

Tue, 4 July 2023  
Weekly Newsletter



NEWSLETTER #810

## PixCell LED

Ultimate precision in perfect alignment

100+ individual cells with just 25 µm spacing, perfectly matrixed onto a single LED chip for intelligent headlamps



# Editorial

## DVN US Workshop To Illuminate West Coast For A Change

The 28<sup>th</sup> DVN Workshop will take place as a live, in-person event on the US West Coast, this time, rather than the Detroit area. It's a chance to facilitate new attendees from the thriving ecosystems in that end of the pool, and a fine change of venue for repeat attendees to present and exhibit to a new audience mix.

It'll be at the San Francisco Airport Marriott Waterfront Hotel, and the theme is [Lighting the Future: Safety, Communication, and Emotions for EVs, AVs, and Trucks](#). Workshop sessions will be chaired and lectures given by top international experts, and the information exchange DVN Workshops are famous for will help you to orientate your company's strategic decisions and plot waypoints on your roadmaps.

Presentations and expo booths will highlight the innovations and technologies best able to increase safety in our world. The event will bring together more than 250 participants from all over the world—engineers and experts, decisionmakers and designers, researchers and standards-developers.

Every single DVN Workshop we've ever put on—27 of them so far—has been better and better and better than the one before. We're hard at work to so this next one, our first on the North American West Coast, will be the latest best-ever. Come join in and help us make it so!

FYI, the Tokyo DVN workshop VODs are online!  
Once you are logged in, please [follow this link](#) to watch the DVN Tokyo Lectures!

Sincerely yours

A handwritten signature in black ink that reads 'W. Frally'. Below the signature, the text 'DVN CEO' is printed in a small, sans-serif font.

# In Depth Lighting Technology



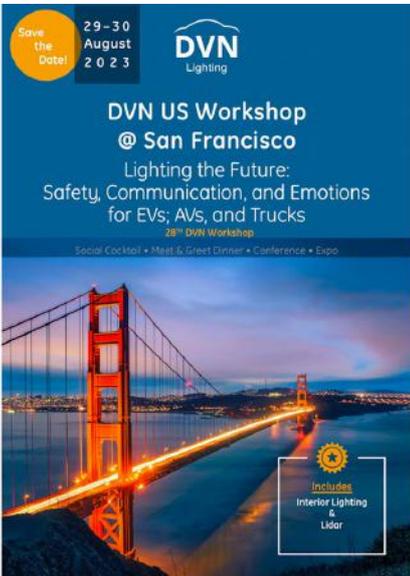
**DVN Workshop**  
Lighting

29-30  
AUGUST 2023

**"Lighting the Future:  
Safety, Communication & Emotions for EVs, Avs & Trucks"**  
**San Francisco**

[Click here for more information](#)

## A New Location for the 28th DVN Workshop



Save the Date! 29-30 August 2023

**DVN**  
Lighting

**DVN US Workshop  
@ San Francisco**

Lighting the Future:  
Safety, Communication, and Emotions  
for EVs, AVs, and Trucks

28th DVN Workshop  
Social Cocktail • Meet & Great Dinner • Conference • Expo

Includes  
Interior Lighting & Lidar

**LUXIT** **COVISTO** **LUMILEDS** **LMV** **TechnoTeam** **EVERLIGHT** **GORE**

**Instrument Systems** **SYNOPSIS** **inova** **FORVIA** **SEMTEC** **SEoul SEMICONDUCTOR** **MAGNA**

The strategy of DVN is to go wherever there's lighting action, to facilitate everyone in the lighting world to present and follow the latest innovations without arduous, long travel.

That's why we decided to make the next workshop in California: important new ideas and innovations are coming from all up and down the North American West Coast, and it's time they're presented on turf close to home. It'll be a new mix of voices, ears, and eyes; exhibitors and presenters and attendees, in a new venue.

This builds upon our unbroken chain of 27 past workshops, each stronger and better than before, all the way back to the first DVN workshop in Stuttgart 15 years ago with around 20 attendees and no exhibitors.

We've put on DVN Workshops all over the world: Germany, France, USA (only in Michigan, up to now), China, Japan, Korea, and India, but never in the American West. That changes now!



2010 PARIS



2014 KOREA



2018 JAPAN



2022 US

We've got first-time speakers from new automakers and suppliers, with surprising keynotes and a visionary round table.

