

Editorial

Four Months—Four Events

Autumn is a busy time of year in our world, and it's coming up soon. Be sure and block your time and make your plans for four important events coming over the next four months:

IAA Frankfurt Motor Show, 10-21 September

More than 800,000 attendees and around a thousand exhibitors are expected this year. We'll publish a lighting-centred DVN Report promptly—before the end of the show, even—to serve as a guide for attendees and to bring it home for people not able to attend. That means the report will be also be available for ISAL a few days later, to spark discussion.

ISAL, 24-25 September

The last International Symposium on Automotive Lighting drew about 1,000 people in 2017, and this year's event stands to be at least that big—probably bigger. There'll be international engineers, designers, scientists, researchers, academics, practitioners, and decision makers all gathering to discuss the latest innovations and challenges in vehicle lighting. The symposium will start on Tuesday with a keynote from TU Darmstadt's Professor Dr. Hermann Winner, who will talk about safety issues with automated vehicles. On the Wednesday, GTB President Geoff Draper will present the second keynote on regulation, innovation, and GTB.

Tokyo Motor Show, 24 October-4 November

The 46th Tokyo Motor Show will be held at the Tokyo Big Sight venue in the Ariake district of Tokyo's Koto-ku. The show will be open to the general public for a longer period than in past years, to widen opportunities for people to visit in a leisurely manner.

DVN Lidar Conference, 2-3 December

Last year's Lidar Conference was a great success. This year, we're once again bringing together the world's top experts in lidar and vehicle lighting. Lecture sessions will include lidar technology, lidar integration in front and rear lamps, simulation and testing, and market challenges and opportunities. Given the number of scheduled presentations, there will be three half-day sessions.

All these events stand to increase knowledge and understanding and promote innovation—each in its own way. Of course it would be lovely to attend all of them, but for many that's an unrealistic lot of travel, so we're working hard to bring you top-class coverage of all four events. Watch for it in your Driving Vision News!

Sincerely yours

DVN President



In Depth Lighting Technology

ISAL № 13 is Taking Great Shape

After having received over 800 experts at ISAL 2015, and around 1,000 at ISAL 2017, on 24-25 September ISAL 2019 will gather a great many vehicle lighting and driver- and vehicle-vision engineers, designers, scientists, researchers, academics, practitioners, and decision makers from all over the world to discuss the latest innovations and challenges in the field.



TU Darmstadt's Professor Dr.-Ing. Tran Quoc Khanh, Chairman of the symposium, says "This year we have the best quality abstracts. The topics can be grouped into blocks on matrix beam technology, road projection's positive and negative aspects, evaluation systems for headlighting (CIE, ECE, IHS...), new technology for rear lamps on the ground of LED-matrix displays, AV communication with pedestrians, and virtual reality for tests and simulations".

The symposium will start on Tuesday with a keynote from TU Darmstadt's Professor Dr. Hermann Winner, who will talk about safety issues with automated vehicles. On the Wednesday, GTB President Geoff Draper will present the second keynote on regulation, innovation, and GTB. An award ceremony will close the symposium

ISAL 2019's Lecture Docket:



Dr. Michael Hamm



Dr. E.O. Rosenhahn



Dr. Michael Kleinkes

Real Driving Benefits and Research Findings with Digital Light Functions

Dr. M. Hamm (Audi)

Traffic Safety Benefits provided by High Resolution Headlamp Systems

Dr. E.O. Rosenhahn (Automotive Lighting)

Boost Safety & Styling – New HD-LED Systems for front and rear

Dr. M. Kleinkes (Hella)

Micro-Pixel-LED-Headlights

Dr. J. Roth (Volkswagen)

Adverse weather light – new approaches to evaluate adaptive light functions

A. Thoma (L-Lab)

Object and Gaze Distribution based Optimization of Low and High Beam

Dr. Jonas Kobbert (TU Darmstadt)

Optimization Method of HL Performance based on the Calculation of Light Distribution

Dr. W. Tiecheng (CATARC)

Evaluation of the light distribution of a matrix-HL with hardware-in-the-loop simulation

M. Waldner (TU Dortmund)

Digital Light and the Future Light Distribution

Dr. C. Gut (Daimler)

