

DVN SHANGHAI
WORKSHOP

19 - 20 APRIL 2021

HIGH TECH LIGHTING
IMPACT ON SAFETY, REGULATION AND STYLING

高科技照明

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Editorial

DVN Shanghai Workshop Will Be Live And Online

We're excited to confirm our DVN Workshop in Shanghai next month will be an actual, real, live, face-to-face event, augmented by virtual contributions from overseas. It's happening on 19-20 April, and the Chinese DVN team are totally involved to make a grand success of this, the first live DVN event since the pandemic shut everything down. You can download the Shanghai workshop brochure with the detailed conference program in English and Chinese [clicking on this link](#).

Speakers will present the innovations and perspectives of important companies including Audi, BMW, FAW VW, GM, Great Wall, Shanghai VW, Stellantis, and Volvo; Hasco Vision Systems, Marelli-AL, Mind, Mobis, Valeo, Varroc, and XingYu; and numerous tier-2 and light source suppliers. Presentations will be made live by those speakers in Shanghai, or by registered video for worldwide speakers not able to travel to China.

A central main purpose of this Workshop is to share news and exchange views with Chinese industry and regulators about the latest lighting innovations, quite probably the most important ever for improved safety. Like ADB and HR-ADB, the greatest innovation in vehicle lighting in many decades, and the variety of techniques to implement it—Matrix, DMD, MicroLEDs, Scanning, and LCD, to name a few. Also road projections as the beginning stage of communication amongst drivers, other drivers, and pedestrians. And of course there is much to show and tell in the design department in the spirit of light as the new chrome to build logos and different new lights around the car.

Some lectures will be played from prerecorded videos, but all the Q&A sessions will be live; there'll be half an hour reserved for Q&A after each session. Around 15 companies will present their products in the exhibition booths located at the wonderful Marriott Park View hotel in Shanghai. And all attendees will receive a high-class book of information concerning the event and a special report on the history, present, and future of ADB technology (we're really excited about this; it will surely be one of DVN's great published works).

Don't miss the event; [contact DVN's Salomon Berner](#) for reservation exhibition booth and registration information.

Sincerely yours


DVN CEO

In Depth Lighting Technology

DVN Shanghai Workshop: A Scintillating Docket



On 19-20 April—a little over a month from now—for the first time since the DVN Workshop in Munich two Januaries ago, there'll be a DVN Workshop live and in person, face to face, with great speakers and a large spread of exhibition booths.

The theme of the workshop is High Tech Lighting—Impact on Safety, Regulation and Style, and all the most important topics will be discussed.



Wolfgang Huhn

Wolfgang Huhn, formerly Audi's head of lighting and now DVN Senior Advisor, will open the workshop with a live keynote entitled *My Journey from Audi to DVN*.

Then, two sessions dedicated to automakers will showcase achievements and innovations and their efforts to improve safety and styling with glare-free high beam, road projection, laser lighting, OLEDs, micro-optics, small headlamps and rear lamps, and full-width lighting elements. At the end of the lectures, a half-hour Q&A session will be live-moderated by session chair Hector Fratty.



Dr. Henning Kiel
Shanghai VW



Paul-Henri Matha
Volvo Cars



Dr. Whilk Gonçalves
Stellantis



Lili Yang
FAW VW

For these two sessions, we are happy to welcome:

- Dr. Henning Kiel, Manager Front Lamps at Shanghai VW, presenting *Lighting Technologies for Human-Vehicle communication*
- Jonas Kobbert from Audi's headlamp development department, on *Attention and Distraction by Dynamic Light Functions*
- Whilk Gonçalves from Stellantis, on *Stellantis Global Strategy for Communication Using Lighting*
- Lili Yang, Group Leader of front lighting at FAW VW, on *Matrix Headlamp technology*
- Rene Übler from BMW, on *Dynamic Laser Matrix Beam*
- Paul-Henri Matha from Volvo Cars, on *Volvo Plans to be Fully Electric by 2030—Impact for Exterior Lighting*
- Michael Larsen, Exterior Lighting Technical Lead at GM, about *The long road to legalize ADB in the US*

Next will come two sessions dedicated to setmakers. Speakers will describe their technologies to improve safety and styling. At the end of the lectures, a 30-minute Q&A session will be managed by session chair Wolfgang Huhn.



