DrivingVisionNews.com
Automotive lighting and driver assistance technologies

Tue, 19 January 2021 Weekly Newsletter NEWSLETTER #682

Editorial

2006-2021: 15 Years' Intense Activity At DVN

Beginning in 2006 when I left Valeo, my main concern was to create a tech watch, a news and communications hub to boost and bolster the lighting world. Ironically, I was working in the dark; I had no benchmarks, no information on competition, supplier offers, automaker needs, regulatory developments, or relevant research. I promised myself I would do something to change all that.

I didn't know how to proceed, what process to engage, so I carefully studied what existed already and what needs weren't being met, and after a year of thinking, planning, exploring, and studying, I decided to put my developed ideas into action by launching DVN. It was not easy, but with the knowledge I'd gained it was very clear what to do.

I deeply thank the automakers, lighting suppliers, and research outfits who helped me a lot both technically and financially. Now, after a decade and half, DVN is working very well, helping our members to receive all kinds of information in the weekly DVNewsletters, the DVN Reports, and the DVN Workshops, as well as the community networking and communication facilitated by the DVN website.

As is our custom, I'm happy now to present the reports we will publish in 2021. After *Lighting in Developing Countries* published last week, we will bring you a DVN Report on four months' worth of newly-launched vehicle models, which is our adaptation to the current COVID constraints preventing us visiting and reporting on traditional motor shows. That'll be followed in March-April by two wonderful reports, one on the latest evolutionary development in **ADB technology and assessment**, and the other on **Exterior decorative and ambient lighting**. In May we'll bring you a DVN Report on the Shanghai auto show combined with the Shanghai DVN Workshop, then in Taiwan we'll publish our first report on

lighting in Taiwan. Keep watching this space for information about DVN Reports to be published in the second half of the year.

This week we present several news items on CES exhibitions, starting with Koito's lighting and sensor innovations. I'm ever so glad you're with us!

Sincerely yours

In Depth Lighting Technology

CES: Koito's Future Smart Mobility Society

Koito exhibited their next generation of lighting systems, communication lamps, sensor modules, and smart street lights at the virtual CES 2021. They've accelerated their innovation initiatives through the establishment of an R&D lab in Silicon Valley, and by participation in Israeli venture capital activities. They've also been bolstering their global partnership network with strategic collaborations including with Cepton for lidar and with BrightWay Vision for all-weather camera technology.

At CES this year, Koito presented their "**Sensor-Lighting Solution**" concepts including BladeScan® ADB and lidar developments.

BladeScan ADB

For the 3rd straight year, traffic deaths in the US have exceeded 40,000 people. 60 per cent of these fatalities occur at night, and 70 per cent in cities. Improving roadway safety through exterior automotive lighting, with the goal of reducing and eliminating traffic deaths, is the mission and vision of the Koito Group.

BLADESCAN ADB INSTALLED IN THE LATEST MASS-PRODUCED LAMPS

Koito's BladeScan ADB creates a controlled, high-resolution beam pattern by shaping the light from LEDs using rotating reflectors known as blades. The light is reflected at an angle and pulsed on and off to accurately control the variable shape of the beam. BladeScan minimises the dimmed area in front of a vehicle, keeping other road users' eyes out of the glare while maximising the lit area. This increases the visibility of pedestrians relative to other ADB systems without causing glare. Koito equipped the Lexus RX (2019) and LS (2021) with BladeScan ADB, and more applications are coming.

Dual View Machine-Vision

The DVMV is Koito's advanced ADB system under development. It's being designed to deliver optimised light for both the driver and the in-vehicle cameras by minimising shaded areas of the vehicles ahead to maximize the driver’s visibility during nighttime driving and simultaneously locally dimming the light for the camera to readily detect objects such as traffic signs.

HEADLAMP CONCEPT WITH DUAL VIEW MACHINE-VISION

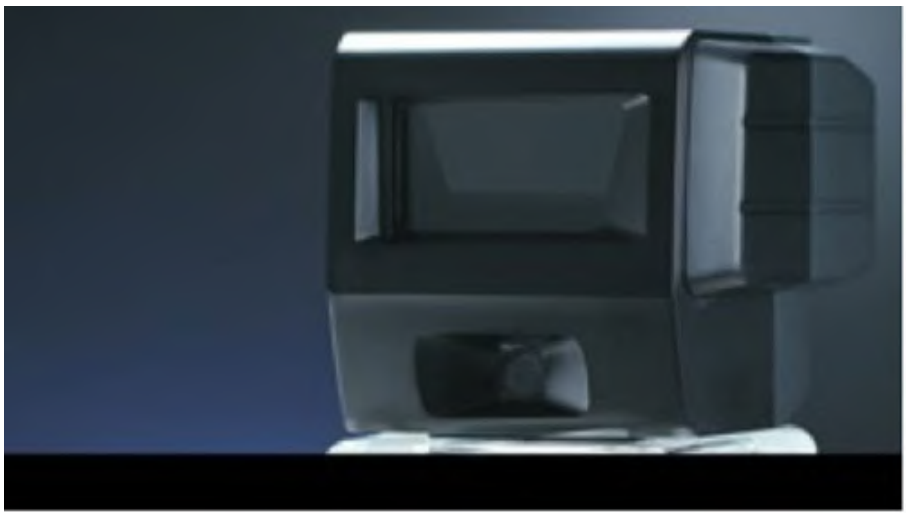
Sensor-Lighting Module

Sensors are installed inside lamps at the four corners of the vehicle, allowing for 360° monitoring of the surroundings—that's crucial for AVs of any kind. L^5 vehicles, in particular, need sensors to project light so as to communicate with pedestrians and other vehicles.

