**](https://www.ttnews.com/articles/communication-teamwork-necessary-adopt-autonomous-technology-experts-say-trb))

## Uber adds a ‘clean air fee’ in London to help drivers upgrade to electric cars

London residents who use Uber will have to pay an extra 15 pence (USD $0.19) per mile under the ride-hail company’s new Clean Air plan that was announced Monday. The surcharge will go toward helping Uber drivers switch from dirty, fossil fuel burning cars to cleaner, battery-electric versions — with the goal of having all cars on the app be fully electric in London by 2025. The average trip in London is around three miles (4.8 km), so riders can expect to pay an extra 45 pence (USD $0.58) for every ride. All London drivers are eligible to receive cash payments from Uber to help them purchase an electric car. Uber says the amount of money drivers will receive toward the cost of an electric vehicle will be based on the number of miles they have driven on the app. For example, a driver using the app for an average of 40 hours per week could expect around £3,000 ($3,865) in two years’ time and £4,500 ($5,787) in three years. ([**The Verge**](https://www.theverge.com/2019/1/14/18182216/uber-london-clean-air-fee-drivers-evs))

## Nissan’s new EV concept is a luxury sedan with 380 miles of range

Encouraged by strong sales of its affordable, all-electric Leaf vehicles, Nissan seems ready to jump into the luxury market and take the fight directly to Tesla. At the North American International Auto Show in Detroit on Monday, the Japanese automaker unveiled a new electric concept that it describes as “an elevated sports sedan.” It’s an ultra quick, far-ranging, all-wheel drive lightning bolt from the future. This marks the third time in as many years that Nissan has brought a sleekly designed EV concept to the floor of the Detroit auto show. The Vmotion was introduced in 2017, followed by the Xmotion in 2018. This year, it’s the Nissan IMs, an ode to the Intelligent Mobility branding under which the automaker categorizes all of its battery-powered and semi-autonomous products. A blend of crossover and sedan, the battery in the IMs is located under the body, giving it a taller-than-normal appearance. But with a stretched interior, it could easily blend in with the sea of limos and black cars bearing C-suite executives through urban canyons. On the surface, it would seem to have more in common with prototypes from EV startups like Byton or Lucid Motors than anything in Nissan’s current lineup. The Japanese automaker’s designers are clearly keeping a close eye on the competition coming out of Silicon Valley and China when making their decisions about the future. ([**The Verge**](https://www.theverge.com/2019/1/14/18178878/nissan-ev-concept-ims-naias-2019))

## Nissan IMs concept unveiled, elevated sports sedan BEV with pimpin’ back seat

Nissan calls the IMs an ‘elevated sedan’ because of its large wheels and raised above the battery pack cabin. The concept comes with full autonomous drive capability, all wheel drive and spacious cabin. The front seats swivel around for a meeting type of space for autonomous driving. “This bold Nissan IMs concept represents the birth of an entirely new segment of vehicle – an elevated, electrified sports sedan,” said Denis Le Vot, senior vice president, chairman of Management Committee, Nissan North America, Inc., during a press conference revealing the IMs concept. “It makes sense that the first automaker to bring the world a mass-market EV would bring you the future of the electric high-performance sports sedan.” Le Vot also boasted that Nissan will launch an additional seven electric vehicles by 2022. ([**Electrek**](https://electrek.co/2019/01/14/nissan-ims-concept/))

## Growth in Same-Day Delivery Set to Explode, Experts Say

WASHINGTON — Time-sensitive delivery is here to stay, and that will change methods of freight movement, said one expert speaking at the Transportation Research Board’s annual meeting. The changes will filter down to how and where companies locate their warehouses and major supply hubs, EDR Group CEO Peter Plumeau said. Speeding up the new decision-making will be autonomous trucks, Plumeau told dozens of officials attending the Jan. 13 session at the Walter E. Washington Convention Center. ([**Transport Topics**](https://www.ttnews.com/articles/growth-same-day-delivery-set-explode-experts-say))

## ShareRing launches blockchain-powered car sharing on top of existing rental services

Blockchain-powered marketplace startup ShareRing, conceived last year by former executives of car-sharing platform Keaz, has announced a service that will let users book and unlock a rental vehicle within 30 seconds. ([**Venture Beat**](https://venturebeat.com/2019/01/14/sharering-launches-blockchain-powered-car-sharing-on-top-of-existing-rental-services/))

## Peter Thiel’s Valar Ventures targets $350M for new funds

Valar Ventures, one of the three venture funds co-founded by Peter Thiel, has filed paperwork with the U.S. Securities and Exchange Commission to raise $350 million across two new funds. The PayPal co-founder and billionaire investor in Facebook and SpaceX is also behind Founders Fund and Mithril Capital Management. Valar, a New York-based firm, plans to raise $150 million for its fifth flagship venture fund and an additional $200 million for its first opportunity fund, presumably for follow-on investments in its most high-growth investments, according to the documents. Led by general partners Andrew McCormack and James Fitzgerald, Valar tends to invest in financial services companies. Its portfolio includes fintech startups N26, which recently raised a $300 million round at a $2.6 billion valuation, banking application Even and peer-to-peer currency exchange TransferWise. ([**TechCrunch**](https://techcrunch.com/2019/01/14/peter-thiels-valar-ventures-targets-350m-for-new-funds/))

## Nissan’s IMs ‘elevated sports sedan’ concept shows what its electric future might look like

Nissan unveiled Monday its latest vision for electric vehicles at the North American International Auto Show — the third consecutive year the automaker has teased what its EV future might look like. This time it’s a sleek EV concept called the Nissan IMs, which the automaker describes as an “elevated sports sedan.” If the IMs name sounds familiar, it’s because it is. The name ties in with Nissan Intelligent Mobility (IM, get it), the branding that it uses for its automated technology and electric vehicles. “Fully embracing the three pillars of Nissan Intelligent Mobility — Intelligent Driving, Intelligent Power and Intelligent Integration — the IMs concept moves toward the creation of a sustainable mobile society in the form of EVs, autonomous drive and connectivity technologies,” said Denis Le Vot, senior vice president, chairman of Management Committee, Nissan North America. ([**TechCrunch**](https://techcrunch.com/2019/01/14/nissans-ims-elevated-sports-sedan-concept-shows-what-its-electric-future-might-look-like/))

## 2019 CES: Quiet year for green-car and self-driving news

2019 Nissan Leaf Plus As always, the 2019 Consumer Electronics Show held this week in Las Vegas was massive. Hundreds of thousands of attendees, workers, and support staff converged at multiple venues to show off their latest wares, meet with clients, partners, and the media and try to break through the news clutter. ([**Green Car Reports**](https://www.greencarreports.com/news/1120826_2019-ces-quiet-year-for-green-car-and-self-driving-news))

## NVIDIA showcases DRIVE Localization platform; localizing AVs within centimeters to HD maps worldwide

At CES 2019 last week, NVIDIA showcased DRIVE Localization—an open, scalable platform for vehicles to position themselves on high-definition maps with unprecedented robustness and accuracy, using mass-market sensors. It’s vital for a self-driving car to be able to pinpoint its location within centimeters so it can understand its surroundings and establish a sense of the road and lane structures. This enables it to detect when a lane is forking or merging, plan lane changes and determine lane paths even when markings aren’t clear. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/201901123-nvidia.html))

## Startups Weekly: Will Trump ruin the unicorn IPOs of our dreams?

The government shutdown entered its 21st day on Friday, upping concerns of potentially long-lasting impacts on the U.S. stock market. Private market investors around the country applauded when Uber finally filed documents with the SEC to go public. Others were giddy to hear Lyft, Pinterest, Postmates and Slack (via a direct listing, according to the latest reports) were likely to IPO in 2019, too. Unfortunately, floats that seemed imminent may not actually surface until the second half of 2019 — that is unless President Donald Trump and other political leaders are able to reach an agreement on the federal budget ASAP.  This week, we explored the government’s shutdown’s connection to tech IPOs, recounted the demise of a well-funded AR project and introduced readers to an AI-enabled self-checkout shopping cart. 1. Postmates gets pre-IPO cash ([**TechCrunch**](https://techcrunch.com/2019/01/12/startups-weekly-will-trump-ruin-the-unicorn-ipos-of-our-dreams/))

## Lime halts scooter service in Switzerland after possible software glitch throws users off mid-ride

Just as on-demand electric scooters are trying to pick up speed in Europe, one of the scooter market’s most ambitious startups has halted operations in one country after its e-scooters started halting mid-ride, throwing off and injuring passengers. Lime, the Uber-backed bike and scooter rental company that is reportedly raising money at between a $2 billion and $3 billion valuation, has pulled its full fleet of scooters in Switzerland, in the cities of Basel and Zurich, for safety checks after multiple reports of people injuring themselves after their scooters braked abruptly while in use. The company sent out a notice to users — presented in screenshots below, in German, with the full text translated underneath that — noting that it is currently investigating whether the malfunction is due to a software fault, where an update of the software causes a scooter inadvertently to reboot during a ride, thus engaging the anti-theft immobilization system. ([**TechCrunch**](https://techcrunch.com/2019/01/12/lime-scooters-switzerland-bumps/))

