

Tue, 22 August 2023  
Weekly Newsletter



NEWSLETTER #817

## 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

## First Week At DVN, Already On Board With You!

I started at DVN on the 16<sup>th</sup> of August, and it's already a busy week! So many things to learn, so many things to do.

First, I moved with my family from Sweden to France. People who have moved from one country to another one can understand. This is now fixed.

After vacation periods, usually you have a lot of things in your mailbox. For me my mail box is new, so nothing to read. But still no time to sleep; we have some busy weeks at DVN, preparing for the San Francisco DVN Triple Workshop. Final registration, final communication, final clarification about the agenda, the round tables, and DVN members and customers visits. This will be the first time we are running three workshops in parallel with lighting, interior, and lidar. All in a fantastic place on the U.S. west coast.

And already we have to think about the next steps: weekly DVNewsletters, monthly reports, yearly studies, the next lidar workshop in Germany, the next lighting workshop in Shanghai. This Shanghai workshop will be a bit special for me; I was in Shanghai in June on behalf of my previous company Volvo Cars, and I used to go there every year. Now I'll be going back, for the first time with DVN. So, my world is changing! I am sure I will meet my ex-colleagues there. This workshop will be fantastic. Last year there were more than 300 attendees, including 30 automakers(!)and 20 tier-1 suppliers! I am convinced that we can continue to grow. Already we can announce that a design session will be part of the event.

In the meantime, I am continuing my active participation in GTB, SAE, and ISAL organisation, and we are starting the discussion with organisation committee for the next SIA VISION 2024 congress that I am now leading. It is important for me to keep an active eye on technical content of exterior lighting. Good thing I am an engineer; I cannot resist!

The lighting docket is impressive in the coming weeks, starting with the DVN Workshop in California in a week, and then onward in September: IAA Munich from the 5<sup>th</sup>, GTB week in Torino from the 18<sup>th</sup>, ISAL from the 25<sup>th</sup>, SAE week in Montreal from 2<sup>nd</sup> of October. There will surely be amazing lighting revealed. DVN will be there at each event and, as always, will bring you the important details.

See you soon and here's wishing you a nice restart after summer vacation!

*MATHA Paul-Henri*  
**DVN COO and General Lighting Editor**

# 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](#)

## San Francisco DVN Workshop: 35 Lectures, Two Panel Talks

29-30  
AUGUST  
2023  
SAN FRANCISCO

**DVN**  
Lighting

**DVN US WORKSHOP**  
Lighting the Future:  
Safety, Communication and Emotions  
for EVs, AVs & Trucks

Social Cocktail • Meet & Greet Dinner • Conference • Expo

- 28<sup>TH</sup> DVN WORKSHOP • SAN FRANCISCO -

This unprecedented DVN Triple Workshop—lighting, lidar, and interior—will **start out in just one week** with two keynotes. The first from Naomi Miller and Lia Irvin, scientists from the U.S. Pacific Northwest Research Laboratory, who will talk about temporal light modulation. That's a phenomenon increasingly ubiquitous in the world around us, and especially in and on automobiles, but under-studied and not yet well understood. Then John Bullough, one of the world's top minds on vehicle lighting and driver vision and program director at the Mt. Sinai Icahn School of Medicine, will talk about headlight performance as it relates to safety.

Here we present the sessions and the speakers:

**Session 1: Automaker Innovations for New Lighting Functions** Chair: Wolfgang Huhn

• **Lucid Motors** · **Hans-Christoph Eckstein, Electronics and Optical Engineering Director**

*"Full Digital Headlamp Constraints and Opportunities"*

• **Rivian** · **Shammika Wickramasinghe, Body Lighting Senior Engineering Director**

*"Safety, Emotion and Communication through good lighting"*

• **Zoox** · **Lingxuan Zhu, Lighting & Exteriors Manager**

*"The Crucial Role of Lighting Performance in Sensing, Perception, and Communication for Autonomous Vehicles"*

• **Lotus** · **Rouven Haberkorn, Senior Lighting Engineer**

*"The Evolution of Lotus Lighting for Safety, Communication, and Emotions in EVs"*

**Session 2: Vehicle Interior** Chair: Olimpia Migliore

• **Valeo** · **Federico Pardo-Saguier, Innovation & Business Development Director**

*"Interior Lighting Experience for Automated People Transportation"*

• **Forvia** · **Maggie Kasper, Advanced Sales Manager; Carlos Altamirano Martinez, Interior Lighting VP**

*"Inspiring Mobility and User Experience Through Integrated Interior Lighting"*

• **Yanfeng** · **Trevor Couture, Lighting Business Development & Engineering Director**

*"Yanfeng Experience In Motion: How Interior Lighting Can Enhance User Experience"*

• **Lumissil Microsystems** · **Aaron Reynoso, LED Driver Technical Marketing Director**

