

Tue, 4 October 2022
Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #771

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

SAMSUNG



Editorial

DVN China Workshop: Targets Achieved

Today, we publish [the report](#) concerning the DVN workshop in China, with lecture summaries, expo booth presentations, and a lot of pictures. Don't miss it!

The workshop was very difficult to organize: change of location, only DVN Chinese team in place, several video lectures, but at the end, we are very happy to have succeeded the workshop, to receive a lot of congratulations, and to get very fruitful lectures from OEMs, and lighting suppliers.

Even gathering only Chinese residents, the workshop achieved a great success with over 250 attendees and 18 exhibitors.

I thank:

- the two keynote speakers CEO of Hasco Vision Technology, Xuejun Qiu, and Geoff Draper, former GTB CEO and now Senior adviser Regulations at DVN.
- the speakers for their fruitful lectures, most of them at very high level as the 9 lectures from car makers, and the 10 lectures from Tier 1
- the chairmen Wolfgang Huhn, Philippe Aumont, Hossein Nafari, and Huixin Sun. From my side I took great pleasure to chair the session dedicated to Tier 2 suppliers, very active in lighting innovations.
- the 18 exhibitors who presented their booths with very innovative products and systems.

I don't forget DVN François LI, Ann Ai and Tylon Zhu who made a wonderful job in organization.

Sincerely yours,


DVN CEO

In Depth Lighting Technology

Great and Fruitful DVN Workshop in China Last Week



XUEJUN QIU, HASCO VISION TECHNOLOGY CEO

The four main points of the DVN workshop in China were:

- 32 lectures including 9 lectures from OEMs
- 2 keynotes made from Xuejun Qiu, CEO of HASCO Vision, on his Outlook on digital lighting and by Geoff Draper, former GTB President, now DVN Senior advisor, on how Breaking Barriers to innovation
- 18 exhibition booths packed with innovations
- 250 attendees, only people living in China

What we retain:

Safety

Lighting is still in the lead with new functions like road projections and illuminated grilleboards. Several lectures emphasized the lack of distraction to other traffic participants. Sign road projection can also be compatible with HUD when correctly positioned. New emotional functions and elements are coming on stream, like micro-optics. Lighting is still in the lead with new functions as Road Projection or Illuminated grilles. Several lectures emphasize no distraction made to other users, cyclists, pedestrians, or car drivers. New emotional Functions and Elements are approaching, e. g. Micro-Optics.

Lighting signature

Evolution of signature lighting to include the likes of front grilles and grilleboards, illuminated logos, and new kinds of signal illumination. Full-width light bars are increasingly prevalent,

with and smart front panels for brand identification and light-based communications not far behind. "Lighting is the new intelligent chrome".

Taillights will have more pixels and present more interactivity.

ADB and symbol projection

DLP and HD modules will coexist in the near term for projected symbols, but eventually HD modules with 10-50 kilopixels will prevail unless the cost of a DLP module can be reduced.

Software

Lighting software is a hot area for OTA, V2X, and other new communication strategies. Users will be able to have experience of light functions and play with them. New roles of lighting will go much further than safety with amusement or even video projection. The future will be clearly more and more programmable, dynamic and interactive systems. Car lights will still be highly valued on every car.

Regulations

Harmonisation is very important, and strong efforts must be made to converge as much as possible at least between UNECE and China. There is great difficulty making headlamps that not only meet the U.S. regulatory requirements, but also get good scores on non-regulatory headlamp tests like those done by IIHS. This challenge for a harmonized regulation is reinforced by the development of several new regulations to support the new functions and advancing in different directions.

Interior lighting

There is active need for new interior lighting performance, and new levels of networking to support more demanding applications with higher luminance, greater homogeneity, and perfect uniformity. The Covid pandemic has created new expectations in vehicle interiors, starting but not ending with shared transport.

Rear lights

The desired trend is toward increasingly homogeneous; complexly shaped, and polyvalent lighting surfaces. OLEDs or equivalent technology using micro-optics bring new levels of resolution, versatility, and homogeneity.

An important impact on perception is the possibility to have a 3D perception going beyond the traditional 2D perception.

Simulation

Complex simulation and verification are needed at every stage of lamp design.

Simulation suppliers are now offering effective new tools to support the development of the new lighting functions

Communication

Display technology with V2X communication is gaining traction, while high-resolution display technologies are allowing new signal lamp designs using MiniLEDs.

Tier 2 devices

Performant types of automatic leveling are replacing the traditional MEMS sensors.

