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Ultimate precision in perfect alignment

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

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Editorial

Grand Success At US Workshop—Onward To Shanghai!

A rousing first speech from Wolfgang Huhn; keynotes by Michael Flannagan and John Bullough; a fulsome regulatory-matters session. 23 lectures; 20 exhibitors and sponsors; 250 attendees. VODs for the presentations, and a report with lecture summaries; presentation of the exhibitions, and many pictures.

That's the result of the 24th DVN Workshop held last week near Detroit.

Great job by the DVN team who worked hard to bring this success: Jean-Claude and Geoffrey Lebrun; Carine Abouaf; Christophe Lameiras; Daniel Stern; Wolfgang Huhn, and Gerd Bahnmueller. In the end, we achieved our target: attendees were well satisfied at a productive, informative event.

From today you can get:

- [the DVN Report](#) on this workshop,
- [the VODs](#), gold/platinum members can view for free

Now we are working on the next DVN Workshop, to be held 20-21 September at the Marriott Shanghai Parkview hotel. There will be presentations and discussions about road projections (front, side, and rear); illuminated logos and grilles; light signatures; decorative illumination; animation, and digitalization. We expect lectures from automakers (Audi; BMW; GM; Great Wall; Nio; Shanghai-VW; Stellantis; Volvo; FAW Volkswagen, and other Chinese makers) and suppliers (Marelli AL; Hasco; Hella; Koito; Mind; Mobis; Valeo; Varroc; Xingyu, and ZKW).

The theme for the event is **Innovations for New Lighting Functions**. This rubric will be discussed during the lecture sessions by top worldwide experts to help you orient strategic decisions for your company and yourself concerning your product and service roadmaps and resource investments and allocations. The Shanghai DVN Workshop brings the opportunity to network with international and Chinese colleagues and innovators and to promote your lighting products and services towards the highest-relevance portions of the world's markets. We look forward to seeing you there!

FYI, DVN will upgrade its Newsletter software on July 1st. If you don't receive the DVN Newsletter next week, please check your spam.

Sincerely yours


DVN CEO

In Depth Lighting Technology



US Workshop: Three Takeaways



DVN's three main targets are to inform; to promote, and to network. Here's how we worked toward those targets at last week's DVN US Workshop:

To inform

Three talks opened the workshop: Wolfgang Huhn from DVN; Michael Flannagan from UMTRI, and John Bullough from Mount Sinai.

Four lectures from automakers (Wolfgang Huhn, session chair): Michael Hamm from Audi; Hans-Christoph Eckstein and Lingxuan Zhu from Lucid Motors, Shammika Wickramasinghe from Rivian (unfortunately hindered by a technical problem) and Paul-Henri Matha from Volvo Cars.

Five presentations by tier-1 suppliers (Luciano Lukacs, session chair): Michael Kleinkes from Forvia-Hella; Brant Potter from Valeo; Hossein Nafari from Mind; Hyunsoo Lee from Hyundai Mobis, and Andre Baptista from Marelli AL.

Six presentations from light source suppliers (Gerd Bahn Müller, session chair): Will Chung from Samsung; Thorsten Anger from Lumileds; Mahad Abbasi from Seoul Semiconductor; Brandon Seiser from Texas Instruments; Cole Cunnien from Kyocera SLD Laser, and Michael Boroson from OLEDWorks.

Eight lectures from tier-2 suppliers (Michael Hamm, session chair): Hassan Koulouh from AML Systems; Markus Winkler from Doctor Optics; Siraj Varikkodan from BlueBinaries; Christophe Bremer from Suss; Tani Gu from Ningbo Sunny Automotive Optech; Thomas Geistert from Elmos; Jim Lorenzo from Covestro, and Julien Muller from Ansys.

And there was the highly interesting and singularly relevant Regulatory session (chair: Bart Terburg), which included a panel discussion with top experts in regulation.

