Tue, 21 June 2022
Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #756

Editorial

Two Weeks; Two DVN Events

Summer is heating up, and so is the pace of DVN events.
As this week's DVNewsletter goes live, the second day of the DVN US Workshop is getting under way in Michigan. And on 4 july, the 2022 DVN Study will be published. The whole DVN team has been hard at work on these for many months.

Today, 250 attendees are at DVN's 25th Workshop, including DVN team members: Wolfgang Huhn; Gerd Bahnmueller; Daniel Stern, and Geoffrey Lebrun. I'm sorry I can't attend myself, but I hope to see you all at another DVN event soon.

In two weeks' time, the lighting community will be able to get the DVN Study electronic booklet, and one week later, get three samples for each order.

All of us at DVN continually strive to support and boost the lighting community. We keep you informed with weekly newsletters, monthly reports, and yearly studies…we bring you networking opportunities with DVN Workshops like the one going on today…we help you promote your achievements and innovations in exhibition booths and on the DVN website. And we'll keep right on doing it!

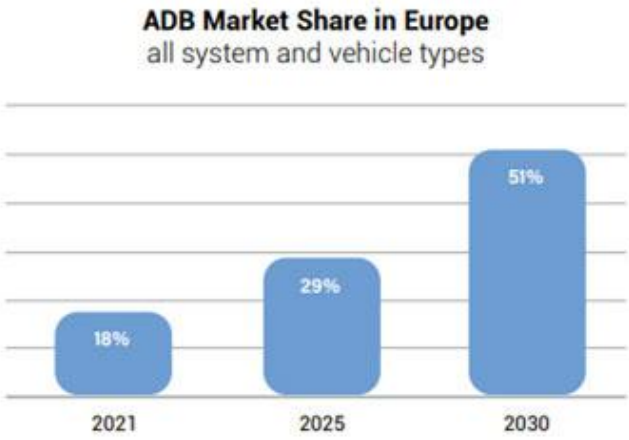
Sincerely yours,

In Depth Lighting Technology

2022 DVN Study: Coming Soon!

In the early days of July, DVN will release the fifth annual DVN Study, **DVN Market Forecast on New Lighting Systems**. The four authors W. Huhn; G. Bahnmüller; H. Fratty, and J-P Ravier are shown here.

This year's DVN Study enumerates and assesses the market prospects of new lighting elements like lit front blades and billboards (replacing grilles); lit logos; signal projections; road projections; ADB; laser-based lighting; OLEDs; communication displays, and more. Market trends like the rise of EVs; new design themes, and regulatory environments in the world's major markets; design trends and the opportunities brought by OTA updates and new hardware and software architectures are described and analysed. The study gives a data-driven preview of the future of the vehicle lighting market. You'll find insightful interviews with automakers; tier-1 and -2 suppliers, and researchers—all in context of DVN's in-house expertise.



It's an independent market research work with twenty figures (such as the example shown here); a consolidated synthesis of knowledgeable, reliable sources. It provides an efficient education in the latest technologies' prospects in terms of revenue, volume, and regulatory factors, and a sturdy basis for your strategy decisions. This substantial analysis of the new vehicle lighting market is a high-value resource, from an external and unbiased perspective, for automakers; tier-1 and -2 suppliers, and strategists. Here's the table of contents, as a preview:

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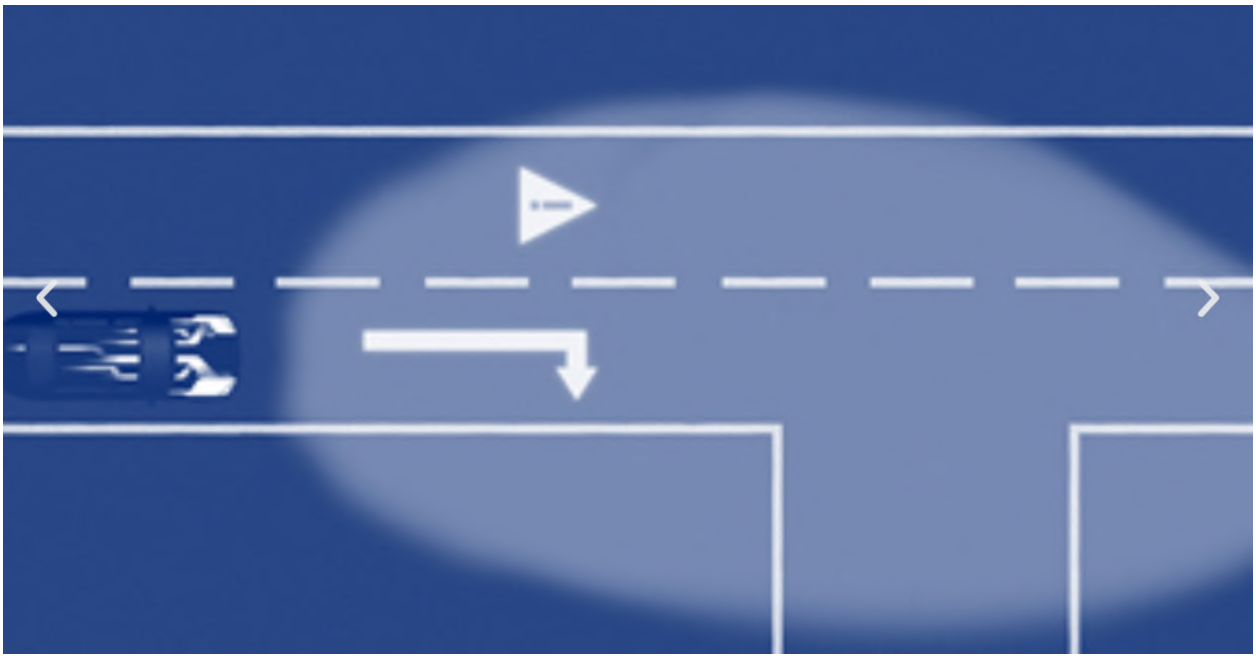
For more info or to order the Study, please contact: carine@drivingvisionnews.com

Lighting News

ZKW Patents Added Up in '21

LIGHTING NEWS



ZKW filed a total of 74 innovations for international patent in 2021, 41 of which were new entries. CEO Dr. Wilhelm Steger says "R&D is of central importance at ZKW. Innovative solutions are crucial in order to bring premium lighting systems to the market". Patented developments include ZKW's quadruple projection lens system for headlamps, to solve the problem of chromatic aberration.

The technology is used in the high-resolution MicroZ module, which is based on an LED light source with thousands of individually addressable pixels. This allows road users to be masked out much more accurately. In addition, the system allows any kind of symbols or animations to be projected onto the road. ZKW advanced development project manager Stefan Miedler says "The goal was to develop a compact, temperature-stable and cost-efficient lens system that delivers high efficiency and imaging quality".

Another new ZKW patent is their depth perception solution using two cameras installed in a car's headlamps. ZKW's Oleksandr Chistov and Martin Brandstetter say it "works similarly

to how our eyes capture images. This allows self-driving vehicles to create an image of their surroundings as well as accurately determine the distance to objects.

There's also a new solder in which only small areas melt while the outer shape remains intact.
This way, the consequences of material ageing in circuit boards, such as the smallest cracks or changes in the structure, can be self-healed. The new super alloy was developed in intensive cooperation with the Vienna University of Technology and the Materials Centre Leoben. The new solder will be used for connections of high-power LEDs and other power semiconductors for the automotive industry.

Reflective Rearview Mirrors Might Beat LCD Screens

LIGHTING NEWS

The interior rearview mirror has stayed about the same for a lot of years, and although digital ersatz mirrors—a mirror-shaped screen showing images from a rear-facing camera—have begun to come in, there are sturdy reasons why the regular old, normal old, boring old shiny-glass type might win out over the high-tech solution.

