Tue, 14 March 2023
Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #794

Editorial

DVN Will Come Back To Tokyo

A few weeks on from the DVN Paris Workshop with its 22 innovative exhibitors; 35 revelatory lectures, and a mountain of great feelings (DVN members can find **on-demand video** from the workshop and a report summarizing the event), we are now working on a keenly important nest event: the **Tokyo DVN Workshop**.

Five years after our last in-person event in Japan, we will come back with great pleasure. It will be a very pleasant time seeing and talking with all my Japanese friends from automakers and suppliers; we're all eagerly looking forward to seeing and hearing from Nissan; Honda, Koito; Ichikoh; Stanley, Nichia, and other companies from worldwide lighting ecosystem.

DVN's 27th Workshop will take place, live and in person, this coming 6-7 June at the prestigious Ritz Carlton Tokyo. The theme of our day-and-half conference and expo is **New Functions and Digital Technologies in Lighting**, which comprises software; electronics; optics; design; materials; simulation, and measurement tools. It will be great to see; talk and listen with you there!

Sincerely yours,

In Depth Lighting Technology

DVN to Return to Tokyo, Five Years On

The Tokyo DVN Workshop will highlight how new technologies will contribute to increase safety in our world. The event will gather more than 200 participants from all over the world —managers; experts, and decisionmakers involved in lighting.

Lectures are expected from:

- Automakers: Audi · BMW · GM · Great Wall · Honda · JLR · Mitsubishi · Nissan · Rivian · Stellantis · Volvo;
- Lighting suppliers: Hasco · Hella · Koito · Stanley · Ichikoh · Marelli-AL · Mind · Mobis · Plastic Omnium · Valeo;
- Light sources suppliers: AMS Osram · LG Innotek · Lumileds · Nichia · OLEDWorks · Seoul Semiconductor;
- Suppliers involved in optics · software · electronics · materials · simulation · measurement tools;
- Universities · research institutes · regulatory authorities.

Toward better regulations

2018 TOKYO DVN WORKSHOP REGULATIONS PANEL—L TO R:SUNG UK CHOI (HYUNDAI) · TAKAYUKI AMMA (JAPIA) - SHAMSUNDARA (ARAI) · XIAOPING ZHOU (XINGYU) · TERUYOSHI FUJITA (TOYOTA) · HIROYUKI INOMATA (MLIT) · MICHEL LOCCUFIER (GRE PRESIDENT) · GEOFF DRAPER (PANEL CHAIR)

A core mission of every DVN Workshop is to provide an effective forum to support GTB initiatives to develop global technical requirements and to remove regulatory barriers. This next Tokyo DVN Workshop will further that goal with discussion panels and exhibition booths to spur discussion and networking.

To Network & Promote

NETWORKING AT THE 2018 DVN TOKYO WORKSHOP

Attendees will have a grand opportunity to network with attendees from every relevant sector of the Japanese; Asian, and worldwide vehicle lighting and driver and machine vision sector—to show, tell, see, and promote their products and services.

To talk about new lighting technologies.

The workshop theme, **New functions and Digital Technologies in Lighting**, will be discussed during the workshop sessions by top international experts will help you to orientate your company's strategic decisions and product and service roadmaps.

A panel discussion will grapple with the question of **How the electrification of vehicles leads to a change in vehicle front designs**.

Lighting News

Valeo: 100 years of Innovations

LIGHTING NEWS


N. GOUTARD


TH. MORIN


J. ASCHENBROICH


CH. PERILLAT

VALEO CEOS SINCE 1987

Valeo are a top-rank technology supplier to the world's automakers, with operations in 29 countries and a workforce of around 110,000 employees. This year, Valeo celebrate their 100th anniversary. The company today known as Valeo have transformed enormously over the past 100 years, and they've anticipated numerous changes in the mobility space. These kinds of changes are accelerating at an unprecedented scale and pace—the climate crisis is goosing the development of electric mobility; increasingly advanced driver assistants are delivering improvements in safety as vehicles grow increasingly autonomous; and the interior experience is being reinvented while lighting is being transformed, leading to new features and new uses throughout vehicles.

And Valeo are well positioned to carry on innovating—they're committed to helping achieve carbon neutrality by 2050, and according to INPI, France's intellectual property institute, they're the world's leading French patent applicant. Valeo products are used in all forms of mobility to make them electric; safer, and more autonomous.