## Daimler is beating Tesla to making semi-autonomous big rigs

Elon Musk told the world in late 2017 that Tesla was taking its automotive know-how and applying it to a totally new challenge: self-driving big rigs. But one year later, he placed the Tesla Semi fourth on a list of priorities for the company, behind the upcoming Model Y compact SUV and an electric pickup truck. This week, Daimler executed a move many years in the making by announcing its own big rig (albeit diesel-powered) outfitted with semi-autonomous technology. And others are following suit. The German automaker also committed to manufacturing the truck this summer, with deliveries scheduled for later this year. It pledged 500 million euros over the next few years to the continued development of an autonomous big rig, and said it has hired hundreds of employees to move the tech forward. And just like it did when it unveiled the prototype version in 2015, Daimler gave us a ride in the truck to get a taste of what the near future of trucking will look like. While there are a few Tesla Semi prototypes on the road now, and a dozen or so big name companies have placed preorders for the trucks, it doesn’t look like a production version is coming any time soon. Tesla still hasn’t said where or exactly when it will build the trucks, and would likely need to raise more money (or sell a hell of a lot more Model 3s) to fund the project. ([**The Verge**](https://www.theverge.com/2019/1/11/18174275/daimler-tesla-self-driving-trucks-tusimple-ces-2019))

## Xiaomi’s five-year plan is a $1.5 billion bet on smart homes

Xiaomi, the Chinese company best known for budget phones, is betting big on a future of connected homes. It plans to plough at least 100 billion yuan, or $1.48 billion, into the so-called “AIoT” sector over the next five years, founder and chief operating officer Lei Jun announced on Friday. AIoT, short for “AI + IoT,” is an upgrade from devices connected to the internet, known as the Internet of Things. AIoTs are intelligent, run on automated systems and can learn from users’ habits, like lights that automatically turn on when you get home. “We see a future where all home devices will be connected to the internet and controlled by voice. A wave of home appliances will be replaced by smart devices. There will be an AIoT network that infiltrates every second and scenario of people’s lives, collecting mountains of users, traffic and data,” said Lei in his annual address to employees. ([**TechCrunch**](https://techcrunch.com/2019/01/11/xiaomis-five-year-plan-is-a-1-5-billion-bet-on-smart-homes/))

## The ‘Driverless Experience’ Looks Awfully Distracting

Indeed, many of the gadgets and ideas on display have less to do with vehicles’ abilities to fully drive themselves—which remains very much a work-in-progress—and more to do with what people will do when they don’t have to drive. What will the “driverless experience” entail? Lots of staring at each other (or at screens) and not the road, based on a few carmakers’ concepts. Mercedes rolled out an urban ride-hailing/freight delivery van concept with wraparound seating that groups passengers by the length of their trips. Japanese parts maker Denso showed off a rolling cube with boardroom-style seating and a shared work surface, envisioning a shared mobility service for office drones on the go. Some robo-cars will apparently offer the equivalent of in-app purchases. Donning Oculus-style glasses inside an upholstered sphere, I took a ride in the virtual-reality demo for a self-driving rental concept by the French automaker Valeo. On the way from virtual airport to hotel, I could (pretend to) pay extra for audio books, window privacy screens, some sort of personalized lighting scheme, scans of outside air quality, and other upgrades. Afterward, a Valeo rep handed me a survey about how much I’d shell out for such features in the real world. The only worthy up-sell, I’d imagine, would be those window shades for vacationers eager to get busy. ([**Citylab**](https://www.citylab.com/transportation/2019/01/self-driving-car-technology-consumer-electronics-show/580027/))

## Cadillac Super Cruise wins the 2019 Autoblog Technology of the Year Award

Autoblog's 2019 Technology of the Year winner is Cadillac's Super Cruise. The SAE Level 2 semi-autonomous system allows for hands-free highway driving, reducing driver fatigue and improving safety. Additionally, Super Cruise packs in safeguards that force a driver to stay alert, bringing in a level of accountability not found in other Level 2 systems. Cadillac beat out Infiniti's VC Turbo technology and the EQ Boost 48-volt system from Mercedes-Benz, the other two finalists. ([**Autoblog**](https://www.autoblog.com/2019/01/11/cadillac-super-cruise-2019-autoblog-technology-of-the-year/))

## Man says CES lidar’s laser was so powerful it wrecked his $1,998 camera

A man attending this week's CES show in Las Vegas says that a lidar sensor from startup AEye has permanently damaged the sensor on his $1,998 Sony camera. Earlier this week, Jit Ray Chowdhury, an autonomous vehicle engineer at the startup Ridecell, snapped photos of a car at CES with AEye's lidar units on top. He discovered that every subsequent picture he took was marred by two bright purple spots, with horizontal and vertical lines emanating from them. "I noticed that all my pictures were having that spot," he told Ars by phone on Thursday evening. "I covered up the camera with the lens cap and the spots are there—it's burned into the sensor." In an email to Ars Technica, AEye CEO Luis Dussan stressed that AEye lidars pose no danger to human eyes. But he didn't deny that AEye's lidars can cause damage to camera sensors. ([**ARS Technica**](https://arstechnica.com/cars/2019/01/man-says-ces-lidars-laser-was-so-powerful-it-wrecked-his-1998-camera/))

## Electric, Automated Trucks Offer Glimpse of Industry’s Future at CES

LAS VEGAS — Amid a sea of gadgets, drones, robots and virtual reality demos, commercial trucking carved out a significant niche for itself here at the Consumer Electronics Show, the world’s largest technology event. Electric powered and automated trucks provided attendees with glimpses at the potential future of trucking and highlighted the industry as a hotbed for innovation. A robot on display at CES. (Seth Clevenger/Transport Topics) ([**Transport Topics**](https://www.ttnews.com/articles/electric-automated-trucks-offer-glimpse-industrys-future-ces))

## Mobileye plans to deploy fully autonomous cars in 4 years

Watch out, Waymo — Mobileye has its sights set on you. ([**Venture Beat**](https://venturebeat.com/2019/01/11/mobileye-plans-to-deploy-fully-autonomous-cars-in-4-years/))

## Editorial: Trucks and Tech at CES

If anyone needed more proof that trucking is a tech-savvy industry, look no further than the bright lights of Las Vegas, where the annual CES technology show featured a string of announcements from major industry players. DTNA Pushes Ahead With Automated Driving, Other New Technology on Flagship Cascadia Electric, Automated Trucks Offer Glimpse of Industry’s Future at CES ([**Transport Topics**](https://www.ttnews.com/articles/editorial-trucks-and-tech-ces))

## Unity pulls nuclear option on cloud gaming startup Improbable, terminating game engine license

A pair of highly-funded gaming unicorns are publicly skirmishing and the deal could have major repercussions for game developers. Today, UK-based cloud gaming startup Improbable, announced that Unity, a hugely popular game development engine, had terminated their license, effectively shutting them out from one of their top customer sources. If permanent, the license termination would be a significant blow to Improbable, which enables studios to host large online multiplayer games across multiple servers. The gaming startup has raised more than $600 million from top investors like Softbank, Andreessen Horowitz and Horizons Ventures. Just how many Improbable customers utilize Unity as their game engine of choice through the SpatialOS GDK is unknown, but the two platforms do share some similarities in appeal among small teams looking to innovate. “Unity is a popular engine and that popularity extends to the people using our [game development kit],” an Improbable spokesperson told TechCrunch. Improbable’s SpatialOS platform also runs on the Unreal Engine and CryEngine and can be designed to work with custom engines. ([**TechCrunch**](https://techcrunch.com/2019/01/10/unity-pulls-nuclear-option-on-cloud-gaming-startup-improbable-terminating-game-engine-license/))

## Does North Carolina’s Transportation Future Include Hyperloop?

Among the speakers at the N.C. Transportation Summit on Wednesday was the representative of a company that has developed technology that he said could whisk a pod full of people or cargo through a tube from Raleigh to Charlotte in about 22 minutes. The two-day summit at the Raleigh Convention Center was organized by the N.C. Department of Transportation to look at how people might get from place to place in the future and what governments at all levels should do to get ready. There were sessions on population growth, changing demographics and the need to find new kinds of revenue to replace the gas tax in the face of more fuel-efficient and electric vehicles. But much of the focus on the first day was on new and emerging technologies, such as drones, self-driving cars and the use of digital and data analytics. Secretary of Transportation Jim Trogdon led a panel discussion on “disruptive technologies” that included representatives of GM and 3M and two local companies: TransLoc, which develops ways to make it easier to use mass transit, and drone company PrecisionHawk. ([**GovTech**](http://www.govtech.com/fs/transportation/Does-North-Carolinas-Transportation-Future-Include-Hyperloop.html))