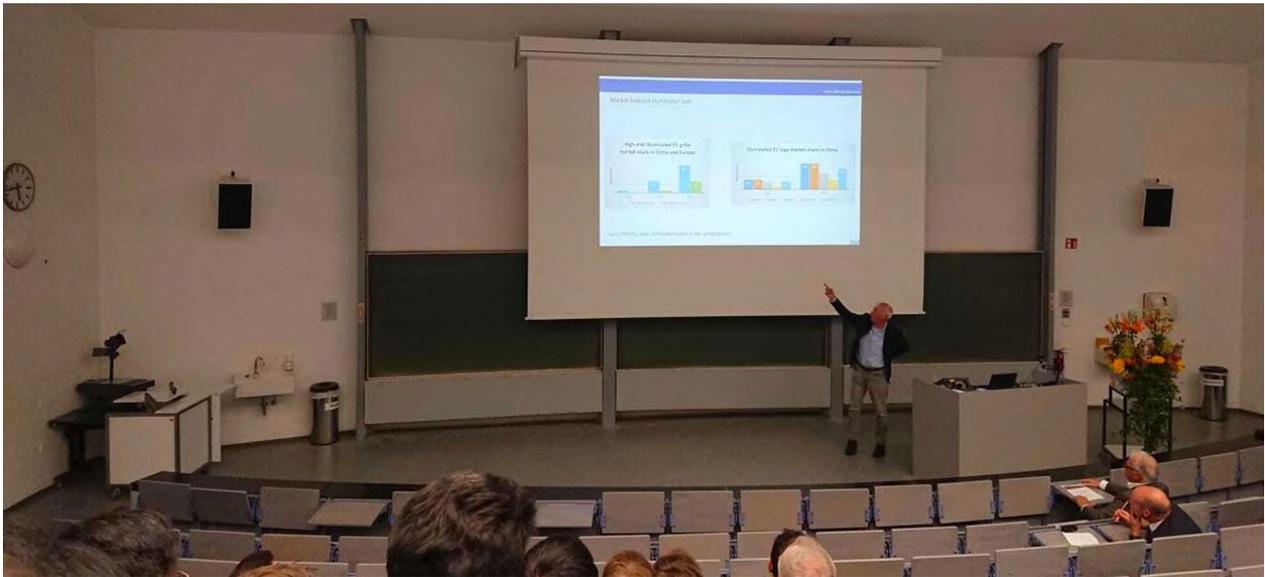
New specific grades of polycarbonates with improved thermal conduction will replace aluminum.

[For details of the workshop.](#)

Lighting News

Light Technology Institute Karlsruhe celebrates 100th Anniversary

LIGHTING NEWS



Karlsruhe Institute of Technology's (KIT) was celebrating a remarkable event: The 100 Years Anniversary of the Light Technology Institute (LTI). Most Probably the oldest Institute for Lighting and Illumination in the world. More than 100 guests were invited on a Friday afternoon for some lectures followed by a party to celebrate the event.

The directors of the LTI, Prof. Uli Lemmer and Prof. Cornelius Neumann gave a lot of interesting historic facts and figures which showed the development of the lighting technology but also the about the history of the Institute itself, including a detailed view on the terrible times from 1933 to 1945.



HUHN, PROF. ULI LEMMER, MATTHIAS WISSERT



HUHN, THOMAS REINERS, PROF. NEUMANN, MS. NEUMANN



HEADLAMP PRESENTATION



VIEW INTO THE SOLAR CELL LAB

Before the party started, two other lectures were given, Matthias Wissert from company Trumpf talked about Laser Systems for Semiconductor Manufacturing and Wolfgang Huhn from DVN gave an overview about the headlamp technology from the past to the future.

Wisser gave a phantastic insight in the world of 30 kW CO₂ laser-pulses hitting falling droplets of Sn to emit EUV radiation without self-destroying, which we learned is super easy. Trumpf, ASML and Carl Zeiss SMT together are the only company-group worldwide who is able to deliver EUV Systems for Semiconductor Manufacturing in the 5 nm technology. Their time to delivery such a system is more than two years, if they had the capacity.

The party after the lectures was a real good student Party, I remember very well from my past. We should have more of them

Wolfgang Huhn

DVN at Valeo CDA: Impressive AR HUD

LIGHTING NEWS



Last month, DVN visited the headquarters of Valeo's ADAS centre. As part of our visit, we interviewed Marc Vrecko, president of Valeo's CDA (Comfort and Driving Assistance) business unit.