CEO Christophe Périllat, amidst his **100th-anniversary comments**, says, "We're celebrating a great industrial adventure this year. A hundred years of history, drive and commitment. A hundred years of putting our industrial excellence to work for our automaker customers in new vehicles, and our distributor customers in the aftermarket, working to make cutting-edge technology accessible to the widest market and to meet the highest automotive standards".

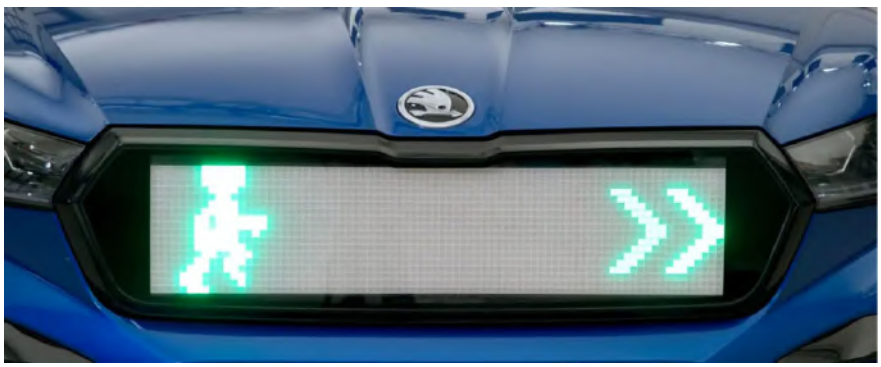
See also Christophe Perillat's **interview** at the Paris DVN Workshop last month.

Skoda's Smart Grille Project

LIGHTING NEWS

Many streets have crossings without stoplights, leaving pedestrians unsure whether the cars coming toward them are going to stop or not. That's a problem Skoda, in partnership with a team of robotic experts, is tackling with a combination of smart grilles and AI crossing guards.
Skoda's contribution to the project is focused on a digital grille that can display messages visible to those outside the car. That technology works perfectly on an EV as Skoda Enyaq.

The prototype grille has built-in LED strips that replace the Enyaq's 'Crystal Face' illuminated grille and can show pictograms or animations, including green arrows and a universally recognized green stick figure to signal to pedestrians that the car has stopped and that it is safe to cross. The car can also issue warning signals such as a warning triangle when it is about to set off to deter any late-arriving pedestrians from attempting to cross the road, or even, in the event of an emergency, let pedestrians know that it won't be able to stop for them.



Symbols on its four-sided digital display let both pedestrians and drivers know whose right of way it is, and the robot can also send electronic signals via 5G directly to approaching cars warning them to slow down. Once all of the waiting pedestrians have crossed safely the robot returns to the side of the road, probably to be bullied and tipped over by a bunch of bored teenagers.
The testing phase will be over in 2024 and production versions could be on the street by

2025. Skoda meanwhile isn't talking dates for its trick grille, but since we know that other automakers including BMW and Hyundai working on digital grilles, we get the feeling that they'll be regular features on almost every EV by the end of the decade.

You will find more information on this topic in the DVN Study published in October 2022.

Will Hyundais Have LED Grilleboard Displays?

LIGHTING NEWS

Hyundai, having shown interest in building in-grille intelligent lighting systems and LED displays, may also be working on adding an LED display into the grilleboard of one of their upcoming vehicles.

The automaker have showcased technology like their Interactive Smart Face and digital Front End Modules, and they often debut their latest technology in EV models, so it seems logical for polyvalent front grilleboards to be placed on an upcoming Hyundai EV. The Ioniq 7, for example, has been previewed with a large matrix of square pixel LEDs on the grilleboard, though its looming launch, slated for next year, is probably too soon for this feature to go into production on that car, at least not at first.

You will find more information on this topic in the DVN Study published in October 2022

OLED on Aircraft Reduce Weight and Increase Passenger Comfort

LIGHTING NEWS

The design of the interior cabin of commercial aircraft is a balancing act between space utilization, weight savings, safety and regulatory requirements, and passenger comfort. Traditional lighting fixtures provide uneven, high-glare illumination that causes uncomfortable eye strain, while their bulky profile adds unnecessary weight and monopolizes precious cabin space. Integrating OLED lighting can address many of these challenges.