FORWARD LAMP CONCEPT WITH BUILT IN LIDAR AND CAMERA, AND SIDE ROAD PROJECTION LAMP

Smart Sensor

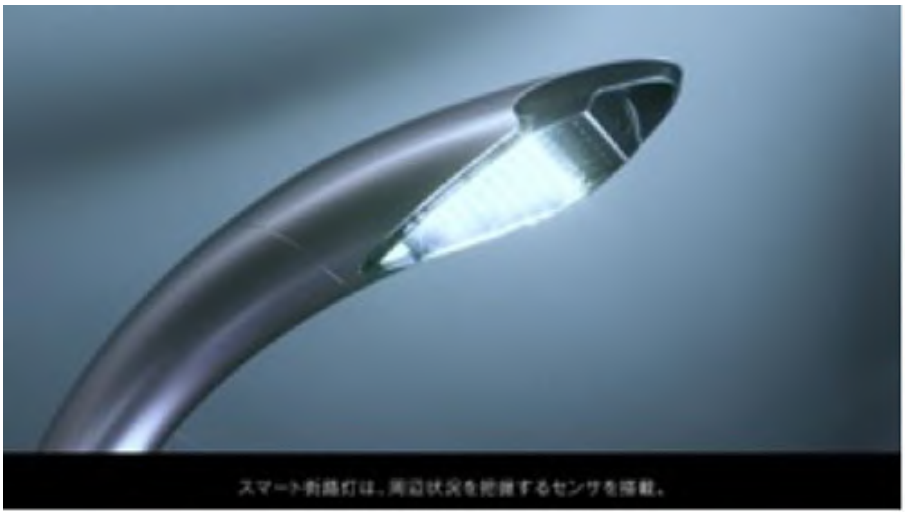
This sensor module has obstruction detection and self-cleaning functions. Since monitoring surroundings is of the utmost importance for AVs, the automated cleaning system ensures the sensor will always operate at optimal performance under any environmental conditions.



SENSOR MODULE CONCEPT THAT INTEGRATES LIDAR, A CAMERA, AND A CLEANER

Smart Street Light

Koito smart street lights support safe and reliable transportation for people and vehicles in the future mobility society with various kinds of vehicles. Street lights equipped with sensors monitor surroundings, collect information a bout the environment—traffic, hazards, etc.—and communicate or provide alerts to people and vehicles.



SMART STREET LIGHT CONCEPT WITH LIDAR, CAMERA, AND ROAD PROJECTION LAMP

Lighting News

SLD Laser's New Dual-Output White/IR Laser

LIGHTING NEWS

SLD Laser have announced their production launch of the world's first dual-output LaserLight™ source, which puts out both white and IR (infrared) light. It's targetted at automotive and consumer lighting, night vision illumination, and precision long-range sensing beyond 250 metres.

White/IR light sources are crucial for vehicle lighting, ADAS, and AV lidar 3D sensing. Such sources are also needed for consumer and professional product portable lighting products, night vision illuminators, and security applications. SLD's new source delivers high brightness white light with 1-km beam distance, while independently producing IR illumination from the same emission spot to achieve ranging out to more than 250 metres with 1 per cent accuracy. Moreover, these sources generate lidar video imagery and data when integrated with sensor chips, to enable next generation 3D imaging headlamps.

SLD's new dual-output sources deliver high brightness: safe, incoherent white light of 500 lumens with near-IR emission up to 1 W average power and 100 W peak power. The two kinds of light can be emitted either together simultaneously or independently of each other. The new technology is available in several high-volume product configurations including SLD's MicroSpot™ module, FiberLight module, and SMD components. Until now, high-speed dual emission white/IR sources have not been possible because LEDs and legacy lamp-based light sources are unable to deliver high brightness dual wavelength emission from the same point source, and they are incapable of being modulated at the high speeds required for accurate sensing and fast data rates.

SLD have expanded their white LaserLight sources with the introduction of the 1000-lumen SMD and MicroSpot, enabling low beam and high beam full field illumination, as well as off-road boost and ultra-wide angle panoramic illumination. These sources are more than 10 times brighter than LEDs, enabling safe stopping distance with precise illumination patterns and minimum glare. These LaserLight modules are ⅓ the size of LED sources, saving

critical space in the car, and providing unmatched design freedom for ultra-thin styling possibilities. The 1000-lm source has allowed SLD to extend their FiberLight source with transport and emissive fiber illumination up to 10,000 cd/m^2 for ultra-bright lighting for vehicle exterior grills, logos, and interiors. With 10 times the brightness of LEDs, these sources produce brilliant and efficient illumination from thin, affordable, modular fibre optics and a modular light source.

SLD Laser are pioneering a new generation of laser light sources for automotive, mobility, specialty lighting, and consumer applications. The company was founded in 2013 by leading global pioneers in solid-state lighting, including Dr. Shuji Nakamura, 2014 Nobel Laureate in Physics, Dr. Steve Denbaars, Dr. James Raring, and Dr. Paul Rudy.

Grupo Antolin's Latest Tech Advances

LIGHTING NEWS

At CES, Grupo Antolin showcased their cutting-edge innovations that aim to provide technology and intelligence inside the vehicle, and presented their two new virtual concept cars which capture the supplier's vision of the car interior of the future.