Jinlong Ao
Hasco



Cho Yeonggi
Mobis



Luc Brisson
Varroc



Lei Fan
Valeo

These setmaker sessions will include lectures by:

- Jinlong Ao, Vice General Manager of Hasco Vision Systems, on *Beyond Lighting*
- Hossein Nafari, VP Lighting, Thermal, and Electrical Systems at Mind Optoelectronics, about *Popular Lighting Systems in China = 10K pixels level lighting or 1M pixel lighting*
- Sebastian Hirsch, Marelli-AL's R&D Director for Asia, on *Future Challenges for Digital Style*
- Chris Kirchenbauer, Head of R&D Lighting China, on *FlatLight-Technologies enabling New Styling for Automotive Signal Lighting*
- Cho Yeonggi, Head of Mobis' Shenzhen R&D Centre, on *ADAS Sensor Integrated ADB*
- Luc Brisson, R&D director of Varroc Lighting and Ralf Muenster, Bizdev & marketing VP of SiLC, on *Headlamp Integrated 6D Lidar*

And a presentation by Lei Fan, lighting manager in China at Valeo, .

Then, for the first time at a DVN Workshop, we'll have two sessions on vehicle interior topics in relationship with optics. There'll be a session on HMI and displays in tomorrow's cockpit, and a session on smart interior lighting. Speakers will include:

- Pablo Gacia Bravo and Weijie Hung, Grupo Antolin Shanghai, on *The intelligent cabin by Grupo Antolin*
- Prof. Blankenbach from the University of Pforzheim on *New Design Visions and Holistic HMIs by Advanced Display*
- James Gourlay from DesignLED on *Smart Interior Surface Backlighting*
- Dominique Heilbron from Novem on *Light & Function Integrated Interiors*
- Stefan Hoffmann, from Inova on *ILaS—The New Lighting Network for the Car*
- Sen Zhang from Ansys on *Interior Design Workflow*
- Dr. Wolfgang Clemens from PolyIC on *Smart surfaces with touch sensoric*

At the end of the lectures, there will be 30 minutes for a Q&A session managed in real time by session chair Philippe Aumont.

The next session will be one of the most important, focusing on the conflict between styling/marketing and regulations.



Valter Genone
GTB president



Davide Puglisi
GTB Secretary General



Rainer Neumann
Regulations, Varroc



Zhu Caiping
C- GTB Vice Chair



Bu Weili
Secretary General



Wang Wei, SMVIC
Secretary SAC/TC114/SC21

Live and online speakers will include some of the greatest lighting regulation experts in the world— GTB President Valter Genone; Secretary General Davide Puglisi, and Vice President Bart Terburg; Wolfgang Huhn, Rainer Neumann, and Chinese regulators including Wang Wei from SMVIC, Zhu Caiping (C-GTB Vice Chair), Bu WeiLi, and He Yuntang. Lectures will cover regulatory priorities for Chinese industry and the way to synchronise the adaption to technical progress of the GB standards and the UN Regulations. This week's DVNewsletter contains our first full interview of Valter Genone, by the way.

The next session will focus on light sources, with status reports and trend discussions on LEDs, OLEDs, matrix, lasers, μ LEDs and more by Lumileds, Osram, Everlight and Texas Instruments. The last session will centre on skills to help high tech lighting with presentations on material, electronics, simulation and lamp aiming from Covestro, NXP, Ansys, and AML Systems.



DVN SHANGHAI WORKSHOP 2019 (THE 300 ATTENDEES)



DVN SHANGHAI WORKSHOP 2019 (REGULATION SESSION)

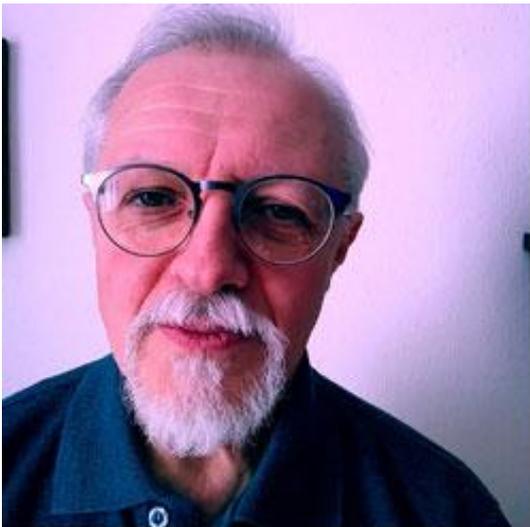
Lighting News

DVN Interview: GTB President Valter Genone

LIGHTING NEWS



Valter Genone has been GTB President for a few months now, and kindly granted DVN an interview to see how it's going.



