



Best of Automotive, Autonomous, ADAS & More #CES2020 @CTATech

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(<https://cdn.autoconnectedcar.com/wp-content/uploads/2019/12/CES2020.jpg>) CES (<https://www.autoconnectedcar.com/ces/>) is coming January 7 in 2020, the entire event could be overwhelming—unless you read our best of list of all the automotive events, announcement and displays to see and do. The only way we've found to figure out what to do is list out the companies in alphabetical order after the keynote announcements.

Please check back to this URL for daily updates—the holidays are approaching therefore we doubt there will more—but there are always last minute details.

Another important fact you should know is that AUTO Connected Car (<https://www.autoconnectedcar.com/definition-of-connected-car-what-is-the-connected-car-defined/>) news will be announcing the nominees for the Tech CARS awards with some surprises and hot technology.

Keynotes

Daimler's Ola Källenius will present a concept car inspired by one of the most innovative entertainment brands, envisioning a completely new form of interaction between humans, technology and nature.

U.S. Secretary of Transportation Elaine L. Chao will deliver a keynote address at the upcoming 2020, on Wednesday, Jan. 8 at 11:30 AM in the Las Vegas Convention Center room N257 in Las Vegas, NV.

She will discuss the current state of innovation and recent DOT initiatives to support the safe integration of new technologies into our country's transportation systems.

Media Day News Press Conferences

- BYTON is expected to show its latest car ready for the road.
- Bosch- Michael Bolle, will make a call to action at CES about how the technology industry can better communicate about AI, but also get into how Bosch views the ethics of this technology. Ultimately, Bosch will be showcasing how humans benefit from AI and AI benefits from humans.
- Continental Automotive is expected to reveal Holistic-machine interaction for both in and outside autonomous vehicles. A new sensor uses airborne and structure-born sound to detect scratches and damage, and can even differentiate between different types of contact. The "transparent hood" function developed by Continental was awarded a CES 2020 Innovation Award
- Qualcomm has been briefing journalists for weeks about their latest technology that will be automotive and connected car related.
- Toyota's news release suggests a layout its future mobility plans.
- Hyundai Motor Company—see below.

Women's Forum

Women make up half of the total U.S. college-educated workforce, yet represent only 28% of the science and engineering workforce and hold only about a quarter of the jobs in automotive manufacturing.

To connect talented women and men within the automotive and other tech-reliant industries, Ford Motor Co., EY and DENSO will host the Women of Inforum@CES event at the 2020 show to showcase and support the work of Inforum, a nonprofit dedicated to accelerating the careers of women and building talent initiatives at companies. The reception will be Wednesday, January 8, 2020, 4-6 p.m. PST, at the Ford Exhibit in the North Hall of the Las Vegas Convention Center.

AEye

AEye announced it has integrated Infineon's AURIX™ TC35xx microcontroller into AEye's iDAR™ platform to ensure a robust, software-definable platform that is functionally safe for automated and autonomous vehicle initiatives. The companies will showcase the sensor fusion at the Infineon Westgate Pavilion booth #1700 and AEye booth #7538 in LVCC North Hall at CES, January 7-10, 2020.

iDAR (Intelligent Detection and Ranging) is a groundbreaking 2D/3D in-sensor perception system, which combines software extensibility, artificial intelligence and smart, agile sensors to deliver better information faster to self-driving vehicles. AURIX is a 32-bit Infineon microcontroller designed to deliver performance and safety to the automotive industry.

ANSYS

ANSYS will showcase comprehensive simulation solutions that are accelerating the coming mobility revolution during CES 2020. ANSYS will showcase offerings that are shaping the transformation of connected, autonomous, shared and electric transportation.

From start-ups to industry giants like BMW and Volkswagen Motorsport, customers rely on ANSYS' industry-leading simulation solutions to advance product development and bring their safe and reliable products to market faster. During CES, ANSYS' booth will feature the record-shattering Volkswagen Motorsport ID.R electric race car along with autonomous, electrified and connected robots, an interactive kinetic display, interactive touch-screen demo stations and more.