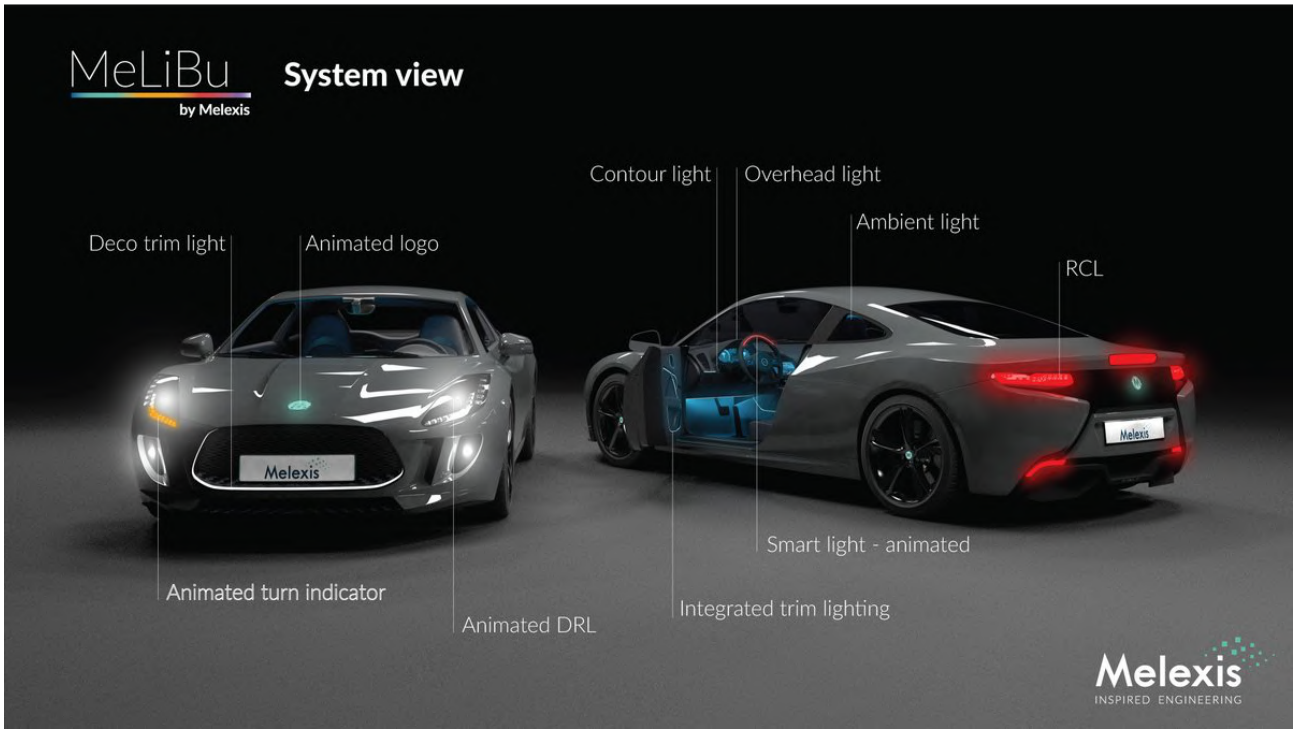
The Antolin ***Virtual Ride Hailing Concept Car*** presents the interior as a living space where people can work, relax or communicate while on the move. The car becomes a bubble of health, wellbeing, and safety for occupants thanks to advanced air purification solutions. The smart interior interacts with passengers using state-of-the-art technologies.

And Grupo Antolin's ***Virtual Ride Sharing Concept Car*** offers innovative solutions for mobility that is simultaneously electric, autonomous, shared…and healthy! This vehicle shows the company's vision of what shared mobility might look like in big cities. It has been designed to be integrated into the ecosystems of the urban areas.

Grupo Antolin also exhibited, in their virtual booth, a wide range of solutions currently demanded by the automotive interior industry: electronics for dynamic lighting, multifunctional display module integration, exterior logo light, backlit headliners with functional light, backlit trim, touch surfaces with haptic feedback, advanced lighting consoles, and systems for purifying the air in the interior.

Melexis MeLiBu Quashes Electronic Challenges in Smart Lighting

LIGHTING NEWS



To address the challenges of smart lighting, Melexis have developed the Melexis Light Bus—or MeLiBu™ for short. It combines LIN and CAN: the easily usable, extendable protocol and hardware architecture of LIN with the speed and robust communication system of CAN.

Exterior and Interior lighting are interesting for carmakers and customers like never before. There is a growing trend towards a multifunctional and increasingly complex dynamic lighting system in, on, and around new vehicles, and the capabilities of the current CAN and LIN communication protocols are reaching the end of their sufficiency. CAN is the Controller Area Network—the bus that allows components in an automobile to talk to each other seamlessly. LIN is the Local Interconnect Network—a supplement to CAN which allows for further expansion to peripheral devices. Tomorrow's cars are likely to contain too many LEDs changing colour too rapidly and too frequently for the current CAN and LIN technologies to control efficiently.

The latest CAN protocol, CAN-FD, has sufficient bandwidth, but it is considered too expensive and too limited regarding the number of possible connected LED drivers. The communication speed and architecture of LIN makes it a feasible solution for slow animations, but not for high-speed applications.

In parallel, the number of RGB-LEDs is increasing, making system integration even more complex, especially when different colour sensitivities need to be adjusted separately. At the same time, automakers do not wish to limit such exciting new features to their high-end cars, and so are looking for high performance and broad capabilities at a low cost.

Further challenges include ensuring the necessary flexibility in the car architecture for smart lighting without reprogramming the body control module; managing safety-critical

applications; ensuring overall system EMC and ESD robustness in such a harsh environment; and fulfilling space requirements to fit smart lighting in any location within the car.

Kyocera Completes SLD Laser Buyout

LIGHTING NEWS

Kyocera Corporation have completed their purchase of SLD Laser (formally Soraa Laser Diode Inc), a world leader in commercialisation of gallium nitride (GaN)-based laser light sources. As a result, SLD Laser has now commenced operations as a Kyocera group company under the name Kyocera SLD Laser (KSLD).

KSLD will continue to pioneer the future of light by developing, manufacturing and marketing innovative laser-based products with high efficiency and luminance for mobility, specialty lighting, consumer, and industrial applications. Dr. James Raring, President and CEO of KSLD, says "We are pleased to announce the completion of the acquisition of SLD by Kyocera. Leveraging our spirit of innovation and strength as a Kyocera group company, we are dedicated to the safe and successful application of laser-based innovations for high brightness illumination and displays. Together with Kyocera, we will continue the pursuit of our Beyond Lighting™ vision to pioneer LaserLight™ products in applications such as precision sensing, high-speed LiFi communication, industrial processing, and biomedicine."

DBM's New Technical Liaison in Detroit

LIGHTING NEWS

DBM Reflex and DBM Optix have installed Mike Van Hoef as a technical liaison agent for the midwestern United States.

Mike is based in Detroit and will be available to DBM's customers for direct technical support with reflex feasibilities as well as other specialty optics needs. DBM are excited to implement this role for the first time directly in the USA.

