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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



# Editorial

## Mobis Among Treasures On Display At DVN Paris Workshop

After the interview with LG Innotek, I had the chance to talk with Axel Maschka, **Mobis**' Executive VP in charge of global OE business. In him I found a manager with great knowledge of the lighting job, talking about his company's innovations, and previewing the products to be displayed at the DVN Paris Workshop the end of this month.

Take a look at our discussion here in this week's DVN Newsletter.

As this Newsletter goes live, the DVN participants at **CES**, Wolfgang Huhn, Philippe Aumont, and Daniel Stern, just back, are busily building our report. Meanwhile, here are four quick takeaways:

- The front and rear panels are becoming displays with emotional content. Voice and Lighting are used to be emotional. Example with BMW DEE car.
- Sensor integration in lights is no longer a question; Many companies are working on it.
- Automotive lidar has gained critical traction and is evolving at a galloping pace in terms of technology; technique, deployment. Show floor full of big point-cloud displays above lidar units.
- Clever ideas are being applied for ancillary vision systems, to improve seeing distance and clarity in rain, fog, snow, or dust, and that's just one example.

And the end of this month will be upon us very soon; the **DVN Paris Workshop** and gala 15<sup>th</sup> 'DVN Anniversary will be held on 31<sup>st</sup> January and 1<sup>st</sup> February at the Hyatt Regency Paris Étoile hotel. Attendees will benefit from:

- Four keynotes from Valeo's president; an Audi lighting manager; a Bentley designer, and TU-Darmstadt's famous Professor Khanh;
- 10 automaker lectures from Audi; Bentley; Jaguar Land Rover; Mercedes-Benz; Porsche; Renault; Rivian; SEAT; Stellantis, and Volvo;
- 25 presentations by tier-1 and -2 lighting suppliers and research outfits;

- One of the regulatory sessions DVN Workshop attendees often cite as best-in-class;
- A panel discussion to talk over "*Light is the new chrome – what is the new front end?*"
- An Award ceremony for DVN's 15<sup>th</sup> anniversary, to congratulate those who have helped the lighting community to field so many innovations.

This exceptional event boasts probably the best program ever in the 25-strong history of DVN Workshops.

It's sure to be a don't-miss event, so **register to attend [here](#)**, and **book your room [here](#)**.

**Don't wait; the event and hotel are filling up quickly! There's** an exceptional DVN-only price of €229 for a deluxe room with breakfast included—only a few rooms are left.

Sincerely yours



W. Frally  
DVN CEO

# In Depth Lighting Technology



## Polyvalent Bumpers, Lenticular Grilles: Mobis VP Touts Innovations



DVN had the privilege to talk recently with **Axel Maschka**, Mobis Executive VP in charge of global OE business. The scope of his responsibilities includes product planning; marketing; sales, and customer product and project management.

Maschka is majored in electrical engineering and holds a diploma from University of Stuttgart. His 30 years' experience in the auto industry includes working at Valeo as senior VP of sales and business development and executive board member; at Volvo as Chief Purchasing Officer in the executive management team; at Continental as executive VP and CEO of engine systems; at Bosch as VP of marketing; business development; and Sales; at Booz Allen Hamilton as consultant and job manager, and at Daimler-Benz as aftermarket team leader and product manager. He joined Mobis in November 2020.

Mobis have been a fast-growing global automotive parts supplier for 45 years, since 1977. They are ranked № 6 in the field, with USD \$34.8bn annual sales in 2021. Headquartered in Seoul, Korea, Mobis is providing automotive parts from 44 production sites, with five sales offices and five R&D centres globally. They've been in the lighting business since 1993, with six plants; five R&D centres, and four sales offices around the world.

## DVN: Hi, Axel. What can you tell us about the scope of Mobis' supply?

**Axel Maschka:** In addition to lighting, we are a tier-1 supplier for most of the core vehicle components, such as in-vehicle infotainment; ADAS; electric powertrain; chassis; safety (airbags and control units), and modules. All these components are manufactured worldwide with customer portfolio of more than 20.

## DVN: What are your strengths in lighting?



**A.M.:** From styling to manufacturing production, lamp development and manufacturing are in progress. Since Mobis has business on peripheral lighting-related parts such as ADAS sensors and bumpers, we can create a synergistic effect in developing new lamp technologies. This is how we developed AADB—Advanced ADB which receives ADAS; steering wheel, and navigation data—and bumper-integrated grille lamps by co-working together with our ADAS and bumper teams respectively. We possess various slim technologies (down to 12mm-height ADB, shown here) that are being introduced into the market, hence the recent rapid growth in the lighting business.