The business group CDA, Comfort and Driving Assistance is one of the 4 BG of Valeo, Visibility is another one. It has three departments:

- **ADAS**, producing AD and AV technologies and systems including lidars, cameras, radars, and ultrasonic sensors
- **Interior**, working to enhance the vehicle-interior experience through intuitive and interactive solutions including hands detection and driver/occupant monitoring
- **Connectivity**, devising innovations for telematics; car access control; car sharing , and acoustics.

Valeo group moves towards autonomous driving and in order to push research in the different sectors that impact AD and ADAS, it has decided to regroup the different technical and human resources in a same location. Specialized engineers and technicians are working together here on software, emergency braking, driver vigilance detection, telematics and connectivity..

During our visit, we saw an impressive demonstration of **Augmented Reality Head-Up Display (AR HUD)**. Watch at <https://www.youtube.com/watch?v=0tj9X0auug0>
The video shows the challenge of light projection in front of the great progresses of HUD.

More information concerning the visit will be found in the tomorrow wednesday 5 october Lidar newsletter where we detail in 8 pages the visit at the Valeo Mobility Tech Center with an interview of Marc Vrecko, Valeo CDA President. Don't miss it. <https://www.drivingvisionnews.com/news/category/lidar/>

TactoTek, AMS Osram in RGB LED Pact

LIGHTING NEWS



Finnish IMSE pioneer TactoTek and AMS Osram are cooperating to help revolutionise the car interior market by delivering thin, seamlessly integrated, three-dimensional illuminated structures. The companies have developed a demonstrator with Osram's new OSIRE E5515 side-shooting RGB LED, which, thanks to TactoTek's in-mould structural electronics (IMSE), can be integrated into automotive interiors in a space saving design.

Decoration, illumination, and functionality within one structure

Moulded into a thin plastic trim part with TactoTek's IMSE technology, the OSIRE E5515 allows lightweight and thin applications, which enable rich, seamless designs by merging surface decoration; illumination, and functionality into one smart surface. Driven with modern controllers, illuminating the surface from within, the new LED sets the mood; informs; guides, and adapts to the designer's or user's needs. The broadest colour gamut on the market means design freedom without compromising colour quality and performance.

Hella's Fiscal Year is On a Good Start

LIGHTING NEWS



Hella have announced that over the first three months of FY2022, their sales increased by 16 per cent to €1.7bn, adjusted for currency and portfolio effects. Adjusted EBIT was on the same level with the prior-year period at €91m, reflecting rising costs for the likes of materials; energy, and logistics, and high capital expenditures to manage the order backlog. The adjusted EBIT margin was 5.1 per cent (previous year: 6.2 per cent).

CEO Michel Favre says "We have started the new fiscal year very strongly with double-digit sales growth, mainly due to the high demand for our lighting and electronics products. At the same time, we have continued to fill our order books". There's been strong demand for Hella's core lighting; electronic, and lifecycle-solution products and technologies.

Hella also continued the internationalisation of their business. In both Asia and the Americas, sales increased disproportionately as a result of large-volume production ramp-ups and developed significantly better than vehicle production there. In Asia, the company's sales increased by 57 per cent to €478m; in North and South America by 34 per cent to €407million. In Europe, Hella achieved sales growth of 4.7 per cent to €906m.

The company are confirming their outlook despite market uncertainties. Accordingly, they expect to achieve currency and portfolio-adjusted group sales in the range of around €7.1bn to €7.6bn in this period. The EBIT margin adjusted for structural measures and portfolio effects is expected to be in the range of around 5.5 to 7 per cent.

Dr. Dirk Linzmeier is New TTTech Auto CEO

LIGHTING NEWS



Dr. Dirk Linzmeier becomes CEO and member of the Executive Board of TTTech Auto. He succeeds company co-founder Georg Kopetz, who will move to the Supervisory Board of TTTech Auto after successfully establishing the company in the market and obtaining €250m in their latest funding round from Aptiv and Audi earlier this year. TTTech Auto's flagship product, MotionWise, is a 'safe vehicle software platform for highly automated driving' already in series production and installed in around two million vehicles in Europe, Asia and America.

Linzmeier has more than 20 years' experience in the automotive industry. Before joining TTTech Auto, he was CEO of Osram Continental for five years and established the joint venture in the automotive industry with 1,500 employees at 16 locations.

Marelli's New Bengaluru R&D Centre Opens

LIGHTING NEWS



Marelli Executive Chairman Dinesh Paliwal led the inauguration of the company's new technical R&D centre in Bengaluru, Southern India.

When fully operational, the new technical R&D centre, together with the company's established engineering centre in Gurugram (near Delhi), is meant to bolster the company's innovation capability, particularly in software engineering. It will increase Marelli India's R&D capability, boosting its research team to more than 1,600 members. The Bengaluru centre is expected to employ around 600 engineers in 2 years' time.