## Amazon to invest in French firm's technology for self-driving forklifts

Amazon(AMZN.O) could build a stake of almost a third in warehouse robotics firm Balyo (BALYO.PA) in the next seven years, as part of a deal that could boost sales of the French company’s technology for self-driving forklift trucks. Warehouse automation is a key element in efforts by Amazon to cut costs and speed up deliveries. The world’s biggest online retailer currently uses robots developed by Kiva Systems, a company it bought for $775 million in 2012. “This agreement ... represents an unprecedented opportunity for Balyo to grow its business and supports the soundness of our investments over the years to perfect our robotic solutions,” Balyo Chief Executive Fabien Bardinet said on Thursday. ([**Reuters**](https://www.reuters.com/article/us-balyo-amazon-com-autonomous/amazon-to-invest-in-french-firms-technology-for-self-driving-forklifts-idUSKCN1P40OZ))

## Massachusetts man gets 10 years in prison for hospital cyberattack

BOSTON A Massachusetts man was sentenced on Thursday to more than 10 years in prison for carrying out a cyberattack on a hospital on behalf of the hacking activist group Anonymous to protest the treatment of a teenager in a high-profile custody dispute. Martin Gottesfeld, 34, was sentenced by U.S. District Judge Nathaniel Gorton in Boston nearly three years after he was rescued from a disabled powerboat off the coast of Cuba by a Disney Cruise Line ship after fleeing the United States amid a federal investigation. A federal jury in August found him guilty of two counts, including conspiracy to damage protected computers related to cyberattacks he carried out in 2014 on Boston Children’s Hospital and another facility. ([**Reuters**](https://www.reuters.com/article/us-massachusetts-cyber/massachusetts-man-gets-10-years-in-prison-for-hospital-cyberattack-idUSKCN1P42J8))

## Cepton expands LiDAR portfolio; NVIDIA DRIVE

Cepton Technologies Inc., a provider of 3D LiDAR solutions, announced two new LiDAR products: the Vista-M and Vista-X. The Vista series LiDAR solutions are built with Cepton’s patented Micro-Motion Technology (MMT) and run on the NVIDIA DRIVE in-vehicle AI computing platform—providing high resolution and long-range imaging to enable all levels of autonomous applications. The Vista-M LiDAR packs a 120-degree field of view (FOV) with 150-meter range into a sensor the size of a typical box of crayons. This compact design enables LiDAR integration with a vehicle’s headlights, tail lights and side view mirrors, giving designers more freedom to bring intelligence and autonomy into vehicle designs. Currently, Cepton is providing this miniaturized solution to its automotive partners for different integration approaches. The Vista-X LiDAR supports an expanded 200-meter range capability at a 10 percent reflectivity target to 120-degree FOV. This wide FOV enables object detection, tracking and localization in a much wider area. The uniform 0.2-degree spatial resolution across the entire FOV eliminates the complexity and safety risk in run-time FOV configurations enabling the design flexibility to integrate Vista-X into the front, back or inside of the vehicle. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190110-cepton.html))

## ZF expands partnership with Microsoft to develop digital services

ZF has expanded its partnership with Microsoft to establish one of the most comprehensive digital cloud platforms in the automotive market. The strategic cooperation puts ZF in a position to offer digital services in the areas of automated driving, vehicle motion control, integrated safety and electromobility. The products range from fleet management solutions to predictive maintenance applications and process automation based on the ZF Cloud. Just a year ago, ZF announced its own IoT platform based on Microsoft Azure. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190110-zf.html))

## Ford parks ride-share service Chariot

Ford Motor Co's ride-share service Chariot is ceasing its operations in the United States and the UK by the end of March, Chariot said in a blog post on Thursday. The move is a setback for Ford, which bought the San Francisco-based Chariot in 2016 to expand beyond auto manufacturing and take another step toward becoming a mobility company. Earlier on Thursday, Ford said it will cut thousands of job in Europe, look at plant closures and discontinue loss-making vehicle lines as part of a turnaround effort aimed at achieving a 6 percent operating margin in Europe.Related Video: ([**Autoblog**](https://www.autoblog.com/2019/01/10/ford-chariot-ride-share-service/))

## World’s most valuable AI startup SenseTime unveils self-driving center in Japan

The world’s highest-valued artificial intelligence startup SenseTime has set foot in Japan. The Beijing-based firm announced on Friday that it just opened a self-driving facility in Joso, a historic city 50 kilometers away from Tokyo, where it plans to conduct R&D and road test driverless vehicles. The initiative follows its agreement with Japanese auto giant Honda in 2017 to jointly work on autonomous driving technology. SenseTime, which is backed by Alibaba and was last valued at more than $4.5 billion, is best known for object recognition technologies that have been deployed in China widely across retail, healthcare and public security. Bloomberg reported this week that the AI upstart is raising $2 billion in fresh funding. Four-year-old SenseTime isn’t the only Chinese AI company finding opportunities in Japan. China’s biggest search engine provider, Baidu, is also bringing autonomous vehicles to its neighboring country, a move made possible through a partnership with SoftBank’s smart bus project SB Drive and Chinese automaker King Long. ([**TechCrunch**](https://techcrunch.com/2019/01/10/sensetime-self-driving-center-japan/))

## Wise Systems Closes $7 Million Series A Round

Wise Systems, an autonomous dispatch and routing software provider for delivery fleets, has raised $7 million in its Series A round, according to a Dec. 6 press release. In our fifth episode of RoadSigns, we ask: How far can we go in terms of automating freight transactions? Hear a snippet above from Ziad Ismail, chief product officer at digital freight matching firm Convoy, and get the full program by going to RoadSigns.TTNews.com. The funding, which brings the total raised for the company to $8.5 million, was led by Gradient Ventures, Google’s AI-focused venture fund. ([**Transport Topics**](https://www.ttnews.com/articles/wise-systems-closes-7-million-series-round))

## Tesla aims for safer airbag deployment by knowing your weight through seat sensors

Earlier this week, a patent application by Tesla called ‘Sensors for Vehicle Occupant Classification Systems and Methods’ became public – showing how the automaker is working on a way to improve its airbag deployment. The company explains current issues with airbag deployment based on the occupants: “Vehicles are steadily becoming safer by incorporating automated systems to monitor operations of the vehicle while the vehicle is in motion and to provide coordinated alerts and assistance as needed. However, difficulties remain in reliably detecting the presence of vehicle occupants and accurately classifying them as children, relatively small adults, and/or according to other classifications, and particularly in differentiating between classifications. Accurate classification can be critical when the vehicle is attempting to assist or enact safety measures to protect the occupant.” ([**Electrek**](https://electrek.co/2019/01/10/tesla-safer-airbag-deployment-weight-seat-sensors/))

## Self-driving vehicles could reach critical mass sooner than expected

Sponsored by Black & Veatch A future where it’s cheaper to use a self-driving vehicle ― whether for transporting goods or people ― is driving a mobility revolution. And that future may be here sooner than many realize. Transportation is in transition. City populations are rapidly growing, and residents are using rideshare and public transit more often. According to the new eBook, Autonomous Vehicles and Our New Mobility, the increase in Transportation as a Service (TaaS) is driving a future where individual vehicle ownership may no longer be as convenient, or cost-effective, as shared ridership. ([**Charged EVs**](https://chargedevs.com/newswire/self-driving-vehicles-could-reach-critical-mass-sooner-than-expected/))

## Making Autonomous Vehicles Safer

Testing can be high stakes, especially when done in public. Some of the predictions about how humans will interact with autonomous vehicles (AVs) on public roads are already coming true, but human creativity is endless. There have been attacks on Waymo test vehicles in Arizona, a DUI arrest of a Tesla driver sleeping at 70mph on a freeway, and other Tesla hacks using oranges and aftermarket gadgets to trick Tesla’s Autopilot into thinking the driver’s hands are on the wheel. But are those unsafe human behaviors any more dangerous than the drum beat of technology hype, unrealistic marketing, and a lack of teeth in regulating testing of AVs on public roads, the factory and the design lab? No wonder some people are angry at being put at increased risk by the unpredictability of experimental vehicles being tested on public roads. So are there ways to test these vehicles without putting people at risk? Verifying the hardware seems to be the focus, but software interacting with hardware defines a car’s behavior in autonomous vehicles. Throwing rocks at the problemSometimes working the engineering problems of automotive verification may feel as effective as throwing rocks at a Waymo car. ([**Semiconductor Engineering**](https://semiengineering.com/making-autonomous-vehicles-safer/))

## Ford-Owned Shuttle Startup Chariot Is Shutting Down

Subscribe to the Crunchbase Daily For More Chariot announced on its company blog that it will end its U.K. service on Friday, January 25th, and will end service in the U.S. on Friday, February 1. All operations, including servicing its enterprise customers, will end in March. Employees at the company were told today that their positions are terminated, according to an employee at the company who didn’t want to be named. The company is providing at least a portion of its employees with a severance package equal to 60 days worth of salary. ([**Crunchbase**](https://news.crunchbase.com/news/ford-owned-shuttle-startup-chariot-is-shutting-down/))