## DVN: and what are the challenges in lighting?

**A.M.:** Mobis' portfolio was mainly focused on Asia and the market share in Europe was small. However, we are aggressively trying to enter the European market to increase the portion through active communication by designating a key account executive in charge of European OEs, including myself.



We have received a lot of orders from Europe recently and are focusing on them. We have a sales force in Europe with over a hundred engineers at design and quality centres, and over a thousand employees at the Czech plant shown here.

## **DVN: After three troubled years due to the pandemic and other global drama, how do you see the short-term future of lighting activity?**

**A.M.:** It was not easy to have face-to-face meetings with customers, and most of the exhibitions, conferences, and workshops were postponed or transformed into online events. We focused on developing digital contents for a while. We have created Mobis Connect, an online platform where you can stay up to date with Mobis newsletters, product movies, and much more.

We believe on- and offline events will coexist for some time, and we intend to continue creating digital contents and utilise them for such events. However, we strongly believe meeting directly with customers is more effective especially for lighting, where seeing the actual products to check the styling and performance is important. There is no doubt about that. Hence, this is the reason why we will participate [at the DVN Paris Workshop with an expo] booth for the first time to display our wonderful technologies.

## **DVN: What do you see as the main challenges for the lighting industry in the short term?**



**A.M.:** One challenge is the need for integration of parts. As vehicle systems get more complicated and the number of components increases, the need for lighting-integrated bumper grille is emerging. To make a seamless front-end design, we are studying solutions to integrate the headlamps inside the bumper grille.

As a full-vehicle solution provider, Mobis can work very closely within the departments creating synergy. Our **UTILe** (United, Transformed, Interactive, Lighting) bumper system [announced in DVN](#) in April 2022, and our lenticular grille lamps shown here are some of the integrated solution examples.

## **DVN: How do you balance the competing demands on lighting development—better safety (more power) and lower CO<sub>2</sub> emissions (less power)?**

**A.M.:** This, I believe, is a topic we need to continuously ponder and solve along with our customers as this may involve quality or safety issues. Mobis, just like others, is committed to making a sustainable future and we have a goal of achieving net-zero emissions by 2045. Reducing the weight of parts or utilising recycled materials help reduce the CO<sub>2</sub> level; however, it may incur other safety issues. So, we have already verified quality related issues in using recycled materials. Various tests such as leak and thermal have been performed, and we are attempting to use recycled materials on housings, which are non-aesthetic products. However, this is a topic we need to closely cope with customers.

**DVN: ADB is the greatest innovation this decade. What can you tell us about Mobis' involvement?**

**A.M.:** Currently, we possess various ADB lineups from six segments to 104 pixels and 1.3 megapixels DMD, and 25.6-kilopixels is currently under development. Moreover, our new development of the AADB system allows the headlamps to have more accurate and precise ADB performance. Since our first matrix ADB on the Genesis G80 in 2020, we are actively developing matrix ADB lamps and many more are to come. As ADB has recently been legislated in the US, ADB lamp promotions are being actively conducted for North American OEs as well.

**DVN: Many ADB technologies are currently competing for traction in the market. How do you foresee it shaking out?**

**A.M.:** In the current market, matrix ADBs are already in mass-production Based on IHS market research data in 2022, the 9- to 40-segments ADB headlamp will account for 9.8 per cent of total headlamps in 2027. Among ADB, this seems to be the most favored number of segments. The ADB of 500 segments or more will be increased 7.5× in 2027 compared to 2022. In the future, HD microLEDs are expected to increase significantly; they will be in the market from this year with over 25.6 kilopixels. For the next five years, we will focus on microLED developments.

In the case of DMD, it is expected that it will not be popularised within five years, and it will be applied only to luxury vehicles in a very small volume.

**DVN: What can lighting suppliers do to convince people to get ADB when they buy a vehicle?**

**A.M.:** I had the same question when DRL was legislated. However, after several years, statistics have proven how important DRLs are and how they prevent accidents. ADB seems to be in the same situation. Drivers do not recognise the importance of ADB because ADB naturally does not work in cities where there are many streetlights and vehicles. However, when driving on a country road without streetlights or a quiet road without cars, ADB will be considered an essential element when you know that visibility is greatly increased.