The New Age of Exterior Lighting Communication - Built Tough and Smart Enough

E. Hansch (Ford)

How Vehicles Learn to Display Symbols

J. Reschke (Audi)

Insights on Exterior Lighting for Autonomous Vehicles from Recent News

J. D. Bullough (Rensselaer Polytechnic Institute)

Study on Requirements of Exterior Display for V2X Communication

Dr. G.-D. Kim (Samsung Electronics)

Frontiers in LED and Micro-LED Technology

O. Shchekin (Lumileds)

Challenges of the Illumination of Holograms With Narrowband LEDs

Dr. D. Karthaus (Hella)

Automotive Illumination Using Micro Optics

Dr. P. Schreiber (IOF Fraunhofer)

Durable Functional Coatings for Advanced Cleaning of Automotive Sensors and HL

Dr. S. Wölper (GXC Coatings)

Energy Saving Potential of HL by Determining the Current Utilization Rate of Functions

A. Erkan (TU Darmstadt)

Democratization of Advanced Driving Beam Systems - Good Light for Everyone!

C. Neitzke (Opel)

BEV versus ICV: Real Time Investigations on Temperature Differences in HL

M. Manderscheid (Audi)

Integration of Sensors in HL, Multifunctional Component for Environmental Perception

Dr. P. Hartmann (ZKW)

Reducing HL Level on Urban Roads for Different Street Lighting Situations

Dr. M. Wagner (TU Darmstadt)

Customizable Pixel Signal Lighting

Dr. S. Knoop (Hella)

Comparison of Pedestrian Behaviour in Different Encounter Scenarios with AV

T. Singer (TU Darmstadt)

Light-Based Communication of AV With Other Traffic Participants

Dr. C. Kettwich (DLR)

'I have detected you' - Perception Based Interaction Strategy for Automated Vehicles

M. Kaup (Hella)

Importance of Communication Between Automated Vehicles and Other Road Users

B. Zandi (TU Darmstadt)

Solid State High Resolution Glare Free High Beam

Dr. S. Cladé (Valeo)

Imaging Optics for High-Resolution Headlamps

Dr. S. Köhler (Hella)

Safety Enhancement Effect of Back-Up Guide Lamps: A Field Experiment in US

Prof. Dr. H. Pak (Yeungnam University)

Required Luminous Intensity of Road Projection Lamp in Conjunction With TI Signal

Y. Shibata (Koito)

Advanced Lighting Function Based on Road Projection

Dr. S. Azouigui (ELS)

Success of Driver Assistance Through Light Projections on the Road

M. Budanow (BMW)

Symbol Projections: Gain or Gadget?

F. Krieft (L-Lab)

Comparison of Technologies for Projections in the Surrounding of the Automobile

C. Bremer (BMW)

Road Marking Solutions With Pixelized Light Source

B. Reiss (Valeo)

Optimized ADB Symbol Projection

Dr. W. Gonçalves (PSA)

Ideas for Including AFS- and ADB Functionality Into the TC 4-45 Assessment System

G. Langhammer (Automotive Lighting)

Virtual Night Drive Methods for Adaptive Lighting Systems Evaluation
P. Hartman (Škoda)

Simulation-Based Lighting Function Development of High-Definition Headlamps
N. Rüdtenklau (University of Paderborn)

LightCom – Autonomous Vehicles Communication With Pedestrians
N. Jezersek (Hella)

Quantifying the Safety Effects of Headlamp Glare Using Crash Data
Prof. M. Flannagan (UMTRI)

New Adaptive Light Signalling Functions for Reducing Glare and Reaction Time
M. Vollmer (Odelo)

Integration of a Melanopic-Light-Unit in a Passenger Car - Impact on Drivers
S. Schüller (Daimler)

Human Subject Research on Energizing Effects Induced by Overhead Light Panels
A. Niemeyer (Audi)

Study of Glare from Motorcycle LED Headlamps
K. S. Pradeep (TVS Motor Company)

High Resolution Pixel Lamp
D. Kim (SL Lighting)

Exterior Surround Lighting – From Static Logo Projection to 360° Dynamic Content
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Artificial Intelligence in Validation of Ford's Predictive Lighting ADAS Features
A. Spychala (Ford)

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A. Blondel (Renault)

