



Editorial

Don't Miss The Shanghai DVN Workshop— Wherever You Be!

This week I bring three important messages for all my colleagues here in the DVN community:

1. Next week's Shanghai DVN Workshop has been carefully organised to facilitate both live and remote attendance and participation. If you are in China, you can attend live at the Marriott Park View hotel in Shanghai. If you can't get to Shanghai, no problem; you can attend online—and if the timing is not convenient, you can get all the videos of the lectures whenever you please, for a whole week after the event, right on the DVN website.

To register for a live attendance in Shanghai, [follow this link](#).

To register for an online attendance from everywhere, [follow this link](#).

2. And speaking of the lectures, never in any of the previous 21 DVN Workshops have we had a lecture docket at such a high level as we do for this event. There'll be presentations from seven automakers, seven tier-1 suppliers, Chinese and worldwide regulators, and vehicle interior specialists—all top experts.

3. Last week, the newest DVN Report on ADB was released in English. It is one of the most important reports we've ever published. We've had it translated into Chinese, and a printed copy will be supplied at no charge to all who attend the DVN Workshop in Shanghai; it can also be downloaded from the [DVN website](#).

To register for the Workshop, contact :

[Andy Ma](#), tel : +86 137 64303456, or [Salomon Berner](#)

I look forward to welcoming you at the Workshop!

Sincerely yours,


DVN CEO

In Depth Lighting Technology

Behind the Scenes: All Hands On Deck



DVN

DVN SHANGHAI
WORKSHOP 19 - 20
APRIL 2021

HIGH TECH LIGHTING 高科技照明
IMPACT ON SAFETY, REGULATION AND STYLING

More info and registration on www.drivingvisionnews.com

There have been 21 DVN Workshops before, and while every one has been bigger and better than before, none of them has been so tricky and difficult as this one to set up. We've had the whole of the DVN team working constantly on it. We wanted, as usual, to involve the whole community in this Workshop. But it's in Shanghai—a far trip even in normal times, and an utter impossibility for most of the world with a pandemic on. So we decided to make it a hybrid live/online workshop to make the maximum opportunity for the maximum number and variety of people to attend.

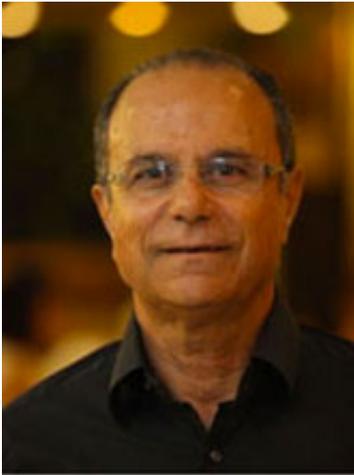
This surely is the right decision to provide top value to the DVN community, but it did greatly increase our workload. And it's no second-best; we think it's going to carry on the unbroken string of better-than-ever DVN Workshops with lectures from seven automaker speakers—the greatest number ever—as well as top-level presentations from major and innovative lighting suppliers, from worldwide and Chinese regulators, from vehicle interior experts.

We'd like to take this opportunity to introduce the DVN team members who have been working so hard to make this event a reality. WS, their bio, their function inside DVN, and what they have done to succeed this workshop. They deserve to be better known



Salomon Berner, Sales and Finance director: Workshop organiser

Salomon Berner first graduated as a polytechnic and aeronautical engineer, and then successfully took over managing responsibilities in small- and medium-sized industrial and service companies in France and abroad. After retiring, he started a second business life as Management Consultant and Coach. His business experience is key in setting up the Driving Vision News business model and website.



Hector Fratty, CEO: Program organiser and Session Chair

Hector Fratty's entire career has been in automotive lighting. From 1995 to 2006, he was Valeo Lighting's chief of R&D. His level of expertise in lighting gained him recognition as one of Valeo's five Master Experts.

In 2008, he initiated the launch of his own company, Driving Vision News, which has become the automotive lighting and driver assistance industry's journal of record dedicated to keeping the community informed and communicating about the latest progress and developments.