## Ford’s on-demand bus service Chariot is going out of business

Chariot, the microtransit service owned by Ford, is going out of business. According to a companywide email obtained by the San Francisco Examiner, the on-demand bus service will cease operation February 1st. A spokesperson for the company confirmed the news to The Verge. Dan Grossman, CEO of Chariot, said in a statement: In today’s mobility landscape, the wants and needs of customers and cities are changing rapidly. As those changes continue, it has become clear that the mobility services delivered by Chariot over the past five years will not be a sustainable solution going forward. We apologize for the inconvenience this may cause Chariot’s riders and our enterprise customers. We are committed to ensuring our customers are aware of the decision and have time to make alternative transportation arrangements. ([**The Verge**](https://www.theverge.com/2019/1/10/18177378/chariot-out-of-business-shuttle-microtransit-ford))

## Apple Maps gets turn-by-turn navigation and ride-hailing app support in India

For years, iPhone users in India have complained that Apple services like Siri and Maps don’t work well in the country and lack some crucial features. Now Apple, which is struggling to maintain iPhone sales growth worldwide, is showing at least some signs that it’s listening to the feedback. ([**Venture Beat**](https://venturebeat.com/2019/01/10/apple-maps-gets-turn-by-turn-navigation-and-ride-hailing-app-support-in-india/))

## STIR Challenges 40 New Startups To Collaborate With Governments

City Innovate has inducted a new cohort of startups that are aiming to bring tech innovation to public services through its 16-week Startup In Residence (STIR) program, an initiative that was spearheaded by the late Mayor of San Francisco Ed Lee in 2014. Follow Crunchbase News on Twitter The STIR program first emerged out of San Francisco at a time when tech startups like Uber were beginning to change the way that people think about their ability to move, build, and even eat. And while the rise of the tech scene in Silicon Valley has certainly changed our ways of life, it has, at times, neglected to address, and some argue it has even exacerbated, underlying societal issues like income inequality and homelessness, which are further complicated by broken or antiquated public services. ([**Crunchbase**](https://news.crunchbase.com/news/stir-challenges-40-new-startups-to-collaborate-with-governments/))

## GM partners with EVgo, ChargePoint and Greenlots to improve its EV charging solution

While companies like Tesla are building their own charging networks to specifically cater to their own vehicles, several other automakers rely on third-party networks, which can complicate access to charging. GM plans to make the situation a little easier by “aggregating dynamic data from each of the EV charging networks so owners of the all-electric Chevrolet Bolt EV can have a more seamless charging experience with their GM vehicles.” Doug Parks, General Motors vice president of Autonomous and Electric Vehicle Programs, commented on the announcement: ([**Electrek**](https://electrek.co/2019/01/09/gm-partners-evgo-chargepoint-greenlots-ev-charging-solution/))

## Vehicle screens go super-sized at CES as tech catches up

LAS VEGAS - Take a glance at the vehicle displays shown at CES and you could be forgiven for thinking you are at the movies. “This is not science fiction!” announced the head of Byton, an electric vehicle startup, onstage earlier this week at the global technology conference in Las Vegas. CEO and Chairman Carsten Breitfeld was referring to the jaw-dropping, 48-inch (1.22 m) screen inside the Chinese-funded company’s M-Byte car. Byton’s vehicle will not be built until later this year. But its super-sized display - supplied by China’s BOE Technology Group - is proving an undeniable trend in the automotive world, fueled by the rise of more connected cars. ([**Reuters**](https://www.reuters.com/article/us-tech-ces-screens/vehicle-screens-go-super-sized-at-ces-as-tech-catches-up-idUSKCN1P32M9))

## MapLab: Map, Heal Thyself!

Some of these “smart” cars are helping build the maps that will eventually guide even “smarter” future generations. That was my takeaway from the HERE Technologies tent at the 2019 Consumer Electronics Show this week. There, the Netherlands-based mapping company showed off the features of its HD Live Map, which will come equipped in some new BMW and Daimler models as soon as this year. The company is striving towards the, um, mildly ambitious goal of creating the most accurate map of reality itself, starting with (but not limited to) roads. HD Live is supposed to give even partially autonomous cars an uninterrupted view of the surfaces they’re driving on, with lane configurations, road width, street signage, and other features mapped at a resolution of 20 centimeters per pixel. Other vehicles equipped with the system will be able to transmit alerts about road blockages and traffic incidents in real time to others in the fleet. The map is supposed to be capable of “healing itself”: The vehicles will transmit trails of travel data up to the cloud, some of which will be sent back to HERE (via the car’s manufacturer) and fed back into the map. That way, if a road network shifts in some fashion (a street closure or new turn lane, for example) the map will reflect those changes by learning how other drivers handle them. “That loop becomes very important to smoothing things out,” said Sanjay Sood, HERE’s vice president of highly automated driving, at a public event Tuesday afternoon. As the map better mirrors reality over time, the cars that rely on it might also better drive themselves. ([**Citylab**](https://www.citylab.com/transportation/2019/01/maplab-map-heal-thyself/579856/))

## VW, Ford to reveal 'global alliance' at Detroit Auto Show, sources say

HAMBURG/DETROIT — Volkswagen AG and Ford Motor Co will unveil a deeper alliance next week that goes beyond cooperating in commercial vehicles in a move meant to save the automakers billions of dollars as they develop new technologies, two people familiar with the plan said on Wednesday. Ford and VW have been exploring closer cooperation as trade frictions force carmakers to rethink where they build vehicles for Europe, the United States and China, and as software companies prepare to launch their own self-driving cars. "A global alliance is expected to be announced," one person said, adding that the pact will be unveiled next Tuesday during the Detroit Auto Show. The companies have previously said any alliance would not involve a merger or equity stakes. ([**Autoblog**](https://www.autoblog.com/2019/01/09/vw-ford-alliance-naias-detroit-auto-show/))

## Toyota, VW and GM partner on autonomous vehicle education

The technology that powers autonomous and semi-autonomous cars improves every year, but full self-driving vehicles are still a long, long way off. There are metaphorical miles and miles of grey area between what's on the road today and what's been promised for the future. At CES 2019, more than a dozen companies, nonprofits and academic institutions announced the creation of Partners for Automated Vehicle Education. PAVE's stated goal is to "inform the public about automated vehicles and their potential so everyone can fully participate in shaping the future of transportation." Volkswagen, GM, Daimler and Toyota are all members of PAVE. Other partners include tech companies Waymo, Intel, NVIDIA and groups like SAE International, the National Federation of the Blind and the National Council on Aging. During the group announcement, PAVE partners said that education for both the public and policymakers was the main focus rather than promoting or pushing any particular technology or specific public policies. PAVE's website will have resources to learn about autonomous technology. The organization will also host public demonstrations and workshops. ([**Autoblog**](https://www.autoblog.com/2019/01/09/pave-autonomous-vehicle-education/))

## Bose QuietComfort noise canceling tunes out road noises

If the sounds of the road are interrupting your road trip playlist, Bose might have the solution. The company announced its new QuietComfort Road Noise Control system designed to cancel all of the sounds that seep in from outside of your vehicle. The technology, branded with the same name as Bose's noise-canceling headphones, is being made available to vehicle manufacturers around the world to provide a quieter cabin experience inside of cars, trucks and SUVs. According to Bose, its new sound-canceling system uses a combination of accelerometers, proprietary signal-processing software, microphones and the vehicle's audio system to electronically combat unwanted sounds. The accelerometers are mounted to the body of the vehicle and can measure vibrations that create noise. When they sense a potential disturbance, the system kicks into gear to create an acoustic cancellation signal that is delivered through the vehicle's speakers. Meanwhile, the microphones located around the cabin of the car monitor any residual noise levels and help to adapt the signal over time. As your car ages, the system will get better at blocking out whatever new noises might be leaking through. Bose says it will work with manufacturers throughout the development process to custom-fit cars with the QuietComfort system. The company best known for audio equipment has been dabbling more in cars lately, including building ride-smoothing technology for autonomous vehicles. It expects the noise-canceling technology will be available in production models by the end of 2021. ([**Autoblog**](https://www.autoblog.com/2019/01/09/bose-quietcomfort-noise-canceling-cars/))

## CES 2019: V2X and Radar Growth Lead Self-Driving Efforts

Automotive companies displayed working, production-ready technology for automated and self-driving vehicles Tuesday on the second day of the 2019 Consumer Electronics Show in Las Vegas. The announcements were relatively subdued compared with bombastic predictions made at CES in recent years. But companies stressed that news about real-world applications of technology such as radar and LiDar sensors, fast data processing, 5G and vehicle-to-everything – or V2X – connectivity marks a turning point in bringing self-driving vehicles to public roads. Here are some of the impactful new products showcased at CES on Tuesday: ([**Trucks.com**](https://www.trucks.com/2019/01/09/2019-ces-round-up-v2x-and-radar-growth-lead-self-driving-efforts/))