Beyond the booth, ANSYS' Mobility Tour will provide attendees with interactive glimpses into the ongoing collaborations that are shaping emerging innovations in autonomy, 5G and electrification. Highlights from the ANSYS booth and Mobility Tour include:

- **BMW:** Insight into ANSYS and BMW's collaboration involving ANSYS Autonomy. *LVCC – ANSYS Booth 3310 and BMW Booth Silver 3*
- **FLIR Systems:** Demonstration of ANSYS Autonomy with a physics-based thermal camera model enabling the validation of automotive systems. *LVCC ANSYS Booth 3310 and FLIR Systems Booth 8528*
- **Edge Case Research** – Demonstration of ANSYS SCADE Vison powered by Hologram for edge case detection in AV perception systems as part of a highway driving autonomous closed-loop demonstration. *LVCC – ANSYS Booth 3310*
- **NXP Semiconductors:** Live demonstration showcasing ANSYS Autonomy running on the NXP BlueBox for simulating virtual miles driven, and high-fidelity physics closed-loop, open-loop, SiL & HiL simulations. *LVCC – ANSYS Booth 3310*
- **BlackBerry Limited (QNX):** Demonstration of a lane departure warning system that features the digital safety workflow provided to validate the advanced driver-assistance systems features in closed-loop simulation. *LVCC – QNX Booth 7515*
- **AEye:** Demonstration of AEye iDAR technology using the VRXPRIENCE and SPEOS elements of ANSYS Autonomy that showcases hazard detection in a virtual world. *LVCC – ANSYS Booth 3310 and AEye Booth 7538*
- **Embotech:** Motion planning demonstration combining GPS information with sensor information for predictive path planning. *LVCC – ANSYS Booth 3310 and Westgate Booth 1228*

Ambarella

Ambarella, Inc.'s AI vision silicon company, will demonstrate advanced ADAS (<https://www.autoconnectedcar.com/adas-advanced-driver-assistance-systems-definition-auto-connected-car/>) and AD applications based on Ambarella's CVflow® SoC family at a private event during CES 2020 in Las Vegas.

Key third-party demonstrations include:

- Mercedes-Benz will demonstrate its CV2-based Cargo Recognition and Organization System (CoROS):
- ADAS software supplier HELLA Aglaia will feature its latest suite of deep learning ADAS algorithms including multi-class object detection, detection of driving area limitations, depth estimation, and classification of traffic lights and traffic signals
- Korea-based StradVision will demonstrate its suite of front ADAS and driver monitoring system (DMS) algorithms running on a single CV22..
- Israel-based EyeSight's driver monitoring solution (DMS) will be shown on a system with three cameras.
- Israel-based Brodmann 17's ADAS solutions suite will showcase the company's deep learning algorithms which include vehicle detection, distance estimation, and real-time forward collision warning running on a CV22 SoC.

Other live demonstrations will include camera-based electronic mirrors with blind spot detection (BSD) and intelligent around view monitoring (AVM).

AGL

Automotive Grade Linux (AGL), a cross-industry effort developing an open source platform for all connected car technologies, will be at CES 2020 demonstrating open source infotainment and instrument cluster applications along with 20+ connected car demonstrations developed by AGL members.

The AGL Booth in the Westgate Hotel Pavilion #1815 will feature a 2020 Toyota RAV4 with an AGL-based multimedia system that is currently in production, a 2020 Mazda CX-30 showcasing a proof of concept (POC) demo using new AGL reference hardware, and automotive technology demonstrations by: AISIN AW, DENSO, DENSO TEN, Igalia, IoT.bzh, LG Electronics, Mazda, Microchip, NTT DATA MSE, OpenSynergy, Panasonic, Renesas, SafeRide Technologies, Suzuki, SYSGO, Tuxera and VNC Automotive. The booth will be open to the public during CES show hours from January 7-10, 2020.

BlackBerry:

BlackBerry Limited announced it will showcase the latest in next-generation security and transportation solutions at CES 2020. Mapping to BlackBerry's vision of securing a connected future, the company's presence at this year's conference will center on industry leading AI-driven security innovations, and the role disruptive technologies play in the evolution of smart auto and transportation.

2019 was a landmark year for BlackBerry, with the integration of BlackBerry Cylance and the launch of BlackBerry Intelligent Security and BlackBerry Labs. Powered with advanced machine learning and artificial intelligence capabilities, BlackBerry is building these technologies into its full suite of products for the IoT, guaranteeing companies and users across the globe have access to the intelligent security solutions needed to stay safe and secure in our hyperconnected world.

Blaize GSP

Blaiz™ will demo its Blaize Graph Streaming Processor™ (GSP™) architecture at CES 2020. A next-generation computing architecture designed for AI workloads, the Blaize offering tackles the economic and technical barriers to widespread AI adoption, addressing energy, cost and complexity challenges.

At CES, Blaize will showcase a range of existing and new AI use cases in the automotive and smart vision segments where the company has been engaged with early access customers for the past 12 months.

Featured Demos with Blaize Ecosystem

The Blaize booth will feature demonstrations by Blaize, partners, and customers that showcase applications using Blaize GSP architecture to overcome AI processing cost, size and efficiency barriers and provide competitive advantage.