Philippe Aumont, DVN-Interior Director: Vehicle Interior Session Organiser & Chair

Philippe Aumont is a highly experienced executive with almost 40 years in the automotive interior supplier industry. He's an engineering and business graduate, and has completed many general management programs. He acted as Chief Technology Officer at Faurecia Seating between 2011 and 2017. Previously he worked at Roth Frères, Johnson Controls, and Faurecia in various positions including R&D, marketing, strategy, new product development, open innovation, startups, university; his earlier experience was in JIT, production, program management, costing, and sales. He's had work assignments in France, Belgium, The Netherlands, and Germany, with frequent travels to the USA, Japan, China, and India.



Wolfgang Huhn, Senior Advisor: Keynote Speaker; Session Chair, ADB Report Co-Author

From 1981 to 1986, Wolfgang studied electrical engineering at TU Darmstadt. From 1987 to 2000 he was with BMW. In 1999 he got his PhD at TU Darmstadt, and from 2001 to the end of 2020 he was Audi's Lighting and Vision Systems Development Executive Director. In 2021 he retired from Audi and started at DVN as a senior advisor. He is chairman of the GTB WG strategy. Dr Huhn has greatly influenced the evolution of lighting technologies, and has received the Ferdinand Porsche Award for the introduction of the Audi R8 full LED headlamp, and was awarded DVN's Person of the Decade 2000-2010.



Geoff Draper, Senior Regulatory Advisor: Session Chair, ADB Report Co-Author

Geoff retired from Koito Europe in 2008 after a 47-year career in the vehicle lighting industry and was elected GTB President, a position he held until December 2020. He is now engaged by DVN as Senior Regulatory Advisor.

Apart from his mainstream roles Geoff developed an interest in international regulatory harmonisation, and in 1989 was elected chairman of the GTB Harmonisation working group; he subsequently he led the GTB Front Lighting group, CIE TC-4-45, and the SAE Pedestrian Visibility Taskforce.

Until his retirement, Geoff was a member of the ISAL Steering Board, Honorary President of the ALE Forum (China), and a regular contributor to Driving Vision News and its workshops. He was voted DVN Personality of the Year in 2017.



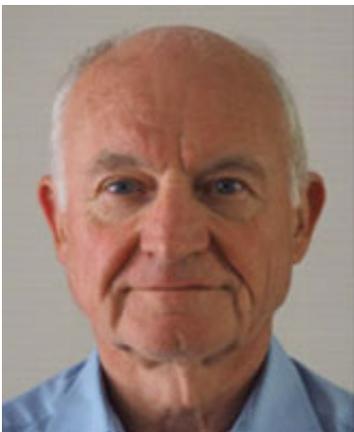
Dr. Ralf Schäfer, Lighting expert: Session Chair

Ralf Schäfer earned his Ph. D. in Physics from the University of Münster. He joined Philips Research Labs in Aachen, Germany in 1977 working on halogen and HID light sources, then became group leader in the Philips Lighting Advanced Research Labs in Eindhoven. Later he was Head of Xenon Development Department within Philips Automotive Lighting, where his focus was to prepare this new technology for industrialisation and promote introduction of Xenon lighting together with automakers and suppliers. Finally he was VP for OEM marketing of Philips Automotive Lighting.



Leo Metzemaekers, Lighting expert: Session Chair

After graduating Delft Technical University in the Netherlands Leo Metzemaekers worked 29 years at Royal Philips (including 2 years at Lumileds). Leo has a mixed experience of 10 years in the Consumer Electronics industry and 19 years in the automotive industry. During his professional career at Royal Philips, he lived and worked in various countries: Netherlands, Austria, Germany and USA, mainly for global assignments in Product Development, Sales & Marketing, Strategy & Business Development and General Management.



Jean-Paul Ravier, Development Advisor: ADB Report Co-Author

Jean-Paul graduated from ISAE SUPAERO (the Institute for Space and Aeronautics Engineering) and IAE Paris (Institute for Administration of Enterprises). He worked for over 41 years at Valeo, including

29 years at Valeo Lighting where he held a variety of management positions first in IT and finance, and then in R&D, projects, and innovation, including in Japan from 2005 to 2009 at Ichikoh as a board member and managing director. He retired from Valeo in 2013. Shortly thereafter he was appointed chair of the ELS programme, an advanced master's degree programme in lighting.

And we mustn't forget marketing director Carine Abouaf for her communication of the Workshop with the responsables per region: Ann Ai for China, Eiichi Ono and Takashi Sato for Japan, B.Y. Chun for Korea, Carsten Befelein for Germany, and Ingo Schneider and DVN Chief Editor Daniel Stern for North America.