**DVN**  
Lighting

San Francisco  
**WORKSHOP**

OEMs Speakers

<b>Shammika Wickramasinghe</b> Senior Director Lighting	<b>Hans-Christoph Eckstein</b> Director Electronics & Optical Engineering	<b>Lingxuan Zhu</b> Manager Lighting & Exteriors
<b>Rivian</b>	<b>Lucid Motors</b>	<b>Zoox</b>

This [DVN San Francisco workshop](#) will focus on innovation in everything from basic-research questions to vehicle interior design, lidar, and cutting-edge technologies. Presentations and expo booths will highlight the innovations and technologies best able to increase safety in our world. The event will bring together more than 250 participants from all over the world—engineers and experts, decision makers and designers, researchers and standards-developers.

High-content lectures are confirmed from the likes of IM Motors, Jidu, Lotus, Lucid Motors, Rivian, Volvo, Zoox and possibly Nissan, Stellantis, and BYD; Forvia Hella, Magna, Marelli, Mind, Valeo, and possibly Flex-N-Gate, Koito/NAL, Marelli, Mobis, and Plastic Omnium; ams OSRAM, Everlight, LG Innotek, Lumileds, Nichia, Seoul Semiconductor, as well as innovative outfits you likely aren't familiar with (yet!). We're working to bring you a fascinating opening keynote presentation by scientists with a lot to say about an under-researched area of lighting.

As always, discussion panels will spark high-value exchanges, and a DVN Workshop expo booth is a terrific way to touch base with your customers and present your innovations and work to decision makers at the highest levels. Attendees visit the booths during several 45-minute conference breaks, the luncheon, and the welcome cocktail. Your expo booth also gets you your own full page—content at your discretion—in the workshop book given to each participant. Booth space is filling up fast, so [get in touch](#) to book yours: contact [carine@drivingvisionnews.com](mailto:carine@drivingvisionnews.com).

# Lighting News

## Some Highlights from the Automobile Electronic Congress (AEK) Ludwigsburg

### LIGHTING NEWS



The second Ludwigsburg Round Table

This year's Ludwigsburg international congress was titled „Racing Towards the Global Future of Automotive“. Chairman Ricky Hudi greeted many Board Members and C-Level Managers from the automotive world as speakers and as guests. 21 high level speeches and 2 high ranking round tables were held for the nearly 700 guests. In the following some interesting statements out of the speeches are listed.

**Marelli's** new CEO David Slump (“I love ADB”) said that lighting creates the vehicles personality. He admonishes us to speed up the development processes. China is making the pace; this is the benchmark. David expects that SW defined vehicle leads to 30% cost reduction and 50% speed increase while enhancing the user experience.



Wolfgang Huhn, David Slump, Ricky Hudi

**VinFast's** deputy CEO Ms. Bui Kim Thung gave a very passionate speech. VinFast is indeed a very fast company. They presented a first Show car 2018 on the Paris Motor Show and 5 years later they offer a full product range of SUV (A to E segment), 2 wheelers and trucks, all EVs. The warranty of 10 years or 200.000 km and 24/7 assistance is astonishing good. Export to the US, CDN and the EU starts this year, target is 1 million cars/ year.

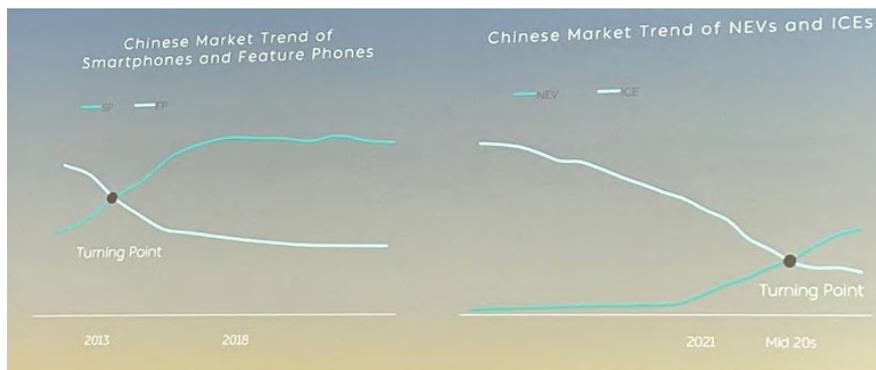


Bui Kim Thung

**Audi's** deputy CTO Uli Herfeld described the Premium Electronic Architecture which will be introduced in the Q6 e-tron end of this year. After this launch every month a new model will be introduced according to Audi's master plan. For the lighting functions the new architecture will be a big step and it will be very visible, as said.