With his 22 years in the vehicle lighting field, Mike has broad experience that will greatly benefit DBM's customers. He worked at Hella for eight years, first as design and development director and then as program manager; before that he worked for 14 years at NAL in charge of Toyota programs.

Driver Assistance News

Mobileye's AV Tech: In Consumers' Hands by '25INT

DRIVER ASSISTANCE NEWS

INTERIOR CABIN OF A MOBILEYE AV

Mobileye intend to launch new test beds this year in Tokyo, Shanghai, Paris, and potentially New York. These locations will add to the company's existing on-road efforts in Tel Aviv, Munich, and Detroit.

Mobileye's push to increase their visible activities around the world spring from their desire to demonstrate their ability to scale quickly in a fledgling industry where competitors often have concentrated on one particular city in early efforts to establish commercial footholds. It's the first step of a business strategy that starts with a robotaxi network scheduled to open in Tel Aviv in 2022, and extends into producing self-driving systems that could be ready for vehicles purchased by everyday vehicle owners as early as 2025.

Mobileye CEO Amnon Shashua says the company's in-house efforts to develop high-definition maps and, more recently, radar software and a new lidar system-on-chip, will unlock the ability to safely scale L^4 autonomous driving in four years, beyond ride-hailing networks that operate in geographically confined areas. Building high-definition maps and tailoring the behavior of self-driving systems to specific locations and driving cultures can be an arduous process. Mobileye consider their crowdsourced maps something of a secret weapon that helps them rapidly acclimate to new roads.

The self-driving vehicles used in the robotaxi fleets will use lidar sensors provided by Luminar. But for self-driving systems used in personally owned vehicles in 2025, Mobileye

have developed their own lidar system-on-chip that relies upon parent company Intel's expertise. Building their own lidar chips will mean lower costs for self-driving technology used in personally owned vehicles, which are far more price-sensitive than robotaxis; fleets can recoup the higher cost of sensors because cost is less of a concern with consumers and higher vehicle expenses are offset by the lack of a hired human driver. But in personally-owned vehicles, price matters more—and so does unlocking a wider geographical range of operation.

GreatStar OLEI's $500 Mini-Lidar

DRIVER ASSISTANCE NEWS

GreatStar OLEI, who supply advanced lidar and thermal camera sensors, along with MorpheusTEK, last week, launched the world's first industrial-quality mini-lidar available for navigation and obstacle avoidance for $500 per unit—or even lower at volume.

Until now, the material and production expenses for most mass scale robotics and industrial, commercial-grade lidars has typically accounted for over 20-30 per cent of overall costs, limiting the mass production and adoption of many advanced, sensor-based applications due to the high cost.

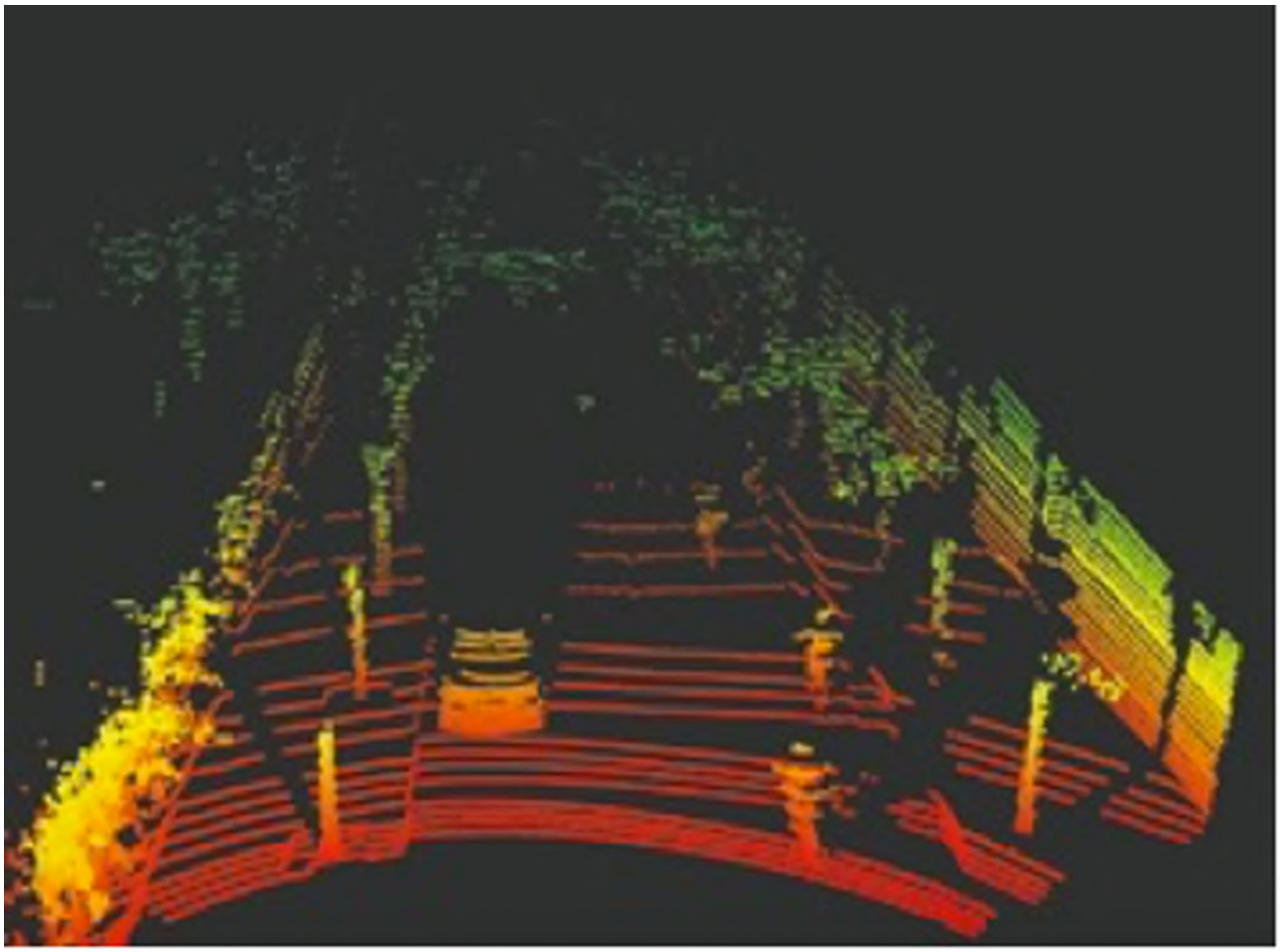
The super compact, durable and lightweight is not only one of the smallest available lidars in the industry today, but also now at the lowest price point due to the fact that OLEI, a business unit of GreatStar, are the largest laser driver purchaser and laser measurement manufacturer in the world. The buying power provides economies of scale to drive down overall production costs that are passed along to business partners and customers worldwide.

