Editorial

Opportunities For Exhibitors At DVN-I Workshop

The **DVN-Interior Smart Interior Conference and Expo** will be held online this coming 24 September, providing an ideal opportunity to delve into topics relevant to today's and tomorrow's vehicle interiors—including user experience, design, HMI, lighting, driver assistance systems, audio, and many more.

The online workshop will start off with three exceptional presentations from Valeo CTO Geoffrey Bouquot on smart technology for smart interiors; Faurecia CTO Christophe Aufrere on cockpits of the future, and one from Streetscope VP and Mobility Futurist Dave Muyres on future mobility's challenges.

We've built a fantastic roster of presenters and lecturers, exhibitions and opportunities, and we're very excited at the opportunity to try out a bunch of new technology and techniques for virtual gathering. We think it's going to be just as big a success as every previous in-person DVN Workshop. Come join in!

One important part of the online workshop will be the virtual exhibition booths you can book for the opportunity to show your innovative technologies during the online workshop and for a week afterward while the website will stay open. **See here** for a presentation of what a virtual booth looks like. Register **here** to attend and see the conference program **here**.

Sincerely yours

DVN PRESIDENT

In Depth Lighting Technology

DVN-I Online Interior Workshop: Keynotes, Lectures, and Exhibitions

The first DVN Interior workshop will be virtually held on 24 September, to make sure it's accessible to a maximum of the worldwide interior community members. The rubric is **New Technologies for Car Interiors and Mobility.**

Over 300 high-level decisionmaking professionals and expert attendees are expected, representing global car makers, tier-1&2 suppliers, mobility service and transport companies.

In these times of restricted travel, this will be a grand opportunity for companies to exhibit their offerings side-by-side with other suppliers and startups, and to collect customer and client leads from all over the world.

A best in-class virtual platform built especially for this online event will allow participating companies to showcase their products, services, and capabilities in a virtual booth. Attendees will have the opportunity to plan face-to-face meetings with exhitor representatives during a full week after having visited the virtual booth.

Car interiors are becoming a new product differentiator, allowing drivers and occupants to have a complete new set of activities—relaxing, working, phoning, reading, watching movies, and otherwise like that; the car becomes a mobile lounge. These new usages are pulling for new technologies, and that's what the DVN-Interior e-Workshop is all about.

Five sessions are on the docket: Interior as a System; Any Surface Becomes Functional; Seating; Interior Design: Simulation, Software, and Electronics.

20 lectures will be presented by managers and experts involved in car interiors at automakers, suppliers, research and expertise groups, and industry alliances including Audi, BMW, Honda, Adient, Ansys, Brose, Covestro, Dräxlmeier, Faurecia, Future Lighting Technologies, Hella, Marelli, NGHX, Osram Continental, Preh, Recticel, Sensata, Texas Instruments, Valeo, Weisplas, Yole, ZF, EPIC, and ISELED. Yanfeng, ZF, the ISELED Alliance, and EPIC (European Photonics Industry Consortium).

The Workshop will be structured around three keynote speeches and 15 exhibitons. The keynotes will be by Valeo CTO Geoffrey Bouquot on smart technology for smart interiors; Faurecia CTO Christophe Aufrere on cockpits of the future, and one from Streetscope VP and Mobility Futurist Dave Muyres on future mobility's challenges.

This picture shows what a company's virtual booth will look like on the event online platform: text, a photo gallery, company contact information, and even a possible presentation video.

Short Description

Your logo →

Contact Information

Brochure

Video →

Photo Gallery

Company representatives →

Page Content

eyesight

Eyesight Technologies is a leader in computer vision AI, focusing on in-cabin sensing solutions for the automotive industry.

The company offers three main solutions: Driver Sense – driver monitoring system, Cabin Sense – occupancy & interior monitoring system, and Fleet Sense – a driver monitoring aftermarket solution for fleets.

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Leave My Details   Our Brochure

CABIN SENSE
OCCUPANCY & INTERIOR MONITORING SYSTEM

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Exhibition

Tal Krzypow
VP Product
Eyesight Technologies
Exhibition

Eyesight Technologies develops market-leading Driver and Occupancy Monitoring Systems for the in-car environment.