## Tesla warns ‘self-driving package’ buyers that activation is ‘very far away’ due to regulations

Tesla salespeople have been warning buyers of their ‘Full Self-Driving package’ that it could be “very far away” due to regulations.(adsbygoogle = window.adsbygoogle || []).push({}); A few months ago, Tesla removed its ‘Full Self-Driving Capability’ package from its options due to ‘confusion’. The option itself was controversial from the beginning when it was introduced with the Autopilot 2.0 hardware in 2016. ([**Electrek**](https://electrek.co/2019/01/09/tesla-self-driving-package-buyers-regulations/))

## 2020 Ford Explorer Gets Giant Touchscreen, ST Version, Is Gloriously Rear-Wheel Drive

The 2020 Ford Explorer is going to be endowed with two EcoBoost turbo engine options, autonomous parking capabilities, an ST performance variant and an infotainment system run off what looks like a gigantic portrait oriented tablet stuck to the dashboard. Interestingly, the SUV is also back to being rear-wheel drive based. The trend of car infotainment screens looking more and more like phones is clearly coming close to a critical mass, as you can see by the 10.1-inch display tacked onto the Platinum trim’s dashboard here. The gauge pod is all-digital, too. (Note the the giant touchscreen is only in that top Platinum trim.) The new Explorer naturally has a long options list of driver assistance features, but what Ford is calling “Active Park Assist 2.0” is probably the most interesting. This system apparently allows for essentially autonomous parking, though I noticed Ford appeared to avoid using the A-word and instead described this as “hands-free and foot-free parking.” ([**Jalopnik**](https://jalopnik.com/2020-ford-explorer-gets-giant-touchscreen-st-version-1831624020))

## Sacramento partners with Deepen AI and Foresight AI on HD, 3D mapping initiative to support autonomous vehicles

The City of Sacramento will partner with Deepen AI, Inc. and Foresight AI, Inc. on a project designed to speed the development and safe deployment of autonomous vehicle (AV) technology for the benefit of the city. The project will use Deepen AI’s 2D and 3D annotation technology, and Foresight AI’s proprietary, dynamic HD map building solution. The three-month effort is slated to begin in February 2019, and will focus on building high-definition, 3D maps for three demonstration routes within the city. Sacramento is committed to bringing our residents more shared, clean ways to get around. This partnership builds on our momentum toward becoming a center of innovation in new transportation technologies. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190109-sacramento.html))

## Toshiba prepares to rev up production of SCiB batteries

Toshiba is removing its SCiB battery business from the Toshiba Infrastructure Systems & Solutions (TISS) subsidiary, and making it an independent business unit within Toshiba. By positioning the business as an independent operation, Toshiba says it hopes to remove layers of management and allow for more rapid decision-making. TISS will continue to handle business operations related to using the SCiB as a storage battery system in certain sectors, including rail transport, defense, and power transmission substations. Toshiba has manufactured and sold the SCiB battery since March 2008. It has applications in PHEVs, automated guided vehicles, and energy storage systems for rolling stock. ([**Charged EVs**](https://chargedevs.com/newswire/toshiba-prepares-to-rev-up-production-of-scib-batteries/))

## Trump Nominates Andrew Wheeler for EPA, Nicole Nason for FHWA

Andrew Wheeler, acting administrator of the U.S. Environmental Protection Agency, and Nicole Nason, assistant secretary of the Bureau of Administration, were officially nominated to take on new posts. President Donald Trump on Jan. 9 nominated Wheeler to be the new administrator. If confirmed he would succeed Scott Pruitt. Nason was nominated a week earlier on Jan. 3 to lead the Federal Highway Administration, where she would oversee surface transportation policy at a time when the U.S. Department of Transportation proceeds with initiatives related to autonomous vehicles and infrastructure funding. If confirmed, Nason would succeed Greg Nadeau at FHWA. ([**Transport Topics**](https://www.ttnews.com/articles/trump-nominates-andrew-wheeler-epa-nicole-nason-fhwa))

## AAA Acquires Nation’s Largest Autonomous Vehicle Test Site

The largest autonomous vehicle test site in the United States has been acquired by AAA of Northern California, Nevada and Utah, one of the most familiar car-club brands in the country. GoMentum Station, an AV testing site in Concord, Calif., in the Bay Area, has been bought by the West Coast AAA organization in a move to continue and expand the numerous AV testing projects, which range from self-driving personal cars to shuttle vehicles. GoMentum Station was under the management of the Contra Costa County Transportation Authority, which still is heavily involved in the facility’s operations. ([**Transport Topics**](https://www.ttnews.com/articles/aaa-acquires-nations-largest-autonomous-vehicle-test-site))

## Walmart trials new self-driving delivery service in Arizona

Walmart is launching another pilot project involving self-driving technology, the company announced Tuesday. Customers in the Phoenix suburb of Surprise, Arizona, will be able to order groceries for delivery from a nearby Walmart store. Walmart is conducting the new pilot program along with self-driving delivery startup Udelv. In its own post, Udelv says that the pilot program will begin later this month. We talked to Udelv CEO Daniel Laury last July. Laury told us that he's a serial entrepreneur with three previous companies under his belt. When he co-founded Udelv three years ago, he said, "pretty much every single company out there was focused on taxis; no one was doing delivery." ([**ARS Technica**](https://arstechnica.com/cars/2019/01/walmart-pilots-self-driving-grocery-deliveries-in-the-phoenix-area/))

## Mercedes-Benz, NVIDIA to develop new AI architecture for Mercedes vehicles; centralizing and unifying compute in the car

Mercedes-Benz has selected NVIDIA to help realize its vision for next-generation vehicles. The partnership builds on a longstanding collaboration between the two companies. Both companies, said NVIDIA Founder and CEO Jensen Huang, agree that the car of the future must be software defined—starting from creating the software for today’s requirements, anticipating software for tomorrow’s needs and building the computing architecture to enable it. He described a single system providing self-driving capabilities and smart-cockpit functions that replaces dozens of smaller processors inside current cars. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190109-mercedesnvidia.html))

## Google Assistant is coming for your car with new hands-free voice control from Anker and JBL

Amazon’s Alexa got a head start on its smart home invasion compared to its primary competitor Google, and that early lead has extended beyond the home. Now, Google is aggressively pushing to catch up by partnering with third-party brands to further extend the reach of Google Assistant. One new area is connected car tech, which is served by a scattershot approach that involves often wonky built-in car infotainment systems, Apple’s CarPlay, Google’s Android Auto, and now Alexa and Google Assistant. Today at CES, consumer electronics companies Anker and JBL both announced new Google Assistant-equipped gadgets that plug in via the 12-volt car lighter port, so they’ll work with a majority of new and old cars as a way to smarten up your on-the-road tech with hands-free voice control and music playback, among other features. For Anker, this is an extension of its existing Roav line of car adapter and charger combos, and its new Google model is called the Roav Bolt. Like last year’s Roav Viva, which relied on Alexa, this one is powered exclusively by Google Assistant. The price point remains the same: the Bolt is $50, just like the Viva, and it comes with all of the same features, including hands-free calling and messaging, navigation, and music playback. ([**The Verge**](https://www.theverge.com/circuitbreaker/2019/1/8/18168678/anker-roav-bolt-car-charger-google-assistant-jbl-link-drive-hands-free-ces-2019))

## Mobileye partners with Ordnance Survey to build precise database of U.K. roads

The cabal of companies that have partnered with Mobileye, the Israeli computer vision startup company Intel acquired two years ago in a deal worth $15.3 billion, grows by the day. In May, Mapbox teamed up with the San Jose chipmaker’s subsidiary to supply its infrastructure-as-a-service product to driverless car makers, and in July, Baidu began collaborating with Mobileye to integrate its tech into Project Apollo, Baidu’s autonomous vehicle platform. More recently, Mobileye inked a deal with Volkswagen to launch Israel’s first driverless ride-hailing service. ([**Venture Beat**](https://venturebeat.com/2019/01/07/mobileye-partners-with-ordnance-survey-to-build-precise-database-of-u-k-roads/))

## Baidu announces Apollo 3.5 and Apollo Enterprise, says it has over 130 partners

Beijing tech giant Baidu is ramping up its self-driving car initiative. At the 2019 Consumer Electronics Show in Las Vegas this week, it announced Apollo 3.5, the latest version of its Apollo open source driverless car platform, and took the wraps off of Apollo Enterprise, which it described as a suite of “customizable autonomous driving … solutions” for vehicle fleets. It also recommitted to launching a self-driving taxi service in Changsha, China later this year. ([**Venture Beat**](https://venturebeat.com/2019/01/08/baidu-announces-apollo-3-5-and-apollo-enterprise-says-it-has-over-130-partners/))