**BMW's** VP Electronics and Software Christoph Grote described the introduction of 3<sup>rd</sup> party content, especially to the "Theater Screen" BMW introduced in the new 7 series. The necessary remote SW update and upgrade functionality is standard at BMW since 2018.

**Nio's** EVP Feng Shen showed the battery swap technology with standardized battery sizes of 75, 100 and 150 kW/h capacity. Nio expects the turning point, the date where more new energy vehicles than ICE vehicles are sold, for China to be in the mid 2020s.



The digital transformation expands from consumer electronics to vehicles.

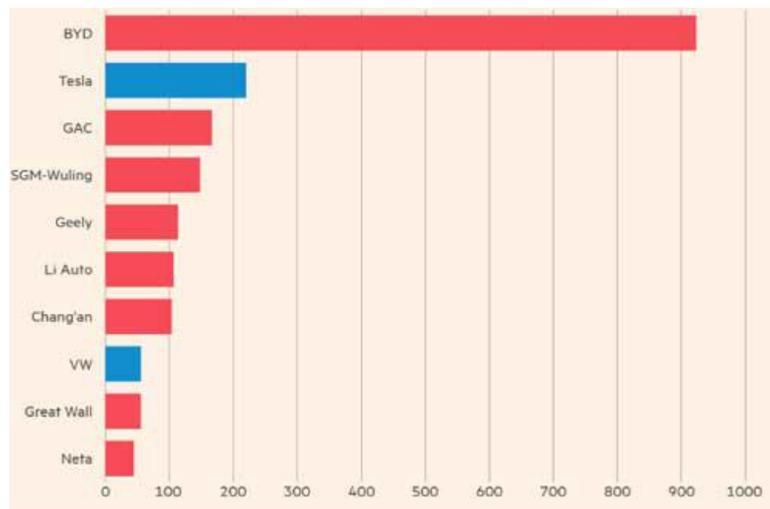
The Ludwigsburg congress is a yearly highlight for automotive electronics and software decision makers. The density of CEOs, CTOs and VPs of car makers and suppliers is nowhere greater. Where else do you find 3 CEOs and 2 VPs, all international automotive key players, on one round table on the stage?

# Chinese Makers Plot European Market Incursion

## LIGHTING NEWS



Over the past quarter-century, China's automakers have become EV experts, and that country dominates the production of almost every resource, material and component used to make them. With their home market already locked in, companies such as Nio, BYD, Li Auto, Xpeng and Great Wall are now hungrily eyeing world markets.



Nio, BYD, Great Wall, Chery, and others want to take advantage of Europe's impending ban on the sale of new combustion-engine cars. These and other Chinese carmakers, having grown up in a home market with the world's sharpest uptake of electric vehicles, are planning an aggressive export drive which could be a real earthquake to Europe's automotive landscape, toppling powerful long-held incumbencies and making governments pick between protecting their domestic industries and embracing foreign competition. Michael Su, European chief of BYD, says his company want to be one of the top three brands in Europe by the end of the decade preferably number one. That company, backed by US investor Warren Buffett, has been mentioned by former Volkswagen CEO Herbert Diess as the carmaker VW should fear the most.

# Gernot Doellner is New Audi CEO-Elect

LIGHTING NEWS



Audi are to replace CEO Markus Duesmann with Volkswagen Group strategy chief Gernot Doellner, effective 1 September of this year.

Duesman's tenure as CEO was looking wobbly after a number of moves perceived as mishaps, as well as slower-than-desired progress on innovation versus competitors like BMW and Mercedes-Benz. In a statement, Audi called Doellner "the right person to further strengthen the company's product strategy and position in key markets".

# Porsche Sets New Division for SDV

## LIGHTING NEWS



Porsche are establishing a new software-dedicated division at their Nardò Technical Center proving ground in Italy, which was founded in 1975 and currently operates over 20 test tracks and facilities across more than 700 hectares of land in Puglia, Italy. At least 185 people help offer engineering services at the NTC, including vehicle testing for more than 90 automakers.