Laser Light Sources for Future Automotive Lighting Applications
Dr. M. Han (SLD Laser)

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Sensor Fusion for Dynamic High-Resolution Lighting
Dr. M. Austerer (Osram Continental)

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Dr. M. Kruppa (Audi)

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G. Böhm (ZKW)

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A. Austerschulte (Automotive Lighting)



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Optical concepts with slim lenses for design driven headlamps

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"Self-Healing" measures for Matrix-LED-headlamps
Analysis and classification of road-user behavior patterns in megacities
Requirements for dynamic levelling
Opti-ADB - study on low number of segments
Digital Speedup in Simulating Complex Innovative Lighting Systems
Adaptive Driving Beam with Variable Color Temperature for Enhanced Visibility
Micro Surface-LED - Evolution of the SLED Concept
New Trends and Functionalities in Signal lighting
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Implementation of Pixel technology for lighting system based on wafer -level process
Technical & Industrial strategy for high efficiency front lighting modules
The study of functionality for high definition lighting
Visibility Improvement using Guide Function of Turn Signal Lamp
The Communication Signal LightingSystem for Automated Vehicles
'Ford becomes a Software Company in Exterior Lighting
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360° pixelated signaling for autonomous vehicle

LIGHTING NEWS

LED Headlamps Not Necessarily Better—Now What?

Analysis by DVN Editor Daniel Stern

Consumer Reports magazine provides some of the most widely-trusted car ratings and buying advice in North America. They've been testing headlamps for some 15 years now, at a facility we [visited earlier this year](#). They've got words to say about headlamp technology lately. In a nutshell: LED headlamps are quickly proliferating—55% of the 2018 models they tested had LED headlamps; the 2019 figure is 86%—but LED headlamps aren't necessarily superior.



This, in two words, is not news. In the UN and US regulations alike, LED headlamps are held to the same beam pattern standards as halogen ones, so it's only natural that there will be good and bad halogen and LED headlamps. To be sure, there are some excellent LED headlamps—the standard-equipment LED low beams on the 2014 Toyota Corolla won highest-ever marks in CR's headlight tests. But they don't all work that well, because they're not required to. Isn't it a pity that automakers wouldn't take advantage of the great efficacy and efficiency advantages offered by LEDs and their associated optics to provide drivers with better lighting? Well, perhaps, but it certainly isn't the first time; when halogen technology finally migrated to American shores (nearly two decades after its launch in European headlamps), the industry response to the improved efficacy was to minimise wattage so as to allow for cheaper, lighter-duty switches and wiring while keeping beam performance above the legal minimum. Still, that was four decades ago, in the sealed-beam era; one could be excused for hoping today's better knowledge of the strong link between headlight performance and pedestrian strikes would spur a less lopsided, more balanced approach to the advantages of the new technology.



Jennifer Stockburger

Apparently not, though; regulations don't require good headlamps, just compliant ones, and CR Auto Test Center Operations Director Jennifer Stockburger says "Yes, [LED headlamps] are stylish, but drivers need lights that will make them safer, and not

just make a fashion statement. Car shoppers need to think about headlights as a safety feature in the same way they think about brakes or even seatbelts".

CR's preferences align with US regulatory priority in placing heavy priority on the straight-ahead seeing distance provided by a headlamp, and Stockburger says neither HIDs nor LEDs categorically outperform halogens in CR's testing; no matter what technology produces the light, "low-beam headlights don't always provide enough forward seeing distance for the driver to react to an object in the road and stop in time. We've found that with LEDs, manufacturers are having a hard time balancing casting enough light down the road without causing glare to oncoming drivers". This, of course, is the [century-old](#) conflict inherent in fixed-beam headlamps, and despite many decades of effort, there has been no real resolution—just different philosophies of whether maximum seeing or minimum glare is more important.

Stockburger elaborates: "Many oncoming drivers mistakenly think an oncoming vehicle has its high beams on, when in reality the car just has LEDs", and it's especially a problem with pickup trucks and SUVs with high-mounted headlamps. This, too, speaks to American regulations and practices: the US low beam pattern permits more glare toward oncoming drivers, headlamp aim is specified without regard to mount height or suspension travel, no levelling systems are required in any case, and headlamp aim is seldom checked or adjusted.

