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Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #801

Editorial

Gearing Up For DVN's 27th Workshop In Tokyo

The 27th DVN Workshop will take place live and in-person at the prestigious Tokyo Ritz Carlton, with the theme **New functions and Digital Technologies in Lighting:** Integrating Software; Electronics; Optics; Design; Materials; Simulation, and Measurement Tools.

The workshop will highlight how new technologies will contribute to increase safety in our world. The event will bring together more than 250 participants from all over the world—experts; managers, and decisionmakers involved in lighting and vision.

Keynotes are confirmed from Honda; Valeo; Osaka University, and DVN representatives.
Presentation lectures are confirmed from:

- Automakers Audi · Geely · Mitsubishi · Toyota · Volvo
- Lighting suppliers Koito · Mind · Stanley · Valeo-Ichikoh · Varroc · Xingyu
- Light source suppliers AMS Osram · LG Innotek · Nichia · Lumileds · OLEDWorks
- Tier-2 suppliers involved in optics; electronics; materials; testing, and measurement Suss · LMT-TechnoTeam · Synopsys Japan · Sunny Optech · Xingjuyu · Covestro
- Universities and research institutes to be named soon.

Regulation session is a widely popular aspect of DVN Workshops, and this edition will have regulators and standards-developers from the likes of GTB, SAE, and Japanese and Chinese regulatory agencies.

Panellists from Plastic Omnium, Valeo, Koito, Covestro will discuss how the electrification of vehicles leads to vehicle frontal designs.

It's been five years since our last time in Tokyo in 2018, and we're busily working to carry on our proud tradition of making each and every DVN Workshop even better than the one before. See you there!

Sincerely yours

In Depth Lighting Technology

Tokyo Workshop Docket: It's Going to Be a Great One!

The program of the Tokyo DVN Workshop on 6-7 June is now defined. We will start with keynote speeches from **Honda Chief Engineering Manager Takeshi Tamada**, who will talk about the future prospect of vehicle lighting, and **Ichikoh VP and CTO Kazuyuki Miyashita**.

Here we present the sessions and the speakers and presentations they will comprise. As you can see, it's a diverse range of speakers and a constellation of highly relevant topics. A question-and-answer period will follow each session.

Session 1: Automaker Innovations

Toyota · Fumihiko Mouri
(title tbd)
Mitsubishi Motors · Tomohiro Watanabe, Chief Technology Engineer
Mitsubishi Motors' Approach to Lighting
Audi · Andre Hainzlmaier, Head of Lighting Innovations
Customer Centricity for Innovation in Software defined Lighting
Volvo Cars · Paul-Henri Matha, Technical leader Exterior lighting
Digital Lighting and New Era for Electrical Architecture, need to talk
Geely · Jiacai Xu, Senior Technical Expert/Section Leader of Luminaire Module Development
Photoelectric Application in Automotive Lighting Entertainment Function

Lecture session at 2018 Tokyo DVN Workshop

At 7pm, after a cocktail schmooze, an exceptional dinner event will be held.

The second day will start out with two keynotes from Dr. Wolfgang Huhn from DVN, *"360° Lighting - New possibilities for safety and user experience"* and Dr. Yoshio Manabe from the university of Osaka who will talk about the application of laser lighting to automobiles.

Session 2: Tier-1 Innovations

Stanley · Hiroaki Okuma, Operative Officer
What shall we do next with lighting?
Valeo/Ichikoh · Benoit Reiss and Shoichi Minokawa, Advanced Development
Sustainable Safety Improvements and Lighting Digitalisation
Koito · (presenter tbd)
Lighting Contribution to Styling Trends for the Next Generation Vehicle
Mind · Allen Zhu, Innovation Product Strategy Director
Visionary Technologies Bring New Possibilities for Headlight Styling and User Experiences
Varroc · Bogdan Coccian, Varroc Europe Manager
SLED From Draft to Craft: Passing From 2D to 3D, Unlocking New Design Possibilities
Xingyu Japan · Hitoshi Nakagaki, General Manager
Xingyu Digital Lighting

Session 3: Regulations and Standards

The ever-popular DVN Workshop regulations-and-standards session is perhaps the most crucial yet, coming as it does in a time when it is more important than ever that regulations keep temporal and technical pace with innovations. VIP voices in the field, gathering for this session, include Bart Terburg; Davide Puglisi, and Rainer Neumann.

Session 4: Light Source Innovations

Nichia · Kohei Okamoto
Nichia Solution for Automotive Display
Lumileds · Norbert Lesch, Product Marketing Innovation Director
Benefits of Direct Imaging Solutions for ADB LED Matrix and High Resolution MicroLED Digital Beam
LG Innotek · Seung Tae Kwak
(title tbd)
ams OSRAM· Christian Wittmann, Senior Director Japan
Enabling Mobility With New Forward Lighting Light Sources Efficiently and Sustainably
ams OSRAM - Harald Kaps, Head of R&D Light sources for OEM
Standardized LED Light Source - Solution over whole Life Cycle
OLEDWorks · Dr. Kathleen Vaeth (by video)
Adaptive OLED Lighting for Increased Safety and Personalisation

Session 5: Panel Discussion

Top expert panellists from around the world will grapple with the question of how vehicle electrification is spurring changes in vehicle frontal design.