The GreatStar OLEI mini-lidar is made possible through a world-class partner supply chain collaboration of global design and component leaders, including US-designed laser drivers and motors, Japanese sensor technology, and Chinese manufacturing.

MorpheusTEK are a sales, marketing, and engineering consultancy focused on sensor solutions for the robotics industry.

Surestar's 572-Gram, 6-Watt Lidar

DRIVER ASSISTANCE NEWS



Surestar have developed semi-solid lidar and technical lidar which has been applied for autonomous driving, and aircraft obstacle detection and avoidance.

The *C-Fans* navigation lidar is a solid-state laser scanner. It is designed as an automotive grade sensor suitable for mass-production vehicles. The *C-Fans-32* weighs 572 g, with power consumption as low as 6 W.

Range is up to 210 metres with a FOV of 120° × 18.6 ° and a vertical angular resolution of 0.6°. Stability and endurance of C-Fans-32 is proven with series of environment tests including vibration, temperature, aging, electrical and electromagnetic compatibility. It is certified as a class-1 laser product and radiation safe by the US Food and Drug Administration, which has authority in that country over laser devices. C-Fans-32 has been widely applied for autonomous driving and HD mapping.

Daimler's Dazzling Door-to-Door Dashboard Display

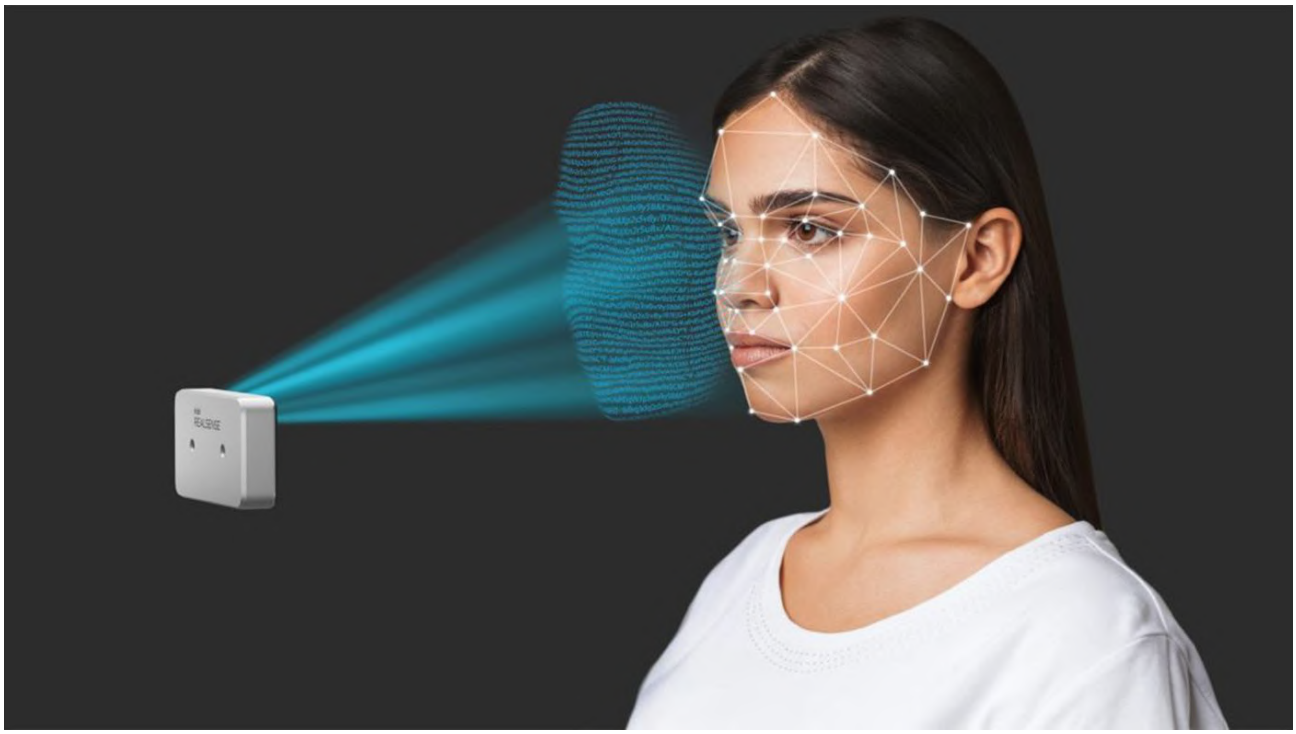
DRIVER ASSISTANCE NEWS

At CES 2021, Mercedes revealed a new ultrawide display for their MBUX infotainment system. The MBUX Hyperscreen, set for market first on the EQS BEV, is a 56-inch display consisting of three parts. The large, curved screen unit sweeps almost across the entire width from the left to the right A-pillar. With adaptive software, the display and operating concept adjusts completely to its user and makes personalised suggestions for numerous infotainment, comfort, and vehicle functions.

Thanks to what Daimler call the "zero layer," the user does not have to scroll through submenus or give voice commands, as the most important applications are offered situationally and contextually on the top level in the field of vision. While the navigation map is always visible, the AI-based controller that manages the zero-layer technology makes what it deems important—apps, vehicle functions, infotainment or climate controls—available in a way that's easy for the driver to see. The navigation system also will continuously update the driver about the road and charging situations.