There just really is no way around it: low beams are inherently inadequate for the task we ask of them at the speeds we drive at night. Even the world's best low beam is still geometrically limited in the seeing distance it can provide for a driver looking straight ahead or in any other direction. The solution is ADB, but that's still not allowed in the United States (alone amongst industrialised countries). Hella's Steffen Pietzonka sums it up: "Regulations are not allowing the implementation of these new technologies, which have been on the road in Europe since 2010, almost 10 years", he says.

Jennifer Stockburger talked with DVN about her background and the test program she runs. Her interview was published in 16 April 2019 newsletter. She was invited to ISAL to get an increased understanding of today's state-of-the-art lighting technologies; we regret she will not be able to attend.

JW Speaker's New BlueTooth Headlamp is Full of Firsts



American high-tech lighting manufacturer JW Speaker have released a new headlamp with a long list of firsts. It's the first headlamp with bluetooth connectivity and user-selectable on- and off-road modes, the first with its own smartphone app, and the first of its size format to include inbuilt turn signal and cornering light functions. It's the 8700 Evolution J3, and it boasts all-new optics for a significant boost in low and high beam performance versus the previous J2 model. It has an appealing fish hook-shaped element that lights in white for the front position light, bright white for the DRL, and bright amber for the turn signal. It's available for left or (worldwide) right-hand traffic, with or without a SmartHeat™ lens.

Along with the new lamp, Speaker have introduced their new J-Link app, available for Android and Apple iOS. It's an impressively well polished and intuitive, multifunctional app that allows the lamp's various modes to be selected. There's on-road mode, a variety of off-road modes that add a selectable amount of extra foreground light on high beam for rock-crawling and other difficult trails, and a switchable cornering lamp to provide extra lateral illumination for slow and twisty going. There's a "guide mode" which strobes the turn signals to lead the way on trails, and a "party mode" which sets the lamp's various LEDs flashing and dancing in four selectable patterns.

Its size format, interestingly enough, is the SAE-standard 7-inch round format first introduced in the late 1930s when the sealed beam was the [newest headlamp innovation](#). So while the Evo J3 is marketed primarily at owners of JK-series (2007-'18) Jeep Wranglers, it will fit any of the extremely numerous vehicles made all over the world in the last eighty years that take 7-inch round headlamps—as long as it has a 12-volt electrical system. There's a mount adaptor available so the Evo J3 can be fitted to late-production Jeep Wranglers with factory-installed LED headlamps, which are not built to the 7-inch dimensions. A variety of connector cables can be furnished to install the Evo J3 in vehicles with an H4/sealed beam socket or with an H13 socket.



In the J-Link app, the user sets an identity for them self, their vehicle, the two headlamps, and the two JW Speaker Trail 6 Pro auxiliary lamps if the vehicle is equipped; additional drivers with their own smartphones can be added, giving the needed levels of convenience and security (so nearby unauthorised persons can't maliciously seize control of the lamps). J-Link even has an inbuilt headlamp aim assistant that works by holding up the phone, camera looking forward, while sitting in the driver seat. There's a contour near the bottom of the screen to be aligned with the hood of a Jeep Wrangler facing a wall, and guidelines up above/ahead to place the low beam cutoffs (non-Jeep installations would need to use conventional aim methods).

The Evo J3 lamps are also remarkably slim, with a front-to-back depth of just 100.3 mm including the convexity of the lens face. They're sold as a left/right pair; the fish hook position/DRL/turn signal array is horizontally mirrored in the left vs right lamps for a pleasing installed appearance; the lamps look designed-in rather than added-on.

New LED Technology for New Car Light Designs

Generalist LED producers are turning their attention to automotive applications, while the ongoing development of autonomous driving technology also creates new opportunities for vehicle lighting. Advanced LED technology lets cars provide details about how and when they are about to turn or stop. Mini- and micro-LEDs can deliver a great deal more information than the simple on/off, bright/dim, red/amber/white modalities of traditional car lights. LED manufacturers including Everlight, Lite-On, and Lextar have demonstrated prototype mini-LED tail lights at international shows.



At the other end of the car, matrix LED headlamps are considered to be the trend following autonomous vehicle development. Osram and Everlight are among the LED makers working on the technology.