Porsche Engineering Group acquired the “Nardó Ring” in 2012, renamed it the NTC, and they've been operating the proving ground ever since. As a subsidiary of Porsche AG, the engineering group spearhead the development of future intelligent and connected vehicles, including software. Nardó was selected as well because of the nearby talent pool of software experts and engineers.

Now Porsche have announced an entirely new division at the NTC to develop, establish, and eventually implement a software initiative for future EVs, including highly automated driving functions, vehicle-to-vehicle and vehicle-to-infrastructure communication, connectivity solutions, and infotainment innovations.

The software-defined vehicle (SDV) is the future, with significant potential for new safety, convenience, and monetisation features. They'll enable new software-driven in-vehicle experiences and functions. Updates and services will be delivered over the air (which, in turn, means whole new kinds of security threats to consider and countervail).

# John Peek Retires For Keeps

LIGHTING NEWS



After his retirement as CTO of Philips Automotive Lighting/Lumileds in 2015, and eight years supporting SLD and KSLD as an adviser, my friend John Peek is leaving the lighting community for a well-earned retirement.

John has experienced the growth of SLD—Soraa Laser Devices—from a small startup to a major enterprise eventually acquired by Kyocera of Japan. He can be proud to have been a key part of the growth journey with (K)SLD.

I met John 25 years ago when he was managing the Signalling and Interior Lighting Innovation activity of Philips in Chartres, France. I was continuously in contact with him until 2008, when he replaced Ralf Schäfer as CTO of Philips' automotive business group, and then after 2014 when he was a consultant doing a great job for SLD. John's great knowledge and mindset made it always a great pleasure to work with him. John, you should be proud of the job you have done at Philips and KSLD.

Those for whom John has been the go-to contact at KSLD are asked to please from now on reach out to [Josip Kovacevic](#).

### 3 questions to John

#### **DVN : What do you retain from your career?**

**John Peek:** I feel privileged for having had the opportunity to boost lighting innovations at Philips Automotive Lighting for many years. In our small world we say, 'once you are in automotive, you stay in automotive'.

I feel for having actively contributed to the growth of SLD from a small R&D start-up to the full-sized innovative company KSLD Laser.

The excitement and fun which I have experienced during my career would not have occurred without the many highly professional colleagues in the automotive lighting industry. With some of them I have been lucky to build inspiring, personal relationships.

#### **DVN: What message do you want to transmit to the lighting community?**

**John Peek:** People outside of the lighting community sometimes ask me "what innovations can one possibly think of for an ordinary product as a light bulb?" This question itself implies that much of the progress made over the last decades is often not recognized, let alone valued. There is an ongoing task for all of us to communicate better – specifically outside of the inner circles - about the many benefits of the products which the lighting community has created and is going to create in lighting, lidar and LiFi.

#### **DVN : What a so active person as you will make during his retirement?**

**John Peek:** I am blessed with a lovely family and specially with five fantastic granddaughters. Setting up occasions for spending time with them is a great asset. Further, visiting unique spots in the world with my wife is already happening and we will continue to do so. Next there is photography, which is a realm of opportunities with options for continuous learning. On the sporty side, I enjoy playing golf a lot. Also, we are looking forward to enjoying long stays of quietness and rest in our home at the South-Vendée coast in France.

Finally, from a distance and as a watcher, I will keep on following the innovations in automotive.

On behalf of all the lighting community, a **great big thank you** for your involvement in lighting during all your career!

# LiFi Pioneer Wins European Inventor Award

## LIGHTING NEWS



German researcher Harald Haas is a professor at the University of Strathclyde in Glasgow and an experienced LiFi pioneer. Now he's been nominated for the European Inventor Award by the European Patent Office.

Haas dreams of incorporating his LED technology into smartphones and streetlamps. This would accelerate internet access by up to two orders of magnitude compared to current WiFi technology. Haas, along with Kyocera SLD Laser, have demonstrated transmission rates of up to 105 gigabits per second (Gbps), while WiFi 6 rarely reaches more than 1 Gbps.

An LED emits light pulses imperceptible to the human eye due to their high frequency. Both visible-light LEDs and IRED (infrared-emitting diodes) are used for LiFi, along with light sensors. This approach enables the conversion of lamps, ceiling lights, train or airplane cabin lights, and public streetlights into internet access points. For instance, a lamp could simultaneously send data to smartphones through its light, and mobile devices could respond in the infrared spectrum.