DVN: First, congratulations! You are the new President of GTB, succeeding Geoff Draper. Tell us about yourself, won't you please?

Valter Genone: Thanks a lot. For the congratulations and to give me the opportunity to introduce myself to DVN. I was born in Torino, Italy in 1954. After having completed my studies in Aeronautical Constructions, in 1978 I started to work for FIAT in the Regulation office. My main field of activity was lighting, but during the years I also worked on other electrical and electronic matters (like electromagnetic compatibility, instrument panel and so on), on steering systems and ADAS, on direct and indirect visibility and other "minor" items. At the end of 2019, for my last working year, I moved to the Homologation office of FCA.

In 1981 I started to attend International meetings on lighting as technical consultant of the Italian Ministry of Transport. For some years I regularly attended EEC technical meetings on the evolution of the EEC Directive 76/756 "Lighting Installation" in Brussels. I have been attending the GRE

sessions in Geneva from 1984 until 2018. In parallel I also attended GTB meetings, as Italian delegate and then as Head of the Italian Delegation; for some years I have been the Secretary of the GTB Working Group Installation.

From a private life point of view: I am married since 1978 and father of two daughters and two sons. I have also three granddaughters and one grandson: quite a big family!

DVN: What was your reaction after your election?

Valter Genone: Well, I was quite surprised but very honoured for having been recognised as a suitable GTB President. I suppose that several GTB Members deemed quite important my large experience in the regulatory world for such a long time. I will use my experience to continue the good work done by Geoff Draper and to guide GTB through the next challenging years.

DVN: GTB has recently restructured with the introduction of the new role of Secretary General. Can you please summarise the revised role of the GTB President?

Valter Genone: With the new structure more responsibilities, including the technical management of the GTB work, have moved under the Secretary-General's competence, while prior to the restructuring this was among the President's main responsibilities. Consequently, the role of the President is now more devoted to the guidance of the association and to the administrative and institutional activities, including public relations. This will allow the President to focus more on all those actions aimed at creating and strengthening the relationship with the other groups, like DVN, or institutions operating in the vehicle lighting world.

DVN: You had a long and successful career at Fiat, and you have great experience in regulatory matters, working in GTB and in the UN activities in Geneva. How do you expect to use this knowledge in your new role as GTB President?

Valter Genone: The many years spent in Brussels and Geneva regulatory working groups allowed me to understand the administrations' point of view. At the same time, from the parallel experience of work in a vehicle industry, I have learnt what the vehicle manufacturers need from the regulatory instruments. GTB is already a meeting point among different realities and points of view; I hope that my experience and exposure to viewpoints from both sides will help the GTB to increase its negotiation attitude, that in the past resulted to be the key to solve some controversial issues in GRE. Due to my previous activity, I should also be able to support the Secretary-General with some practical aspects such as the editorial revision of the final proposals to be submitted to GRE.



DAVIDE PUGLISI



BART TERBURG

DVN: What will be your relationship with Davide Puglisi and Bart Terburg?

Valter Genone: I met Bart and Davide many years ago and our personal relationship have always been friendly; this will be a big help in our interaction for the activity. At the beginning, I will need their assistance to correctly move my first steps in the presidential role. Once my learning phase will be concluded, I think we should consolidate the interchangeability for certain activities, in such a way to optimise the presence of GTB where and when it is needed.

The present structure, as recently optimised, should not need further heavy changes, after the excellent work made by the previous management team. This should allow each of us to concentrate on the specific activities, being also ready to support each other to perform our duties.

DVN: GTB has done a great job this last decade but many challenges are still in front of you. How will you manage them?

Valter Genone: A field in which GTB is particularly active is harmonisation. This issue is a real challenge for lighting. I worked already, particularly in GRE, on this item and I know the high interest that industry has in worldwide harmonisation and synchronisation of the technical requirements. But I also had a clear feeling of the substantial hostility that certain administrations had towards a real alignment of the requirements necessary to regulate the type approval or certification of vehicles and components. Political and economic interests are still existing, contrasting the harmonisation process but, in recent times, something seems to move in the right direction. GTB can play an important role to discover, for each involved country, the specific point of interest able to show to its administration the prevalence of the pros vs the cons of harmonisation. Once the process will start, my feeling is that most of the technical issues could be solved quite easily.