Our proprietary technology uses edge-based Computer Vision and Artificial Intelligence (AI) to create safer and better driving experiences. Dozens of patents and over a decade of research and development stand behind our advanced sensing solutions.

Our solutions:

DRIVER SENSE

Driver Sense is our Driver Monitoring System (DMS), focusing on the driver and her/his state. The system tracks the driver's eyes, eyelids, pupils, head, and gaze to determine alertness, detect drowsiness and distraction. Advanced features include recognition of enrolled drivers and detection of actions (such as wearing a seatbelt and holding a cellphone). Driver Sense works in all lighting conditions, through occlusions such as sunglasses and face masks and more. Driver Sense was designed to support various operating systems and camera locations in the car.

Driver Sense is also offered pre-integrated on an ADAS chip. The joint offering saves both integration costs and the need for a DMS-dedicated chip. Moreover, the upcoming fusion of the ADAS and DMS data enables safer vehicles with capabilities such as contextual road awareness – the ADAS identifies road users while Driver Sense verifies the driver is looking in their direction.

Driver Sense software can be either licensed as standalone software or paired with an IR camera by one of our partners.

FLEET SENSE

Fleet Sense is our Driver Monitoring Solution for telematics system providers and fleets. As an aftermarket solution, Fleet Sense was designed to detect driver fatigue, distractions, and actions, enabling life-saving alerts in real-time. The solution reports the driver's state (attentive, drowsy, distracted, asleep, etc.), their actions (smoking, holding a phone, wearing a seatbelt), and identification of enrolled drivers.

CABIN SENSE

Cabin Sense is our Occupancy and Interior Monitoring Solution (OMS) for the in-car environment. This solution was designed to enhance passenger safety and in-cabin experience, powering adaptive safety features, and customized cabin entertainment options. Cabin Sense can detect seat occupancy, child seat, seatbelt, passenger identification, and Object left behind. Cabin Sense is a software solution, offering an API that can be integrated together with the customer's selected in-cabin camera sensor.

Lighting News

How Pedestrians Really See Approaching Traffic

Eye contact between drivers and pedestrians has long been a critical connection for safe street crossings, but researchers say eye contact may be less important than many transport officials and industry engineers believe when it comes to understanding cues exchanged by road users.

By the time eye contact is made, pedestrians have almost always made a decision on whether to cross, says Josh Domeyer. He's a research engineer with the Toyota Collaborative Safety Research Centre, and development of autonomous vehicles has been his research focus for quite awhile—first at the Massachusetts Institute of Technology and now at the University of Wisconsin, where he is studying how drivers and pedestrians signal their plans to each other.

"Pedestrians actually look away about one second before they cross", he says. While pedestrians believe they make eye contact with the driver of an approaching vehicle, more than 90% cannot see a driver at all from 30 m away or determine the driver's gaze from 15 m away, according to a report from Domeyer and other researchers at MIT's AgeLab. That implies a pedestrian's decision to cross is based more on perceived speed or deceleration of the vehicle.

In an automated-vehicle era, automakers and tech companies have experimented with ways to communicate an AV's intent to other road users. The now-defunct Drive.Ai installed external screens on its vans that would display messages such as "Waiting for you to cross." In February 2019, Ford tested how pedestrians responded to a roof-mounted light bar that projected visual cues. These early attempts are emblematic of the current early stages of figuring out how AVs should best communicate with others.

Domeyer hopes his research will help software engineers write better control algorithms to allow self-driving cars to communicate effectively. "It's not getting the thing to navigate around an object", he says. "It involves people, and thus, there's a social component and you can't dismiss things like politeness and fairness when we are talking about technologies that affect people's lives."

Find more information in the DVN study *New Lighting Functions 2020-2030* just released this month, see **the brochure**.

Hella Jumbo Driving Lamps Enter the LED Age

Commercial vehicle service places heavy demands on lighting, and the design and style of these vehicles is becoming increasingly important. Hella are now launching LED versions of their Jumbo driving lamps, long popular in halogen and HID versions.