However, the transmission is line-of-sight, and works only within a few metres in the same room—ideally between two and five metres, according to Haas. The data stream can be confined to the cone of light from a lamp and, unlike radio frequencies, can be effectively shielded from the outside. Therefore, the technology is suitable for applications where eavesdropping protection is a priority.

*The European Inventor Award is one of Europe's most prestigious innovation prizes. Launched by the European Patent Office in 2006, it honours inventors, individuals or teams chosen by a jury whose pioneering work improves our lives, advances technology, and creates jobs.*

# Driver Assistance News

## Nissan adds intersection crash avoidance to its ADAS

### DRIVER ASSISTANCE NEWS



Nissan says its lidar-based ADAS now feature intersection collision avoidance. It demonstrated its new technologies last week during an event that showed how it can avoid crashes by performing certain manoeuvres, including in “more complex environment of intersections.”

A video Nissan posted last week shows a vehicle coming to a full stop to avoid a motorcyclist that unexpectedly crossed its path at an intersection.

<https://www.repairerdrivenews.com/2023/06/13/nissan-adds-intersection-crash-avoidance-to-its-adas/>

Takao Asami, who leads Nissan’s Research and Advanced Engineering Division, said “We are on course to develop collision-avoidance technology utilizing next-generation LIDAR technology by the mid-2020s,” Asami said. “Aiming to develop future autonomous driving technologies that customers can use with peace of mind, Nissan is working to fully understand the entire range of accident scenarios by analysing complex accidents that occur in the real world.

According to Nissan, the technology it’s trialing features a new control logic that helps its vehicles avoid intersection collisions through “ground-truth perception technology” using next-generation lidar.

“It can detect an object’s speed, location, and potential risk of a collision from a lateral direction,” Nissan said. “The system is designed to instantly respond to the changing situation through such steps as emergency application of the brakes or releasing the brakes when the potential risk has been avoided.”

# General News

## Automotive Market - Top suppliers

### GENERAL NEWS



The automotive supply chain is changing fast as the industry electrifies, and those changes are reflected in this year's top suppliers rankings:

Brand		\$ billion
1. Bosch Group	<div style="width: 50.5%;"></div>	50.5
2. ZF Friedrichshafen	<div style="width: 42.1%;"></div>	42.1
3. Forvia	<div style="width: 26.8%;"></div>	26.8
4. Continental	<div style="width: 25.4%;"></div>	25.4
5. BASF	<div style="width: 19.5%;"></div>	19.5
6. Valeo	<div style="width: 17.7%;"></div>	17.7
7. Aptiv	<div style="width: 17.5%;"></div>	17.5
8. Mahle	<div style="width: 13.1%;"></div>	13.1
9. Thyssenkrupp	<div style="width: 12.5%;"></div>	12.5
10. Gestamp	<div style="width: 10.3%;"></div>	10.3

Top 10 Europe-based suppliers – Global original equipment part sales

Brand		\$ billion
1. Denso Corp.	<div style="width: 47.9%;"></div>	47.9
2. CATL	<div style="width: 33.5%;"></div>	33.5
3. Hyundai Mobis	<div style="width: 32.2%;"></div>	32.2
4. Aisin Corp.	<div style="width: 31.2%;"></div>	31.2
5. Sumitomo Electric Industries	<div style="width: 16.1%;"></div>	16.1
6. Samsung SDI	<div style="width: 15.6%;"></div>	15.6
7. Yanfeng International	<div style="width: 15.0%;"></div>	15.0
8. Panasonic Automotive Systems Co.	<div style="width: 14.2%;"></div>	14.2
9. Hitachi Astemo	<div style="width: 14.2%;"></div>	14.2
10. Yazaki Corp.	<div style="width: 12.9%;"></div>	12.9

Top 10 Asia-based suppliers – Global original equipment part sales

Brand		\$ billion
1. Magna International Inc.		37.8
2. Lear Corp.		20.9
3. Tenneco Inc.		16.6
4. BorgWarner Inc.		14.5
5. Adient		14.1
6. Dana Inc.		10.2
7. Flex-N-Gate Corp.		8.3
8. American Axle & Mfg. Holdings Inc.		5.8
9. NemaK		4.6
10. Linamar Corp.		4.3

Top 10 US-based suppliers – Global original equipment part sales