A number of other issues are still on the table, that could appear as challenging. However, I think that the present international situation already provides inputs naturally in favour of a quite easy acceptance of innovative products and technical solutions, also from the point of view of their regulatory provisions.

The administrations are looking for something able to solve, or at least to improve, the situation for some of the main issues in automotive: electrical vehicles, CO₂ reduction, autonomous vehicles, increasing number of elderly drivers, and others. But they are suspicious towards industry proposals, maybe since industry is often proposing products/technical solutions having nothing to do with the administrations' needs.

Industry is able to provide innovative products/technical solutions answering to the administrations' needs, but also a number of items that seems to go in the opposite direction are proposed.

GTB is, by its nature, in the best position to find the converging point between these two attitudes and consequently provide the necessary adaptation of legislative requirements to make the products or technical solutions legal; and the administrations will be happy to accept our proposals, helping them to solve their problems.

DVN: What is the message you would like to transmit to the worldwide vehicle lighting community?

Valter Genone: Well, in principle, I think I have already answered this question, particularly in my last answer above. Automotive lighting and light signalisation have an important role in the vehicle safety. I think that this role will be still important, probably with suitable adaptations, also in the (far) future of autonomous vehicles' circulation. We shall not change the role of vehicle lights from important safety elements to a distractive and confusing assembly of flashing and fluctuating multicolour lamps. Administrations request to improve safety, to reduce energy consumption, to find the right illumination and signalisation solution for any specific circulation and ambient conditions.

Industry is continuously proposing innovative products; many of them can answer to such requests.

GTB is able to provide the answer/solutions to put these products legally on the market, but the answers/solutions we will provide shall be honest. The choice of the items to work on, the scientific study supporting our work and the regulatory text we will finally propose to the administrations shall always be directed to really improve the quality of vehicle circulation and its impact on our life.

In my view, this is valid for GTB but it should also be the final target for the entire automotive community, not only the lighting one.

Bountiful Regulation Session Planned for DVN Shanghai Workshop

LIGHTING NEWS



2019 SHANGHAI DVN WORKSHOP

The objective of this session is to focus on the activities of C-GTB and SAC/TC114/SC21 in the context of the development of the Chinese GB Standards and to review the work in GTB. We will have the honour to welcome Xie Dongming, President of the China Automobile Standards Internationalisation Centre.

On the docket:

- Introduction to the Session and Presentations (Davide Puglisi, GTB Secretary General)
- Progress of SAC/TC114/SC21 to update GB Standards (Wang Wei, SAC/TC114/SC21 Secretary)
- Hot Topics in the Drafting Process of new GB Regulations (Zhu Caiping, C- GTB Vice Chair)
- Current and Planned Research Projects Sponsored by the GTB Scientific Working Group (Rainer Neumann, GTB WG-SVP Chair)
- GTB Activities at GRE (Davide Puglisi, GTB Secretary General)
- Introduction to the China Automobile Standards Internationalisation Centre (Xie Dongming, President of China Automobile Standards Internationalisation Centre)

These presentations will be followed by a panel discussion moderated by Davide Puglisi to discuss *Could the recently launched China Automobile Standards Internationalisation Centre be the key to synchronise the adaption to technical progress of the GB standards and the UN Regulations?*