To promote

20 exhibitors presented their technologies and innovations:



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SEOUL SEMICONDUCTOR



AML SYSTEMS



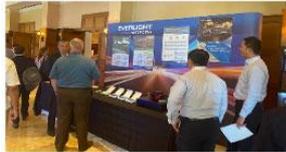
DOCTER OPTICS



ELMOS



EOI



EVERLIGHT



FORVIA HELLA



KYOCERA



INSTRUMENT SYSTEMS



LMT AND TECHNOTEAM



LUMILEDS



MARELLI AL



PLASTIC OMNIUM



OLEDWORKS



REBO



SYNOPSISYS



SUSS



ANSYS



ESS H.E.L.P. CAR

To network

One dinner, two lunches, and multiple coffee breaks:



LUCID MOTORS



B.TERBURG, T.REINERS, M.HAMM



M.HAMM, L.LUKCAS



LARSEN, NEUMANN, PUGLISI, HUH,
KLEINKES, SHAMMI, TERBURG



W. HUH, R.NEUMANN,
M.KLEINKES



NETWORKING

Lighting News

DVN US Workshop: Fruitful Session on Regulations

LIGHTING NEWS



MIKE LARSEN, RAINER NEUMANN, DAVIDE PUGLISI, WOLFGANG HUHN, MICHAEL KLEINKES, SHAMMIKA WICKRAMASINGHE, BART TERBURG

Bart Terburg, GTB Vice President & Chairman of SAE International Cooperation Committee, opened and moderated this 20th Regulatory Session, packed with the latest updates on regulations and standards activities from the UN world (GTB, GRE) and the SAE Lighting Systems Group.

The two-hour session was packed with the latest updates on regulations and standards activities from the UN world (GTB, GRE) and the SAE Lighting Systems Group, with a focus on areas of projections of information and signaling on the road surface, decorative lighting, welcome lighting sequences, and signaling for autonomous vehicles.

The audience was treated to 5 lectures followed by a panel discussion with 10 participants from vehicle makers, tier-1's and representatives of GTB and SAE. The panel unanimously agreed on the importance of working towards globally harmonized technical requirements and it was stressed that harmonization is a two-way street; it was noted that several aspects of FMVSS108 could be beneficial to the global industry and that such topics should be brought up for consideration in the GRE Informal Working Group on Simplification of the UN Lighting and Light Signaling Regulations (SLR).

By way of one of the lectures the DVN community was presented with a premier news item, namely the very recent adoption by GTB of the Headlamp Safety Performance Rating (HSPR) Recommended Practice, just a week earlier in its Stockholm session.

These updates were followed by a discussion relating to the reactions to the NHTSA Final Rule for ADB and an animated panel session focusing upon the priority to develop globally harmonised technical requirements for the new projection, signature lighting, perimeter, and zone lighting innovations.

Pride in Light Design Isn't New

LIGHTING NEWS



As we frequently report and describe these days, design has gained serious traction in recent years as a central element and prime mover in vehicle lighting systems. Automakers are justifiably proud of their designs, and their designers in turn are proud of the work they do to devise and realise those designs.



But we might as well drop that "recent years" descriptor—take a look at these Volvo publicity photos from sixteen years ago in 2006. That's Simon Lamarre, Volvo's Canadian-born studio chief designer at the time, and he's posing with obvious affection for the rear lamps for the then-new C30 car.

Perhaps the Lamarre photo shoot was the first of its type, and started the now picking up speed. Whether or not, in DVN's opinion there should be more depictions like this. Fortunately, we're not the only ones who feel that way; check out [this video](#) featuring Stephan Berlitz proudly doing show-and-tell about the 2023 Audi A8's fully-digital lighting system.

Xpeng P5 Drops Back for P7, But Will Challenge Polestar, Tesla

LIGHTING NEWS



Xpeng's newest model, the P5, was to be the brand's launch vehicle in the Netherlands; Denmark, and Sweden in the fourth quarter of this year, but supply chain problems have forced a delay. The larger P7 will now be the brand's launch car in those countries, starting soon. The P5 will undercut comparable versions of the Tesla Model 3 and Polestar 2, its two closest competitors.



XPeng's head of European sales Jackie Qiang says "The unique selling point of Xpeng is the technology: Xpilot, AI, and connected car features". In China, Xpeng offer their Navigation Guided Pilot (NGP) on the highway as part of the Xpilot 3.0 ADAS package, which could be compared to Tesla's so-called "Navigate with Autopilot" function.