Presentations and demonstrations at the Blaize booth will include:

- *Automotive* use cases including AI-powered cabin monitoring, advanced driver-assist, object detection, sensor fusion, and more.
- *Smart vision* use cases including robot/machine vision, multi-object detection, 3-D stereo camera vision, behavioral analysis, and more.

BMW Free Rides in BMW i3 Urban Suite

The BMW Group will be presenting its visionary approaches to creating the mobility experience of the future at CES.

The BMW Group stand showcases this change in perspective, while experiences and practical demonstrations anchor it in reality for the visitors from all over the world.

A highlight of this year's CES: the BMW i3 Urban Suite.

For seven years, the BMW i3 has played the role of iconic ambassador for electric driving pleasure, sustainability and intelligent connectivity in urban areas. These qualities have helped to make it the world's best-selling electric car in the premium compact segment.

In preparation for the CES, a fleet of standard BMW i3 cars were converted into Urban Suites in Munich then brought to Las Vegas, where they can also be seen gracing the city's streets. Indeed, anyone wishing to be chauffeur-driven to their desired destination can use a special app to order one of the BMW i3 Urban Suites.

The car will offer its passenger a first-hand experience of the BMW Group's innovative and sustainable mobility concept, while clearly demonstrating that luxury travel in the future will have nothing to do with vehicle size.

The BMW i3 Urban Suite is just one of the highlights of the BMW Group stand at CES 2020 in Las Vegas. Comprehensive information on all elements of the vehicle will be available when the show opens on 7 January.

Bosch

Bosch is presenting connected products for mobility and the home. Among the highlights at the trade fair are solutions that either make use of artificial intelligence (AI) or that were developed or manufactured with its help. The international supplier of technology and services wants to make AI safe, robust, and explainable, whether in manufacturing, smart homes, or automated driving.

Based on eyelid movements, direction of gaze, and sitting position, this Bosch vehicle interior monitoring system detects when the driver is drowsy or looks at a smartphone – and alerts the driver to critical situations. It also monitors the vehicle interior to determine how many occupants are present and where they are seated. It automatically activates stored personal settings such as seat position. In the future, when vehicles are in partially automated driving mode for sections of the journey such as on the freeway, the driver monitoring system will become an indispensable partner: the camera will ensure that the driver can safely take the wheel again at any time.

Bosch Multimedia division also received the coveted Best of Innovation award. Details will be provided when the show starts. Both innovations were also designated Honorees in one additional category. The third Honoree will also be announced at the start of the show. It concerns a Bosch solution from the healthcare sphere.

Bertrandt HARRI

The international engineering partner Bertrandt will be displaying its technologies at the CES in Las Vegas for the first time. At the show, Bertrandt will also be celebrating the world premiere of its HARRI innovation platform for autonomous, electric and connected vehicles, which it has developed entirely in-house. With this showpiece, Bertrandt looks to demonstrate its technological expertise along the entire value chain of future mobility concepts.

The HARRI platform highlights Bertrandt's combined application of current industry mega-trends such as digitization, autonomous driving, connectivity, and electric mobility in a vehicle. In addition to addressing the automotive sector, Bertrandt also offers possible solutions for municipal infrastructure, logistics companies, and passenger transportation.

Bridgestone

Bridgestone Corporation (Bridgestone), the world's largest tire and rubber company, announced it will make its first-ever appearance at the annual Consumer Electronics Show (CES) in Las Vegas, Jan. 7-10, 2020. As part of its interactive showcase, the company will spotlight a number of mobility solutions that enable an autonomous future with a focus on extended mobility, improved safety and increased efficiency.

- Bridgestone Airless Tires for Extended Mobility.
- Proactive Smart Tire Technology for Improved Safety.
- Webfleet Solutions for Increased Efficiency.

Las Vegas Convention Center (LVCC), North Hall, Booth 4619.

Daimler

The Mercedes-Benz show stand invites visitors into a world of forward-looking mobility. Visitors will be able to experience the highlights of the product and technology brand EQ – the all-electric EQC 400 4MATIC (combined power consumption: 20.8-19.7 kWh/100 km; combined CO₂ emissions: 0 g/km)*, the Vision EQS and also the new, futuristic concept vehicle. The 2020 show stand will give visitors the opportunity to dive into an adventure world, underscoring the consistent enhancement of the Mercedes-Benz trade show concept. The focal point comprises the brand world as well as its products, services and innovations.

