Tue, 5 March 2024
Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #845

Editorial

DVN Munich, Geneva Motorshow In The Rearview

Image from Wolfgang Lex's DVN keynote, illustrating the disruptive change from ICE to BEV

It's been a great week for lighting activity, the week of the Geneva motorshow and our DVN Workshop in Munich. Here are my four main takeaways:

- The automotive industry is facing a lot of challenges and difficulties, especially the EV sector. It's tough going! I am in contact with lighting engineers at the likes of Human Horizon, Rivian, VinFast, Fisker, and I see the really good job they are all doing. I wish success to all of these companies. Even longer-established legacy automakers, are facing budget reductions and the near future is unpleasantly cloudy.
- However, the vehicle lighting industry has never been so active: 2023 was the year microLED went into the market and display technology in exterior lighting is arriving at really high speed particularly in China.

- Speed is really the main challenge for setmakers and OEMs. How can they go faster? Software-defined vehicles with digital twinning speeds up development and prototyping, but need to be organized, simplified, and standardized. This is the key message I got from the CEO panel discussion and EE session at the DVN Workshop.
- Display technology will replace conventional LED (analogue) technology; that's just a question of time. The Munich exhibition was a clear demonstration of this trend. Questions about displays were very well explained in lectures and during the final discussion with designers: for what, for who, and how. When this will be clarified, then we will be able to talk about the best technology, including pitch value. It is a bit too early yet.

In today's DVNewsletter, I am focusing on the award ceremony at the DVN Workshop in Munich—a first step, pending next week's deeper summary of the event.

Sincerely yours,

Paul-Henri Matha
DVN Chief Operating Officer and Lighting General Editor

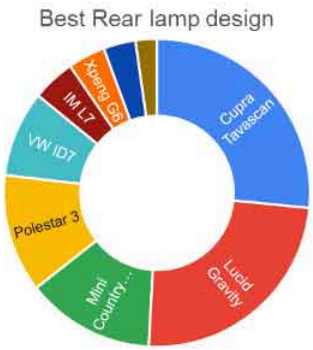
In Depth Lighting Technology

DVN Award Ceremony at Munich

During the Munich Workshop, the DVN team presented the vote results for the 2023 DVN award.
464 votes came in from 110 companies. Awards were bestowed for the best front and rear lamp designs, best lighting technology, and best DVN lecture of 2023, and for the best lecture there at this 2024 Munich Workshop. Take a look at the finalists, the votes, and the winners:

Best front lamp design: **Volvo EX90** (pop-up lamp concept)

Best rear lamp design: **Cupra Tavascan** (including lit logo)



Best technology: **microLED**, with 2 different teams (VW-Marelli-AMS Osram; Porsche-Forvia Hella-Nichia)

Best 2023 lecture: **Reinart Völkel** from Süss Microoptics; "Unleashing the Power of Microoptics in Automotive Lighting"

Best 2024 Munich lecture: **Zeekr design team**; "Zeekr Stargate"

We thank all those who voted. The lighting ceremony celebrated the passion you have for lighting and innovation. It is not easy to take risks; it is always easier and more comfortable to say no, isn't it? As an R&D engineer, there are many reasons to say no to your design team: not feasible, too late, not legal, etc. Likewise, it's easy to say no to your boss, purchasing department, or chief vehicle engineer: too expensive (and they will be happy because you save cost).