Xpilot 3.0 steers the car off the highway at the correct exit based on instructions given to the car's navigation system—if (and only if) the driver's hands are on the steering wheel. Xpeng say the upgraded Xpilot 3.5 will include a lidar system and a new Nvidia chip meant to allow the car to follow map instructions on major urban roads.

Faraday Future Funding, Launch On Track

LIGHTING NEWS



Faraday Future Intelligent Electric CEO Carsten Breitfeld says they'll need no additional funding to launch their FF91 luxury vehicle—they will, however, have to raise money in the second half of the year, and Breitfeld is confident that will happen despite the prevailing economic difficulties.

Faraday say they will start delivery of the FF91 in the third quarter this year; they expect to make between 6,000 and 8,000 EVs next year. The FF91 luxury crossover is to be made at their plant in Hanford, California; their mass-market FF81 vehicle is to be built by contract manufacturer Myoung Shin.

Breitfeld says Faraday will deliver cars with hardware required for autonomous driving and will use software stacks from a third party; drivers will get OTA updates to enable and upgrade advanced driver assistance systems capabilities after the car has launched.

Peugeot 408 Rides Fastback Trend Wave

LIGHTING NEWS



Peugeot's trendy 408 compact faces the world with thin headlamps and a vertical-fang DRL signature. In back, there's a new, much more horizontal fine line iteration of their triple-claw taillight design. The car shares technology and a platform with the 308, targeting buyers in the segment who want an alternative to hatchbacks, station wagons, and SUVs.



The 408 will go on sale at the start of next year, offering two plug-in hybrid gasoline powertrains and one non-hybrid. A full-electric version will follow several months after launch.

The 408 will be built on Stellantis' EMP2 compact/midsize platform in Mulhouse, France for European customers, and in Chengdu, China for that market.

Fastbacks are a growing trend amongst European auto brands, who leverage the additional body style to offer within popular segments, and because they offer better aerodynamics than boxy SUVs—important for fuel economy (therefore CO₂ emissions) and electric range.

Driver Assistance News

Valeo: Deal to Deliver ADAS to BMW's EV platform

DRIVER ASSISTANCE NEWS



Valeo said today it had won a major contract with BMW to equip the German carmaker's upcoming electric vehicle platform with its advanced driving assistance systems. The platform, on which BMW is planning to build up its bestselling 3 series sedan among other models, is a core part of the carmaker's strategy to reach a 50% share for electric vehicles in its global sales by 2030.

Valeo said it would provide the ADAS domain controller, sensors and software for parking and maneuvering for BMW's platform generation called "Neue Klasse"*, due to launch in 2025.

Valeo added that the system being developed by Valeo, BMW and Qualcomm will be able to obtain real-time mapping and understanding of the car's surroundings as well as the interior of the vehicle.

Tesla AD is Accident-Prone: U.S. Crash Data

DRIVER ASSISTANCE NEWS



This Tesla Model X crashed itself into a California highway barrier in 2018, killing its 'owner'—an Apple engineer who had complained that the car's 'Autopilot' system would malfunction in the area where the crash eventually happened. (KTVU-TV/AP image)

NHTSA have published [data](#) (search the page for *Download Data*) showing Tesla vehicles with 'Autopilot' and 'Full Self-Driving' were involved in 273 reported crashes—nearly 70% of the all-makes total of 392—over roughly the past year's time. That's a lot more than previously known. The data are also available in the form of summary reports [for L²](#) and [for L³⁻⁵](#).

Safety experts have expressed misgivings about testing and training this kind of technology on public roads with other traffic participants and road users. Advocates for Highway and Auto Safety president Cathy Chase says "It's clear that US road users are unwitting participants in beta testing of automated driving technology". Federal officials have targeted Tesla in recent months with an increasing number of investigations, recalls and even public admonishments directed at the company, which Tesla CEO Elon Musk has tended to shrug off and mock on Twitter.

Since at least 2018, Musk has been insisting his 'Autopilot' is "unequivocally safer", claiming it has a lower crash rate per mile than typical driving, and that his 'Full Self-Driving' has an even lower one. But it's not a like-to-like comparison, because most 'Autopilot' and 'Full Self-Driving' vehicle travel takes place on highways, with crash rates much lower than for driving overall—for all vehicles. NHTSA say they are studying whether 'Autopilot' "may exacerbate human factors or behavioral safety risks"; a 2021 study by the Massachusetts Institute of Technology found Tesla drivers look away from the road more frequently while using 'Autopilot' than when they're driving without it.