**DVN: Do you think there's a realistic chance ADB could be mandated?**

**A.M.:** Similar to the answer to the question above, it is essential for those who drive on roads where there are not many cars, such as country roads. If ADB is no longer a premium-oriented function and spreads to all vehicle segments, it will be recognised as an essential application function like DRL.

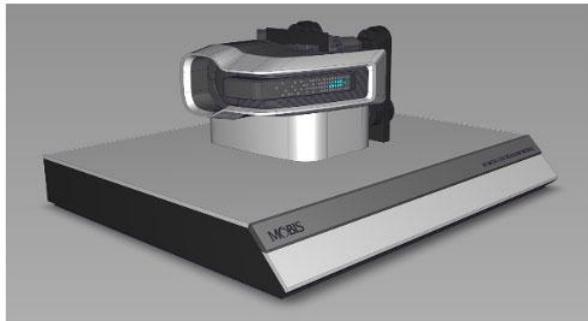
**DVN: Laser technology is used for high beam boost and now for ADB scanning and communication. How do you see the future of laser-based vehicle lighting?**

**A.M.:** Laser is a great technology that could be applied to specific technologies as mentioned. Its high intensity yet low thermal dissipation allows to have a compact package. The effect is expected to be greater if an appropriate optical scanning technology is applied. Mobis also reviewed this technology and confirmed its potential, but the laser-scanning requires a huge investment and there are still some

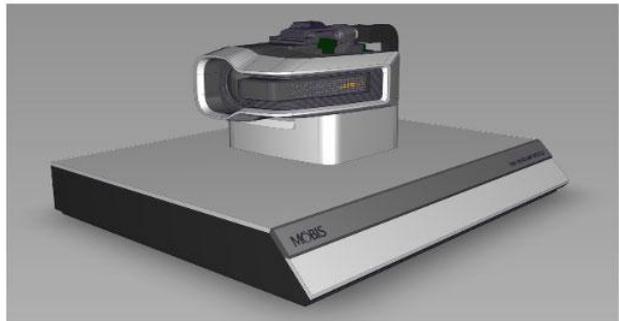
technical limitations. We need to focus on HD microLED and DMD technologies for now.

## **DVN: What's in Mobis' playbook for functions like road projections; illuminated grilles and grilleboards and logos?**

**A.M.:** As you will see at the Mobis booth at the DVN Paris Workshop, we have already completed the development of new technologies such as road projection and illuminated grilles. In the case of road projection for the front lighting, after we first introduced the DMD headlamp using a Xenon bulb in 2011, we have been studying various road surface functions using HD microLED with over 25.6 kilopixels and with DMD.



HD MICROLED MODULE



1.3-MEGA PIXEL DMD MODULE

In the case of rear lighting road projection, backup guide lamps are scheduled to be mass-produced soon, and demand from [automakers] for similar rear road projection function application is expected to increase in the future.

Our illuminated grille was developed based on the hidden lamp concept which appears like a grille when it is unlit, but the lamp is visible when lit. It gave a strong impression on the vehicle.



HYUNDAI TUCSON HIDDEN DRL

Since then, various developments have been made, such as grilles using lenticular lenses; RGB LEDs, and many more. We own a full grille lighting lineup that can meet the various tastes of customers, from low prices to high prices.

## **DVN: How do you predict car lights will change in the next decade?**

**A.M.:** Based on the IHS 2022 data, the lamp volume CAGR over the five-year period from 2022 to 2026 is 4 per cent with a modest growth. However, from a revenue perspective, high value-added lamps are expected to increase. In the midterm, headlamps and rear lamps will be developed into HD lighting and pixel lighting thanks to the development of Micro LED and mini-LED. In the long term, as purpose-built vehicles become popular, there will not be a distinction in head and rear lamps; they are likely to be 'all-around lamp' as a means of communication.