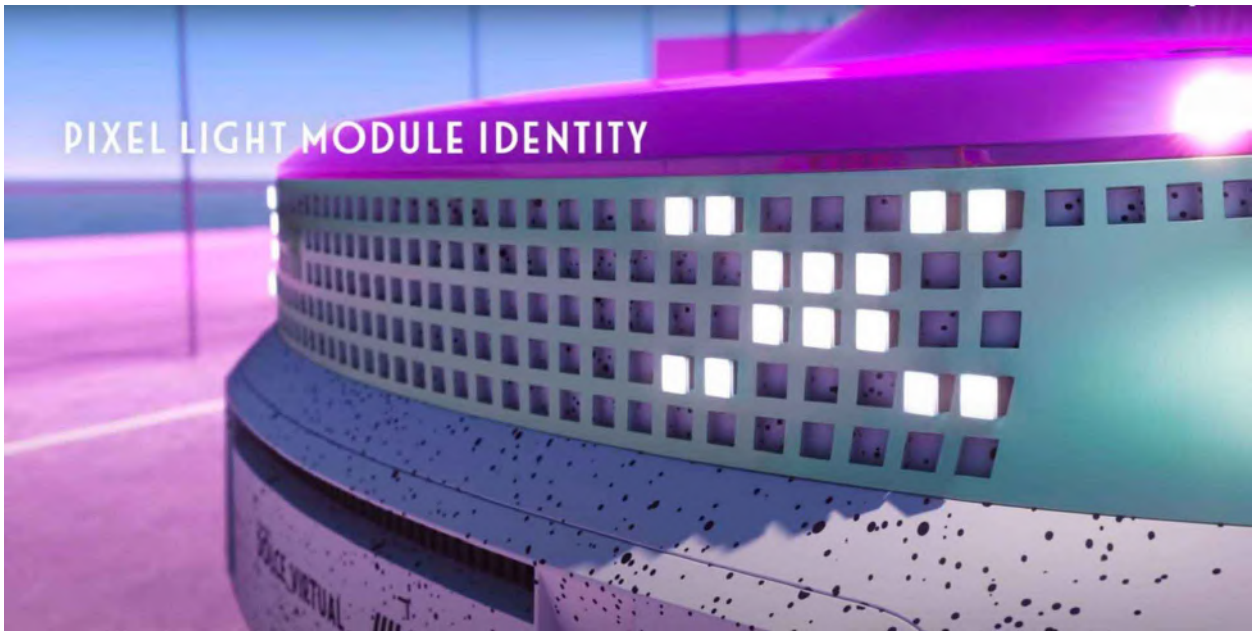
But what a pleasure when you take the risk, to see the result and the success. That is one of the reasons, for me, that the lighting community is strong compared to other automotive communities. Lighting is a passion for life. Once you start, it's not easy to stop.

You like the final result or you don't; that's less important. What's more important is to try new things, to think outside the box, to innovate.

Lighting News

Five Fiat Concept Cars Along Company Roadmap

LIGHTING NEWS



By Paul-Henri Matha

In parallel to the Geneva motorshow, Fiat have revealed five concept cars illustrating the brand's intentions. The concepts could portend new Fiat Panda and Panda 4×4, Multipla, Tipo, and Pickup models.

This fresh new design comes as a product of the arrival of new Head of Design Francois Leboine in 2021. I used to work with Leboine at Renault. Together we did the Scenic 3 lamp design while Francois Bedu was doing the Megane lamp design in the 2003-2006 period. We did the first Renault lamp with microöptics and LEDs.

Later, we worked hard with him to do Renault's first full-LED headlamp on Espace (2011-2015). He was pushing hard to have no filament lamps on this car, to be able to drastically change the shape of the front fascia with thinner lamps.

Francois has always been innovative in lamp design, and it is a pleasure for me—and not only me, I think!—to discover these five new concept cars with really cool design and nice new lamp signatures.

Fiat design is a really good example of the interesting discussion we had during the Munich DVN Workshop, as to whether pixel lighting is a fad or a trend.

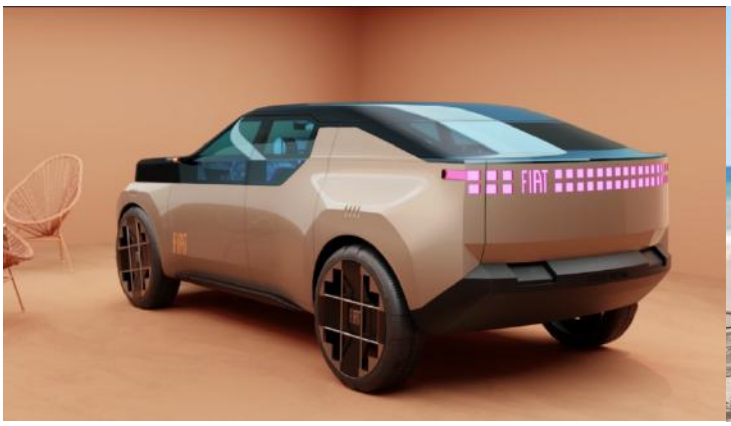
Well done, Francois!