In addition, developing LED technologies such as mini LED backlight and micro-LED also offer a wider range of applications for automotive displays. Head-up display and transparent displays deploying micro-LEDs for automotive applications are also under active development. SmartVIZ, a micro-LED display solution project established this past April, has gathered Osram and other specialists in the industry to develop transparent automotive micro-LED displays.

Porsche Buy Into TriEye

Israeli startup [TriEye](#), whose shortwave infrared (SWIR) sensing technology enables vision in adverse weather and night-time conditions, have expanded their Series A funding round to USD \$19m with an investment from Porsche. The additional funding will be used for ongoing product development and operations, as well as team growth.



Porsche Executive Boardmember for Research and Development Michael Steiner says his company "see great potential in this sensor technology that paves the way for the next generation of driver assistance systems and autonomous driving functions. SWIR can be a key element: it offers enhanced safety at a competitive price".

TriEye CEO and cofounder Avi Bakal says his company's mission is "to save lives and reduce risks of accidents in all weather and lighting conditions. The expansion of our Series A round and the addition of Porsche as a strategic investor further proves that SWIR is a critical component in the necessary sensor fusion solution to enable safer and better ADAS and AV".

TriEye was founded in 2017 by Avi Bakal (CEO), Omer Kapach (VP R&D) and Prof. Uriel Levy (CTO), after nearly a decade of advanced nanophotonics research by Prof. Levy at the Hebrew University in Jerusalem. The company has succeeded in developing an HD SWIR camera that is a smaller size, higher resolution, and a fraction of the price of current technologies.

Former Opel CEO to Chair Hella Shareholder Committee

Carl-Peter Forster, a former CEO of Opel and a BMW veteran, will become chairman of Hella's shareholder committee. His appointment is expected to be confirmed at Hella's AGM on 27 September, when the term ends of his predecessor, Manfred Wennemer. Hella's shareholder committee is the decision-making body of the listed company, which is over 60% family-owned.



Forster has over 35 years' experience in the auto industry. He began his career in 1986 with BMW where he rose to head of manufacturing before leaving the company in 2000; the next year he was appointed head of Opel, and he was promoted to president of General Motors Europe three years later. Forster resigned from GM in 2009 following his criticism of the automaker for reversing a decision to sell Opel to Canadian supplier Magna International and its Russian partner Sberbank.

In 2010, he joined Tata Motors as Group CEO, where he took responsibility for the Jaguar and Land Rover brands. In 2013, Forster joined Volvo Cars' board of directors before retiring from that role earlier this year. This past May, Forster joined the advisory board of Vayavision, an Israeli developer of autonomous vehicle technology who plan to expand in Europe.

Cree's Numbers for 2019

For fiscal Q4-19, which ended this past 30 June, Cree registered a revenue of USD \$251m—down by 5% YoY and 8% QoQ. Net income for Q4-19 was \$11.5m, compared to \$14.5m for Q4-18. Cree modified their forecast for Q4-19 due to the US Huawei ban in June; these Q4-19 results meet the adjusted expectations. For the whole of FY19 Cree reported revenue of \$1.1bn, a 17% increase versus FY18. Net income was up substantially in FY19 at \$77m, compared to \$37m in FY18.



The company see weak demands in the LED market and have been shifting focus to their Wolfspeed business in response to growing demand for silicon carbide technology.

CEO Gregg Lowe says his company's "long-term outlook remains unchanged—there is a significant opportunity to help customers make the shift from silicon to silicon carbide solutions for their next generation applications".

Cree completed the sale of their lighting product business to Ideal Industries this past May, and have become an exclusive partner to Volkswagen for accelerating innovative automotive technology. Cree will also carry on supplying silicon carbide wafers to ON Semiconductor based on their multi-year agreement.

Red Dot Design Award for Osram Continental



Osram Continental's corporate brand identity design, crafted by design firm KMS TEAM, has won a Red Dot Design Award in the Brands & Communication category. The panel of judges at Red Dot recognized a project with the Brands & Communication Design Award.