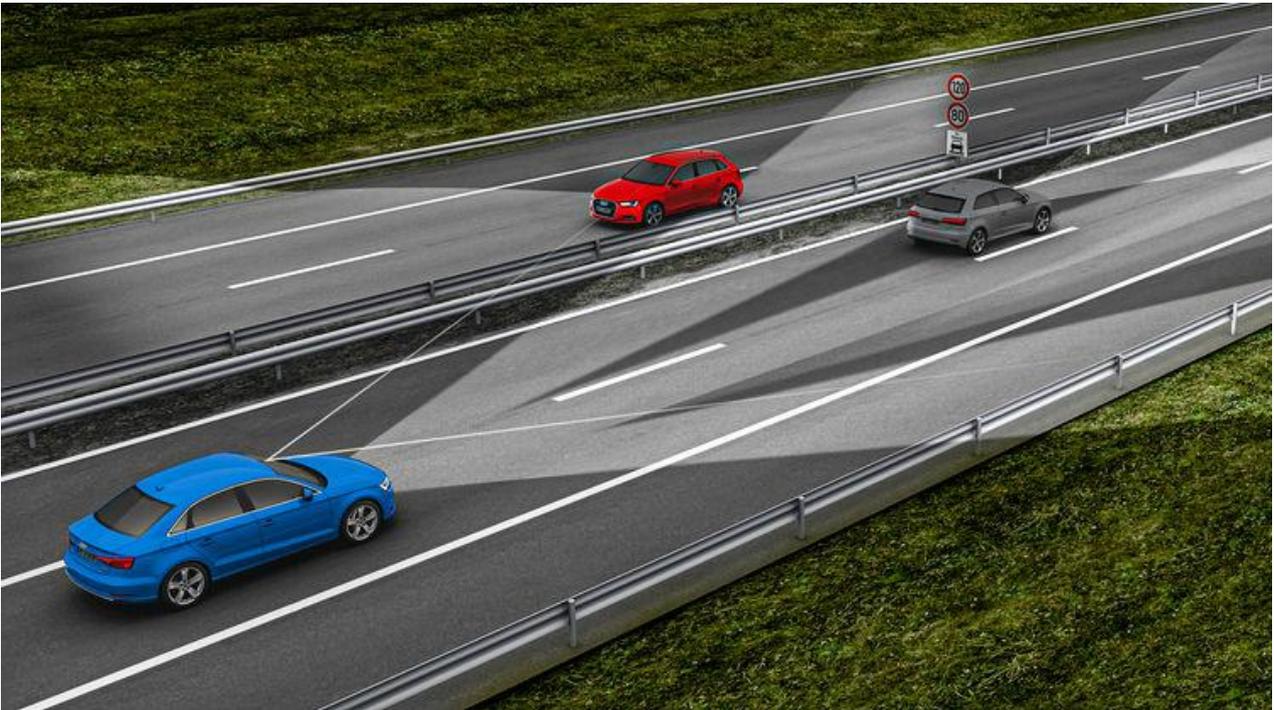
The panelists will be:

- Xie Dongming, President of China Automobile Standards Internationalisation Centre
- Bu WeiLi, SAC/TC114/SC21 Secretary General
- He Yuntang, C-GTB President
- Wang Wei, SAC/TC114/SC21 Secretary
- Zhu Caiping, C-GTB Vice Chair

At the last DVN Regulatory Session this past December, Geoff Draper argued that a new initiative is required to encourage China and the USA to actively contribute to a discussion on ways to harmonise lighting and light-signalling technical requirements at the UN World Forum (WP29 and GRE). The idea is to avoid the politics of the UN 1998 Agreement and follow the approach currently adopted by Korea and India, who routinely contribute to the work of GRE and update their national regulations in line with outcomes of the GRE work, adopted by WP29.

Auto Motor und Sport: What Can Headlights Do?

LIGHTING NEWS



Popular German motoring magazine Auto Motor und Sport recently did a feature article in which the headlighting equipment and performance of a variety of cars was compared. Here are some highlights extracted and translated from the original German, along with a summary of the main conclusions.

"Our many years of experience with light tests shows that laboratory measurements can provide additional data, but the actual performance that is relevant in everyday life can only be seen in practice. That is why we evaluate the quality of the systems when driving on our proven, topographically demanding light test route. Thanks to crests and valleys, straights, curves, forest passages, crossings, roundabouts and traffic signs, it is perfectly suited for the evaluation of all criteria. This also includes the adaptation of the light output to other road users.

"In principle in all classes, thanks to LED headlamps, even small cars shine as brightly and efficiently as expensive ones in the past. That is why we think even a well-crafted halogen system is like someone put a candle on the front of the car. As a special guest: the Audi e-tron S Sportback, the first to be available in large-scale production with digital LED matrix headlamps. Mercedes-Benz is offering something similar in the previous Maybach and now in the S-Class. So, it remains exciting.

"In our test, the adaptive systems show how far the technology has come. The test persons confidently illuminate even treacherous peaks and valleys, cut out oncoming and driving ahead from the high beam. Although there are definitely differences here: some work rather abruptly, almost hectically, others with a steady, glowing hand and generous cutoff. Strikingly bright: the BMW, thanks to laser support. Outstandingly gentle and skilful: the complex and very expensive digital matrix LED of the Audi. Opinions may be divided about its additional projections, but the regular illumination while driving is remarkably pleasant, efficient and fatigue-free with the e-tron. It couldn't be better.