*"Driving Towards Innovation: Illuminating the Automotive Market with Dynamic LED Lighting"*

**Session 3: Lidar** Chair: Eric Amiot

• **Covestro** · **Mark Torgerson, Technical Marketing**

*"Enabling high performance Lidar through Polycarbonate"*

• **FKA** · **Amogh Sapkal, Senior AD & Machine Perception Engineer**

*"An Overview of Lidar Performance Testing Framework at FKA"*

• **OpenLight Photonics** · **Steven Alleston, Senior Business Development Director**

*"High Performance Lidar Enabled by Heterogeneously Integrated Silicon Photonics"*

**Session 4: Tier-1 Supplier Perspective** Chair: Paul-Henri Matha

• **Forvia Hella** · **Michael Kleinkes, Boardmember, Lighting**

*"Lighting Architecture of the Future: Safe, Customised and Sustainable"*

• **Mobis** · **Taewon Lee, Senior Product Planning Manager**

*"Trend of the Automotive Lighting Industry and the Direction of Mobis"*

• **Magna Edward Bailey, LED Technology Manager**

*"High Brightness Advanced Lighting Mini-LED Displays"*

• **Marelli AL** · **Gustavo Menezes, R&D Director Americas**

*"Lighting Communication and Assistance by Projectors and Displays"*

• **Plastic Omnium Lighting** · **Courtney Hewitt, Head of Innovation Americas [tbc]**

*"Projection Solutions: Intelligent Technology for a New Experience"*

• **Valeo** · **Christopher Kirchenbauer, Optics Development Manager**

*"Safety and Communication Through High Definition Lighting"*

**Panel Discussion: ADB and EE Architecture** Chair: Paul-Henri Matha

**Participants:** Rivian · Zoox · Flex-N-Gate · Marelli · Sapphire · Microchip · Assyst · Melexis

**Questions concerning ADB**

- Status of lamp module development and lamp lab testing
- What ADB technology is compatible with U.S. ADB
- Extra costs compared to rest-of-world ADB
- Test track compatibility with FMVSS method

## Questions concerning EE Architecture

- Interest in moving software from lamp to zone controller
- Pros; cons, combination prospects of UART over CAN concept and of ethernet
- Do we need standardisation?
- Same solution for front (ADB), rear (signalling), and interior?

## Session 5: Light Source Innovations Chair: Michael Kleinkes

- **Lumileds** · **Lars Dabringhausen, Technical Marketing Director**  
*"Benefits of Direct Imaging Solutions for NAFTA ADB LED Matrix Solutions"*
- **Seoul Semiconductor** · **Mahad Abbasi, Senior Technical Sales Manager**  
*"Advancements in Automotive Lighting and Safety with Next Generation WICOP Technologies"*
- **Everlight** · **Max Ma, Chief Automotive Product Marketing Manager**  
*"Visionary Transformation of Smart LED"*
- **ams Osram** · **Markus Hofmann, Senior Principal Engineer**  
*"Illuminating the Future: Enhancing Safety and Sustainability With LEDs for Forward Lighting"*
- **Nichia** · **Ted Schriefer, Assistant General Manager**  
*"Future Light Sources for Increased Safety, Communication, and Emotion"*
- **Kyocera SLD Laser** · **Josip Kovacevic, Sales and Support**  
*"LaserLight Changes the Paradigms for Safety, Communication and Styling"*
- **Appotronics** · **Dr. Yu Xin, Vice President**  
*"The Intellectual Application of Lasers in the Field of Lighting"*

## Panel Discussion: The Next Tasks for Car Lighting (Chair: Wolfgang Huhn)

**Participants:** Rivian · Lucid · Ford · Forvia

## Questions:

- Lit grilles, front/rear displays, logos, animations, full-width lamps, pillar lights, road projections, and many more new lighting features...how much is too much?
- Does the role of the lighting change from ICE to EVs?
- Will AV lighting have more and/or different tasks?

## Session 6: Skills to Help Development of New Functions Chair: Daniel Stern

- **Suss MicroOptics** · **Reinhard Völkel, CEO**  
*"Unleashing the Power of Microoptics in Automotive Lighting"*
- **Synopsys** · **Tobias Schmid - Senior Technical Product Manager**  
*"Synopsys Optical Solutions for the Comprehensive Design and Analysis of Pixel Light Headlamps"*
- **DBM Reflex** · **Mirco Goetz, R&D Vice President**  
*"Texilit: An Engineered Refractive Light Diffuser Designed for Injection Molding"*
- **W.L. Gore and Associates** · **Ronald Szewczyk, Application Engineer**  
*"BEV Headlamps: Unique Challenges and Proven Solutions"*
- **Covestro** · **Jim Lorenzo, Application Development Engineer**  
*"Efficient LED Low Beam Modules Through In-Mold Optical Alignment and Heat Management"*
- **TechnoTeam & LMT** · **Jason Adams and Stephen Dahle**, respectively *"Latest Advances in Measurement Technology for Automotive Lighting"*
- **Inova Semiconductors** · **Gerhard Nill, Senior Technical Sales Manager**  
*"Architecture for Software Defined Light & Sensor Networks in Vehicles"*

## Exhibitors



# Lighting News

## Flex-N-Gate Buy Osram Plant in Italy

LIGHTING NEWS



A vehicle lighting facility in Italy has been acquired by the Flex-N-Gate Group.