Osram Continental's brand identity is based on the mission statement "Shaping the Future of Mobility Lighting with Seamless Connectivity", which the designers say they condensed into three design principles that are also the characteristics of light: contrast, movement, and focus. The first letters of the two companies' names are presented in a combination O-C figure to the left of the names themselves; Osram's is rendered in the company's signature orange colour. Vehicle lighting features prominently in a [movie](#) introducing the company and their new brand identity.

The Red Dot Design Award is an international product design and communication design prize awarded by the Design Zentrum Nordrhein Westfalen in Essen

There are prize categories for product design, design agencies, and design concepts. Since 1955, designers and producers can apply for the prizes with the winners being presented in an annual ceremony. Winning products are presented in the Red Dot Design Museum on the premises of the historical Zollverein Coal Mine Industrial Complex in Essen.



reddot award 2019
winner

Future Concepts from Hella at Frankfurt Motor Show

Hella will be presenting solutions for the mobility of the future (New Mobility World, Hall 5, Stand B06) at the IAA in Frankfurt. Under the motto "Exceed possibilities", the main focus will be on lighting and electronic solutions with a view to the megatrends of electromobility and automated driving. The company will demonstrate their software and hardware expertise in the lighting sector, as well as their position as a leading supplier of high-performance key components and a strong subsystem supplier in the electronics sector.



At its 450-m² stand in the New Mobility World, Hella are taking visitors on a virtual journey to experience future functions and the interplay of lighting and electronics. In the "Efficiency & Electrification" complex of topics, for example, a concept vehicle illustrates how various lighting and electronics products support the various stages of electrification and function in the overall system in electric or hybrid vehicles.

In order to make autonomous driving more tangible, trade fair visitors will experience a completely redesigned interior in a vehicle. Different lighting solutions support various automated driving scenarios and contribute to customisation and comfort while driving. Car body lighting in particular plays an important role in communicating with other road users. In the course of the "Front of the car" approach, new concepts are also being developed for the vehicle front, in which lighting and electronic components are seamlessly integrated into the body, thus offering new styling and functional possibilities. High-resolution, digital headlamp technologies contribute to safety while driving, as do electronic products such as radar and lidar sensors, camera software, and other suchlike- whether in manual or autonomous operation.

DRIVER ASSISTANCE NEWS

Governments Mull Mandate for Child-In-Car Detectors



Every summer, small children die when left unintentionally in cars parked in the hot sun. Pets do, too. Now, American and European regulators are requiring child presence detection systems in cars. In 2022 EuroNCAP will begin awarding points toward vehicle star ratings for systems which can detect a child left alone in a car and alert the vehicle owner.

Some automakers already offer systems along this line. GM started offering their "Rear Seat Reminder" in the 2017-model GMC Acadia, then put it in a variety of other models soon after. It monitors the vehicle's rear doors if either rear door is opened and closed up to 10 minutes before the vehicle is started or while the vehicle is running, then five chimes sound and a message is displayed that reads "Rear Seat Reminder • Look in Rear Seat" the next time the vehicle is turned off. Nissan call their system Rear Door Alert. They introduced it in 2017, and plan to add it on all four-door models by the 2022 model year. Aside from a message on the instrument panel, Rear Door Alert honks the horn. And Hyundai have an optional "Rear Occupant Alert" newly available on the 2019 Santa Fe and 2020 Palisade, which uses door logic like GM and Nissan, and adds ultrasonic sensors in the vehicle's headliner to detect movement in the rear seats.

Vayyar are among the vehicle technology suppliers working on child presence systems, as well as other forms of driver and occupant monitoring. Such features were already attracting interest from consumers as vehicles take on more autonomy, but the prospect of new regulations requiring this kind of technology is speeding up detection system development.

In the mushrooming Israeli auto technology sector, even more sophisticated systems are now in development. Instead of relying on door sensors, newer approaches incorporate visual or radar-type sensors, located in the vehicle headliner, that can discern the presence of a person in the back seat by detecting a heartbeat.

Radars, Camera Sensors from Mobis

Hyundai Mobis say they will begin series production of their mid-range front-facing radars and camera sensors for domestic (Korean) commercial vehicles starting next month. This will be the first time such sensors will be applied to commercial vehicles like trucks produced in Korea.



The radars and camera sensors are based on hardware and algorithms originally developed in house by HM, embedded with forward collision-avoidance assist systems with data convergence between radars and camera sensors to calculate a safe distance from the preceding vehicle and automatically reduces car speed in a dangerous situation. The front-facing camera sensors can analyse high-definition image data by applying multiple arithmetic systems.