Lighting News

Huhn is Keynote Speaker for Shanghai DVN Workshop

LIGHTING NEWS



In his keynote, Wolfgang will talk about some personal highlights of his 20 years as the head of Audi lighting development, including the daytime running lights strategy, his first success where LED-DRL was used as brand signature, the world's first full LED headlamp, the safety-crucial matrix beam, and the surprising OLED rear lamps. He will describe the awards he's received, and will mention of course the Audi lighting team who made all this happen. With the example of the Audi DMD project, he leads over to his transition to DVN. He will explain

how he brought in his knowledge first time to the new DVN ADB report. Finally, Wolfgang will compare the fundamental differences of his new job to his old job in a table. It's sure to be an engaging, fascinating talk!

Session 1 at DVN Workshop: Large Panel of Automakers

LIGHTING NEWS



H. Fratty
Chairman



H. Kiel
SVW



J. Kobert
Audi



W. Goncalves
Stellantis



L. Yang
FAW VW



R. Uebler
BMW



P.H. Matha
Volvo cars



M. Larsen
GM

Seven speakers from carmakers will present their achievements and their wish lists to improve safety and style. In a period where budget and buzz are dedicated to EVs and AVs, it will be interesting to learn how lighting could help with fatality reduction and propose solutions to designers to differentiate their cars' appearance.

S-VW's Henning Kiel will start out by talking about new night appearance of SAIC Volkswagen, with the personalized welcome communication, the logo light, the light lines, the 3D light guide technology, and their challenges. Then he will shift to new interior light element "ID.Light" with various additional light which provides information for comfort and safety functions, and which can support existing functions by giving light signals in a suitable position.

Audi's Jonas Kobbert will present the conclusions of two studies, one evaluating distraction and impairment by animation and sequential activation of lights on a parked car, and the second one describing the benefit in reaction time and perception of dynamic turn signals.

Stellantis' Whilk Gonçaves will talk about his company's global strategy for communication using HD headlamps, considering the different functions like guiding lines, symbol projection, and projection of light around the car to extend other functions. He will present the benefits and the drawback considering competitive other functions like HUD.

FAW VW's Lili Yang will describe the evolution and uptake of LED and ADB in recent years. She will present a comparison between 11- and 32-segment matrix lights, and a survey on the light projection feedback of drivers. She also will give an overview of DLP and microLED.

BMW's Rene Übler will discuss the concept of dynamic laser matrix beam. The front lights use a 12-segment matrix beam with a dynamic laser booster which swivels to make ADB or AFS.

Volvo's Paul-Henri Matha will talk on the strategy of Volvo concerning full electrification by 2030 and its impact for exterior lighting.

GM's Michael Larsen will talk about the long, steep road to legalise ADB in the US.

Session 2 at DVN Workshop: Setmakers' Tech for Safety & Style

LIGHTING NEWS



W. uhn, chairman
DVN



J. Ao
Hasco



H. Nafari
Mind



S. Hirsch
Marelli AL



C. Kirchenbauer
Hella



Y. Cho
Hyundai Mobis



L. Brisson
Varroc Lighting



L. Fan
Valeo

Seven of the leading first tier suppliers on the Chinese market will present their safety and style improving technologies—five of them live on stage, and two with prerecorded contributions. In the first lecture, Hasco Vision's well-known Vice General Manager Jinlong Ao will talk about his strategy "beyond lighting" which gives an overview about different high end technology systems Hasco is working at. You will be surprised about the progress.

The second presentation will be given by Hossein Nafari, Mind's VP of lighting, thermal, and electrical systems, who will talk about popular lighting systems in China. Topics will include micro AFS technology with 10 kilopixels to one megapixels.

Next will be a recorded presentation by Sebastian Hirsch, Marelli AL's R&D director for Asia. Sebastian will speak about the future challenges for digital style, which gives an idea about substituting mechanical solutions by software.

Hella's Chris Kirchbauer, who heads lighting R&D in China, will talk about "flat light" technologies enabling new styling for automotive signal lighting. Does he have an alternative to OLED...? We will see!