Intel's Portable Facial-Recognition Device

DRIVER ASSISTANCE NEWS

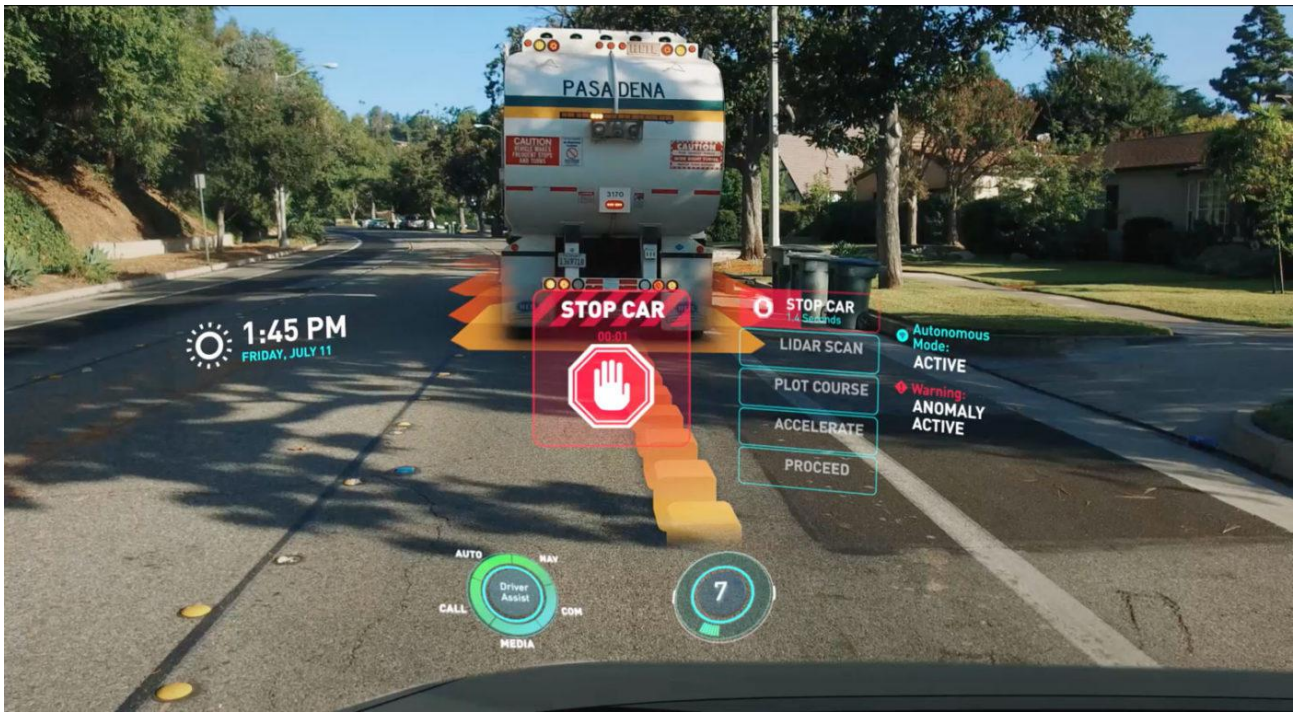


At CES 2021, Intel debuted their new RealSense ID device that uses an active depth sensor with a neural network to deliver secure, accurate, and user-aware facial authentication. Intel say the portable device can be used in finance, healthcare, and as access control for the likes of smart locks.

The RealSense ID uses a dedicated system-on-chip and embedded secure element to encrypt and process user data. With a glance, users can quickly unlock devices or sensitive information. The RealSense unit also adapts to users over time as they change physical appearance, such as by growing a beard or using glasses. It will also work in various lighting conditions and with a range of heights and complexions—an important consideration, as it has increasingly been found that imaging and recognition systems tend to do better with people who look similar to those who designed and engineered them than with people of different skin tones.

Envisics in HUD Pact with Panasonic

DRIVER ASSISTANCE NEWS



British startup Envisics have announced a partnership with Panasonic Automotive Systems. This agreement aims to help Envisics develop and produce the next generation of their AR-HUD (augmented-reality head-up display); The goal is to develop and commercialise the AR-HUD for cars.

Envisics equipment is already on 150,000 JLR cars. The startup's technology also will equip the future Cadillac Lyriq electric SUV. The technology makes it possible to display information in 3D directly on the vehicle's windshield: arrows to indicate the way to the driver or information on cultural places or shops can be directly projected onto the road.

AR display technology is more and more popular with car manufacturers and could be more widely offered on the next generations of cars aimed at mass production and no longer only on high-end vehicles. For example, Volkswagen will offer an augmented reality head-up display as standard on their ID.3 and ID.4 models.

The agreement aims to combine Panasonic's optical design expertise and global reach with Envisics technology to bring the technology to the general public; Envisics CEO Jamieson Christmas suggests other deals could follow. For the moment, relatively simple uses are deployed with this technology, such as displaying directions or highlighting the route to be followed. But as technology evolves, particularly that of autonomous driving, it is possible to imagine other uses related to entertainment or video conferencing systems.

Last October, Envisics raised USD $50m in a funding round wherein Hyundai Mobis, GM Ventures, SAIC Ventures, and Van Tuyl Companies participated.

Qamcom-Arbe Partnership for 4D Imaging Radar

DRIVER ASSISTANCE NEWS

Arbe are partnering with Qamcom to expand their 4D Imaging Radar Solution to additional vehicle applications like trucks, buses, delivery pods, and industrial robots. Qamcom will offer the customisation of the imaging radar systems based on the Arbe chipset technology that will serve the unique function of each vehicle or application, in various implementations scales.

Arbe's solution is the world's first radar to separate, track, and identify objects in 2K ultra-high resolution in both azimuth and elevation, achieved via a proprietary chipset of 48 receiving and 48 transmitting RF channels and a dedicated processor chip. By making the 4D Imaging Radar Solution available to additional vehicles and industrial applications, Arbe are complementing the company's product offering beyond ADAS and autonomous driving in the passenger vehicle realm.