Fisker Ocean Waves Hit the Vegas Shore

Fisker Inc. – designer and manufacturer of the world's most emotion-stirring, eco-friendly electric vehicles and advanced mobility solutions – is announcing that the Fisker Ocean all-electric luxury SUV will make its public debut at Consumer Electronics Show 2020 in Las Vegas. On the heels of the latest news surrounding the world's most sustainable vehicle and reservations opening worldwide, Fisker is also revealing its unique partnership with Electrify America, the largest, open DC Fast charging network for EVs in the United States. Drivers will enjoy a frictionless charging experience and more than 200 miles of range from 30 minutes of charging. The two companies are also working together on further reducing charge times without compromising battery life.

Foresight

Foresight Autonomous Holdings Ltd. an innovator in automotive vision, announced today that its wholly owned subsidiary, Eye-Net Mobile Ltd., will present the software development kit (SDK) configuration of its Eye-Net Protect accident prevention solution for the first time at CES 2020, January 7–10, in booth #1307 at the Westgate Las Vegas.

Eye-Net Protect is a cellular-based vehicle-to-everything (V2X) accident prevention solution designed to protect the most vulnerable road users in real time—including pedestrians, cyclists, scooter drivers and car drivers—by providing collision alerts when the road users have no direct line of sight. An SDK configuration indicates commercial engagement readiness and will allow Eye-Net Mobile to integrate its solution with leading location-based applications, such as navigation, ridesharing, parking and fitness applications.

The Company will also reveal its new Eye-Net Protect driving simulator, giving CES visitors an exciting driver-seat experience of protected driving using the V2X system.

Honda

Honda's exhibit at CES 2020 will feature global debuts of concepts that integrate connected, autonomous, shared, and electric (CASE) technologies into new mobility products and services. The exhibit will also showcase Honda Xcelerator's Industrial Innovation Pavilion and highlight the company's continued evolution of Safe Swarm, the V2X connected safety system currently testing on U.S. Route 33 in Ohio. CES attendees can experience demonstrations and simulations of technology concepts at Honda's booth #7900 in the North Hall of the Las Vegas Convention Center, January 7-10, 2020.

Honda's Augmented Driving Concept features a seamless transition from autonomous to semi-autonomous driving operation. TCES attendees can experience a simulated demonstration of the Augmented Driving Concept.

Honda will preview a mobility ecosystem forecast for the year 2035 and beyond with fully autonomous vehicles, shared autonomous mobility, and an aerial mobility infrastructure. In the Future Honda Mobility VR demonstration, CES attendees can experience a journey through the urban future with a V2X system safely navigating the drive, encounter an Autonomous Shared Mobility Pod, and take flight in a personal vertical takeoff & landing (VTOL) vehicle.

Honda Xcelerator, a global open innovation program from Honda Innovations, will debut collaborations at CES 2020 with startups focused on augmenting human capabilities and devices that enhance workplace ergonomics for the manufacturing environment. Honda Xcelerator also will showcase soon-to-be commercialized technologies based on successful collaborations with Drivemode, a startup that develops and operates smartphone-based connected services, and SoundHound Inc., the leading innovator in voice-enabled AI and conversational intelligence technologies.

Honda will show advancements in the following technology prototypes as the company works toward real-world applications and commercialization.

Honda is creating convenient renewable energy solutions that will be on display in its Energy Management Concept. The exhibit demonstrates Honda's vision for when people have 24/7 access to renewable energy that can be used anytime and anywhere with complete confidence.

The company has been developing the Honda Mobile Power Pack, a portable, swappable, rechargeable battery that has an output of 1kWh or more. When multiple Honda Mobile Power Packs are used simultaneously, they can power electric motorcycles, small-sized electric mobility products, and even become a stable supply of electricity in people's homes.

Honda has been preparing infrastructure for the connected autonomous future and will show the progress of its Honda SAFE SWARM® and "Smart Intersection" prototype safety system. Using V2X technology, Honda SAFE SWARM® allows vehicles to communicate with surrounding vehicles and share key information such as location and speed. With this information, along with the sensor suite on the vehicle, the driver or automated vehicle systems can determine the safest course of action to prevent collisions and reduce traffic congestion. Over the past year, Honda has been evaluating SAFE SWARM® in a real-world environment on the 33 Smart Mobility Corridor near the Honda R&D center in Ohio, and will show its progress in developing merge assist and lane optimization technologies.

Additionally, Honda will show a red light runner detection scenario of its "Smart Intersection" technology, which is currently being tested in a real-world environment in Marysville, Ohio.