Having developed camera sensors as well as short-, mid-, and long-range radar sensors earlier this year, HM are expanding their technology, obtained from the advanced driver support system in the automobiles category, to products specialised in commercial vehicles. The mid-range front-facing radars also have resolving power and distance resolution to identify multiple targets at once within a short distance and the same angle with the range of 170 metres, which HM say is the longest among commercial-vehicle sensors of this type.

Correction: Magna's new ADAS and μ LED Facility is American

Automotive component supplier Magna's new electronics manufacturing facility is in Grand Blanc Township, Michigan, USA—and not in Canada as we mistakenly announced last week. DVN regrets the error. The new facility consolidates three nearby locations into a single site which occupies 21,000 m².



With nearly US\$ 50m investment, Magna expect the new facility to accelerate large-scale deployment of future technologies such as ADAS, advanced robotics and micro-LED lighting. Magna are also developing ADAS technology by combining cameras with other sensors such as radar and lidar, speeding up the wide deployment of autonomous driving technology.

GENERAL NEWS

Volkswagen to Show New Logo at IAA

Volkswagen will present a new brand design and new logo at IAA. The presentation of the brand is to become 'significantly younger, more digital and generally more modern'.



The brand relaunch coincides with the launch of the all-electric ID.3, which VW maintains 'will usher in a new era for Volkswagen'. The relaunch also addresses the need for an update that works better with digital media and will also include a 'sound logo'.

"New Volkswagen" will become visible and perceptible in the design of the vehicles, in customer contacts and in the corporate presentation as a whole. The objective is to 'create a new 360° customer experience that is modern and fascinating throughout the world and across all channels'. Volkswagen's Chief Designer Klaus Bischoff, who played a key role in the development of the new CI, said:

"The new brand design reflects a type of mobility that forms a natural part of people's lives. Volkswagen has always been a key element in these efforts. In the new age of mobility, the motto is 'digital first', without any filters."

The new logo will be more modern, clearer and simpler. The logo will be 'reduced to its essential elements and presented with a new design that is flat and two-dimensional'. It will allow more flexible use and will be 'outstandingly recognisable in digital media'. This, VW claims, also applies to the new brand signals such as pictograms, typography, colors or layouts.

The international roll-out of the new brand design will begin at the IAA Frankfurt International Motor Show in September. The starting signal will be given by the unveiling of the new logo on the high-rise building at company headquarters in Wolfsburg. The changeover is to be implemented in several waves using a cost-optimized, resource-conserving approach. Initially, the brand's locations and dealers in Europe will be changed over, followed by China in October. The changeover will then be implemented step-by-step in North and South America as well as the rest of the world from the beginning of 2020. All in all, 171 markets will be affected. At the more than 10,000 facilities of dealers and service partners throughout the world, about 70,000 logos will be replaced. Volkswagen's rebranding will therefore be one of the largest operations of this type in the industry world-wide.

Chinese Investing in R&D Operations in Europe

Attempting to gain prestige, improve competitiveness and open new sales channels abroad, Chinese automakers are investing in new design and engineering operations in Europe that could bolster their long-term prospects in the region and at home. Local R&D operations help manufacturers better understand market requirements, learn the vagaries of foreign regulations and compliance procedures, and establish ties with new suppliers.



Stefan Bratzel

"These development centres could certainly contribute to driving technological advances in China," says Stefan Bratzel, director of the Center of Automotive Management at the University of Applied Sciences in Bergisch Gladbach, Germany. "They are, however, much more likely making ground preparations to launch in the European market, since they realize their products wouldn't stand a chance if they cannot be developed to meet European needs".

An R&D centre or design studio is not necessarily a precursor to a market launch, nor a requirement; some brands have quietly operated in Europe for years without trying to introduce a model in the region. Volkswagen Group's largest JV partner, SAIC Motor, established a small engineering operation in Europe in 2005, as did VW's newest JV partner, JAC Motors.