The new data set stems from a federal order last summer requiring automakers to report crashes involving driver assistance to assess whether the technology presents safety risks.

The NHTSA order required manufacturers to disclose crashes where the software was in use within 30 seconds of the crash, in part to mitigate the concern that manufacturers would hide crashes by claiming the ADAS/ADS wasn't in use at the time of the impact. Some systems, including Tesla's, have given every appearance of disabling themselves right before a crash, leaving room for automaker to say the systems weren't engaged at the time of the incident and shifting the blame to the human driver. In a separate investigation, NHTSA are looking at 16 collisions wherein Teslas on 'Autopilot' slammed into parked emergency vehicles. In those incidents, NHTSA say "Autopilot aborted vehicle control less than one second prior to the first

impact". The agency also reports that their scrutiny of Teslas on 'Autopilot' tending to ram into the rear of emergency vehicles found that in 37 of 43 crashes with detailed car log data available, drivers had their hands on the wheel in the last second prior to the collision

Five of the six fatalities listed in the newly-published data involved Teslas; the 'Autopilot' system has been tied to deaths in crashes in Williston and Delray Beach, Florida, as well as in Los Angeles County and Mountain View, California.

'Autopilot' is also the subject of several other regulatory probes, such as one looking into Teslas' tendency to abruptly stop—even in the middle of busy highways—for nonexistent hazards.

UN R157 Amended to Expand L3 Usage

DRIVER ASSISTANCE NEWS



UN Regulation № 157 has been amended to extend L^3 automated driving in certain traffic environments at speeds up to 130 km/h; the previous limit was 60. The amendment also allows for automated lane keeping systems (ALKS), and will enter into force next January.

These L^3 systems can be activated only under certain conditions, on certain controlled-access roads: ones where pedestrians and cyclists are prohibited, and which are equipped with a physical separation that divides the traffic moving in opposite directions.

The regulation sets forth clear performance-based requirements: technical requirements, test protocols on test tracks and in real-world conditions; stringent cybersecurity and software update requirements. It also describes the applicable type-approval and conformity-of-production auditing provisions.

Most countries accept or require vehicles and components designed and build in accord with the UN Regulations, but the United States exists in a regulatory exile of its own making.

Veoneer: Soon for Sale?

DRIVER ASSISTANCE NEWS



Swedish automotive supplier Veoneer are being prepared for sale by SSW Partners, according to sources claiming knowledge of the matter. SSW could sell the entire business to one buyer or might sell the two pieces separately.

The assets include the active safety unit, which supplies radars, cameras and lidar; and the restraint-control systems unit, including electronics for airbags and seat belts. No timing or structure for the deal has been set, nor has a buyer been identified, though a sale is likely to attract interest from other automotive suppliers as well as buyout firms.

Qualcomm partnered with SSW last October to take Veoneer private for USD \$4.5bn. Qualcomm took the Arriver technology business, while SSW worked alongside Veoneer management, led by CEO Jacob Svanberg, to buy the rest of the Swedish company with plans to sell it on. The group fought off an earlier offer from Magna International.

Veoneer were spun off from Autoliv in 2018.

General News

Ford to End Car Builds at German Plant

GENERAL NEWS



Ford aren't planning to replace Focus production in 2025 at their vehicle assembly plant in Saarlouis, Germany.

Ford of Europe Chairman Stuart Rowley said the company are "seeking other alternative opportunities for vehicle production at Saarlouis, including other manufacturers. We do not have in our planning cycle an additional model that goes into Saarlouis".

Saarlouis lost to Ford's plant at Valencia, Spain, in its bid to produce vehicles on the company's next-generation electric vehicle architecture starting later this decade. Both Valencia and Saarlouis will experience "significant" job reductions as Ford pivots to an electric-only future, Rowley said: "The reality of the industry is that the production of EVs will require fewer people".

Ford currently employ 6,000 people at Valencia, and 4,600 in Saarlouis. Ford's site in Cologne, Germany, is not affected by the employee reduction. Ford's attention in Germany is focused on their Cologne facility, which will start building a new SUV based on Volkswagen's MEB electric platform starting in 2023.