After a short break, the head of the Hyundai Mobis R&D Centre at Shenzhen, Yeonggi Cho, will show how ADAS sensor integrated into ADB systems are designed and what benefits they generate. Then Varroc's R&D Director Luc Brisson and Business Development VP Ralf Muenster will talk about a headlamp- integrated 6D lidar and the advantages and safety benefits for ADAS and AVs we can expect from it.

The last presentation of session 2 will be given by Valeo's advanced R&D Manager Lei Fan, who will talk about monolithic systems for HD lighting and road marking. In this field Valeo are surely one of the technology leaders.

The real-time Q&A discussion at the end of the session will be moderated by Wolfgang Huhn.

Session 3 at DVN Workshop: Great Changes in Vehicle Interiors

LIGHTING NEWS



P. Aumont, chairman
DVN



PG Bravo
Grupo Antolin



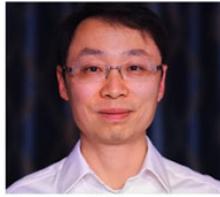
K. Blankenbach
DisolayForm



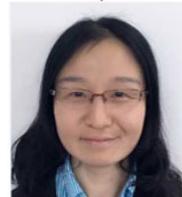
S. Hoffmann
Inova



S. Zhang
Ansys



M. Dou
Osram



L. Song
Melixis



J. Gourlay
DesignLED

Interior displays have become the centrepiece of the car cockpit, and the interaction between the driver and the car (HMI) is key to user experience and safety. Progressively, more automation brings new vehicles to L² and L²⁺ thanks to ADAS technologies. It will include self-driving periods (motorway, traffic jams) and manual driving scenarios, where management of transitions will be key to maintain the highest standard of safety. This session will give us a better understanding of HMI and Display evolution in that context, and also the technology and software needed behind the screens to ensure efficiency, safety and comfort.

Through the architecture of their latest concept car, Grupo Antolin will present what they name the Intelligent Cabin, where user features and innovation will be possible thanks to cockpit trends and ambient lighting.

Professor Dr. Blankenbach from Pforzheim University will tell us about “New Design Visions and Holistic HMIs by Advanced Display Technologies”. He’ll explain the concept of Holistic User Experience, and where new display technology will support this system approach with new shapes, higher pixels, holograms, augmented reality and up to emotion.

Then semiconductor experts from Inova will explain their “ILaS – the new lighting network for the car”. to harness the power of the hardware/software structure behind the screen, the electronic network, with light and sensors, to be efficient, to minimise development, and to ensure full reliability.

And Ansys will talk about “Interior optical design workflow”, with their development tools to ensure we can simulate, get a live preview of the targeted user effect, in short to get a preview of the user perception.

The second part of the session will be devoted to smart interior lighting. Market analysts predict a tenfold increase in light elements in the near future. Lighting is becoming pivotal to the overall perception, but also into safety, and this session will address how ambiance, decoration, alert, personalisation, and brand signature is changing thanks to new lighting and integration technologies.

Osram/Arm and Melixis will talk about “Smart ambient light: the next step towards safety applications”. How, together, they can for instance have fusion of safety display function with ambient light and what is the right technical solution with components and architecture to make work safely and user friendly.

Then Dr. James Gourlay, CTO at DesignLED in Scotland will talk about “Backlighting Technologies”. Interior personalisation is becoming more and more important, and integrated lighting, with very thin

backlight, is a cost effective solution tunable only through software and controls, either through touch or voice control, and with OTA update possibilities.

Novem R&D Director will then talk about “Light & function integrated interiors – supply landscape”. He will address how we combine physical and digital for seamless user experience, putting together new functions in premium materials, such as wood, aluminum or carbon, anywhere in the interior, and how it will influence automaker-supplier relationships.

Finally, Wolfgang Clemens—Director of Product Management & Business Development at PolyIC—will make a lecture titled “Innovative HMI panels with integrated touch sensors—shy-tech decoration for backlighting”. Combination of decoration and light, using capacitive touch sensors with haptic feedback creates the new generation of HMI. He will give us also some hints on how to produce and integrate.