2025: a "Giga-panda" SUV…the famous Multipla?

2024: big Panda

2025: Giga Panda with a 4×4 camper version

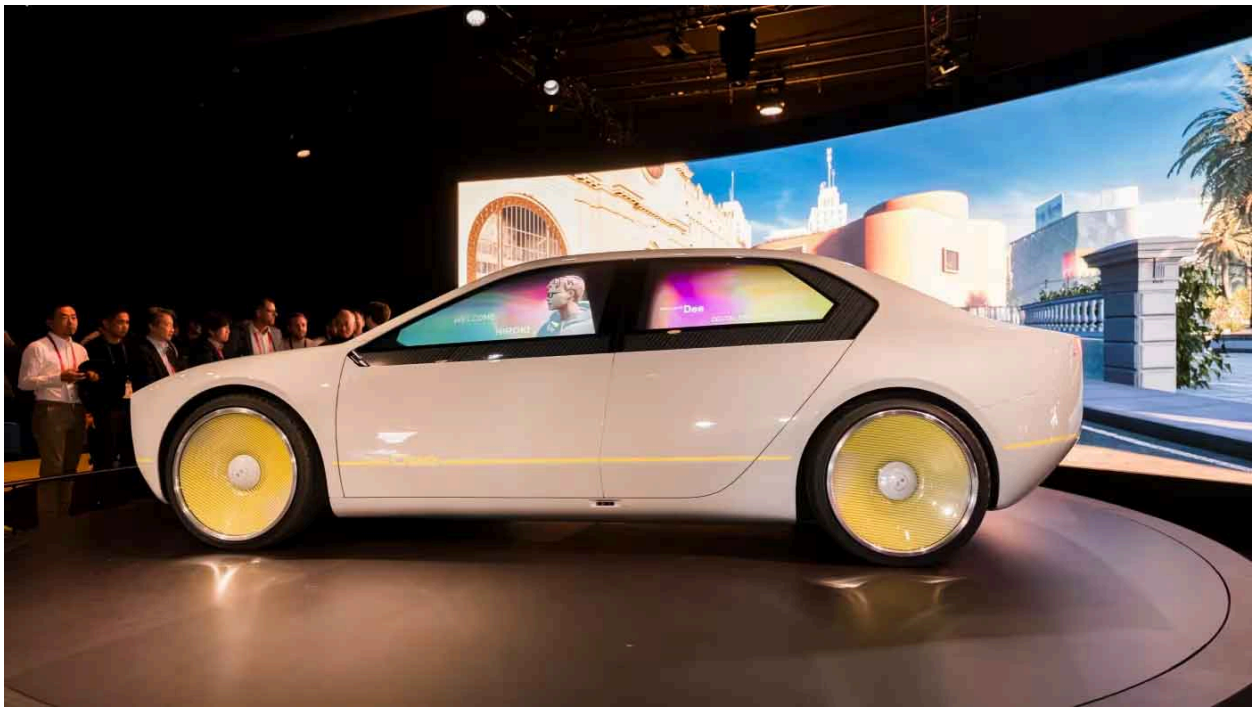
2026: a fastback SUV to replace the Tipo



2027: a pickup truck!

EVs Have Box Office Potential: Chinese Cine-projector Maker

LIGHTING NEWS



Appotronics have a 70- to 80-per-cent market share in laser cinema projectors. CEO Li Yi, in an **interview with Financial Times**, explained how the company are offering a cinema experience to back seat passengers with big-screen displays.

He explained that they expect between 10 and 30 per cent of Appotronics' expected $420m revenue in 2024 will come from EV equipment, up from almost nothing in 2023. They're already delivering a 32-inch screen to turn the second seating row of the Huawei Aito M9 into a cinema.