Arbe's 4D Imaging Radar Solution offers advanced perception capabilities for various applications supporting a variety of use cases including off-road, indoors, high speeds, long ranges, and a wide field of view. Arbe's technology enables accurate real time inference of the vehicle's ego-velocity, and mapping and localization in unmapped areas. Processing the radar data allows obstacle detection and avoidance, tracking and classifying objects in the entire field of view and determines their motion vector. It also provides precise and accurate free space mapping to distinguish drivable from non-drivable environments in any weather, lighting, or challenging environment condition including debris and dust, which challenges optical sensors. These perception capabilities are particularly crucial to the agriculture, construction, transportation, and truck applications.

General News

Renault's New Plan Focuses on Profitability

GENERAL NEWS

The Renault Group have publicly committed to a strategy abandoning a past emphasis on market share to refocus on profitability.

The automaker exemplifies this change of direction through the unveiling of their new Renault 5 EV, seen as leading Renault's strategy to produce all-electric vehicles with twice the profitability of their existing internal-combustion products.

The strategy spelt out this week by de Meo also commits the group's brands to a shift away from traditional manufacturing and toward becoming a service provider in the areas of energy, technology/data and mobility.
The "Renaulution" plan will come in three phases:
1. Starting this year and running to 2023, the French automaker will focus on profit margins, cutting costs by about €3bn.
2. By 2025, Renault plan 24 new launches, half of them in C/D segments and at least 10 as all-electric, with the historic Alpine brand now focused on BEV production aimed at early adopters.

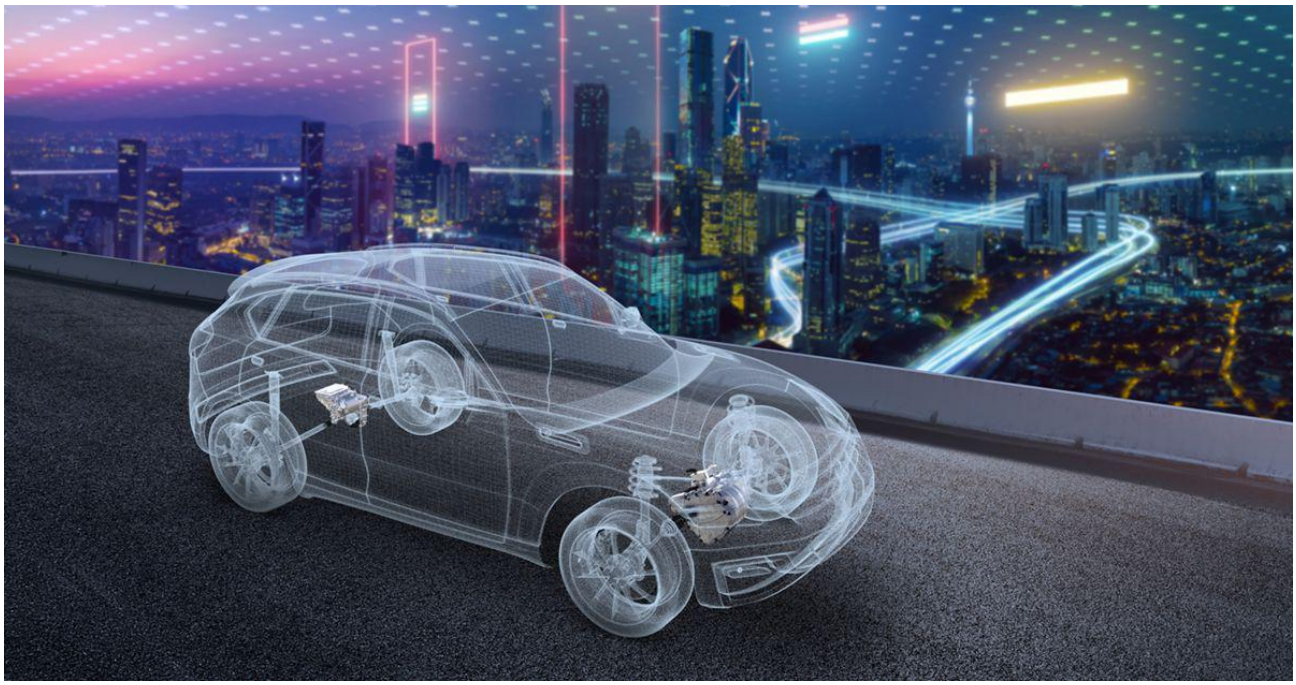
3. From 2025 Renault hope to pivot their business model toward being a technology, energy and mobility provider.

De Meo says the focus on market share was a major error: "The focus on volume may have been the right one five or ten years ago but, in the recent past, it has clearly failed, otherwise we would not be in the situation we are in today," he said. "It is like a car growing in size and weight and becoming too heavy for the size of the engine. Our breakeven point finished 15 points above where it should have been, all of this before COVID. So, we grew bigger but not better. We also grew wider, worldwide, but still not better. We targeted volume pools, not profit pools."
Renault's new reality is hoping to reflect changing consumer demands while increasing profitability per unit. Some of this will be achieved with the help of their Alliance partners Nissan and Mitsubishi, with de Meo saying rationalisation of vehicle platforms will see the automaker expecting to create 80% of passenger vehicles on just three common platforms able to handle a variety of powertrains.

With the expectation of lower sales driven by the sharing economy, Renault have established a new mobility organisation, Mobilize, which will encompass all of their brands including Dacia, Lada and Alpine. The goals are developing new profit pools from data, mobility and energy-related services with a goal of generating more than 20 per cent of group revenues by 2030.
Part of the plan involves the creation of four purpose-built vehicles: two for car-sharing, one for ride-hailing, and one for last-mile delivery.