Dr. Jay Pratt is a professor in the Psychology Department at the University of Toronto. He's a perception and visual cognition researcher, specialising in how humans selectively acquire information from the visual field; how that information influences actions, and what happens to the ignored information. Dr. Pratt explained how and why digital rearview mirrors can actually worsen things for the driver, compared to a standard mirror.

"The mirror is essentially reflecting light from distant objects plus the distance between your eyes the mirror (i.e., everything is distant viewing). The LCD screen, however, is taking images from distant object, going through some processing, and then projecting it at the relatively short distance from your eyes…putting your reading glasses on might bring the LCD into focus—but you'd lose focus on the sideview mirrors. Indeed, I wear progressive lenses; reading viewing at the bottom, distance viewing at the top. This is good for driving because dashboards are down and windshields and mirrors are up. But an LCD screen above my head would require me to tilt my head a lot to get my reading correction onto the screen.

Dr. Pratt again:

"Transitions from LCD to windshield are hard. I'm guessing that the reverse transition, from windshield to LCD is much easier. This may be due to the attention capturing properties of the LCD. LCD screens are very luminant with lots of light energy, and changes in luminance are very good at automatically capturing our attention. For another driving example, normal roadside billboards are pretty easy to ignore, but LCD billboards are much more distracting.

Depending how much light energy the LCD is pumping out, being right near our focus of gaze (unlike the LCD center consoles away from where we should be looking), these things might be harder to disengage attention from than a mirror. After all, the mirror is just reflecting light from outside the car; it's the same luminance out the front and back windshields)."

But wait, there's more; there are perspective-angle issues as well:

"*Only a camera mounted on the rearview LCD monitor would give the same perspective as a rearview mirror. A camera anywhere else would give a different perspective. That could be offset with some fancy processing of the images, but to do so would [take] a lot of computing power. With enough practice, the new camera perspective would come to seem normal.*"

Valeo are Top French Patent Applicants

LIGHTING NEWS

Valeo has been ranked the № 1 French worldwide patent applicant, with 1,777 patents issued in one year. That's according to France's intellectual property institute, who list the first applications granted by the world's main patent offices.

These figures bring Valeo's worldwide patent count to a grand total of nearly 35,000. CEO Christophe Périllat says the rankings demonstrate "Valeo's consistent efforts to innovate, particularly in four key areas in the transformation of mobility: electrification, driving assistance systems, lighting and reinventing the interior experience. Every day, our teams find new solutions for cleaner, safer and smarter mobility".

Of these 1,777 patents, 46 per cent were filed in France; 25 per cent in Germany; 6 per cent in Europe (excluding France and Germany); 5 per cent in China, and 18 per cent in the rest of the world. Top categories for the patents were electrification; driving assistance; lighting, and technologies for reinventing the interior experience, including integrated radiant panel heating; improved interior air quality, and intelligent function activation systems.

Connected Cars Will Change the Game: Renault CEO

LIGHTING NEWS

Renault CEO Luca de Meo says software-defined, connected cars will fundamentally alter the relationship between automakers and their customers, and bring opportunities to make the car better as it ages rather than worse.

Speaking at French technology show VivaTech, de Meo said "I believe it will really change the experience of owning a vehicle."

Connectivity in particular, he said, will bring a better experience for drivers, and more profits for automakers. He noted that smartphone users personalise their devices with apps and receive constant over-the-air upgrades, and made the comparison: "Cars have been closed products. They tend to stay more or less the same for the whole life cycle, and that will change. They will become intelligent, they will learn from the driver, so your car after three years will be better than when you buy it, because it knows you".

Connectivity will also bring new revenue streams, de Meo said. After the warranty period expires, most owners go to independent mechanics because they are cheaper or more convenient. But if owners are consistently connected to automakers via updates and cloud services, he said, "for the first time it means that the customer is staying in the ecosystem for the whole life of the car, and every day he’s in, it’s an opportunity for us to make money".