## Intel and Warner Bros. show off Batman experience for self-driving car

Intel and Warner Bros. demoed a Batman entertainment experience aimed at passengers in a concept for a self-driving car. It is meant to show how we could entertain ourselves in the cars of the future. ([**Venture Beat**](https://venturebeat.com/2019/01/08/intel-and-warner-bros-show-off-batman-experience-for-self-driving-car/))

## Mobileye will supply platform for forthcoming autonomous public transportation service in China

Mobileye — the Israeli startup Intel acquired two years ago in a deal worth $15.3 billion — continues to make inroads in the $54.23 billion driverless car market. Following a press briefing at CES 2019 in Las Vegas, it announced that France-based auto technology supplier Valeo has embraced its model for automated vehicle (AV) decision-making — Responsibility-Sensitive Safety (RSS) — with open arms, and that Baidu, which in July pledged to integrate RSS into its Project Apollo autonomous car solution, has reported the first implementation of the technology. ([**Venture Beat**](https://venturebeat.com/2019/01/08/mobileye-will-supply-platform-for-forthcoming-autonomous-public-transportation-service-in-china/))

## Why I’m skeptical about Toyota’s approach to self-driving cars

As most of the car industry have scrambled to develop fully driverless car technology over the last few years, Toyota has taken a pointedly contrarian tack. "None of us in the automobile or IT industries [is] close" to solving the challenge of fully autonomous vehicles, said Gill Pratt, CEO of the Toyota Research Institute, in a speech at the Consumer Electronics Show on Monday. As a result, Toyota has taken a two-track approach to its own self-driving vehicle research. On one track, dubbed "Chauffeur," Toyota is working to develop fully autonomous vehicles similar to those being created by Alphabet's Waymo, GM's Cruise, and other companies. ([**ARS Technica**](https://arstechnica.com/cars/2019/01/toyota-is-betting-fully-driverless-cars-are-still-years-away/))

## Udelv partners with Walmart for autonomous deliveries, reveals next-gen van design

Udelv has had an eventful 2018 — and that’s putting it lightly. In September, the Carson, California autonomous car startup inked a deal with grocers in Oklahoma City to deliver perishables to select shoppers, and in the fall, it partnered with on-demand food startup Farmstead to ferry products between San Francisco Bay Area stores and customers. And just last month, it signed a deal with Texas-based auto parts distributor XL Parts to deploy its self-driving delivery vans in Houston. ([**Venture Beat**](https://venturebeat.com/2019/01/08/udelv-partners-with-walmart-for-autonomous-deliveries-reveals-next-gen-van-design/))

## NVIDIA introduces DRIVE AutoPilot, first commercially available Level 2+ automated driving system

At CES 2019, NVIDIA announced the first commercially available Level 2+ automated driving system, NVIDIA DRIVE AutoPilot, which integrates multiple breakthrough AI technologies that will enable supervised self-driving vehicles to go into production by next year. At CES 2019, Continental and ZF announced Level 2+ self-driving solutions based on NVIDIA DRIVE, with production starting in 2020. As a Level 2+ self-driving solution, NVIDIA DRIVE AutoPilot provides both world-class autonomous driving perception and a cockpit rich in AI capabilities. Vehicle manufacturers can use it to bring to market sophisticated automated driving features as well as intelligent cockpit assistance and visualization capabilities that surpass today’s ADAS offerings in performance, functionality and road safety. A full-featured, Level 2+ system requires significantly more computational horsepower and sophisticated software than what is on the road today. NVIDIA DRIVE AutoPilot provides these, making it possible for carmakers to quickly deploy advanced autonomous solutions by 2020 and to scale this solution to higher levels of autonomy faster. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-nvidia.html))

## Riding in Daimler’s new semi-autonomous big rig

In 2015, Daimler told the world it was building the world’s first self-driving semi truck. It pulled out all the stops for the big reveal of the prototype, debuting the truck on top of the Hoover Dam in the middle of the night and renting out Las Vegas Motor Speedway to offer test rides. This week at the 2019 Consumer Electronics Show, Daimler is back with the near-final production version of that truck, and we got to take another ride. Over the last three years, Daimler has taken the technology and the ideas that were in that prototype truck and worked them into the latest version of the Freightliner Cascadia, one of the company’s most popular trucks. More importantly, Daimler says it’s ready to put the truck into production this summer and start delivering them to customers later this year. That means that by the end of the year, truckers around the country will be able to use the new Cascadia’s driver assistance features to make their long hauls a little bit easier. The trucks are able to keep themselves centered in a lane, match the speed of a car in front from a safe distance, and alert the driver when cars or pedestrians sneak into the big blind spot on the right side of the vehicle. They can also automatically brake in an emergency, which might have been the most fun part of the test ride. ([**The Verge**](https://www.theverge.com/2019/1/8/18174526/daimler-cascadia-self-driving-semi-truck-ces-2019))

## Robot delivery startup Udelv partners with Walmart and Baidu

Udelv, a self-driving delivery startup, announced that it was teaming up with Walmart to pilot an autonomous grocery delivery service. The Burlingame, California-based company said it was also partnering with Baidu to pilot the Chinese search giant’s latest autonomous driving open platform, Apollo 3.5. It’s the latest in a series of announcements centered on the use of autonomous vehicles in last-mile delivery scenarios, underscoring a core truth about the future: it’s risky to put human passengers in robot vehicles, but it’s much less risky to put groceries and Amazon packages in them. Udelv has been using its fleet of autonomous vans to test grocery delivery with a variety of food markets. Last year, the startup signed a deal to supply Oklahoma City’s largest grocery chain with self-driving vehicles. Previously, the company’s bright orange vans were delivering groceries for the high-end Draeger’s Market chain in the Bay Area city of San Mateo. Udelv said it has completed 1,200 deliveries, and it says it will deliver up to 100 autonomous vans to customers in 2019. ([**The Verge**](https://www.theverge.com/2019/1/8/18173776/udelv-self-driving-delivery-walmart-baidu-ces-2019))

## AV Testing Advances Without Standards

It delayed discussions that could have narrowed the almost infinite number of choices automated vehicles (AVs) must be prepared to make by creating guidelines defining what constitutes “safe” operation of a self-driving car. These guidelines would have set de facto technical priorities that could have accelerated development and acted as functional requirements to help make functional safety testing of AVs definitive enough to shave a couple of zeros off the number of AV road-test miles. Road-test miles are instead being shaved off by the industry, which has some ideas for shortening or virtualizing the safety validation cycle for AVs. Do we need standards?The Senate bill (S. 1885), the AV START Act, was supposed to streamline regulation of automated-vehicle testing and production by consolidating rules created by 32 states and extend the Federal Motor Vehicle Safety Standards (FMVSS) to include functions relative to autonomous driving as well as physical safety of the cars themselves. ([**Semiconductor Engineering**](https://semiengineering.com/av-testing-advances-without-standards/))

## Mobileye proposes automatic preventative braking to eliminate ‘nearly all’ rear-end collisions

Intel’s Mobileye announced plenty at its 2019 Consumer Electronics Show keynote in Las Vegas this afternoon, including a partnership with Valeo, a plan to supply a pair of China-based companies with tools to achieve truly driverless public transportation, and a mapping project underway with Great Britain’s Ordnance Survey. But one thing that slipped through the cracks was automatic preventative braking (APB), an augmented form of automatic emergency braking that uses formulas to determine when cars enter dangerous situations. ([**Venture Beat**](https://venturebeat.com/2019/01/08/mobileye-proposes-automatic-preventative-breaking-to-eliminate-nearly-all-rear-end-collisions/))

## Aurora, the hot self-driving startup, will be worth $2 billion after an investment by Sequoia

The startup Aurora — which is not yet two years old but has made waves in the autonomous-driving industry with a highly regarded executive team from Tesla, Uber, and Google — is slated to be valued at over $2 billion in a new fundraising round, Recode has learned. Sequoia Capital is expected to lead a financing round of at least $500 million in the company, according to people familiar with the matter. The investment, which hasn’t closed, is shaping up to be the biggest commitment yet by Sequoia, arguably the most prestigious venture capital firm in Silicon Valley, into the booming, capital-intensive world of self-driving car technology in the US. Aurora and Sequoia declined to comment. ([**Recode**](https://www.recode.net/2019/1/8/18173362/sequoia-aurora-self-driving-transportation-car-billion))

## Transdev, ZF and e.GO announce partnership for shared autonomous mobility

Transdev, a leading operator and global integrator of mobility solutions, is partnering with ZF and e.GO, a manufacturer of electric vehicles to develop a new shared mobility solution by integrating the autonomous driven e.GO Mover shuttle with the operating System by Transdev. The e.GO Moove GmbH joint venture (which partners e.GO and ZF) is providing the e.GO Mover, a fully electric, connected and automated shuttle. ZF is equipping this people mover with electric drive systems, steering systems and brakes as well as ZF’s ProAI central computer (using artificial intelligence) and sensors which enable automated driving functions. Transdev, through its global Autonomous Transport System (ATS by Transdev) will provide its supervision system, connected infrastructure and client application. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-transdev.html))