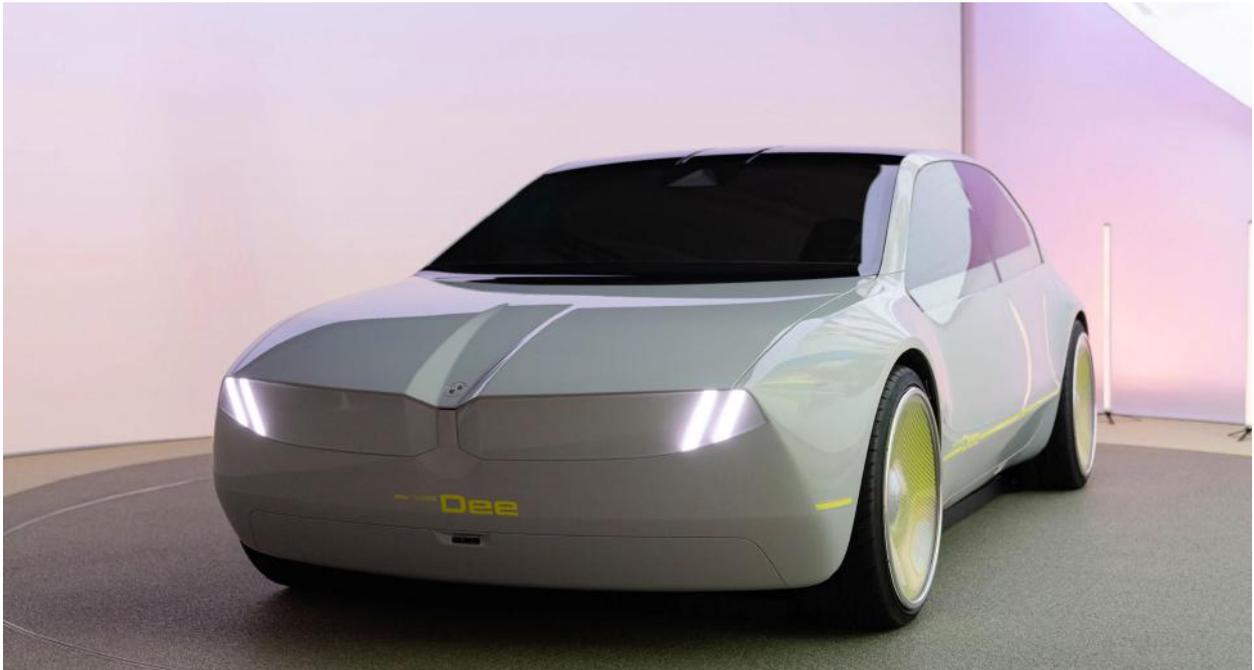
**DVN: What do you think of sensor integration in car lights? Is there a future for it, as lights get slimmer and slimmer?**

**A.M.:** In terms of the overall design of the car, the lamps mounted on both the front and rear corners are a very suitable place to hide the sensors. The hard-coated clear lenses protect sensors and there is a washing function to keep them clean. We have tested and verified sensor integrated lamps; however, there were several problems in terms of its performance—the lens curvatures; moisture on lens, and the relative high temperature inside the lamp cause low performance of camera and lidar sensors, and the surface treatments on bezel cause similar problem on radar sensors. On top of that, sensors need to be slim to fit in the slim design lamp. However, we will continue to review and find solutions.

# Lighting News

## BMW i Vision Dee Concept

LIGHTING NEWS



BMW presented their new i Vision Dee (for **D**igital **E**motional **E**xperience) midsize sedan concept at CES last week, with an emphasis on blending real and virtual experiences. BMW Group CEO Oliver Zipse said the car showcases "what is possible when hardware and software merge—we are able to exploit the full potential of digitalisation to transform the car into an intelligent companion".

There's a HUD, for example, which projects information clear across the vehicle's windshield. That's a big change from most HUDs, which project only within a small, constrained area directly in front of the driver. Expanding the field brings a more immersive experience for driver and passengers alike.

Using a 'Mixed Reality' slider on the dashboard, the driver can adjust content displayed on the windshield—options include driving-related information; infotainment; augmented reality, and virtual reality. BMW say this technology will be available in production cars on their next-generation Neue Klasse platform slated to arrive in a couple of years' time.

# BYD Yangwang U8, U9 Launched

## LIGHTING NEWS



BYD's new high-end brand Yangwang's first off-road SUV, the U8; and their second supercar, the U9, have launched.

## U8



The U8's grille is decorated by a dense grate. The headlamps on both sides are designed in an ancient Chinese "ding"-shape, with the dot matrix DRLs are integrated. The shape of the high and low beams is relatively flat. The Yangwang brand logo is inlaid in the centre and illuminated.

The rear adapts the "ding" shape with vertically-mirrored I-shaped taillights, and the dot-matrix LED light clusters on the lower sides add further consistency with the headlamp style.

## U9



The headlamps are done in a horizontally-mirrored c-shaped design. The taillights and high brake light have a high-tech appearance, and are paired with a superprominent aerodynamic package.

# Peugeot Inception Sets EV Design Direction

## LIGHTING NEWS



Peugeot say their Inception concept introduces a simpler, more refined design language to appear on models launched in 2025 and beyond.