AMS Osram to Sell Digital Systems Biz to Inventronics

LIGHTING NEWS

AMS Osram will sell their Digital Systems business in Europe and Asia to Inventronics, a global supplier of LED drivers. Osram will continue to focus on the high-technology semiconductor and automotive and general lamps businesses. The deal is part of Osram's strategy to focus on core technology areas in illumination; visualisation; and sensing, and to divest businesses not central to the company’s strategy.

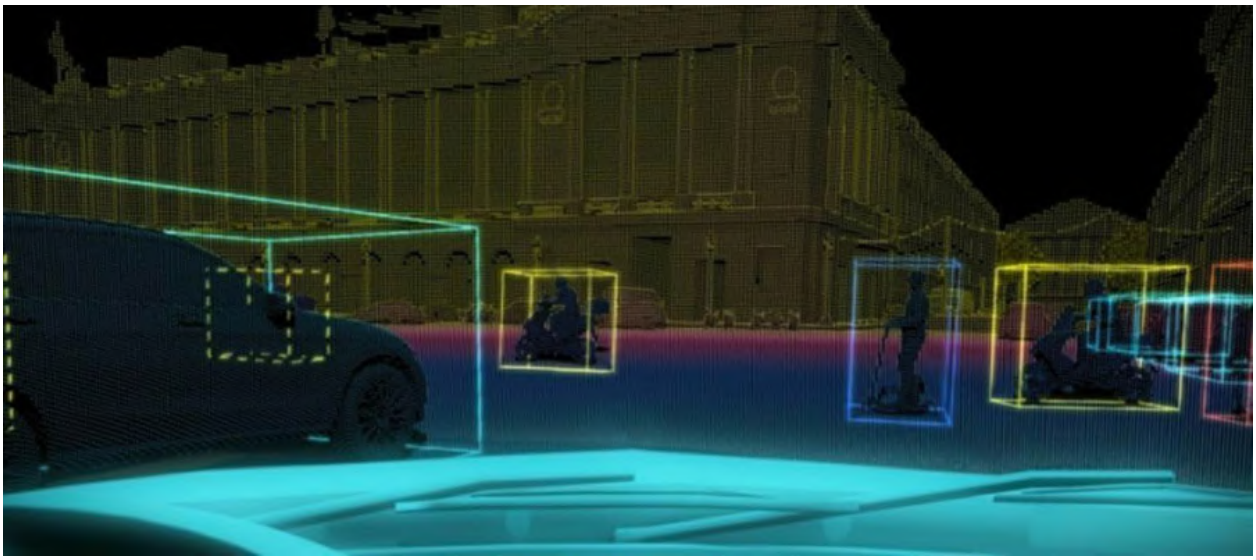
The business to be sold mainly develops power supplies with related light modules; software, and connectable components for traditional and LED illumination, and employs around 600 people with headquarters in Garching, near Munich, Germany.

Inventronics are a publicly-traded company headquartered in Hangzhou, China. They have manufacturing facilities in China; India, and Mexico, and distribution centres in the US and the Netherlands.

Driver Assistance News

Stellantis Pick Valeo Lidar for L3

DRIVER ASSISTANCE NEWS



Valeo will supply third-generation Scala lidars to enable L^3 autonomous driving in Stellantis vehicles starting in 2024.
The second-generation Scala system is used in the Mercedes S Class, the first car to win approval for L^3 driving on European highways.