Flex-N-Gate Display on Renault R5

LIGHTING NEWS

Flex-N-Gate make the charge display module for the Renault R5, with a luminous display integrated in the hood.

This innovative module provides an intuitive display of the vehicle's charge level by means of indicator bars. These light up progressively to reveal the emblematic number 5, the model symbol, once the charge is complete. It also incorporates a friendly welcome / farewell button as the driver approaches or leaves the vehicle.

The supplier makes this load indicator module at their Plasticos and Marines plants, and the technical front panel at their Espana and Marles les Mines plants.

During the DVN Munich event, Renault lighting expert Francois Bedu provided more information about light intensity (I_{max}: 4-5 candela) and the optical concept with 5 LEDs and a diffusing inner screen.

Change in Marelli Automotive Lighting and Sensing's Management

LIGHTING NEWS

By Paul-Henri Matha

Frank Huber joined Marelli as EVP and President of Automotive Lighting & Sensing on March 1, 2024.

Frank has more than 20 years of experience in the automotive industry and has deep knowledge of the automotive lighting business. Frank will lead the ambitious growth plan for Automotive Lighting & Sensing, where great opportunities are evolving around vehicle personality.

Sylvain Dubois will stay on until June 1 to ensure a seamless handover. He joined us last week for our first CEO round table at DVN Munich.

"Half a decade as AL&S President has been an extraordinary chapter in my career, filled with challenges that have honed our collective strength and achievements that have almost always exceeded expectations. It has been a period of immense growth and transformation for our business group and me. Together, we have seen what it means to bring innovation to the forefront, not just in technology but in how we think and – most importantly – collaborate.
We celebrate more co-creation with our customers than ever through events that consistently garner positive feedback, reflecting the deep, win-win partnerships we've nurtured. Our innovation efforts have propelled us beyond our targets, culminating in new awards and recognition within the industry.
DVN awarded MicroLED the best innovation award, and the BMW laser rear lamp that won a CES award are some examples.
I would like to thank all 19,000 employees across 17 countries, the driving force that makes AL&S a premier exterior lighting supplier.
I am happy to hand over to Frank, a seasoned leader with rich experience, including in Automotive Lighting, who undoubtedly will pursue the growth and innovation journey. I will be at his side for the next few months before starting the next chapter of my career."

We wish Frank and Sylvain continued success and fulfilment in all their endeavours within Marelli and beyond.

Review: EPIC Online Technology Meeting on Photonics

LIGHTING NEWS

By Michael Hamm, DVN senior adviser

EPIC (European Photonics Industry Consortium) is a member-driven industry association to promote sustainable development of photonics organizations in Europe. EPIC represents over 800 companies and organizes 70 events per year, plus online technical workshops and B2B roundtables, and issue 80 market reports per year.

On 26 February, one of their online meetings was hosted by EPIC's Jeremy Picot-Clemente, PhD and Technology Manager for Optics and Green Photonics.

About 50 participants joined in; the presentations can now be downloaded from the event website. Presentations came from companies including Forvia Hella (Germany), Noctiluce (Poland), OledWorks (US), QNA Technology (Poland), Delo (Germany), Luminus (US), Focuslight (China), Technoteam (Germany), and SPIO Systems (Denmark).

Daniela Karthaus from Forvia Hella showed in her presentation the approaches for micro- and nanoöptics in lighting applications. She showed samples of 10 × 10 mm small apertures for low beam applications and holographic solutions. Dominika Goled from Noctiluca showed his company's capabilities in highly efficient emitters. Artur Podhorodecki from QNA Technology presented a very interesting new approach of creating blue quantum dots for quantum inks. Oliver Matyssek from Delo surprised the audience by showing how often and unexpected his bonding materials are used in lighting products. Robert de Jonge from Luminus demonstrated their capability of LED solutions for automotive projection. Harald Pier from Focuslight (formerly Süss in Switzerland) demonstrated how six small MLA modules can make a full performant low beam light distribution. Tanja Thiele from TechnoTeam gave insight in the luminance contrast improvement when making camera-based photometric measurements. Hendrik Madsen form SPIO Systems explained his company approach for small-sized optical devices with photonic component integration.