The new Jumbo LED auxiliary driving lamp bears a striking LED position light, which presents itself in the form of a friendly smile. When switched on, the light signature with the high recognition value presents a characteristic lighting design both during the day and at night thanks to Hella's dgeLight technology, developed and commercialised first in passenger cars. The light signature and appealing design trim in the upper part of the lamp were inspired by the design of Hella's round Luminator LED driving lamp, released last year.

The Jumbo LED is available for upright or pendant mounting. The instantaneous high beam light signal enables the use of a conspicuous headlamp flasher function (as for emergency/priority vehicles). The lamps have an impact-resistant, lightweight housing made of thermoplastic material, and offer high energy efficiency with low power consumption.

Flat Lenses for Diffraction-Limited Imaging
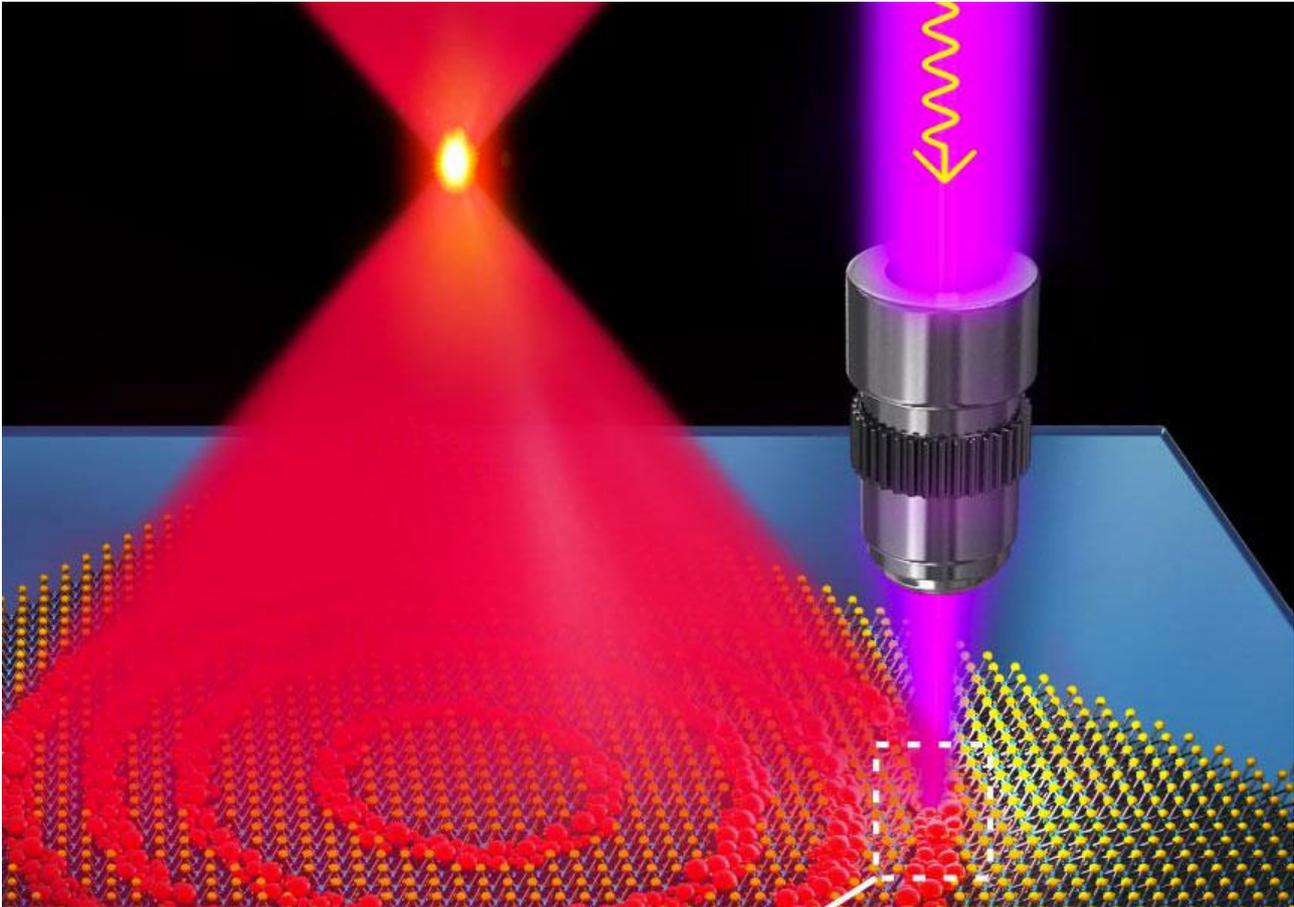
Spherical lenses can be prone to optical aberrations and astigmatism that cause unwanted diffraction in imaging optics. A research team at Swinburne University of Technology say particular kinds of flat lenses can avoid these effects, and could open up new applications that traditional lenses are unsuited for.