"The (expensive) digital light shows what the future could look like: at a distance of 100m, the shadow zone can be 2.5 centimetres wide; with good 84-pixel headlamps, it can be 1.8 by 2.4 m. Digital systems are not necessarily brighter than others but regulate extremely fine. Behind it is a DMD (Digital Micromirror Device), its micromirror with an edge length of only a few hundredths of millimetres; depending on their position, they either cast the light onto the street through lenses or in a light-absorbing material to generate fade-outs. It delivers clear projection, marks the driving lanes, or adjusts the light output according to the static and dynamic environment.

"**BMW X5:** The laser in the BMW supplements the swivel LEDs and significantly increases the range

of the high beam. For an extra €2,000, the X5 combines LED modules with laser light for ranges of up to 500 metres. Overall, very high light output on the road and on the edge but slightly spotty in places. Cutoff is abrupt, but small shadow zones prevent reflections from signs. Very low risk of dazzling. Very bright, long-range light with a wide projection and fine adaptation. Slightly inhomogeneous.

"Mercedes A-Class: The A-Class shines with a multibeam LED (matrix) for an additional €1,488. Basically homogeneous, even illumination with a pale yellow colour, visible LED columns, and a decent range. Pleasantly calm, somewhat hesitant control with cutoffs that remain illuminated too long. No glare. Clean, conservatively designed matrix light with typical "LED curtain".

"Ford Focus: For a different surcharge depending on the equipment line (€500 to €1,300), the Focus shines with a camera-controlled adaptive LED. Luminosity and range on the road are lower than those of the competition. Homogeneous, even colour and relaxed adaptive control that is reminiscent of a high beam assistant without a matrix function. Unspectacular, moderately long-range, uniform LED system with consistently smooth control.

"Porsche Cayenne: Matrix-LED systems can also dynamically shadow out several objects at the same time with high beam. The LED matrix with PDLs Plus for €1,950 extra shines brightly, homogeneously, and evenly without annoying bars or the like. It tends to be concentrated on its own lane, hardly dims when it comes to signs, and is generally accommodating and without hectic light movements. Practical, homogeneous light without interference from edge irradiation. Traffic signs can reflect too much.

"Volvo XC60: The "Thor's Hammer" light package for €1,000 extra shines adaptively and at the same time bright and flat with a homogeneous white light colour and a decent range. The matrix control sometimes seems a bit hectic but also reliably prevents the glare of others due to its large shadows. Homogeneous basic illumination with beautiful light colour but not always adequate situational adaptation.

"Audi e-tron Sportback: The digital matrix LED impresses above all with its extremely fine dynamic light control. Aside from the clear projection on stage, the digital technology projects dynamic driving aids onto the road. In addition to the good matrix LED for €1,450, Audi (earlier than the Mercedes S-Class) offers digital matrix LED in large-scale production. Happily, the €4,500 extra bring show-worthy productions (coming home and leaving home), light-assisted predictive lane guidance and orientation aid, for example in narrow construction sites or when changing lanes through markings, as well as a flood of light in front of the car. Above all, however, the basics are convincing, with fine, sensible dynamic controls for changing topography, curves, signs, or other road users, which the digital system fades out gently and accurately based on the contours. Overall, the e-tron delivers a beautiful, bright, and homogeneous light output with not too white colour and minimal shadows (presumably from the headlight housing), no glare at others, and fine dimming prevents reflections from traffic signs.

Osram Continental Joins ISELED Alliance

LIGHTING NEWS



By joining the ISELED Alliance, Osram Continental are contributing, among other things, their expertise in projection solutions to the industry alliance, thereby expanding the existing ISELED focus with an important field of application.

The alliance aims to provide comprehensive system solutions around ISELED (Intelligent Smart Embedded LED) technology to establish it as a standard solution.

By using light projectors, Osram Continental transform the vehicle and its surroundings into a canvas for automakers and mobility providers.

Light thus not only becomes a key element for advanced safety and better functionality, but also opens up potential for customized design and a personalized driving experience.

"We are pleased for Osram Continental to now be part of the ISELED Alliance. Through our expertise in the field of light projection, ISELED's focus on ambient lighting can be significantly expanded. Together, with the other partners, we want to broaden application fields for smart LEDs further to better serve the growing interest and market demand for the technology," says Dr. Christoph Gärditz, Head of Interior Lighting, Osram Continental.