Hyundai Mobis

Hyundai Mobis (KRX:012330) will participate in CES, will showcase the evolution of future mobility technology. The world of new mobility, which has compressed the core technologies of Hyundai Mobis, i.e. autonomous driving, connectivity and electrification, will unfold before the audience.

It will display new technologies, such as M.Vision S, the autonomous driving-based mobility concept for urban sharing, and the hydrogen fuel cell system, at CES, the world's greatest tradeshow for consumer technology, which will be held at the Las Vegas Convention Center, the US for four days starting on January 7, 2020.

People visiting the Hyundai Mobis booth are expected to see the world of the new concept of mobility, which combines autonomous driving with connectivity and the hydrogen fuel cell system.

Hyundai Motor Co.

Hyundai Motor will take the stage at CES 2020 to present its vision for mobility and cities of the future.

Hyundai will unveil its first concept Personal Air Vehicle (PAV) as part of the Urban Air Mobility (UAM) landscape. The use of airspace is expected to alleviate road congestion and give back quality time to city commuters.

Hyundai's vision continues with its Purpose Built Vehicle (PBV). This highly customizable concept with autonomous driving feature allows for limitless possibilities to turn the vehicle to be more than just a means of transportation.

These two smart mobility devices will come together at the Hub, which will be located throughout cities in the future and used as community spaces.

Intel

This year, Intel's CES news conference will feature Intel CEO Bob Swan, Client Computing Group Executive Vice President Gregory Bryant and Data Platforms Group Executive Vice President Navin Shenoy, along with several special guests. During an action-packed 45 minutes, Intel will highlight how it is infusing intelligence across the cloud, the network, the edge and everything in between – opening a world of opportunity and innovation for customers and partners.

North Hall #7506

There will be a up-close look at how Mobileye's technology will impact people and society. A purpose-built see-through car, along with hands-on demonstrations, an up-close look at production ADAS from Mobileye's ecosystem, spotlights and plenty of video explainers.

Karamba Hacking

Karamba Security will unveil at CES 2020 a portfolio of products and services that enables vendors to seamlessly protect their connected devices. The portfolio covers the entire device lifecycle, from design to post-production. The portfolio does not require changes to R&D processes and has a feather-light footprint on the device itself, in order to not derail the device performance.

Karamba Security will present this portfolio of security solutions at CES 2020, North Hall, Booth #5931, January 7-10, in Las Vegas. Joining Karamba's portfolio of runtime integrity in production, the new product suite will arm manufacturers with the security validation they need to ensure that their connected devices are secured during the design development phase. Another part of the offering will communicate with the cloud and will continuously detect threat indicators. This intelligence alerts the security operations center of suspicious behavior on the device and fleet level

Nissan Free Ice Cream

Nissan's vision for the future of mobility will come to life at CES 2020 through a series of immersive and spirited exhibits – ranging from the zero-emission Nissan Ariya Concept to an electric ice cream van and a golf ball that always finds the cup.

Guests will be able to experience omotenashi – true Japanese hospitality – during their stay at the Nissan booth. The booth features exhibits that engage all five senses and show how advanced vehicle technologies can power and add excitement to everyday life. Highlights will include:

- The Nissan Ariya Concept, bringing together advanced technologies on an all-new EV platform, is making its North American debut at the Las Vegas trade show. The zero-emission crossover embodies the Nissan Intelligent Mobility, representing an expansive lineup of technologies and services that promise customers an innovative, future-thinking driving and ownership experience.
- Frosty treats dispensed by Nissan's zero-emission ice cream van
- A golf ball inspired by Nissan's ProPILOT 2.0 advanced driver assistance technology, which guarantees you'll sink your putt each time
- Selfies taken at the speed of Nissan's Formula E race car
- Acoustic meta-materials that ensure a quiet cabin and a serene ride
- Displays of Nissan's new Formula E and the Nissan LEAF e+ electric vehicles

On Semi

Venetian 3302, ON Semiconductor driving energy efficient innovations, will showcase a wide range of innovative technologies for smart homes, connected buildings and personal IoT at CES 2020.

Recognized as a leading provider of detectors for LiDAR, the company will demonstrate the industry's first, high-resolution, wide field-of-view (FoV) Single Photon avalanche diode (SPAD) array family designed for short-, mid- and long-range LiDAR applications.

SPAD arrays are low-light photon detectors that produce simultaneous monochromatic images and depth maps of a scene, making them ideal for time-of-flight (ToF) applications. Low density versions of the technology have been used in consumer applications, but these devices do not work beyond 2 meters and are not reliable enough in bright lighting conditions. The new devices are far more flexible and can be used with a variety of scene illumination architectures for ToF including scanning and flash. An evaluation kit featuring the new technology will be showcased during CES 2020.