Session 6: Skills Toward Development of New Functions

Suss · Patrick Heissler
Combining Design, Functionality and User Experience with Micro Lens Array Based Solutions
LMT-TechnoTeam · Tanja Thiele, Light Measurement & Image Processing Application Engineer
Shaping the Future of Light Measurement Technology: Impact of Legislation and Standardisation
Synopsys Japan · Tobias Schmid
Synopsys Optical Solutions for the Comprehensive Design and Analysis of Pixel Light Headlamps
Sunny Optech · Tani Gu, Vice President
(title tbd)
Xingjuyu Japan ·Xiting Peng, Marketing Director
Application of Interactive Dynamic Projection of Automotive Lamp Signal
Covestro · Ken Wakabayashi, Engineering Plastics Industrial Marketing/Mobility, Asia
Efficient Complex LED Low Beam modules Through In-Mold Optical Alignment and Heat Management

Networking at the 2018 DVN Tokyo Workshop

Lighting News

Petition Against "Blinding" Car Lights Could Cause Major Damage

Analysis by DVN Chief Editor Daniel Stern

LIGHTING NEWS

A U.S. organisation calling itself the Soft Lights Foundation are demanding a ban on what they call "blinding headlights" and "dazzle headlights". Through social-media promotion and thoughtless mass-media parroting, they've managed to collect just under 50,000 signatures so far. The 'organisation', so to speak, is the passion project of one Mark Baker, who presents himself as an expert, yet evidently lacks even a rudimentary knowledge of the subject he wants to make big changes in.

One of Baker's assertions is at least somewhat true: a lot of Americans are bothered by headlight glare. Beyond that, their claims are without any basis in reality. He claims LED light is inherently unhealthy and is making us all sick. He claims LEDs, because they are flat-surface emitters rather than point-sources, are "unnatural". He claims LEDs are immediately and hideously dangerous to human eyes at any level of exposure. He claims LEDs aren't really more efficient than filaments. He claims all LED headlamps are illegal; inherently noncompliant, and unsafe because LEDs are surface sources and not point sources, and because FMVSS 108 does not define "light". He claims LEDs are discriminatory and violate civil liberties by "interfering with the human nervous system, preventing us from seeing, thinking, concentrating, sleeping, and communicating". He likens himself to Galileo, persecuted for speaking the truth.

It is easy to scoff and laugh at claims like these, which deserve no serious engagement on their non-existent merits; in the past, individuals like this were best ignored. But in today's world, that would be a major error. Yes, he's wrong, but what matters more is that *people believe* him. The context in which he's wrong includes a global audience of social-media resharers and upvoters; a widely-perceived major problem—unbearably bright headlight glare—and a lack of any meaningful regulatory action to control it. MVSS 108 does not require headlamp levelling or lens-cleaning systems, which are proven glare-control strategies; ADB

in the USA is still an open question; the official response to glare complaints has long been kind of lame and nonresponsive: 'just look away from the glare', and it is **all but impossible** to get a proper headlamp aim adjustment in North America even for those inclined to seek one out. Meanwhile, headlamps grow smaller and smaller and brighter and brighter, and nighttime pedestrian deaths keep climbing and climbing.
That is the field in which Mr. Baker sows his misinformation, which is taking root and growing in the absence of facts and science and education and action. That's very bad, because there *are* real issues; problems, and solutions related to headlight glare and seeing, but mass-media articles credulously quoting the 'organisation'—and the complaints they spur to the relevant authorities—take up all the air in the room (and discussion time on the docket), thus spoiling any chance for scientifically sound, appropriate discussion, let alone any meaningful changes that might be warranted.

We must urgently speak up and effectively educate drivers; pedestrians; social-media users, and regulators alike. Yes, it will take money and time and effort, but if we just shrug and chuckle and roll our eyes and scroll on past, the misinformation wins, and then everybody loses.

Mercedes E-Class Has New Light styles Outside and In

LIGHTING NEWS

A glossy black panel connects the grille with the headlamps, a similar look to Mercedes electric models. There's an optional illuminated grille surround.

In addition to high-performance LED headlamps, an optional Digital Light system can project symbols onto the roadway to warn and support the driver in particularly challenging situations.

The taillights have a trident motif visible in both day and night conditions.

A light strip illuminates the instrument panel's front section. The lighting element, which runs in an arc from the windshield, past the A-pillars and into the doors, visually interprets the audio playing in the car.