Metasurfaces and metamaterials are crucial to these flat lens structures, and their complex and costly manufacturing processes have constrained commercial viability. The Swinburne research team present a possible solution, and demonstrate how the action of a femtosecond laser on the surface of a metal can produce local surface structures that make the material act as a flat lens. Their work is **published** in Light Science & Applications, a *Nature* scholarly journal.

In particular their project showed that the process could be applied to a 2D metal monolayer to produce an ultrathin flat lens, a potentially straightforward route to achieving the phase and amplitude modulations needed for lens behavior in these thin metal layers.
The project's raw materials were transition metal dichalcogenides (TMDCs), where transition metal species are paired with sulphur, selenium or tellurium. These are known to be promising candidates for next-generation nanometric optoelectronic devices due to their strong light-matter interactions, but using them in ultrathin forms has so far produced only low-resolution lenses.

The new manufacturing processes designed by the team focussed an 800-nanometre, 100-femtosecond laser onto single-crystal monolayers of TMDC compounds, with the first target being a WSe_2 (Tungsten diselenide) monolayer around 7 angstroms thick. A computer-controlled mobile stage allowed the laser to trace a pattern of concentric rings, and so create the same pattern on the metal of nanostructures 20 nanometres high and 50 to 150 nm wide. Having proven the principle, the team believe this approach could enable minaturisation of optical devices through the use of 2D materials, along with potential applications as camera lenses.

ISELED Alliance Automotive Strength Grows

The ISELED Alliance welcomed three new members to intensify the ISELED technology for automotive applications. German companies Marquardt and Preh and Finnish company TactoTek joined the open, industrial alliance developing a comprehensive system solution for innovative automotive lighting based on the ISELED technology.

Various solutions focussing on the automotive market are continually being developed by ISELED Alliance members. The product range includes smart LED modules, standalone drivers and controllers, dedicated microcontrollers, and development kits. Systems combining ISELED components with optics are under development.

The Alliance recently finalised specifications of the 2nd-generation ISELED. The new products will feature higher colour point accuracy over the complete temperature range and higher current classes. A further milestone is the expansion of the original local ISELED protocol to a true field bus across the automobile. This was done by the development of the ILaS bus concept (ISELED Light and Sensor network). With ILaS not only LEDs—RGB or infrared, for example—but also other components such as matrix LED lights, sensors, and actuators can be controlled in large numbers via a simple unshielded two-wire cable. A first test chip of ILaS is available now, fulfilling all objectives set including the targeted high EMC robustness.

On 3 September the 3rd ISELED Conference in the format of a combined on-site and livestream virtual workshop will take place. Alliance members will present these developments and more in detail together with latest products and systems solutions.

Hyundai Mobis Will Offer EV Parts to Other Makers

Mobis will begin supplying electric vehicle parts to automakers outside the Hyundai-Kia chaebol. Ahn Byung-ii, Hyundai Mobis' Senior VP of Electric Powertrains, says they're in talks with two global automakers to supply EV parts.

The company want to boost volume and lower prices. Ahn says Mobis hope to win orders from the automakers as early as this year, marking their first deal to supply electric powertrains (though they have supplied other parts, including lighting components, to Fiat-Chrysler and others).

Hyundai Mobis, in which Hyundai Motor Group chairman Chung Mong-koo is the biggest individual shareholder, gets more than 90% of its revenue from Hyundai.Mobis' Ahn says "We were not able to supply to other companies because we were busy with keeping up with Hyundai's growth. Now this has changed".