The main activities of the new centre will be focused on major technology areas of Marelli such as electronics; vehicle lighting, and both combustion-engine and electric powertrains. In particular, it will develop software for cockpit domain control units; validation solutions for electronic systems; mechanical design simulations for electronics, and vehicle lighting products.

Driver Assistance News

Geely Expand Mobileye Cooperation

DRIVER ASSISTANCE NEWS



Mobileye and Geely are set to expand and extend their collaboration in ADAS and autonomous vehicle technology. The announcement is the next step following the launch of the Zeekr 001 premium electric vehicle, which features Mobileye SuperVision technology and of which more than 40,000 vehicles have already been registered. An over-the-air update will unlock the full capabilities of SuperVision.

Geely now plan to launch three more brands under the Geely Holding Group umbrella globally with electric vehicle models equipped with Mobileye SuperVision technology from next year. Furthermore, Zeekr will introduce Mobileye SuperVision on two new electric vehicle models as well as co-develop new lidar-based features with Mobileye.

The Zeekr 001 is equipped with Surround Vision-based assistance functions with special safety features. The systems will be continuously updated. It is expected that by the end of this year, the system will receive full SuperVision features via over-the-air updates.

Mobileye Supervision draws its computing power from two 7-nanometre EyeQ5 SoCs. The system supports assisted driving for a wide range of road types, from motorways to rural roads to roads in urban areas. Mobileye SuperVision handles tasks such as autonomous lane changes, navigation at intersections, management of key driving tasks, automatic parking, and preventive steering and braking. The system relies on eleven high-resolution cameras—seven long-range cameras and four parking cameras. This ensures complete visual coverage of the vehicle's surroundings.

CarUX/Innolux with Corning: HMI Driving experience

DRIVER ASSISTANCE NEWS



CarUX, an Innolux subsidiary specialising in automotive displays, will expand their cooperation with Corning, a global leader in materials science, in the automotive field. CarUX will introduce Corning's cold-bend forming technology, called ColdForm, into their large curved vehicle display. Through the high-quality curved vehicle display, the interior display design of the smart cabin is comprehensively improved.

A CarUX representative said, "We are committed to creating an amazing driving experience. CarUX and Corning are increasing the benefits of cooperation, extending from automotive glass substrates to glass substrate protection solutions, expanding our relationship and building supply chain ecosystems together will generate more industrial synergies."

Tesla's AI day: Cutting Edge Claims

DRIVER ASSISTANCE NEWS



AI day is when Tesla fanatics get to try for a glimpse their godhead, CEO Elon Musk, and investors get to hear the latest round of claims and promises on priorities and progress.

Musk has a talent for generating buzzy propaganda that keeps people coming back for more and more by earnestly promising the next big thing is right around the corner. This year's AI Day, the second after last year's inaugural, was held in Palo Alto, California—Tesla's former global headquarters, before Elon leveraged his formidable political-theatre skills in moving to Texas. Invitations to AI Day promised news about:



- 'Full Self Driving', the automaker's imaginatively-named L^2 ADAS suite being beta-tested on public roads, which requires but frequently—perhaps at least partly on account of the name—does not get a human being attentively at the wheel at all times;
- 'Tesla Bot' or 'Optimus' (pic), the humanoid Musk has claimed will one day relieve humans of dangerous; repetitive, boring, and otherwise yucky jobs;
- Dojo, a supercomputer Musk has said Tesla's 'Full Self Driving' team might use to improve their driving systems, using the massive volume of video footage scooped up by the mothership from Tesla cars in use.

General News

Ford Shuffle Executive Ranks

GENERAL NEWS



Ford say they are reorganising their executive ranks as they add new talent and adjust job scopes in conjunction with the previously announced retirement of Hau Thai-Tang, the longtime product and purchasing chief.



CFO John Lawler will temporarily oversee a rework of Ford's global supply chain operations as the company look for a permanent chief. Jonathan Jennings, Ford's vice president of supply chain, also will take on additional responsibility for supplier technical assistance and quality.



Doug Field, who was chief advanced technology and embedded systems officer, becomes chief advanced product development and technology officer. In addition to his current duties overseeing EVs and software, he'll now be in charge of design and vehicle hardware engineering.



Lisa Drake, vice president of EV industrialisation, will now also be responsible for manufacturing engineering.



And **Jim Baumbick**, formerly vice president of industrial platform; operations, and new model launch for Ford Blue, now will oversee all product development for Ford's gasoline vehicles as vice president for product development operations, cycle planning and internal combustion engine programs.