The uniform illumination of OLED lighting technology means that no additional optical elements such as lenses or diffusers are required, keeping fixtures simple and low-profile. Panels are ultra-thin (less than 2mm), highly efficient, and have long lifetimes.

LED lighting requires more components than OLEDs to diffuse the light and mitigate the high levels of heat generated by the diodes. LEDs also require many serialized circuit boards to operate overhead lighting in planes, which take up more space and add more weight. OLED lighting has the potential to reduce lighting system weight by up to 50% compared to comparable LEDs.
The uniform, diffuse nature of OLED lighting makes them comfortable to be around, even when placed close to the user.

Because of the functionality and form factor of OLED lighting, some of the most ideal applications for OLED lighting within the cabin of a plane are:

- Overhead and Floor lighting
- Directional lighting
- Signage – Restroom, Exit, No-Smoking
- Passenger Service Units (PSU)
- Galleys, lavatories, and anywhere space is limited

Hella Launch 32 New LED Bars

LIGHTING NEWS

Hella are expanding their Black Magic auxiliary light range with a staggering *32* new light bars: 18 for off-road applications, and 14 with UN type-approval for use as auxiliary lamps in road traffic.

The new light bars offer powerful light output: up to 9,200 lumens from the on-road versions; 20,000 lumens from the off-road units. Both the single-row 'Slim' and double-row light bars sport a distinctive look with an all-black design, offering a sleek look on whatever kind of vehicle one might install them on.

ZKW Win Quality Award From Geely

LIGHTING NEWS

ZKW Dalian received the Lynk & Co 09 Quality Contribution Award from Chinese automaker Geely. The award recognises ZKW's particularly high delivery quality. Despite the global chip shortage and the lingering effects of the pandemic, ZKW fulfilled their supply contracts with Geely timely; dependably, and with top quality. ZKW CEO Wilhelm Steger says the award "recognises the extraordinary commitment of our employees, who were able to deliver outstanding performance despite difficult market conditions. The entire team at ZKW Dalian deserves great thanks and respect for this extraordinary achievement ".

It's not the first time Geely have sung ZKW's praises. Last year, the automaker bestowed their Outstanding Contribution award on the supplier. With this newest award, Geely have honoured the faultless quality of the LED front headlamps ZKW Dalian make for the Lynk 09-model SUV. The complaint indicator reached zero per million headlamps manufactured, thus achieving the goal of defect-free quality.

It's also not the only product ZKW Dalian make for Geely—not by a long shot. They've also developed and made headlamps, fog lamps and auxiliary lights for other Geely marques and models including the Xingyue L; Lynk 01, 02, 03, and 05, and the LEVC XE08 hybrid, with plans to produce lighting systems for future Geely Group vehicles as well. Moreover, lighting systems for brands such as BMW; Porsche; Audi, and Volvo are developed and produced at the Chinese ZKW site, which now employs more than 1,000 people. Even during the pandemic, it was possible to manufacture almost continuously at full capacity. “This has given ZKW Dalian a particularly important role for the ZKW Group. We will be investing more here,” says Dr Steger.

Driver Assistance News

GM Ultra Cruise AV, Opposite of Tesla's approach

DRIVER ASSISTANCE NEWS

General Motors isn't promising that Ultra Cruise, its hands-free driving system for city streets, can handle every situation right away.

Ultra Cruise which debuts in 2024 on the Cadillac Celestiq, will tell the driver to take over through roundabouts and other intersections requiring complicated maneuvers, said Jason Ditman, the system's chief engineer. It also will relinquish control at the threshold of destinations such as a grocery store parking lot or the owner's driveway, Ditman said.
"Over time, we'll grow this to where we're covering nearly every paved road," he told reporters.

The limitations that GM is revealing for the system — and its repetition of the phrase "safely deploy" — show that the automaker is taking a different tack than Tesla, GM said Ultra Cruise can tackle 95 percent of driving scenarios.

Instead of just using cameras, as Tesla does, GM said its system combines seven long-range cameras with more than 20 sensors. It uses short- and long-range radar, lidar behind the windshield and a camera atop the steering column to monitor whether the driver is paying attention.