But the slowdown in China's auto market over the past few years, culminating in the recent slump, has underscored the need for automakers there to expand their reach to survive. China's domestic brands have been hurt the most, with Geely dropping from second to fifth place in sales in one year. The early adoption of stricter "C6" emissions standards in many parts of China, as well as trade tensions with the United States, prompted forecaster LMC Automotive to revise their estimates for China's light-vehicle market through 2025; the analyst firm now expects a second straight year of contraction with only a gradual recovery.

Human Horizons, Nebula Link in V2X Pact

Human Horizons have entered a strategic coöperation agreement with Beijing Nebula Link Technology, for the development of V2X technology.



Human Horizons, who are behind a premium all-electric smart-automobile brand named HiPhi, have pioneered what they call the "3 Smart" strategy of smart car, smart transportation, and smart city in the industry. Nebula Link are a domestic supplier of V2X/vehicle-road collaboration products and solutions for intelligent networks. They lay claim to being the largest V2X software and hardware provider with the largest equipment deployment and data volume in China. Hundreds of intersections in more than ten cities, such as Beijing and Shanghai, have been connected to the Nebula Link V2X roadside system. In addition to supplying products and technologies in the industry, Nebula Link have also been deeply involved in the development of V2X standards.

The coöperation between Human Horizons and Nebula Link is a strong partnership between two high tech-oriented companies, which will help both companies accelerate the development of V2X application in the Chinese market, and to jointly promote the advanced development efforts to help deploy the technology.

Auto Parts Suppliers' Salad Days May Be Ending

Extract from Automotive News

The auto parts industry has chalked up a decade of steady growth, but analysts and forecasters believe the strains of falling vehicle sales, rising material costs, and huge demands for R&D spending could bring the party to an end.



Neal Ganguli, Deloitte

Who suffers most will be determined by business strategy, says Neal Ganguli, the managing director and leader of the automotive supply base group for Deloitte. "Past success is no longer a guarantee of future earnings. The industry itself is going to grow, but the supply base is going to change and just because the cost of parts per vehicle is going to go up, it does not mean a rising tide is going to lift all boats." Ganguli believes that the appearance of industry gains has been somewhat misleading. The growth was not equally shared, according to Deloitte's 2019 Global Automotive Supplier Study, released this month. The top third of auto suppliers accounted for more than 99% of the growth.

The troubling market forces will drive consolidation in the industry, Ganguli says, and suppliers will either be on the hunt for stronger segments to add to their portfolio, or they will become part of someone else's plans. The consolidation is driven by long-term outlooks on where market growth will be taking place. According to the study, segments such as transmissions and axles are expected to decline 10% by 2025. Meanwhile, the electric and autonomous vehicle sectors will rise. Electric drivetrain is expected to grow 300%, battery and fuel cell sectors by 260% and ADAS and sensors by 190%, according to Deloitte.

Investments in these sectors are likely to ramp up in the wake of declining car sales, as suppliers position themselves for sustainability in a down market, says Ganguli, arguing that an economic downturn "is going to force consolidation to happen faster...suppliers will focus their business even more and that means divesting or acquiring".

Honda enhances passenger-side safety with next-gen airbag

Beginning next year, Honda will roll out a next-generation passenger-side airbag designed to reduce the probability of injuries in a wider variety of frontal crashes.

The automaker previewed the technology for the press at its Honda R&D Americas complex here.



The airbag, co-developed with Autoliv, utilizes four major components, unlike conventional passenger-side airbags that use one inflatable component:

- A center chamber.
- Two outward-projecting side chambers that create a wide base across the dashboard.
- A "sail panel" that stretches between the two side chambers at their outermost edge.

Honda describes it as a "catcher's mitt" that catches and decelerates the occupant's head while also engaging the side chambers, pulling them inward to cradle and protect the head, mitigating the potential for injury.

Honda said the airbag is particularly beneficial in angled frontal impacts, in which lateral collision forces can cause an occupant's head to rotate severely or slide off the airbag, increasing the chance of serious injury.

"This airbag system is really looking at load cases where it's at an off-axis, let's say, 20° to 30°, where now the occupant isn't coming straight into the restraint system," said Eric Heitkamp, the Honda R&D crashworthiness engineer who led the project. "It's actually coming at an angle.

"With this new system, we can better manage lateral forces that are coming into the airbag system. ... And we're able to provide a better restraining system from the airbag."