The production site in Treviso, in northeast Italy, was established by Osram in 1966. It produces automotive lamps, modules, and components for automaker customers on a production area of about 20,000 m<sup>2</sup>.



The Treviso plant is recognised as a leading production site for lighting and lighting components while having excellent capabilities in electronic production and testing. It houses strong expertise in thermal and mechanic assembly processes for glass, metals, and plastics.

Flex-N-Gate Treviso now serves as an important hub for the global Flex-N-Gate lighting division, while allowing Flex-N-Gate to be fully autonomous in electronics for their lighting divisions worldwide.

# Hella's New Low-Profile Bolt-On BiLED Headlamp

LIGHTING NEWS



Hella are launching their SlimLine Bi-LED high/low-beam headlamp, the first rectangular unit in their extensive portfolio of self-contained headlamp modules; all of them have been round up to now.

The new headlamp offers excellent light output and is sturdily built; a solid housing, robust construction, high vibration resistance, and IP6K9K protection rating make it suitable for harsh environments and heavy-duty applications. High-pressure cleaning, dusty environments, and the extreme mechanical shock of construction machinery are no problem for this lamp! Too, it is reverse polarity-protected, so an inadvertent reversed connection won't damage it. An advanced thermal management strategy maximises service life and ensures full function at temperatures down to -40 °C and up to +60 °C.

The lamp is suitable for use on agricultural and construction machinery, trucks, buses, motorhomes, in the powersports sector, and on all kinds of cars. The bezel can be customised with colour or logo to build a unique appearance of the vehicle.

This is the first product in Hella's new SlimLine range. Two more modules—a fog lamp with cornering light and a DRL-position-turn signal module—are under development and will perfectly complement the SlimLine headlamp when they're released.

# Marelli, Valeo, Forvia, PO are PACEpilot Award Finalists

LIGHTING NEWS

## Automotive News PACE pilot

Marelli, Valeo, Forvia, and Plastic Omnium are finalists in the Automotive News 2023 PACEpilot program.

**Marelli** for their Laser Wire rear lamp

**Valeo** for their Thin BiLite module

**Forvia** for their dynamic lighting surface activation with Light Tile technology

**Plastic Omnium** for their digital projection pilot for fully dynamic display of content in and around the vehicle.

The Automotive News PACEpilot awards recognise pre-commercial innovations in the automotive and future mobility space that have the potential to revolutionise an automaker's business and products.

# General News

## BYD's Fangchengbao Brand Launched

GENERAL NEWS



BYD's 'personalised brand' Fangchengbao will be launched with the unveiling this week at the Chengdu motor show of the first model, called the Leopard 5. It is based on BYD's new DMO hybrid platform and positioned as a mid-size hardcore SUV.



The Leopard 5 adopts the design concept of Fangchengbao's 'leopard force aesthetics': a rectilinear theme to the front end, with a grille integrated with the front lighting and equipped with light strips above and below, forming a wide frame with the daytime running lights.

The rear lights have an over/under truncated-rectangle design, creating a brand-specific signature.

# Chinese Automakers Will Show at IAA

## GENERAL NEWS



Three new BYD EVs: Han, Tang, Atto3

Chinese automakers BYD, MG, Xpeng, and Leapmotor are aiming to boost their profiles in Europe, so China's electric mobility trade show, the World New Energy Vehicle Congress, will be held on 6 September as part of the IAA show in Munich. Compared with the 2021 IAA, this year there will be almost double the number of Chinese companies taking part, according to the German auto industry association (VDA), who organises the biennial event

Industry analysts are keeping keen eyes on how it plays out. Gartner analyst Pedro Pacheco says, "The European market is quite challenging for any foreign players, as we have seen what happened with the Japanese and the South Korean brands: it took them decades to build a market presence here, and they are still not the leaders".

Pacheco forecasts difficulties for Chinese automakers, too, because European consumer are driven by brand recognition and are likely to be skeptical about new brands and automakers they don't know.

However, he feels the Chinese can succeed with greater speed than Japanese or Korean automakers by dint of the prowess they have already shown developing EVs from scratch: "They are very fast. They might not always be right, but at the same time they are very quick in adapting," he said.