New VP R&D at DBM

Mirco Goetz has been nominated Vice President of Research and Development at DBM Reflex and DBM Optix; 1 September is his first day. He will be taking over from George Latan, who is retiring.

Mirco has a doctorate in physics from the Technical University of Munich and has spent his last 17 professional years in the vehicle lighting industry. During his career he has directed R&D teams as well as international projects developments in Germany, Mexico, and South Korea.
In his new role, Mirco will continue the collaborative leadership, as well as the development of strong technical expertise in continuation of Latan's accomplishments.

Driver Assistance News

Sensors, Sensors, and Ever More Sensors
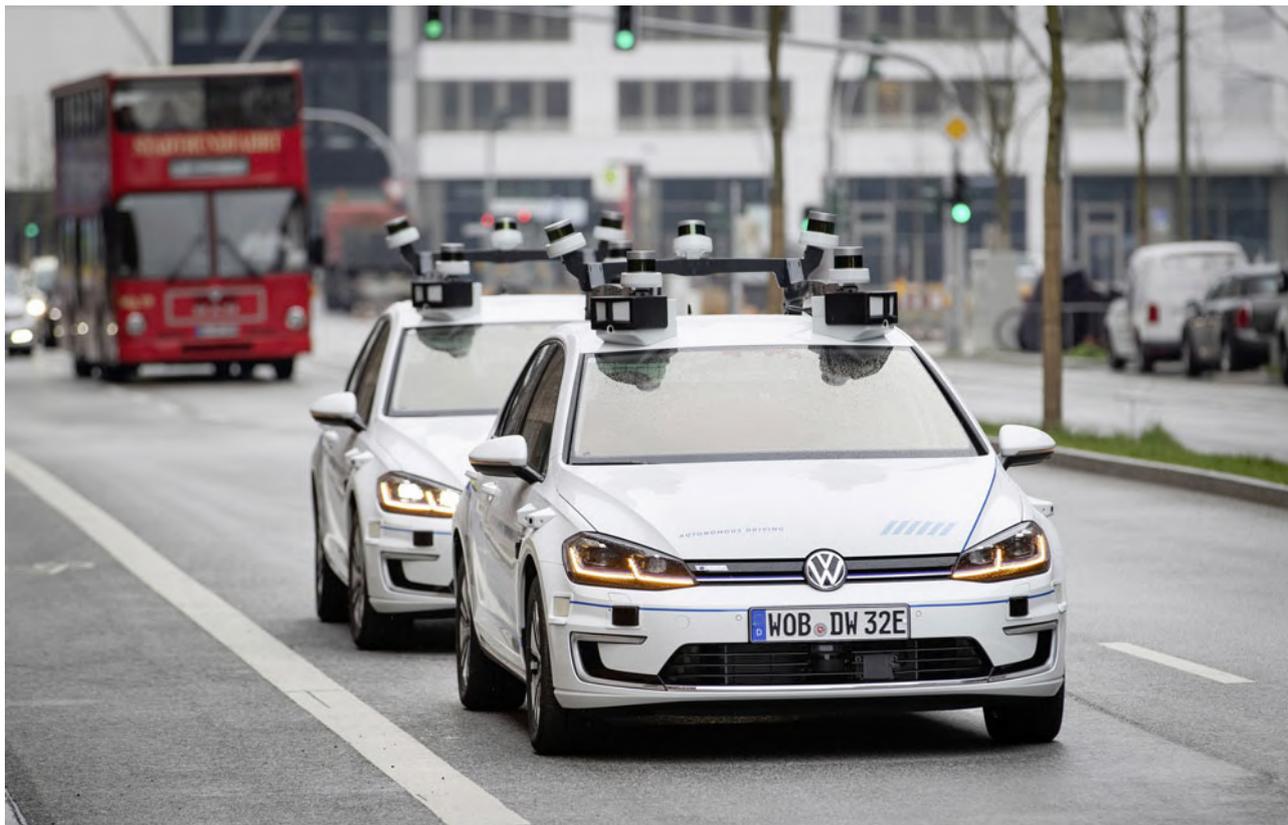
The market for sensors is expected to explode in the coming decade, outpacing forecasts for global auto production to keep up with the rollout of night vision, hands-free steering systems, and numerous other features. That's because the new innovations in electronic gadgetry require ever more sensors—up to 100 of them at the moment, with that number sure to grow.