More specifically, the Inception will broadly set the design direction for the next generation of Peugeot EVs, and will be used to varying degree for midsize and large high-performance vehicles from other Stellantis brands including Alfa Romeo; Chrysler; Dodge, and Jeep. The design is called 'feline future'— a reference to the Peugeot lion logo—according to Peugeot CEO Linda Jackson.

In front, the grilleboard includes Peugeot's signature claw-shaped DRLs, with a single piece of glass incorporating lighting and sensors. A 'tech bar' running horizontally along the door sends messages to the driver, who can also be recognised so the car automatically adjusts settings and preferences. The bar also displays battery state of charge and incorporates other sensors.

In the Inception, a conventional steering wheel is replaced by a 'Hypersquare' control system with a square tablet-style screen. It's conceived as an  $L^4$  AV; when the car takes on the driving task, the Hypersquare retracts into the dashboard and a large screen slides out from the floor.

# New Sony-Honda EV Brand, Prototype Unveiled

## LIGHTING NEWS



The joint venture between Honda and Sony revealed the marque they're planning to apply to the EVs they'll eventually offer—it's Afeela. And they did it in grand style, by applying it to a concept car. Sony Honda Mobility CEO Yasuhide Mizuno says the vehicle will move toward mass production, with orders opening earlier and sales beginning later in 2025. "Afeela represents our concept of an interactive relationship, where people feel the sensation of intelligent mobility and where mobility can detect and understand the people and society by utilizing sensing and AI technologies", he said.



The vehicle's exterior includes what SHM are calling a 'Media Bar' which will use light to communicate with people in the car's vicinity. There will be  $L^2$  driver assistants tailored for urban driving scenarios, and SHM say they plan to work toward  $L^3$  autonomous driving capabilities. The prototype has 45 cameras and sensors all in all, inside as well as out. Sony and Honda also will collaborate on what Mizuno called best-in-class entertainment for Afeela users, and will draw on Qualcomm Technologies' Snapdragon digital chassis.

The Afeela reveal can be watched in this [online video](#).

# Valeo at CES: Dynamic OLED and Front/Rear Ends

## LIGHTING NEWS



Valeo presented innovations in mechatronics, electronics, and software for safer, more sustainable mobility. There was an innovative rear end, shown here, Valeo made in collaboration with OLEDWorks.

This very compact solution allows seamless integration; design freedom; high-end finishing, and customisability as well as a first level of communication to road users.

Here are some other innovative front and rear ends Valeo presented at CES:



Valeo's messaging on these grilleboards and tailboards: electric vehicles don't need radiator grilles, which frees designers to assert their style and brand signature through lighting. And as they are becoming increasingly autonomous, vehicles will have to communicate with their environment, making lighting a key tool. Pixelated surfaces can be used to clearly share real-time information such as the vehicle's charge level; eventually they will also be able to provide information on traffic conditions. Dynamic lighting inside the vehicle will alert the driver to information in emergency situations. These extended lighting features offer multiple ways for customers to personalise their space.

# First Hella FlatLight DRL

## LIGHTING NEWS



Hella have received another major customer order for their innovative FlatLight signal lamps. But this order's different: for the first time, Hella will apply this technology—initially designed as a stop/taillight—to front lighting.

From mid-2025, Hella will supply FlatLight DRLs for five of an international premium automaker's models. The FlatLight technology will celebrate its world premiere as early as 2024, when it will go into series production for the first time as a rear combination lamp. Hella lighting managing director Yves Andres says "Our FlatLight technology is primarily about a slim design, the greatest possible energy efficiency as well as superior homogeneity and performance—and not just for rear combination lamps".

FlatLight is based on microoptics. These are extremely small optics, less than 15  $\mu\text{m}$ , and are thus significantly smaller than a grain of salt. On this basis, both the weight of the light module can be decreased, and its installation space requirement can be reduced down to 5 mm. In contrast, conventional DRLs usually require a depth of around 40 mm. At the same time, the FlatLight allows for numerous new possibilities in terms of vehicle and lighting design. DRL, front position light, and direction indicator functions can be implemented in just one single light element. The FlatLight technology also achieves a previously unattained homogeneity at the highest possible cost and energy efficiency. This means that the appearance of the daytime running light is particularly uniform while at the same time being highly efficient.