The ISELED Alliance is an open, industrial alliance of more than 30 companies and institutions with the goal of developing a comprehensive ecosystem and thus a complete system solution for innovative automotive lighting based on ISELED technology. Currently, various ISELED products from several manufacturers are available. ISELED technology is supported by several leading LED manufacturers, microcontroller vendors, Tier 1 automotive suppliers and other industry leaders.

MagWerks Vision Open for Business

LIGHTING NEWS



Seasoned vehicle lighting and magnesium thixomoulding expert Michael Pickholz has started a new venture, MagWerks Vision, to meet the lighting needs of the numerous new kinds of vehicles—and new makers—rapidly coming onstream.

MagWerks Vision will carve out their niche in high-design, high-performance, low-mass and cost-effective lighting for new EV manufacturers who don't find standard off-the-shelf lighting devices suitable for their needs, yet are too small to interest the big-name tier-1 suppliers whose order books are already full of major-automaker projects.

"New EV makers face a hurdle when it comes to understanding the complexities associated with lighting, as well as the need for an effective lighting system", vehicle lighting and magnesium thixomoulding expert Michael Pickholz says. "New EVs will be scrutinised by the likes of IIHS just like cars from big OEMs, and producing high-performance illumination is orders of magnitude more difficult than simply meeting basic standards." He notes that light-as-new-chrome is a white-hot trend: the lights on new-brand, new-kind vehicles must not only work well, but also look fabulous.

They also can't take a lot of power, weigh a lot, or involve high parts counts. Pickholz says his thixomoulded-magnesium technology addresses all these needs at a stroke by meeting structural, optical, and thermal needs of the back half of the lamp simultaneously, while his optical silicone optic lens technology stands to hold up the front-of-lamp end of the bargain.

Driver Assistance News

Honda launches world's first level 3 self-driving car

DRIVER ASSISTANCE NEWS



Honda Motor will launch a new car equipped with the world's first certified level 3 autonomous driving technology, paving the way for the automobile industry to gear up efforts to commercialize such automation for passenger vehicles.

Industry experts are cautiously watching to see if the Legend, a luxury sedan that operates without driver supervision under certain conditions but requires the driver to assume control of the vehicle within seconds when alerted, can capture enough demand to suggest a way forward for other manufacturers.

The new model's Traffic Jam Pilot system was approved by Japan's Ministry of Land, Infrastructure, Transport and Tourism in November. It can free drivers from driving in congested traffic on an expressway when travelling slower than 50 kilometers per hour.

The system automatically accelerates, brakes and steers while monitoring the vehicle's surroundings, using data from high-definition mapping and external sensors.

Honda is taking a cautious approach to introducing this cutting-edge function. Only 100 units will be produced, available only for lease sales. The model is priced at \$102,000.

Honda said it simulated around 10 million possible situations, and conducted test drives on highways for approximately 1.3 million kilometers, in developing the car. It also set the speed limit much lower than the 60 kph allowed by regulations.

The car also offers various "level 2" driving assistance features, such as hands-off driving when following a car in front within a lane or changing lanes. The model is also equipped with an emergency stop system, which decelerates and stops the car at a safe place if the driver remains unresponsive to a take-over request.

Elon Musk Has Lost the Plot: Innoviz CEO

DRIVER ASSISTANCE NEWS



Notoriously mouthy Tesla CEO Elon Musk makes a hobby of hating lidar. At Tesla's first-ever Autonomy Day in April 2019, Musk famously called automotive lidar a "fool's errand" and said anyone relying on it is "doomed". Pretty much the entire rest of the ADAS and AV world thinks Musk is wrong—including, unsurprisingly, the CEO of lidar supplier Innoviz. Omer Keilaf says "Five years ago, when he had to make a decision on a car that he brings to the market, there was no lidar that was available at the right price point and performance and maturity, so he made a good decision".

But we live in the now, not in the five-years-ago, and the lidar components that used to cost five figures apiece are now just \$1,000, which will clearly be cut in half shortly, and decimated to \$100 in the foreseeable future. That's due in large part to economies of scale made possible by increased volume due to mass-production quantity purchases by the world's automakers (except Musk's Tesla). Keilaf argues that proves lidar is not a doomed fool's errand, but is the best and safest choice. He notes that "cameras can achieve quite well in seeing objects...as long as they can see", and he's got a point; raindrops and mud and the like blind cameras, but don't impede lidar-based systems.