Completing the comprehensive line-up of automotive imaging technology will be a number of other demonstrations. These will include an 8.3MP advanced driver assistance system (ADAS) automotive image sensor performing in low light and foggy environments in RGB and NIR+ modes, and a 12MP image sensor for driver and occupant monitoring that is intended to address the needs of the emerging robot taxi market. A tabletop racetrack will demonstrate the global and rolling shutter performance of the sensor in an HDR setting.

NXP & SafeRide

SafeRide™ Technologies, the first company to offer a multi-layer and holistic anomaly detection and threat prevention solution, and NXP® Semiconductors today announced the integration of **vSentry™ Edge AI** – an embedded behavioral profiling and anomaly detection solution for connected vehicles with the NXP vehicle network processors.

Based on SafeRide's vXRay™ AI technology, and combined with the NXP vehicle network processors, vSentry Edge AI delivers real-time advanced vehicle health monitoring capabilities and provides valuable insights for OEMs on cybersecurity, predictive maintenance and vehicle performance.

PreAct's first-of-its-kind technology is using extremely high-speed sensors and processors to monitor a very close area around a vehicle. Within this zone, the system identifies, classifies, and reacts to threats in milliseconds. The goal is to prepare a vehicle and occupant for an imminent crash, prior to it occurring. With PreAct's unique ability to determine a collision, with certainty, up to 250 milliseconds prior to it happening, the company envisions being able to take a number of steps to protect a vehicle's occupants. In the quarter-second timeframe before a crash, it would be possible to cinch seat belts, deploy newly designed slower inflating airbags, deploy external airbags, and more. While a quarter second doesn't sound like much time, current safety systems don't engage until after a collision has already begun to occur. And because of this after-the-fact timeline, current airbags must be deployed with explosive force, in order to be fully inflated in time to catch an occupant.

PreAct Gets into ADAS Safety Act

PreAct Technologies will be demoing in South Hall, #MP26064. PreAct's first-of-its-kind technology is using extremely high-speed sensors and processors to monitor a very close area around a vehicle. Within this zone, the system identifies, classifies, and reacts to threats in milliseconds. The goal is to prepare a vehicle and occupant for an imminent crash, prior to it occurring. With PreAct's unique ability to determine a collision, with certainty, up to 250 milliseconds prior to it happening, the company envisions being able to take a number of steps to protect a vehicle's occupants. In the quarter-second timeframe before a crash, it would be possible to cinch seat belts, deploy newly designed slower inflating airbags, deploy external airbags, and more. While a quarter second doesn't sound like much time, current safety systems don't engage until after a collision has already begun to occur. And because of this after-the-fact timeline, current airbags must be deployed with explosive force, in order to be fully inflated in time to catch an occupant.

Raven

Raven Connected announce that Raven+, its newest product, will be unveiled for the first time at the Consumer Electronics Show (CES) in January 2020. This latest product from the connected video telematics company features major advances in driver and vehicle safety, perfect for individuals or fleets.

Based on Raven, the company's original all-in-one connected vehicle system for consumers and businesses, Raven+ features a sleek, new hardware design with a bigger screen, driver assistant displays, and an innovative thermal mitigation design that allows the device to operate in even the hottest environments.

Raven+ leverages the GPU on the Qualcomm® Vision Intelligence Platform based on the Qualcomm® APQ8056 chip and Qualcomm® AI Engine to provide improved power efficiency and AI performance. Raven+ cameras incorporate Mapbox's Vision SDK to perform road-facing AI and simultaneously detect and encode roadway events. The Vision SDK detects impending collisions, tailgating, stop sign roll-throughs, and speed signs in real-time, relaying the information instantly to drivers and passengers, while documenting the roadway data for fleet managers and operators.

Rinspeed Transport Concept

Together with Ibeo Automotive and other partners, Swiss ideas factory Rinspeed will present a simple, fast, safe, and cost-efficient transport concept at the Consumer Electronics Show (CES) 2020 – the Rinspeed MetroSnap. Hamburg LiDAR specialist Ibeo controls the eyes and brain for autonomous driving. Using the solid-state LiDAR sensor ibeoNEXT and the associated localization system, the MetroSnap is also capable of capturing complex situations in city centers with a wide variety of road users. The vehicle features flexible use of different structures, and fulfills different transport demands for people and goods, depending on the time of day and current requirements.