## The way SoftBank invests in startups just doesn’t work, says Khosla Ventures’ Keith Rabois

On a recent episode of Recode Decode, hosted by Kara Swisher, Khosla Ventures partner Keith Rabois joined Kara in studio to talk about a range of topics, including the startup landscape, being a conservative contrarian in tech (who has publicly rejected President Trump), and why he thinks SoftBank’s Vision Fund is prolonging the deaths of doomed companies. (The interview was recorded on December 26 and published January 5. This week, reports emerged that SoftBank would invest $2 billion in WeWork, rather than an originally planned $16 billion that could have given it a controlling stake in the office-sharing company). “[Softbank has] deferred some companies’ aspirations of going public,” Rabois said. “I think it’s created a crutch for other companies that really don’t have an economic model that’s working, and it’s created a bank account that people can tap into and not have to solve their business problems.” ([**Recode**](https://www.recode.net/2019/1/8/18172813/keith-rabois-khosla-ventures-softbank-vision-fund-wework-kara-swisher-decode-podcast))

## A robot company stages Tesla crash as a PR stunt, media buys it

A Russian company called Promobot, which is commercializing a humanoid robot for businesses, is bringing its robot to CES this year. After a day of being in Las Vegas, the company claims that its robot has been damaged by a “self-driving Tesla Model S”: “A self-driving Tesla Model S hit and destroyed an autonomous Promobot the robot model v4 in Las Vegas in a car accident. The incident took place at 3000 Paradise Rd, Las Vegas.” ([**Electrek**](https://electrek.co/2019/01/08/tesla-crash-robot-pr-stunt-media/))

## Hyundai unveils automated charging and parking system concept

Hyundai and Kia have released a video featuring a proposed system that would relocate fully charged EVs from charging stations and allow waiting vehicles to charge. Here’s how the Automated Valet Parking System (AVPS) works: the driver tells the vehicle to charge using a smartphone app, and the vehicle automatically cruises to a vacant wireless charging station. When the vehicle is fully charged, it relocates to another vacant parking space, allowing other vehicles to use the charging spot. When the driver calls for the vehicle, it autonomously returns to the driver’s location. The process is enabled by continuous communication among the vehicle, parking facility, charging system and driver. The parking facility broadcasts the locations of empty parking spaces and charging stations, while the charging system updates the charging status of the vehicles in real time. ([**Charged EVs**](https://chargedevs.com/newswire/hyundai-unveils-automated-charging-and-parking-system-concept/))

## PAVE coalition launches broad-based public education campaign on automated vehicles

A coalition of industry, non-profit and academic institutions has launched a campaign to inform the public and policymakers about the potential and the reality of advanced vehicle technologies and self-driving vehicles. Partners for Automated Vehicle Education (PAVE) will hold events across the country to introduce driver assistance and self-driving technology to consumers and policymakers; hold educational workshops to help federal, state and local officials make informed policy decisions; and develop educational materials to distribute to retail sales and customer service personnel. The National Safety Council and Audi of America will serve as inaugural co-chairs of PAVE. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-pave.html))

## Tesla is developing way to detect car issues before they happen and autonomously go to service

A new patent application reveals that Tesla is developing a way to detect car issues before they happen and even autonomously drive the car to a service center.(adsbygoogle = window.adsbygoogle || []).push({}); Tesla has filed a patent application for a way to monitor “stress cycles” of certain components in its vehicles in order to detect a potential failure before it happens. The company describes issues with the current ways to approach “stress-related damage”: ([**Electrek**](https://electrek.co/2019/01/08/tesla-detect-issues-autonomous-service/))

## Toyota Research Institute developing blended envelope control for Guardian driver assistance

In a briefing at CES 2019, Dr. Gill Pratt, Toyota Research Institute (TRI) CEO and Toyota Motor Corporation Fellow said that one of TRI’s most significant breakthroughs this year was the creation of blended envelope control for its Guardian driver assistance system. The control combines and coordinates the skills and strengths of the human and the machine. TRI is following a two-track development approach to automated driving. Chauffeur development focuses on full autonomy, in which the human is essentially removed from the driving equation, either completely in all environments, or within a restricted operational design domain (ODD). Toyota Guardian, on the other hand, is being developed to amplify human control of the vehicle, not replace it. With Toyota Guardian, the driver is meant to be in control of the car at all times, except in those cases where it anticipates or identifies a pending incident and employs a corrective response in coordination with driver input. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-tri.html))

## DTNA Freightliner new Cascadia first SAE Level 2 automated truck in NA; 35% better fuel efficiency than 2007 Cascadia

Daimler Trucks North America (DTNA) introduced the first SAE Level 2 automated truck in series production in North America with the latest enhancements to the Freightliner new Cascadia. Level 2 automation means the truck is capable of both lateral (steering) and longitudinal (acceleration/deceleration) control. According to NHTSA, 94% of crashes are attributable to human error. Automating acceleration, deceleration, and steering reduces the chance for human error, mitigates collisions, and can potentially save lives. These technologies can also enhance the driver experience by making the truck-driving task easier, thereby improving driver comfort and well-being. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-dtna.html))

## KDDI, AT&T to connect Toyota and Lexus vehicles in US with 4G LTE starting in the fall

Toyota and Lexus are bringing connected car capabilities to their vehicles in the United States. Toyota Motor North America, KDDI and AT&T will collaborate to enable 4G LTE connectivity for all new model Toyota and Lexus cars and trucks. This will start with 2020 model year vehicles in the fall of 2019, across all 50 states. The ecosystem will build on the joint Global Communications Platform announced by Toyota and KDDI in 2016 to support car connectivity. Features will include: Wi-Fi hotspots so owners of select Toyota and Lexus vehicles can stream, browse and share entertainment among multiple smartphones and tablets from the open road. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-kddi.html))

## Daimler Trucks to invest €500M in highly automated trucks; stepping away from platooning, shooting for L4 automation

At the Consumer Electronics Show (CES) in Las Vegas, Daimler Trucks announced that it will invest €500 million (around US$570 million) over the next years and create more than 200 new jobs in its global push to bring highly automated trucks (SAE level 4) to the road within a decade. Highly automated driving is characterized as automated travel in defined areas and between defined hubs without any expectation of the system that a user will respond to a request to intervene. In commercial trucking, level 4 is the natural next step after level 2, increasing efficiency and productivity for customers, cutting costs per mile significantly. In doing so, Daimler Trucks is skipping the intermediate step of conditionally automated driving (level 3). Level 3 automated driving does not offer truck customers a substantial advantage compared to the current situation as there are no corresponding benefits to compensate for the technology costs, the company says. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190108-dt.html))

## ZF showcasing automotive sensor portfolio at CES 2019

At CES this year, ZF is highlighting its sensor portfolio which can detect vehicle surroundings and thereby help to enhance the safety of conventional and automated vehicles. The resulting architecture—including a new, full-range radar, solid state LiDAR, innovative cameras and acoustic sensors—are combined with a powerful and scalable NVIDIA platform from the ZF ProAI product family to create a powerful overall sensor system. ZF ProAI. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190107-zf.html))

## Here launches SoMo, a social transport app for planning and sharing rides

For private ride-hailing and ride-sharing, we have Uber, Lyft, Gett, Grab, and countless others around the world. For public transport stalwarts, there is Google Maps, Citymapper, Transit, Moovit, and more, each serving up the best combination of ways — including trains, boats, buses, and more — to get from A to B. ([**Venture Beat**](https://venturebeat.com/2019/01/07/here-launches-somo-a-social-transport-app-for-planning-and-sharing-rides/))

## Flir’s Automotive Development Kit taps thermal imaging to improve driverless cars

Lidar — sensors that measure the distance to objects by illuminating them with light and measuring the reflected pulses — are the cornerstone of autonomous car systems from Waymo, Uber, and dozens of others. But they’re susceptible to interference from inclement weather, darkness, fog, smoke, haze, and sun glare, which is why Wilsonville, Oregon-based Flir is advancing an alternative: thermal vision. ([**Venture Beat**](https://venturebeat.com/2019/01/07/flirs-automotive-development-kit-taps-thermal-imaging-to-improve-driverless-cars/))