Magna's New Deal With LG

GENERAL NEWS



A joint venture we reported on last month, tentatively called LG Magna e-Powertrain, will supply e-motors, inverters, and onboard chargers immediately to General Motors and Jaguar Land Rover.
Magna's powertrain electrification portfolio is prepared to accommodate different customers in the transition from internal combustion vehicles, CEO Swamy Kotagiri said at the company's CES press conference: "At Magna, we are well positioned to support established automakers as well as new entrants with all aspects of mobility". The LG deal furthers that strategy, said Kotagiri, who took up leadership of the company at the start of the year following the retirement of Don Walker. "By combining our strengths, we gain investment efficiency and speed to market with synergies to achieve more," he said. "There is a lot of opportunity that exists."

The JV is an example of a true innovation partnership and fits into LG's strategy to supply the auto industry, said Brian Kwon, CEO of LG Electronics: "We see the automotive business as one of the key drivers of our future business portfolio. Our aim is to be one of the industry's leading suppliers of automotive components and solutions."

BrightDrop: GM's New Commercial EV Brand

GENERAL NEWS

The brand is BrightDrop, the focus is commercial electric vehicles, the parent company is General Motors, and the first customer is FedEx, who'll take delivery of new BrightDrop delivery vans later this year. The BrightDrop brand will offer electric products, software and services, GM said last week. The model range will include a commercial van known as the EV600 and an electric pallet called the EP1, which allows delivery drivers to more easily transport goods from the vehicle to customers' doors.

"BrightDrop offers a smarter way to deliver goods and services," GM CEO Mary Barra said. "We are building on our significant expertise in electrification, mobility applications, telematics and fleet management, with a new one-stop-shop solution for commercial customers to move goods in a better, more sustainable way."

GM estimates the annual market opportunity for parcel, food delivery and reverse logistics in the U.S. will exceed $850bn by 2025.

The van, powered by GM's Ultium batteries, will be able to drive 400 km on a full charge and have 17,000 litres (600 cubic feet) of cargo space. It will be available to customers other than FedEx early next year.

BrightDrop will be led by Travis Katz, who joins the company from venture capital firm Redpoint Ventures. Initially BrightDrop will operate only in the U.S. and Canada, with sales and service going through a new dealer network.

Sony's Intriguing Sedan

GENERAL NEWS

Sony's Vision-S prototype sedan stars in **two** new **videos** released by Sony during this year's online CES. The films show the Vision-S prototype driving on a private track and public roads in Austria.

The Vision-S prototype appears to be a starting point for Sony, according to Frank Klein, president of automotive contract manufacturer Magna Steyr, one of Sony's partners on the project. Stein suggests Sony and Magna's partnership will continue, adding heft to the idea of the Sony's entrance into the automaker space.

Sony increased the number of sensors on the vehicle to 40 to allow for 360° awareness and experimented with ways to increase their capabilities, according to Izumi Kawanishi, a senior VP at the company who was featured in the video. Sony also created a system to verify the safety and security of its connected vehicle. The dashboard-width display screen has five playing card-sized tiles in the centre labeled camera, settings, navigation, music, and video.

Video footage suggests several other features that have been added or are in development,

including a voice assistant, gestural control, ability to update the car's software wirelessly, 5G connectivity, and a driver monitoring system that uses an in-cabin camera.

The camera is used to identify and recognise the condition of the occupant. If it detects a sleeping passenger in the back seat, the car will automatically control the climate around that seat to a suitable temperature.

The video featured an array of partners on Vision-S, including Bosch and Continental, startup AIMotive, software company Elektrobit Automotive, Valeo, Vodafone, and ZF Group. The collection of partners, which also includes mapping company HERE, Nvidia and Blackberry/QNX and Qualcomm, leaves little doubt that this someday there will be a Sony car that consumers can buy.

Volvo's Best-Ever H2 Sales

GENERAL NEWS

Volvo Cars reported their strongest second-half sales numbers in the company's history for 2020, as fast-growing demand for their electric cars boosted the company's recovery from the pandemic's impact. The company acted decisively to mitigate the pandemic's dragdown effects during the first half of the year, allowing them to quickly restart operations and embark on a strong recovery, helped by fast-growing demand for their Recharge range of chargeable cars.

The share of Recharge models, with a fully electric or plug-in hybrid powertrain, more than doubled in 2020 compared to 2019. In Europe, the share of Recharge cars of overall sales was 29 per cent, making Volvo the leading brand in the region for chargeable cars. It was also a leading plug-in hybrid brand in the US. In China and the United States, the maker's two largest individual markets, the company reported growing sales for the full year as they managed to more than recover a pandemic-related sales drop in the first half during the second half of the year.

While sales dropped by 21 per cent in the first half, the company resumed their growth trajectory of recent years in the second half of 2020, reporting solid month on month growth from June onwards. Sales rose by 7 per cent to 392,000 cars in the second half compared to the same period in 2019.

Globally, Volvo Cars sold 661,000 cars in 2020, a decline of 6 per cent compared to 2019. Although final numbers for the full year are yet to be confirmed, the company outperformed its competitors and gained market share in all its main sales regions during the first eleven months of the year.
- In China, sales rose by 7.5 per cent in China in 2020, to 166,000 cars, compared to 2019.
- In the US, the company sold 110,000 cars, a 2 per cent increase compared to the year before. In both markets, strong demand for Volvo SUVs was responsible for the majority of sales volumes.
- In Europe, Volvo Cars saw strong demand for the Recharge cars in many key markets. A sluggish overall market, held down by pandemic-related restrictions, meant overall sales fell by 15 per cent for the whole year.

Volvo are committed to becoming a premium electric car company and in coming years, the company will launch several fully electric cars. By 2025, they aim for global sales to consist of 50 per cent fully electric cars, with the rest hybrids. Currently, Volvo are the only maker to offer a plug-in hybrid variant of their every model.

VW Recall Golfs For Software Fix

GENERAL NEWS

Volkswagen will recall some 56,000 Golf models to fix software problems that affect the infotainment system and reversing camera. The repair affects the Mk8 Golfs made before last July. Last year already, VW had to pospone the launch of the latest model due to different software problems and has also faced software problems with the launch of their ID.3 full-electric hatchback.

The Golf was the top-selling car in Europe for the first 11 months of 2020, with a volume of 252,138, down 33 per cent, according to data from JATO Dynamics market researchers.