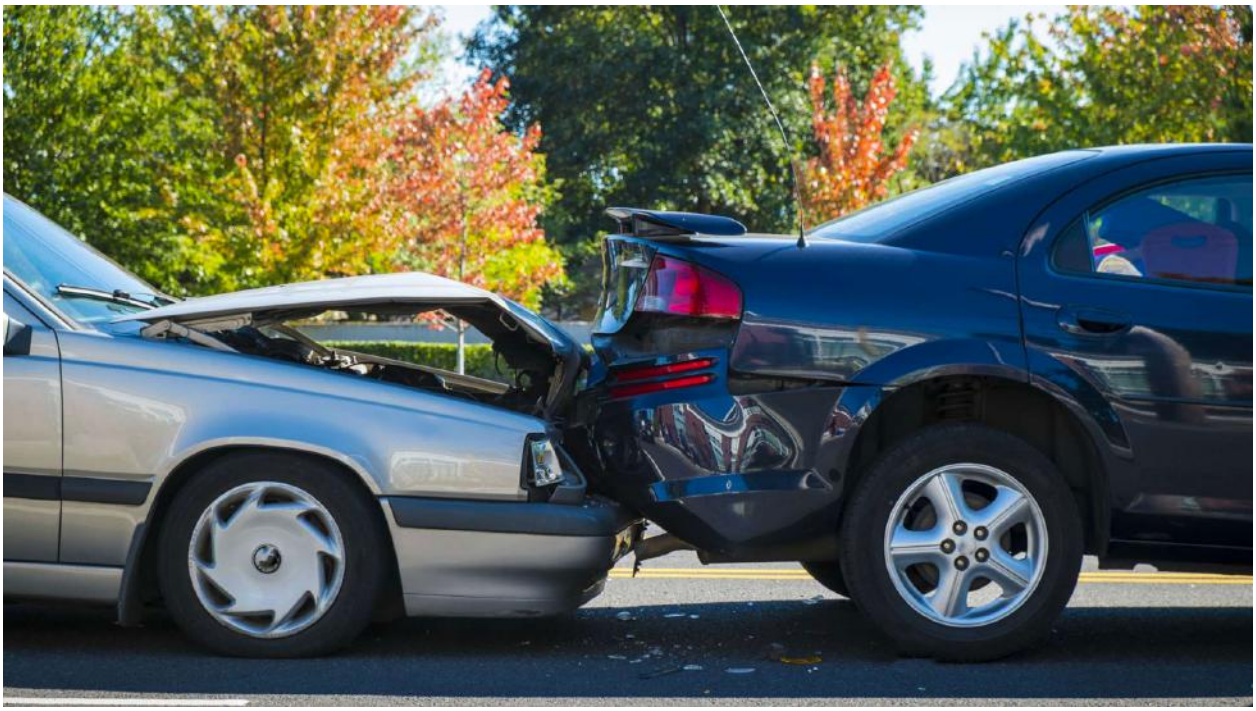
Most self-driving systems use a combination of radars, cameras and lidar, which has advantages over cameras—faster processing speed, and immunity to surface composition; shadows; sunlight, and approaching headlights.

Valeo Comfort & Driving Assistance President Marc Vrecko says L^3 automation requires lidar: "*Without it, some objects cannot be detected (…) the system's perception capabilities must be extremely precise. Our third-generation Scala lidar offers a resolution nearly 50 times that of the second-generation device. The technology comes with unique data collection features, allowing Stellantis to pave the way for new vehicle experiences*".

Valeo expect exponential growth of ADAS and autonomous driving in the coming years, and say the automotive lidar market will quadruple between 2025 and 2030—eventually reaching a global total of €50bn. *More than 170,000 Scala units have been produced and the technology is protected by more than 500 patents.*

New Tech Could Slash Crashes: IIHS

DRIVER ASSISTANCE NEWS



The U.S.-based Insurance Institute for Highway Safety says new data suggests advanced technologies such as intersection-assistance may be relevant to 650,000 crashes per year and could prevent hundreds of thousands of accidents.

"Left turn assist and other, upcoming intersection-assistance technologies could deliver big safety benefits for drivers in their 70s and 80s," said Aimee Cox, IIHS research associate and author of the study.