New Renault Clio Has Dramatic, Graphic Lighting

LIGHTING NEWS

The Renault Clio has been an uninterrupted hit since its launch in 1990; 16 million of them have been sold worldwide—and counting! It has been named France's favourite car; become an international best-seller and won two Car of the Year awards in Europe.

The new Clio's LED headlamps are slimmer than before and are joined by a dramatic lighting graphic eventually to be adopted throughout the Renault model range.

The new light signature has been completely revamped, and channels the brand's identity.

Gilles Vidal, the Renault brand's VP of Design, says, "There is a real love story with the Clio in France and all around the world actually. So, we wanted to celebrate the core values of this icon, and bring it to a next level by transforming it. We kept in mind the need of homogeneity, and the idea of projecting it into the future, with a more technological design, while keeping its human touch. The New Clio is the successful fusion of generous shapes, sculpted volumes, sharp lines and graphics".

Marelli Innovations at Shanghai Auto Show

LIGHTING NEWS

At Shanghai Autoshow 2023, Marelli showcased, under the slogan 'Co-Create What's Next', their latest vehicle lighting and sensor integration technology. Here's a look at some of their exhibits:

Second-generation HR µLED Projection

Compared with the mainstream DLP solution, microLED can reach similarly high performance and projection interactive functions, with 40 per cent less power consumed; the size reduced by 75 per cent, and 20 per cent greater brightness. Headlamp road projection opens possibilities for safety and interaction scenarios, and enhances vehicle-to-vehicle and vehicle-to-person interaction.

Ultra-Thin Combination Headlamp

The ultra-narrow module technology of 10-15 mm is convenient and flexible to arrange, either separate or end-end, which brings more styling freedom. Marelli offer over 100 modules, with customisation options.

SmartCorner™ Lighting

SmartCorner integrates sensors such as millimetre-wave radar; lidar, and cameras into headlamps and taillights. This optimises the overall vehicle design and layout, and improves sensor reliability in extreme environments. Chinese luxury HiPhi EVs are already using this technology.

Driver Assistance News

Hesai's Ultra-Thin Lidar Lives Behind the Windshield

DRIVER ASSISTANCE NEWS

Hesai's ET25 is only 25 mm tall and offers high performance with a view field of 120°H × 25° V and detection range of up to 225 metres as installed behind the windshield. Its in-cabin design prevents dust and rain from obstructing the lidar's field of view and allows for easy cleaning using existing windshield wipers.

With only 12 watts' power consumption, the ET25 can maintain high-performance operation even in hot conditions without overheating.

Hesai have partnered with glass supplier Fuyao to develop near-infrared anti-reflection glass for the ET25.

Its point frequency exceeds 3 million points per second. With a minimum resolution of only 0.05° × 0.05°, it brings ultra-high resolution and long-range 3D perception to the automotive realm.

Hesai's current AT128 product has already found millions of units' worth of favour with 11 automakers and tech companies including Li Auto; Jidu; HiPhi; Lotus; Changan, and SAIC.

General News

BYD Topple VW as China's Best-Selling Brand

GENERAL NEWS

BYD's inexpensive Seagull model

The Chinese EV maker passed VW with Q1 sales of more than 440,000 cars in China, while VW brand volume totalled 427,247.

BYD have toppled VW in the Chinese market, selling in the first quarter more than 440,000 cars in China, according to automotive industry data compiled by Bloomberg.
VW had been the best-selling brand among automakers in China since at least 2008. Vehicle sales under the VW brand totalled 427,000 units in China in the first quarter, with EVs accounting for only six per cent of those.

The trend reflects the declining influence of legacy foreign brands as Chinese EV makers muscle in with increasingly sophisticated and affordable models. VW Group CEO Oliver Blume called BYD "Very, very strong". BYD sold 1.86 million vehicles in 2022, more than in the previous four years combined. BYD vehicles accounted for two in every five new-energy car sales in China in the first quarter, and the maker sold almost 550,000 cars globally in January-March. They have plans to sell at least 3 million vehicles this year, possibly as many as 3.7 million, according to Bloomberg Intelligence analyst Joanna Chen.

Valeo Sales Up 15% in Q1

GENERAL NEWS

Valeo reported first-quarter sales up 15 per cent year on year to €5.5bn. That result was driven mainly by the two business units powertrain and driving assistance. The company are banking on the acceleration of car electrification and the adoption of ADAS, as governments and companies shift towards EVs and AVs.

The Powertrain Systems unit, which produces electrical and transmission systems for cars, and generates about a third of revenues, added 33 per cent in like-for-like sales during the first quarter. In particular, sales in the high-voltage electric powertrain business surged by 69 per cent. It has also recorded an order intake of around €4bn over that period.

CEO Christophe Perillat says "Optimising our costs and negotiating compensation with our customers are our main priorities on the road to our 2023 objectives"; confirming the company's €22bn - €23bn sales target for this year.