Session 4 at DVN Workshop: “High Tech Lighting Regulation”

LIGHTING NEWS



G. Draper
Chairman



W. Wei
SMVIC



Z. Caiping
XingYu



R. Neumann
Varroc



D. Puglisi
GTB



D. Xie
CATARC

This will be the 18th in the series of DVN Regulatory Sessions, bringing together the newly launched China Automobile Standards Internationalisation Centre (CASIC), based in Geneva, and five of the major leaders from the Chinese SAC/TC114/SC21 Committee responsible for the drafting of the GB Standards, and GTB along with its Chinese member C-GTB. The session will be led by Geoff Draper, who has recently stepped out of his retirement to join DVN as Senior Regulatory Advisor.

Firstly, Ms. Wang Wei of SMVIC, the Secretary of SAC/TC114/SC21 will present a very interesting report on “Progress of SAC/TC114/SC21 to update GB Standards and standards for the 14th Five-Year Plan”. This is surely a major interest for the DVN community in the context of High-Tech innovation.

Ms. Zhu Caiping of Xingyu Lighting and Vice Chair of C-GTB has prepared a very detailed report on “Some Hot topics in the Drafting Process of new GB Regulations on Light Signalling Devices”. This will be an interesting insight into the priorities of the Chinese lighting community.

Rainer Neuman of Varroc and Chairman of the GTB WG-SVP will provide the latest status on “Current and Planned Research Projects Sponsored by the GTB Scientific Working Group (SVP). This activity is crucial to the successful adoption of regulatory amendments for new technologies.

Davide Puglisi, GTB Secretary General, has prepared a progress report on the “Main GTB activities at the UN-GRE in Geneva. He will also talk about the time required to introduce new functions into the UN Regulations and the impact of exemption approvals for new technologies.

Finally, but very importantly, DVN is honoured to welcome Xie Dongming of CATARC, who is Vice-President and Chief Representative of CASIC, based in Geneva. Xie Dongming has prepared a presentation to explain the CASIC organisation and its objectives. This will be the first time for CASIC to be introduced to the public and we are sure that this is a significant moment for the lighting community.

The session will reach its climax with an all-Chinese panel session involving the above-mentioned speakers who will be joined by Bu WeiLi of SMVIC, who is Secretary General of SAC/TC114/SC21 and He Yuntang of CATARC, President of C-GTB. This will be a live panel to debate the question “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?”.

Session 5 at DVN Workshop: Promising LED and ADB Evolution

LIGHTING NEWS



R. Schäfer
Chairman



K. Ma
Lumileds



C. Setzer
Osram



T. Yuan
TI



N. Hung
Everlight

During this session, four leading tier-2 suppliers will give their view on the future development of LED front lighting technology. In line with the technology trends in the market, the topic of digital lighting will get top coverage. On the other hand, one presentation will also reach out to “invisible” light as a new field for technological as well as market innovation.

The first speaker in this session will be Keanu Ma, director of Lumileds' APAC competence development centre. The topic of his presentation is “A high-resolution headlighting system based on hybrid light source architecture”, giving insights into leading edge standard LED technology in combination with microLED applications.

The second speaker is Dr. Carsten Setzer, Head of Automotive Sales Region APAC at Osram. The title of the presentation of Osram will be “The future of visible and invisible lighting : An Outlook”. Combination of visible light with infrared sources is becoming an increasing area of interest for vehicle safety through direct obstacle detection by IR, but in future even more triggered by lidars for ADAS and autonomous driving applications.

The third presenter in this session will be from Terry Yuan, DLP Auto Product Marketing Manager at Texas Instruments. Terry’s speech with the title “DLP technology is enabling smart& dynamic lighting all around the vehicle“will address a bucket of new digital lighting opportunities. It will be interesting to listen to his conclusions about the roadmap of DLP lighting.

The last presentation during this session on light source evolution comes from Norman Hung, Manager at Everlight. Norman will give a presentation with the title “Everlight Matrix product launch”. More insights about the market introduction of matrix technology by Everlight from a technological aspect as well as customer approach can shed a light on future matrix technology.

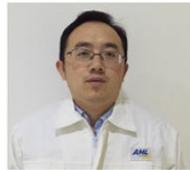
At the end of the session, a live Q&A of 20-30 minutes with all the presenters will take place. The local participants will be present on stage, Carsten Setzer and the Chairman Ralf Schaefer will join by video call. Please do not miss this opportunity to pose your questions live or via internet, the Q&A should become a highlight of the session.