# KSLD: LaserLight Headlamps With IR+VIZ

## LIGHTING NEWS



Kyocera SLD Laser have introduced the world's first LaserLight™ headlamp modules that deliver high-intensity white and infrared (IR) illumination for night vision and sensing for increased safety and visibility in automotive and mobility applications. At CES, KSLD demonstrated the new headlamp modules and the rest of their award-winning LaserLight product range, as well as innovations in efficient optical power transfer; fast LiFi communication, and ingenious, highly-efficient new laser-illuminated flexible light guides.

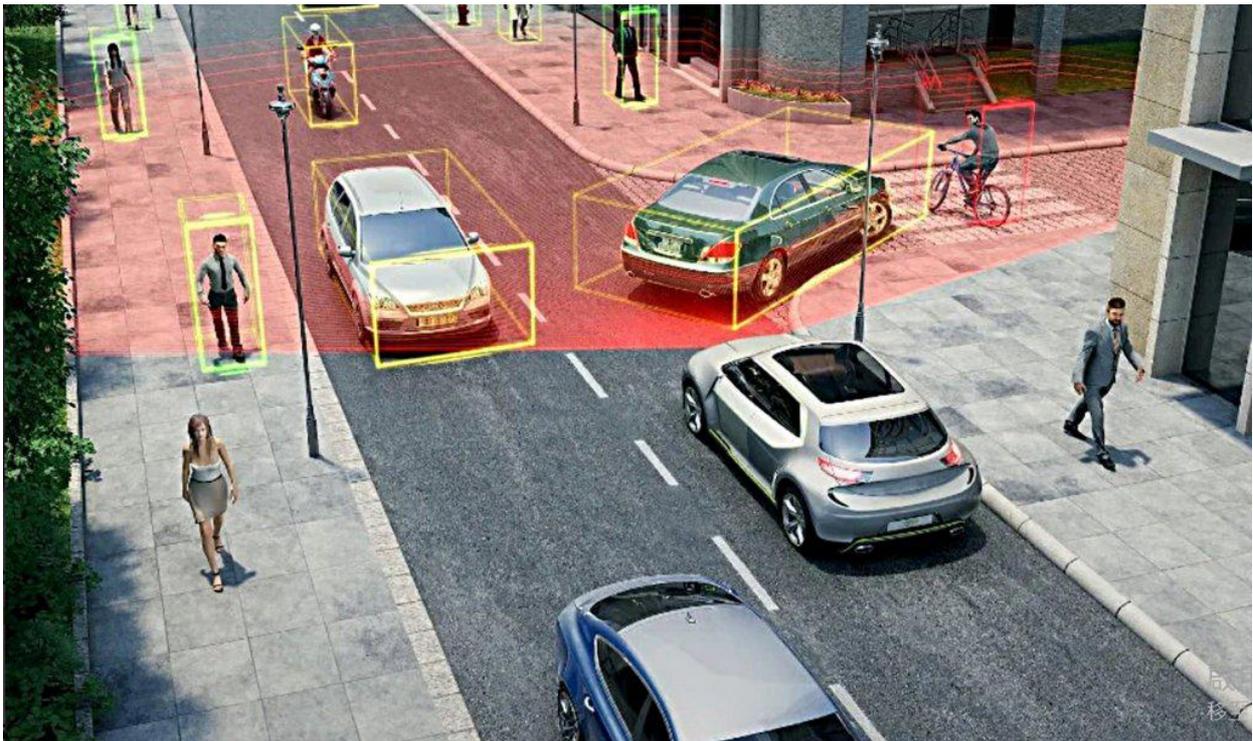
Following the successful commercialisation of the first KSLD LaserLight module in high beam booster applications in 2019, they're now offering these LaserLight headlight modules producing highly efficient and performant low and high beams with white and IR dual emission in precise U.S. or rest-of-world beam patterns with minimum glare to maximize driver visibility and optimize IIHS scores.

The IR illumination increases night vision camera visibility of pedestrians and of foggy or smokey roadways, while also enabling new forward lighting functions including ranging and 3D flash lidar sensing. The modules are arranged in a set of four per headlamp: two for low beam, and two for high beam. The modules are ultra-compact with a slim profile of less than 12.7 mm lens height, and can be configured in a horizontal; 2 × 2; vertical, or offset layout.

# Driver Assistance News

## Valeo's New Pantomime VRU-Safety Tech

### DRIVER ASSISTANCE NEWS



Valeo have a new technology called Pantomime, which they say can help vehicles better anticipate the actions that pedestrians; cyclists, and other vulnerable road users take on roadways.