The “4D solid-state” LiDAR sensors from Ibeo are the eyes of the Rinspeed MetroSnap. They enable a 360° field of vision for reliable capturing of the static and dynamic environment around the vehicle platform in 4D resolution. This makes the MetroSnap capable of grasping complex situations in city centers involving a wide variety of road users such as cyclists and pedestrians. The Rinspeed MetroSnap is a Stage 5 autonomous vehicle – that is, a human driver is no longer required.

The MetroSnap uses a localization approach from Ibeo that is more precise than regular GPS localization. The system also uses a digital map with landmarks that are utilized by LiDAR sensors for geopositioning. This means that the environment captured by the LiDAR sensors is continuously being compared with the landmarks on the map to determine the exact position of the vehicle. North Hall at **Stand #3738**, where they will present an exclusive live demo of their new LiDAR sensor. You can find the Rinspeed MetroSnap in the North Hall at **Stand #8516**.

SiLC & Varroc.

SiLC Technologies, Inc., (SiLC), the leading provider of integrated single-chip FMCW LiDAR solutions, and [Varroc Lighting Systems](#), a leading global supplier of innovative exterior vehicle lighting systems and electronics, announced they will demonstrate a seamless LiDAR integration into a production automotive headlamp at CES 2020.

The Varroc Lighting Systems headlamp is based on a sophisticated production LED design and leverages four of SiLC's silicon photonics FMCW vision chips providing a full 20 x 80-degree field of view (FOV) per headlamp.//

The demonstrations will take place at SiLC's Westgate Hotel penthouse suite from Tuesday, January 7 through Friday, January 10.

SVNET from StradVision with Ambarella

SVNet software from StradVision, an innovator in deep learning-based vision processing for AVs, will be used in an Ambarella ADAS and DMS demonstration vehicle. Ambarella's processors and software enable cameras to become more intelligent by extracting valuable data from high-resolution video streams.

During CES, a fully-optimized SVNet will be ported on Ambarella's CV22 system on chip (SoC), an example of the flexible nature of the StradVision software, as well as Ambarella's ability to accommodate sophisticated deep learning-based algorithms to execute complex functions necessary to operate AVs.

Toyoda

This will be the first time Toyoda Gosei has exhibited at CES.

The company will show a novel material it has developed called e-Rubber, a next-generation rubber that moves with electricity. e-Rubber can function both as a soft, flexible and sensitive sensor and as an actuator capable of gentle, human-like movements. Its use in haptics devices can provide a more realistic experience by adding the sense of touch to images (sight) and sound (hearing) in augmented reality (AR), which is expected to grow in use with the spread of 5G wireless technology.

In the automotive field, Toyoda Gosei's next-generation steering wheels and airbags for autonomous driving cars can be seen in the near-future interior model MX191 exhibited at the booth of Toyota Boshoku Corporation.

Toyota will be at CES to provide additional information pertaining to its new mobility ecosystem strategy. The company's press conference will be on January 6, 2020 at 1:00pm PST, to be live-streamed on Vimeo, in the Mandalay conference center, Oceanside A. From January 7-10, Toyota will have a display booth (#6919) in the North Hall of the Las Vegas Convention Center. Visitors attending the booth will experience a visual depiction of Toyota's ecosystem plans along with mobility products including, e-Palette, micro-Palette, LQ and Walking Area BEVs.

Also included in the booth will be two innovation areas:

- Toyota AI Ventures, Toyota's US based venture capital firm, will feature several portfolio companies along with an overview of its investment direction.
- Toyota IP Solutions, Toyota's newly formed patent team will provide information about the benefits of licensing the impressive IP from Toyota's accomplished R&D efforts.

UVeye

Israel's UVEye plans to unveil an industry leading vehicle-inspection system based on deep-learning technology that can identify even the smallest exterior defects on any vehicle within seconds.

The company's Atlas 360-degree quality-control system will be shown for the first time in North America at CES 2020 in Las Vegas next month.

The UVEye system uses multiple high-resolution cameras to capture exterior assembly defects, post-production damage, missing components and other quality-related issues. Atlas generates thousands of images per second at multiple angles to detect scratches or dents as small as two millimeters in diameter.

Valens

Valens, the leader in ultra-high-speed in-vehicle connectivity, announced that the company has been certified per ISO 26262 ASIL-B requirements for functional safety in automotive semiconductors. SGS-TÜV Saar GmbH, leader in the fields of testing, verification and certification, conducted the in-depth process that sanctioned and endorsed the company's functional safety systems and processes.