Session 6 at DVN Workshop: Skills Needed for High Tech Lighting

LIGHTING NEWS



L.Metzemaekers
Chairman



D.Hong
AML



A. Zhang
Covestro



V.Wang
NXP



D.Pengyuan
Ansys

Future exterior lighting applications are becoming more and more complex. On the one hand these complex systems require vision and top-down system architecture, and on the other hand bottom-up innovation from specialist companies to provide solutions to make the new advanced lighting systems possible.

The first presentation will be done by AML, which will be represented by Xu Dong (Senior R&D Manager) and Dian Hong (R&D Department Head). The title of their presentation is: "Digital aiming for high tech lighting". Very often Headlamp aiming is an underestimated topic, but as a matter of fact it is very crucial for road safety. AML will demonstrate how to improve precision, cycle time, and accessibility of headlamp aiming.

The second presentation will be done by Andy Zhang, Marketing Manager at Covestro. The title of this presentation is: "Driving Ahead of the Curve: Visionary Headlamp Concept with Polycarbonates". Materials keep improving, and Covestro will show the latest material trends for automotive exterior lighting, and he also will show us how to reduce weight, and parts count, to increase styling, and to improve sustainability and lowering cost.

The third speaker is Victor Wang, Regional Marketing Manager Great China at NXP. The title of Victor's presentation is: "Functional Safety considerations and solutions for Matrix Headlighting"

Matrix headlighting is becoming a proven technology, we look forward to NXP's contributions to support this new technology.

The fourth speaker is Dr. Pengyuan Lu, Application Engineer at Ansys, who will give a talk entitled "Glare-free Headlamp". Pengyuan will show us the power of simulations in the design and validation process of headlamp systems. In the past simulation tools were supportive to engineers, it looks like for future complex headlamp systems it will be impossible to design them without the use of simulation tools.

The fifth and final speaker of session 6 is Tany Gu who is the Deputy General Manager at Ningbo Sunny Automotive Optech Corporation. The title of his presentation is: "Imaging Optics in Headlight Applications". Tany will present on the following topics: prospects and future trends of headlamp imaging applications, importance of optics in headlamp imaging applications, and optical solutions for headlamp imaging applications.

Driver Assistance News

Luminar, Volvo Will Offer Self-Drive System to Automakers

DRIVER ASSISTANCE NEWS



Luminar Technologies and Zenseact, the self-driving software subsidiary of Volvo Cars will cooperate to offer a combination hardware-software system to other automakers. Luminar make a self-driving lidar which uses laser light to help cars gain a three-dimensional view of their surroundings. Volvo plan to use Luminar's sensors in their vehicles with production starting next year.

Zenseact make a self-driving decisionmaking software system called OnePilot that, in combination with Luminar's sensors, will power autonomous features for Volvo's vehicles. Under the agreement, Luminar will pair Zenseact's software with their own hardware and software to offer a self-driving system to other automakers, potentially including Volvo's competitors.

The system will aim to provide full autonomous driving on highways. It will use a computing chip from Nvidia, and cameras and radar sensors in addition to Luminar's lidar unit, but can be made to work with the cameras and radars that many automakers have already included in their vehicles.

General News

German Sales Up in March, Down in Q1

GENERAL NEWS



German new-car sales increased 36 per cent in March compared with the same month in 2020. Registrations totaled 292,000, according to data released last week the KBA motor vehicle authority.

The sales result was inflated because dealerships were closed in March 2020 during the country's first lockdown to curb the spread of the coronavirus.

"In reality, we have been dealing with an extremely weak passenger car market since the beginning of the year," Reinhard Zirpel, president of the VDIK importers association, said in a statement.

"The industry could not have imagined that Q1-2021 would be even gloomier than the already extremely poor prior-year period. In many regions, car dealers are having to operate without appointment shopping. This is making the situation increasingly difficult," Zirpel added.

Sales of full-electric cars rose 190 per cent to 30,000 for a 10 per cent market share. Plug-in hybrid registrations rose 278 per cent to 35,000 for a 12 per cent share. Sales of gasoline-engine cars rose 7 per cent to 115,000 for a 40 per cent share. Diesel-car registrations fell 5 per cent to 64,000 and a 22 per cent share.

Total German market registrations for the first quarter are down 6 per cent, to 656,000.