The system uses an algorithm to help vehicles 'understand' the movements of other road users and anticipate potential actions they might make. Valeo say it can also follow instructions from police officers or other authorities on roadways.

Pantomime was one of a number of technologies Valeo showed last week at CES, with the goal of demonstrating that they are a major global mobility supplier. The company anticipate electronics; software, and artificial intelligence will represent 30 per cent of a vehicle's value in 2030, up from 10 per cent today.

# OP'n Soft: Plastic Omnium's New Software Biz

DRIVER ASSISTANCE NEWS



At CES last week, Plastic Omnium announced OP'n Soft, a new activity dedicated to the development of software for the supplier's own products and services. 120 employees are predicted this year; 250+ by 2025, to focus on mobility solutions as the CASE megatrends carry on gaining traction—connected; autonomous; shared, and electric.

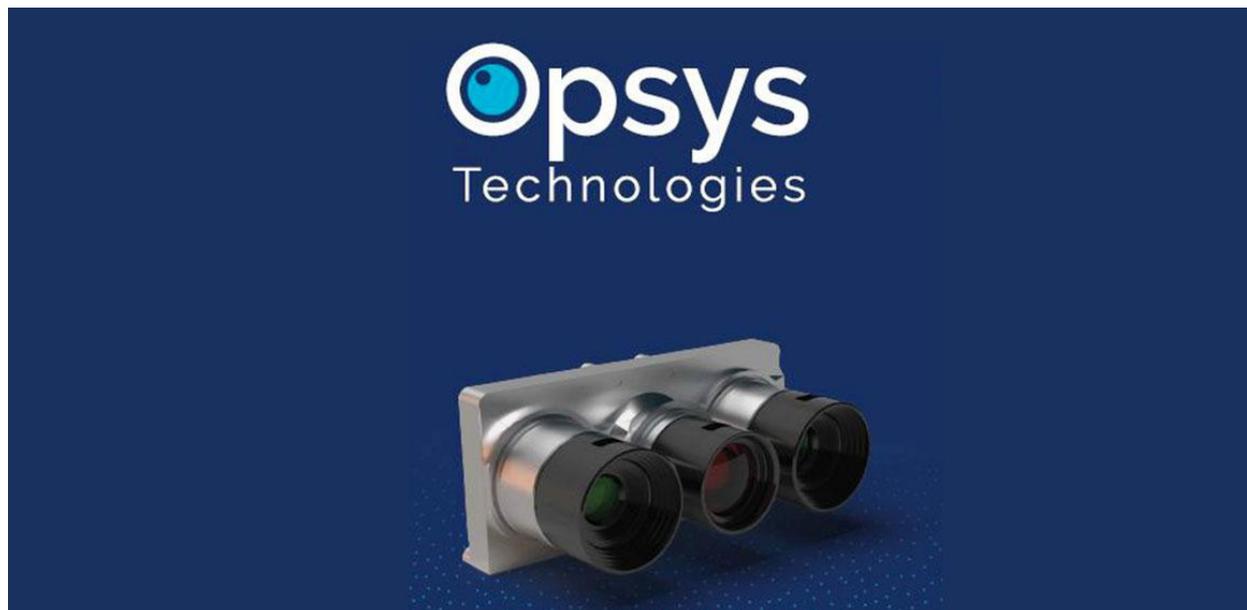
Plastic Omnium CEO Laurent Favre said at the CES demo that OP'n Soft "will enable Plastic Omnium to offer [our] customers a unique range of integrated solutions and services, such as merging radar data processing software with lighting technologies. This is an exciting new adventure for Plastic Omnium, and a wonderful opportunity for our teams to unleash their tech creativity".

The new business activity will implement Aspic certification and Autosar platforms that make it easier for PO customers to access plug-and-play applications. PO also will leverage the latest AGILE methodologies and the benefits of DevSecOps3 in developing and supporting these future products and services.

All these initiatives prepare the PO Group effectively for making great strides towards developing the software-defined vehicle; meeting the constantly-evolving challenges of vehicle cybersecurity, and anticipating future global certification standards for embedded software and its periodic updates.

# Windshield Lidar Moving Toward Market

DRIVER ASSISTANCE NEWS



Automotive lidar has become a regular theme at CES over the past few years, and the latest event was no exception, with dozens of lidar firms showing off new products. Among them was Israel's Opsys Tech, showing a windshield-integrated device with Belgium's Wideye, a subsidiary of glass manufacturer AGC.