The InnovizOne is a solid state lidar that mounts in the car grille. It can see objects from ten centimetres away to 250 metres. With a maximum field of view of 115° horizontally and angular resolution of just 0.1°, it can distinguish small details. And at five to 20 frames per second it's fast enough, Keilaf says, for cars traveling at high speed. The resolution is key—while visual systems for self-driving cars currently outperform the human eye, lidar advocates say that its range, resolution, and resistance to weather conditions make it the technology to beat. Keilaf says lidar is the best technology because it provides better insight into what's around your autonomous vehicle. "A camera is mostly relying on the fact that you are able to train the system to identify what it is in order to interact with it. A lidar is actually a physical sensor. You send a pulse of light and you measure a reflection, a light reflection from an object. So you basically can see it. So you know where it is. You know what's the size of it, even if you don't exactly know what it is. If you didn't train your camera to understand what is that object...not sure how would you react to it."

General News

World Car Award Finalists Announced

GENERAL NEWS



The finalists in the 2021 World Car Awards have been revealed after 93 jurors overcame coronavirus challenges to vote on a long list of dozens of cars.

A total of 10 cars will go forward and run for 2021 World Car of the Year, while five cars each will battle to win Urban Car of the Year, Luxury Car of the Year, Performance Car of the Year and World Car Design of the Year. The overall victor will succeed 2020's World Car of the Year, the Kia Telluride. The winners will be declared on 20 April.

Before that can happen, though, jurors will now complete another round of secret judging, overseen by KPMG, to decide the top three finalists in each category. In the main World Car of the Year category, two brands are represented twice: BMW's 2 Series Gran Coupé and 4 Series, and Kia's K5/Optima and Sorento. Another highlight is the Toyota Yaris, which recently won the 2021 European Car of the Year prize.

2021 World Car of the Year finalists

Audi A3
BMW 2 Series Gran Coupé
BMW 4 Series
Honda e
Kia K5/Optima
Kia Sorento
Mazda MX-30
Mercedes-Benz GLA
Toyota Yaris
Volkswagen ID.4

Volvo, Geely Agree Stronger Collaboration

GENERAL NEWS



吉利汽车
GEELY AUTO



Volvo Cars and their Chinese owners Geely Auto have agreed a wide-ranging collaboration that will maximise the strengths of the Swedish and Chinese automotive groups, delivering synergies in powertrains, sharing of electric vehicle architecture, joint procurement, autonomous drive technologies and aftersales.

Following a detailed review of combination options, Volvo and Geely have concluded they can secure new growth opportunities in their respective markets and meet evolving industry challenges through deeper cooperation, while preserving their existing separate corporate structures.

The collaboration will be overseen by a new governance model, supported by Geely Holding, the lead shareholder in both companies. Volvo and Geely Auto confirmed the combination of their existing powertrain operations into a new standalone company. The company, expected to become operational this year, will provide internal combustion engines, transmissions, and next-generation dual-motor hybrid systems for use by both companies as well as other automobile manufacturers.

Through the collaboration, the two companies will focus on the development and sourcing of next-generation technologies, from connectivity and autonomous drive to car sharing and electrification. They are planning to share and jointly source batteries, electric motors and connectivity solutions that will generate valuable synergies. This will include the joint development of a world-leading autonomous driving solution under the lead of Zenseact, Volvo Cars' AD software development company.

Nio Look to Ship Over 20K Units in Q1

GENERAL NEWS



Chinese electric car maker Nio last week forecast current-quarter deliveries between 20,000 and 20,500 vehicles, after their fourth-quarter revenue more than doubled on rising demand for battery-operated vehicles. Nio delivered 17,000 vehicles in Q4-2020, and 7,000 vehicles in January..

The upstart posted a wider-than-expected loss in the fourth quarter, a year after a government cash injection saved the company from bankruptcy. The net loss amounted to \$200m, compared with more than \$400m a year earlier.

Electric-vehicle demand in the world's biggest car market is set to soar in coming years as consumers embrace cleaner automobiles and the cost of EVs keeps dropping. Research firm Canals said in a report last week that EV sales in China may grow more than 50% in 2021.

Nio will focus on maintaining itself as a premium brand while "Tesla holds an ambition to become Volkswagen or Ford in electric-vehicle making," Li said earlier this year. He talked about the possibility of producing cars for the general mass market in future, but "not necessarily under Nio's brand." Another point of difference between Nio and Tesla is that Nio has embraced the battery-as-a-service model, whereby consumers are able to buy the car shell while leasing the battery and upgrading it as technology changes and improves. This makes the upfront cost of buying an EV cheaper.