The discussed miniaturization in optical concepts and new light source concepts like quantum dots are very good ideas that foster innovation and product development. This conference was a successful exchange of innovative companies seeking innovative partners.

General News

First VW-Xpeng Car Will Be Electric SUV

GENERAL NEWS

Volkswagen and Chinese EV partner XPeng say the first car they plan to develop together will be an SUV with parts from both companies.

Under a 'master agreement' for platform and software collaboration, the automakers say they will start a joint sourcing program for platform and vehicle parts used by both partners, leveraging scale to reduce cost. The announcement marks a step forward in a partnership begun in July when VW said they would buy 4.99 per cent of Xpeng for around $700m with plans to jointly launch two EV models by 2026. The purchase was completed in December.

Volkswagen, trying to regain market share in China lost to local rivals, said economies of scale from joint purchasing, along with design and engineering innovation, will shorten development time by more than 30 per cent.

Cars produced through the partnership will carry the VW logo but feature a jointly developed platform based on ten-year-old startup Xpeng's G9 "Edward" technology.

Nissan, Fisker Reportedly in Investment, Partnership Talks

GENERAL NEWS

Fisker recently announced they might not be able to continue as a going concern and will cut 15 per cent of their workforce, and that they are in talks with a large automaker for a potential investment and joint development partnership. They did not name that automaker, but according to Reuters, Nissan are in advanced talks to invest in EV maker Fisker. Such a deal could provide Nissan access to an electric pickup truck while giving struggling startup Fisker a financial lifeline, according to two people familiar with the negotiations.

Terms being discussed reportedly include Nissan investing more than $400m in Fisker's truck platform and building Fisker's planned Alaska pickup starting in 2026 at a U.S. Nissan assembly plant (there's one in Mississippi and one in Tennessee. Nissan would build their own electric pickup on the same platform.

Fisker shares had been down about 45 per cent before the Reuters report, and now are trading down about 25 per cent with a market capitalization of more than $295m.

Fisker have struggled to sell their Ocean electric SUV after high interest rates led to a slowdown in demand. They've said current financial resources are insufficient to cover the next 12 months, and that without additional financing they might be forced to cut production, decrease investments, scale back operations, and end more jobs.

Fisker maintain they aim to deliver 20,000 to 22,000 Ocean vehicles in 2024. CEO Henrik Fisker previously said his company were in talks with five automakers about partnership to secure additional production capacity. Now, he says, talks have narrowed to one automaker and a deal will include joint development of one or more EV platforms, and North America manufacturing. Fisker unveiled the Alaska pickup truck last year with a price of just over $45,000, and said it was slated for production early next year. It is to be built on an extended version of the Ocean platform.

Li Mega On Sale in China

GENERAL NEWS

Li Auto's new Mega is a large vehicle with futuristic styling. It has a sleek roofline, hidden door handles, a lidar on the roof, and sliding rear doors. Its drag coefficient is just 0.215—better than the Porsche Taycan at 0.220, and making the Mega the most aerodynamic of production multi-purpose vehicles. Deliveries will start on 11 March, and the car is already on display in Li showrooms in China.

The Mega has the AD Max autonomous driving system that comprises two Nvidia Orin-X chips with a combined computing power of 508 TOPS. It also has a lidar sensor from Hesai, 11 cameras, 12 ultrasonic radars, and a millimetre-wave radar. It supports full-scenario navigation on autopilot (NOA); it can drive on its own on urban roads and highways, but the human driver still needs to remain vigilant.

The Mega is available in a single trim level for C¥559,800 (USD $77,800). In China, it will compete with the Hongqi HQ9, Zeekr 009, Voyah Dream, and Denza D9.

In showroom, it is possible to light up what give every appearance of being turquoise autonomous-driving indicator lights on front, side, and rear with a 'showroom mode' activation on the central stack display.