A recent study by Roland Berger found the overall bill for the electronics in a midsize premium car with an internal combustion engine was USD $3.2bn in 2019. By 2025, that cost will rise to $7bn for a comparable battery-electric car. A significant chunk of that increase of about $413 per vehicle will be just for the sensors to facilitate the radar, lidar and camera components to support driving assistance.

Safety regulations are one of two key drivers in the growing sensor market. Bosch's multicamera parking system combines four cameras and relies on ultrasonic sensors to create a 360-degree representation.

It can be difficult to measure the size of the sensor market because nearly every supplier considers it from a different angle, according to their strengths. All agree that the sector will continue to grow strongly for the next decade in most, but not all, areas, because the automotive megatrends—connected, automated, shared, and electric—are not possible without sensors.

Consequently, ADAS and automated driving sensors will drive growth for the overall sector, with demand for lidar, radar and cameras growing by 12% annually.

Hella weighs software unit sale, report says

Hella is planning a sale of its driver-assistance software unit, said Bloomberg. It is working with advisers to gauge interest in the business, fetching several hundred million Euros.

The unit may attract interest from suppliers, automakers investing in ADAS. No final decisions have been made, and there is no certainty the deliberations would lead to a transaction.

The company's Hella Aglaia Mobile Vision unit makes embedded software systems used for assisted driving functions. Its image-processing programs can detect oncoming vehicles, recognize traffic signs as well as lane markers and sense other objects around a car.
Unlike products from larger competitors like Mobileye, which sell integrated solutions with hardware and software packaged together, Aglaia's software is designed to be paired with chips, cameras and sensors made by other vendors.

Hella's potential divestment comes as suppliers navigate a slumping market due to the coronavirus. The company said on July 28 it will cut 900 jobs at its headquarters by the end of 2023 amid a "hard market decline" during the pandemic.
The supplier targets between €5.6 billion euros and €6.1 billion in sales in the current financial year.

Luminar Nearing SPAC-based Go-Public Deal

Image: Luminar

Lidar company Luminar Technologies, have agreed to go public through a USD $3.4bn merger with blank-check company Gores Metropoulos, people familiar with the matter told Bloomberg.
A deal for Luminar, one of the industry leaders in lidar technology that tracks a vehicle's external environment, could be announced very soon.

Luminar are the latest private entity to merge with a SPAC—a special-purpose acquisition company, as these investment-intended outfits are known. They've sort of gone mainstream this year, offering a fast route for companies seeking to go public without the scrutiny or risks of an initial public offering.

Luminar's CEO is 25-year-old CEO Austin Russell, who founded the company in 2012 in Palo Alto, California. The startup's technology, which uses lasers to create real-time imagery of the physical world, is deployed in cars and trucks. They have about 350 employees and appointed former investment banker Thomas Fennimore as CFO in July.
The Luminar deal will be paid for with $400m in cash from the blank-check company, as well as $170m from other investors including a unit of Volvo Cars and GoPro founder and CEO Nick Woodman.

After the transaction, Luminar will continue to be run by their management team including Russell and Fennimore, with Gores having a board seat.

Veoneer, Techno Creatives Win Red Dot Award

Automotive mobility technology company Veoneer and The Techno Creatives have won a prestigious Red Dot Award for their Collaborative Driving Data Visualiser autonomous driving project, which topped the Brands & Communication Design 2020 category.

At CES 2020 earlier this year, Veoneer showed Collaborative Driving, in which the car handles parts of the driving with the driver still engaged. The aim was to educate the general public about tomorrow's mobility, demonstrating different ways that data insights can contribute to a safer and more convenient driver experience.

The Red Dot-winning project included two types of demonstrations: pre- and post-drive experience, where data insights were generated to ensure a safer and better driver experience; and in-car demo apps for visitors to experience futuristic car features on the road.

In-cabin sensors developed personal driver profiles that allowed Veoneer's researchers to better understand driver behavior. Collaborative driving determines when drivers need safety assist technologies to take over, and when drivers want or need to take control. It also leverages communications between vehicles for a safer driving experience: vehicles can share thermal imaging to better perceive their surroundings in challenging contexts and surroundings.