## In a Reversal, ‘Car-Rich’ Households Are Growing

The evidence for personal transformation is uncontested. But the societal benefits are less clear. How ride-hailing in particular is affecting vehicle use, traffic, and transit has been hotly debated. Research that I summarized in my report “The New Automobility” last summer showed that ride-hailing growth has led to more traffic and less transit use in major American cities—not the reverse that we all hoped for. Uber, Lyft, and advocates for new shared mobility services have pushed back against this analysis. Declaring that we are still at the “earliest stages” of a major shift in travel habits, they look to the day that people ditch their car in favor of a combination of these services and old-fashioned public transportation. Their vision is that diminished car ownership and fewer miles in privately owned vehicles will more than offset added mileage from ride-hailing vehicles. As we enter the eighth year of the Uber and Lyft revolution, it’s worth checking whether we are seeing those “ditch your car” hopes being fulfilled. Recent trends can be traced using the American Community Survey, which shows yearly household vehicle ownership in U.S. cities. ([**Citylab**](https://www.citylab.com/perspective/2019/01/uber-lyft-make-traffic-worse-more-people-own-cars-transit/579481/))

## Innoviz and HARMAN partner to deliver solid-state LiDAR to automakers

Innoviz Technologies and HARMAN International, a wholly-owned subsidiary of Samsung Electronics Co. Ltd. focused on connected technologies for automotive, consumer and enterprise markets, have formed a strategic partnership to make Innoviz’s high-performing, solid-state and mass-producible LiDAR solutions available to OEMs globally. HARMAN will leverage Innoviz’s LiDAR offerings to further reinforce its position as a leading provider of products and technologies to automakers that help improve vehicle safety, perception, connectivity and experiences. Specifically, Innoviz’s LiDAR will enhance HARMAN’s existing ADAS and Automated Driving initiatives, helping deliver superior driver assist features today and Levels 3-5 automation tomorrow. InnovizOne, which HARMAN will make available to OEMs through this partnership, is a solid-state LiDAR sensor that is designed specifically for automotive deployments and automakers’ mass- production needs. BMW has selected InnovizOne for series production of its autonomous vehicles in 2021. (Earlier post.) ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190107-innoviz.html))

## Byton readies 3 autonomous-ready electric cars for production as early as 2019

Byton may be a young electric car company, but it is working to launch two models of electric cars that will be ready for self-driving technology in the not-so-distant future. ([**Venture Beat**](https://venturebeat.com/2019/01/06/byton-readies-three-autonomous-ready-electric-cars-for-production-as-early-as-2019/))

## AAA Acquires Largest Autonomous Vehicle Test Site in the Country

The largest autonomous vehicle test site in the United States has been acquired by AAA of Northern California, Nevada and Utah, one of the most familiar car-club brands in the country. GoMentum Station, an AV testing site in Concord, Calif., in the Bay Area, has been bought by the West Coast AAA organization, in a move to continue and expand the numerous AV testing projects, which range from self-driving personal cars to shuttle vehicles. GoMentum Station was under the management of the Contra Costa (County) Transportation Authority (CCTA), which is still heavily involved in the facility’s operations. ([**GovTech**](http://www.govtech.com/fs/automation/AAA-Acquires-Largest-Autonomous-Vehicle-Test-Site-in-the-Country.html))

## ZF unveiling robo-taxi at CES 2019; ProAI RoboThink controller

At CES 2019, ZF will unveil a steering-wheel- and pedal-free robo-taxi to show how its technologies enable new forms of urban mobility. Users can hail the taxi using their smartphone or tablet; the robo-taxi will maneuver autonomously to pick them up. It can then chauffeur them to where they wish to go. Automation, electrification and networking are critical enablers as the transport of people and goods continually increase in urban centers. With our extensive systems competence, ZF is enabling and shaping next-generation mobility. Our flexible and modular system solutions are not only attractive for conventional car manufacturers, but also for new companies entering the mobility market. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190107-zfrobo.html))

## DTNA Pushes Ahead With Automated Driving, Other New Technology on Flagship Cascadia

LAS VEGAS — Daimler Trucks North America announced SAE Level 2 automated driving will be available beginning in July on its flagship Freightliner Cascadia model, calling it an industry first. The truck maker also announced fuel efficiency improvements to the diesel-powered Cascadia, and an upgraded version of its Detroit Assurance advanced driver assistance system, including active brake assist. And the media got its first chance to drive DTNA’s emerging electric trucks. Cascadia featuring SAE Level 2 driving. (Daimler Trucks North America) ([**Transport Topics**](https://www.ttnews.com/articles/dtna-will-go-production-electric-trucks-starting-2021))

## Nvidia launches Drive AutoPilot with Xavier AI processors for commercial use

Nvidia announced that its Drive AutoPilot is the first automated driving system that meets standards for Level 2-plus autonomous cars. ([**Venture Beat**](https://venturebeat.com/2019/01/07/nvidia-launches-drive-autopilot-with-xavier-ai-processors-for-commercial-use/))

## Bell’s hybrid-electric flying car will be available via Uber by the ‘mid-2020s’

This is Bell Nexus, the “air taxi” concept from the company formerly known as Bell Helicopter. A hyrbid-electric propulsion aircraft, the Nexus will use six tilting ducted fans to take off and land vertically from a rooftop or launchpad. And more importantly, you may be able to hail one for a crosstown trip using Uber’s new aerial service in the not-too-distant future. Air taxis, or flying cars if you’re feeling saucy, are enjoying an upswing in popularity, and the Fort Worth, Texas-based Bell is hoping to seize the moment. The company rebranded itself last year as a technology company, after decades as one of the top manufacturers of commercial and military vertical takeoff and landing (VTOL) aircraft. (It produces both the V-22 Osprey and the forthcoming V-280 Valor.) It now wants to make electric VTOL (eVTOL) aircraft, with the Nexus as its first foray into that futuristic market. Bell was one of the first aircraft manufacturers to team up with Uber in 2017, when the ride-hailing company first released its ambitious plan to create a network of city-based flying taxis as a way to alleviate street-level traffic. Since then, Bell has been hard at work on its own design, and at CES this week, it pulled back the curtain on its first concept. ([**The Verge**](https://www.theverge.com/2019/1/7/18168814/bell-air-taxi-nexus-uber-flying-car-hybrid-ces-2019))

## Audi and Disney want to spice up your Uber ride with VR

iIron Man needs help. He’s being chased through outer space by some of Thanos’ baddies, so Rocket Raccoon and I rush to his aid. We make a few jumps using the Universal Neural Teleportation Network, and a few rollicking minutes later, I’ve helped blast the enemies to bits. Rocket sets off a few fireworks to celebrate. After that, I take off the virtual reality headset, hand over the controller, and step out of the car. I’m not at Disney World, and, no, I didn’t eat acid while watching Guardians of the Galaxy in a Chrysler Pacifica. Instead, I was in the back seat of a new Audi E-Tron at a racetrack on the outskirts of Las Vegas. It’s one of the first few nights of the 2019 Consumer Electronics Show. There was just an Oculus Rift strapped to my face, and the experience I had — titled “Rocket’s Rescue Run” — was the result of a deal between Audi, Disney, Marvel, and a new startup called Holoride, which just got spun out of the German automaker. ([**The Verge**](https://www.theverge.com/ces/2019/1/7/18171688/audi-disney-marvel-virtual-reality-holoride-vr-oculus-uber-ces-2019))

## Daimler abandons platooning to focus on automation

LAS VEGAS, Nev. – Daimler Trucks has determined that truck platooning is not currently viable, and will instead focus its efforts on developing autonomous vehicles. ([**Truck News**](https://www.trucknews.com/technology/daimler-abandons-platooning-to-focus-on-automation/1003089387/))

## BYTON shows interior of M-Byte SUV production model at CES 2019

BYTON revealed more about the interior of its first production model, the M-Byte SUV , at the Consumer Electronics Show (CES) 2019 in Las Vegas. Positioned as the next generation smart device, BYTON is designed for the future of autonomous driving in which the automobile will become a mobile digital lounge. An 8-inch BYTON Touch Pad has been added between the driver and the front passenger on the production model, enabling both to control the Shared Experience Display via touch in addition to voice and gesture controls. ([**GreenCarCongress**](https://www.greencarcongress.com/2019/01/20190107-byton.html))

## Daimler, Bosch Cruise Into Robotaxi Era With Slow Shuttles

Four years ago, Daimler AG dazzled with a self-driving luxury lounge in Las Vegas featuring a concept vehicle boasting a sleek interior that promised to pamper its well-heeled passengers into the automotive future. This year the Mercedes-Benz maker is back at the annual Consumer Electronics Show, though with a more utilitarian slant: a bubble-like autonomous shuttle designed to reliably ferry people and goods around town at limited speeds. The move from glittery luxury concepts to box-shaped people movers underscores a shift in the race toward autonomous vehicles. While driverless cars might not populate public roads for some time, shuttle services in confined areas have started to look more feasible, at least over the next few years. ([**Transport Topics**](https://www.ttnews.com/articles/daimler-bosch-cruise-robotaxi-era-slow-shuttles))

# Relevant Transportation Research

This section includes publications, papers, articles, and conferences that investigate and/ordiscuss transportation and travel demand impacts of MaaS or other “future travel” considerations.Portions of the abstract or description (not my words) are included under each title for more information.