With a growing number of older drivers in the U.S, according to IIHS, new features will help keep drivers of all ages safe on the road. IIHS vice president of research Jessica Cicchino says "We know that older drivers can be at a greater risk for crashing and especially at a higher risk for being in a fatal crash".

Front crash-prevention features could alert drivers through a warning chime or apply the brakes to avert a collision. Cicchino said she hopes for most vehicles to be able to communicate with one another through vehicle-to-vehicle connectivity in about 20 years.

General News

Stellantis to Leave ACEA

GENERAL NEWS

Stellantis will leave lobbying group ACEA by the end of the year, and will put on their own annual event to address mobility issues. Stellantis say it's part of a new approach to addressing issues and challenges of future mobility, including a shift away from traditional lobbying activity.

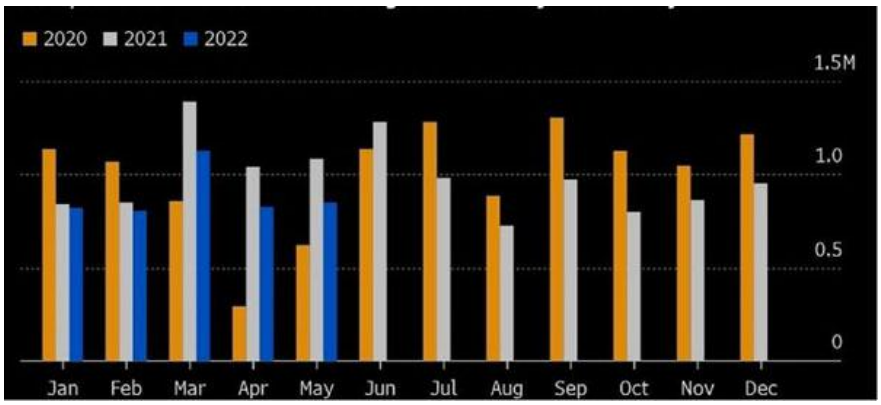
The automaker, with 14 automotive brands, said they're planning an annual "Freedom of Mobility" event—the first one scheduled for early next year—with the goal to identify how to bring clean, safe, and affordable freedom of mobility for society in the face of global warming implications. That rubric comes as the 27 EU countries preparing to vote on a proposal that would ban sales of new internal-combustion passenger cars starting from 2035.

Stellantis CEO Carlos Tavares says "We intend to create a public forum in which contributors can come together to address the key questions surrounding the debate on decarbonised mobility and provide actionable next steps for us to take together". Tavares is a former president of ACEA, which represents the 16 major European car, truck and bus constructors. The group does not include newcomers such as Tesla and several Asian brands, including Suzuki and Subaru. Stellantis would be the first key automaker to withdraw from the Brussels-based group, which advocates for the industry at the European Union.

European Sales Droop—Again—in May

GENERAL NEWS

European new-car sales fell for the 11th month in a row, as record inflation and falling consumer confidence piled on with supply-chain disruptions.



EUROPEAN CAR SALES - SOURCE ACEA

Registrations in the 27 EU members plus the UK and the EFTA countries fell 13 per cent to 948,000 vehicles in May, according to industry association ACEA. Hardest-hit among major automakers was Volkswagen Group, who saw their sales drop by 22 per cent from the same month last year.
Among other major automakers, Stellantis sales were down 15 per cent and Renault Group lost 10 per cent despite a 12-per-cent rise for their low-cost Dacia brand. BMW, including Mini, was down 13 per cent and Mercedes-Benz, including Smart, lost 8 per cent.

Asian automakers, however, showed gains for the month. Hyundai Group sales were up 9.8 per cent; Nissan sales rose 3 per cent, and Toyota Group (including Lexus) increased sales by 1 per cent.
That put Hyundai Group № 3 in sales behind VW Group and Stellantis. Hyundai Group increased its market share by 2.1 percentage points to 10 per cent.