Almost 7,000 projects and brands from 50 countries participated in this year's prestigious design contest. Award-winning brands and projects will be presented on the Red Dot website from October 2020 and in the International Yearbook Brands & Communication Design in November 2020.

Veoneer teams up with Qualcomm on driver software

Veoneer will partner with Qualcomm Technologies on developing software for its driver assistance systems, the Swedish supplier said last week. The supplier of vision systems, radar and software for ADAS said it had signed a non-binding letter of intent with the U.S. technology company and expected to finalize a definitive agreement in the second half of this year.

Veoneer, which competes with companies such as Aptiv, Bosch and Continental, said in a statement it would develop an integrated platform with Qualcomm to be available through Tier 1 suppliers or directly to automakers for 2024 vehicle production.

The company, which supplies automakers such as Daimler, Ford and Honda, said last month it expected sales this year to outpace light-vehicle production.

Xenomatix Lidar Makes Road Inspections Affordable

Xenomatix launched their Road Scanning Services business unit earlier this year, using their '6D' road lidar to measure and collect high-precision and up-to-date data of road networks or sections requested by customers.

Traditional methods for road management and inspection include the use of Multi-Functional Vehicles equipped with multiple sensors and highly specific equipment, or on-site detailed visual inspections. However, both of these options are expensive, labour-intensive, and require a lot of training.

In a partnership with the Belgian Road Research Center, Xenomatix want to develop innovative and affordable solutions for performant and cost-effective road management, taking advantage of upcoming technologies such as solid state lidar. Their system of "6D lidar" has a pair of 3D solid state lidar and optical sensors that can be mounted on normal vehicles. XenoTrack is Xenomatix's car-mountable, high precision, high-resolution, short-range solid-state 6D lidar sensor with accuracy to within one millimetre for highly granular surface measurements. Capable of identifying road waviness and damage, and small and nearly invisible objects in real-time or post-analysis, the XenoTrack can cover the needs of other inspections. The sensor is available in two versions:
XenoTrack RearView offers detailed surface measurements accurate to within 1mm, making it ideal for applications such as pothole detection, surface monitoring during road construction works, seasonal surface degradation analysis.
XenoTrack FrontView is for real-time application relying on preview measurements such as active suspension for ultimate driving comfort, lane keeping, small but dangerous road obstacle avoidance, and more.

In the near future, Xenomatix expect to see these sensors mounted on dedicated and utility vehicles, providing weekly measurements. In the next 10 years, the company believe that with higher levels of autonomous vehicles, this technology will be implemented in all future cars and data will be collected by all road users.

General News

Sales E and US, in Progress

In Europe

The UK's rebound and a recovering French market limited the July decline in new-car sales in Europe to less than 4%. The drop was the smallest percentage decline since January and the first single-digit contraction since the spread of the coronavirus forced countries into lockdown starting in March.

UK market was the biggest driver of the stabilization of sales in July, with registrations up up by 11% to 175,000, after showrooms were open for the first full month since lockdown measures eased. The July increase was the first monthly rise in registrations in the UK so far this year.
Registrations in France jumped by 4.6% at 179,000, helped by government incentives to combat the economic effects of the COVID-19 crisis.
Sales in Germany fell over five per cent to 315,000 vehicles. The Italian market was down 11% to 137,000 and Spanish registrations were flat at at 121,000, according to JATO data
Renault brand had the biggest increase in registrations in July—up 24%—followed by BMW and Mini, both close to a 20%.

Through July, overall European sales fell 34% to 6.44 million, according to JATO.
Registrations for the full year are forecast by ACEA to decrease by 25%, which would represent the lowest number of new cars sold since 2013, when the industry had come through six consecutive years of decline in the aftermath of the 2008-2009 financial crisis.

In US

There are economic hurdles that likely temper it, but if sales continue to run at levels maintaining current inventory turnover rates, the rest of the year theoretically could run close to a 16.0 million-unit seasonally adjusted annual rate.

U.S. LIGHT VEHICLE SALES AND FORECAST (SOURCE WARDS INTELLIGENCE)