Valens is currently in the process of certifying its upcoming chipset, the VA6080. The Valens' VA6080 is designed to deliver resilient, ultra-high-speed in-vehicle connectivity for a range of applications. VA6080 brings a configurable physical layer (PHY), supporting PCIe Gen3, Gig Ethernet, audio and controls over UTP (unshielded twisted pair) infrastructure. It is optimized for multi-modem connectivity, shared remote storage and zonal architecture use cases.

(LVCC, North Hall, Booth 9005) .

Velodyne Lidar

Velodyne Lidar, Inc. will introduce and demonstrate its groundbreaking new lidar sensor technology at CES 2020 in the Las Vegas Convention Center North Hall – booth #7520. Velodyne will highlight its lidar technology that enables high-level Advanced Driver Assistance Systems (ADAS) for safe navigation and collision avoidance, all within compact form factors.

Velodyne will host an in-booth press conference to announce a breakthrough lidar sensor that sets a new industry benchmark for size, versatility and affordability, exciting new ADAS software, partnerships and customer relationships on Tuesday, January 7, at 11:00 a.m. PST.

Velodyne will demonstrate how its lidar sensors and Vella™ software can be applied to create powerful ADAS solutions with improved safety, including pedestrian and bicyclist avoidance, lane keeping assist, automatic emergency braking and more. Employing lidar, along with a few inexpensive cameras for redundancy, is a revolutionary approach to safety, allowing vehicles to detect and avoid objects in a range of environmental conditions and roadway settings. To achieve safe deployment of autonomous technology, most leaders agree redundant systems with both lidar and cameras are a must.

Veoneer

At CES 2020, Veoneer, will reveal how it believes daily driving in the future will change, showcasing a range of new driver support, collaborative driving and self-driving solutions that are set to become mainstream in the coming decade.

For the first time, Veoneer will demonstrate a new product on the roads of Las Vegas, which allows drivers to simply *push a button when driving* and then *take their hands off* the steering wheel and let the car safely handle parts of the daily commute.

The vehicles at the show will be equipped with sensors, computers and software that are either available today, or just around the corner. The demonstration vehicles at CES will feature the full Zenuity system software capability which will be commercially launched in 2020. In addition, Veoneer will demonstrate the increasing importance of data for the safety and convenience of tomorrow's traffic.

The new solution runs on software developed by Zenuity, the autonomous driving and assisted driving software developer co-owned by Veoneer and Volvo Cars. "The daily struggle with traffic jams is an unfortunate fact of life. This technology will make it better. Drivers and passengers will arrive at their destinations more relaxed and better prepared for whatever the rest of the day involves," said Dennis Nobelius, CEO of Zenuity.

Some of the other core technologies that will be highlighted, displayed and demonstrated by Veoneer at CES are next generation vision cameras and radars, 5G technology in partnership with Ericsson and Ericsson Connected Vehicle Cloud to enable and enhance Veoneer solutions, driver and in-cabin monitoring, and next generation thermal imaging.

Wind River

The Wind River exhibit highlights edge compute use cases across multiple mission-critical industries, with a special focus on automotive technologies. Demonstrations will showcase work with innovators such as Honda, Hyundai Autron, Intel, Intron, NXP, Renesas, Xilinx, Airbiquity, and Baidu. Wind River will be exhibiting at booth #9029 in North Hall.

Is there anything we forgot?—please write in any announcements that we may have missed. This is probably the most comprehensive list going, please re-Tweet and like...

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2 thoughts on “Best of Automotive, Autonomous, ADAS & More #CES2020 @CTATech”

Lea CHEVRY (<http://www.tchek.eu/>) says:

January 2, 2020 at 6:32 pm (<https://www.autoconnectedcar.com/2019/12/best-of-automotive-autonomous-adas-more-ces2020-ctatech/#comment-3099>)

CES is coming January 7 in 2020, the entire event will be overwhelming. Please note that Tchek will be releasing the best of automotive inspection. We are launching a 3 step system that will revolutionize inspection in the automotive industry. A special #InnovationAward!

Reply (<https://www.autoconnectedcar.com/2019/12/best-of-automotive-autonomous-adas-more-ces2020-ctatech/?replytocom=3099#respond>)

CES Fan says:

December 28, 2019 at 12:05 pm (<https://www.autoconnectedcar.com/2019/12/best-of-automotive-autonomous-adas-more-ces2020-ctatech/#comment-3096>)

Wow thank you for this great list of CES exhibitors—it was really hard for me to figure out what automotive brands to visit—Now at least I have a start—Keep up the good work! I will check back for updates. You must have not taken a holiday break...

Reply (<https://www.autoconnectedcar.com/2019/12/best-of-automotive-autonomous-adas-more-ces2020-ctatech/?replytocom=3096#respond>)

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