Ditman said GM has not begun testing Ultra Cruise on public roads but that the system will be fully vetted before its release, in contrast to Tesla's reliance on its customers as Full Self-Driving beta testers.

General News

Musk Paints Tesla-Future Picture at Investor Day

GENERAL NEWS

At Tesla's annual Investor Day, CEO Elon Musk painted grandiose pictures of refinements to the vehicles; manufacturing, and processes to maximise profit and growth.

'Master Plan 3' is Musk's name for a focus on providing what he calls a 'sustainable energy solution', saying "Earth will move to a sustainable-energy economy, and it will happen in your lifetime", but without specifying the age of the person he had in mind.

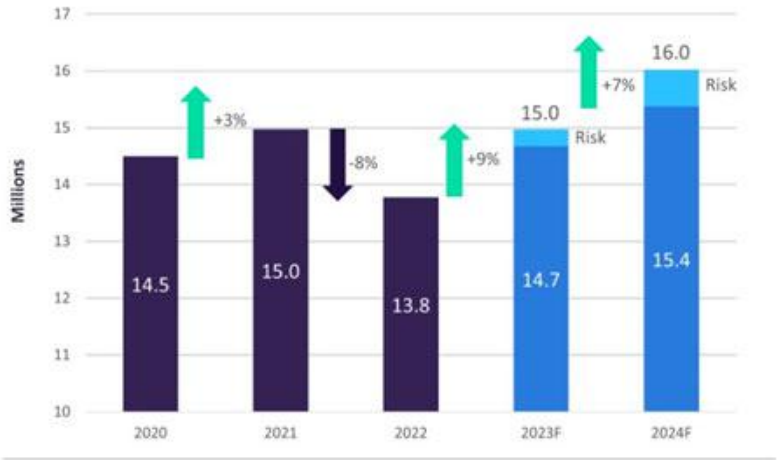
Almost every executive who spoke during the presentation stressed continual cost cuts as the reason for the company's profitability, saying Tesla's operating expenses dropped from 17 to 7 per cent of revenue from 2018 to 2022, while the cost of building the Model 3 was cut by 30 per cent in the same period.

The savings are hoped to help Tesla reach their goal of selling 20 million vehicles a year and also produce lower-price EVs. Musk, perhaps stating the obvious, asserted "Demand is a function of affordability…as we lower the price, it drives up demand". Musk said Tesla could achieve their sales target with a maximum of 10 models, which would call for six new models to offer alongside their present Y-X-S-3 range. Tom Zhu, a former top Tesla executive in China now in charge of assembly plants and sales operations in North America and Europe, said Tesla just built their seven-millionth car (total, not per year). While it took more than a decade to reach this milestone, Zhu added that it took less than seven months to build the last million.

Stateside Market Rallies in February

GENERAL NEWS

Preliminary estimates have U.S. light vehicle sales up by 9.5 per cent year-on-year (YoY) in February, to 1.14 million units. That's still below pre-pandemic levels, but nevertheless a sturdy result by recent standards. February's YoY growth outstripped that of the previous two months, although the market's weak state a year ago has boosted with these YoY gains.



US LIGHT VEHICLE SALES OUTLOOK (GLOBALDATA)

GM was the bestselling automaker for the seventh consecutive month, but their market share was notably down compared to recent history. Toyota Group reclaimed second place, having fallen behind Ford in January. The gap between GM and Toyota was around 27,000 units, while GM moved around 43,000 units more than Ford in January.

February's selling rate was better than all but two months in 2022—January and October. At 15.5 million units/year, the average selling rate over the first two months of 2023 compares favourably with the average of 14.4 million units/year in the same period of 2022, and LMC are forecasting some market expansion this year.

After several months in which GM grew the most in YoY terms, that title was taken by Ford Group in February, whose sales expanded by 24 per cent YoY, compared to 14 per cent for GM. VW Group also saw a larger YoY gain than GM in percentage terms, at 20.7 per cent. While this largely reflects that GM (and Ford) were already starting to recover from their worst inventory shortages a year ago, GM's market share did slip to 16.2 per cent in February, compared to 17.6 per cent in January. Renault-Nissan-Mitsubishi performed better than they have in recent times, as Nissan seemed to show signs of revival, with the brand's best market share for 11 months.