The two firms demonstrated their prototype in Las Vegas, boasting seamless sensor integration behind a fully compliant windshield.

Opsys CEO Rafi Harel said, "This project underscores how well our lidar sensors can work in multiple parts of the vehicle. Our system is extremely adaptable. It will give auto companies the flexibility they need to make lidar part of their future safety and ADAS solutions".

Wideye's soda-lime glass is described as transparent through to near-infrared wavelengths, and to offer the kind of high optical quality demanded by reliable lidar and camera sensors. Wideye CEO Quentin Fraselle said the collaboration will show that a solution with high-performance sensors covering a 120-degree horizontal field of view is achievable. The firms plan to bring a product to market later this year.

*Opsys Technologies developed a new ToF true solid-state scanning lidar technology that enables lidar with no moving parts. This allows the extreme reliability crucial for automotive products, and best-in-class performance with the highest scanning rate in the market as well as long-range detection.*

# \$14m Series B Funding for PreAct

DRIVER ASSISTANCE NEWS



# PreAct

TECHNOLOGIES

PreAct Technologies, who specialise in near-field software-definable flash lidar, have secured USD \$14m in the first close of Series B funding. PreAct CEO Paul Drysch said his company have "experienced significant growth over the past year, as more industries are discovering the power of high-quality 3D data that can be tailored to users' needs via software and backed by a powerful SDK to include an AI development platform, and this new funding round will allow us to capitalise on the overwhelming interest" he says they are getting from a variety of industries.

PreAct say theirs is the industry's first sensor designed from the start to be software-definable; it is paired with a comprehensive SDK to enable ready integration with existing software stacks and other systems; it provides high-quality point clouds at a much lower cost than other lidars on the market, and their patent-pending sensors and software complement many of the short-range radar, ultrasound, and visible-light sensors and cameras presently used for these purposes.

*PreAct Technologies headquarters is in Portland, Oregon, with offices in Ashburn, Virginia; Rochester, New York; and Barcelona, Spain.*

# General News

## GM Take Back Top U.S. Sales Slot

GENERAL NEWS



GM, the U.S. market's longtime sales leader up until 2021, reported U.S. deliveries of 2.258 million last year—up 2.5 per cent—while Toyota's deliveries added up to 2.1 million, down 9.6 per cent.

Stellantis, Nissan, and Honda continue to contend with short inventories and supply issues. Hyundai and Kia capped a year of U.S. market share gains with double-digit sales gains in December as industry stockpiles continued to recover last month, even amidst rising interest rates and new-vehicle prices. GM, driven by strong light-truck deliveries, reported a 42-per-cent increase in fourth-quarter light-vehicle volume, with sales rising 44 per cent at Chevrolet; 42 per cent at GMC, and 75 per cent at Cadillac. (Ford Motor Company data was not available at publication time)

Group	2022 (×1,000)	2021 (×1,000)
GM	2,258	2,202
Toyota	2,108	2,332
Stellantis	1,553	1,794
Hyundai Kia	1,474	1,489
Honda	983	1,466
Nissan	815	1,079
Subaru	556	583
BMW	363	368
Mazda	294	332
Volkswagen	194	203

# EyesOn Design Award for Ralph Gilles

## GENERAL NEWS



The Detroit Institute of Ophthalmology will honour Stellantis design boss Ralph Gilles with the 2023 EyesOn Design Lifetime Design Achievement Award.

The annual prestigious award is given to an automotive design honouree selected by previous winners. Gilles will receive his award at a ceremony on June 16, 2023, at the Conner Center, the former Dodge Viper assembly plant in metro Detroit.

In 2022, Gilles marks 30 years with Stellantis and its predecessor companies. He has overseen and contributed to the creation of a vast portfolio of eye-catching designs for the Chrysler, Dodge, Jeep and Ram brands. His vehicles include the Chrysler 300, Dodge Viper SRT, Ram 1500, Jeep Grand Cherokee and concept vehicles including the Chrysler Portal, Chrysler Airflow and Dodge Charger Daytona SRT.

The award, launched in 1988, recognises lifetime achievement in automotive design. This Spring at a ceremony, Gilles will join previous winners such as Peter Brock; Ed Welburn; Chris Bangle; Gilles' mentor Tom Gale; Sergio Pininfarina; Tom Gale; Walter de'Silva; Chris Bangle; Peter Schreyer, and Ed Welburn.

"I'm a little shocked because it's so significant and because you feel kind of welcomed into this community, said Gilles, a dual Canadian-U.S. citizen.