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Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #847

# Editorial

## DVN @ Valeo HQ


Hector Fratty and I were invited by Valeo's Pierre Emmanuel Strohl (Research & Innovation and Strategy) and Marion Deveycx (Marketing and Communication Director) to talk about vehicle lighting with Klaus Matauschek, who joined Valeo last year as Director of Lighting R&D.

It was a pleasure for me to be back at Valeo for the first time representing DVN. It was also for me the second time I met Klaus as a Valeo employee—the first time was a short talk during ISAL last September.

In this newsletter I bring you two additional big points:

- Videos from the DVN Munich event are available for participants and members, **on the DVN website**.
- The docket for the upcoming 2-day DVN Interior event to be held in Köln is available. Philippe Aumont and his team have put together a wonderful program with seven sessions about seating, sustainability, HMI and smart surfaces, displays, interior lighting, and design. **Registration is open**!

Sincerely yours,

**Paul-Henri Matha**
*DVN Chief Operating Officer and Lighting General Editor*

# In Depth Lighting Technology

## DVN Interview: Valeo Lighting R&D Director Klaus Matauschek


During ISAL 2023 I met with Klaus Matauschek and his team. Valeo proposed a meeting to talk about the vehicle lighting market and its challenges, and so on 8 February we met up at Valeo HQ, in Paris—just one year after Klaus joined Valeo in January 2023.

**DVN: You started your vehicle lighting career in 1995; what can you tell us about your background?**

**K.M:** I graduated from University of applied Science Rosenheim in Germany in 1995 and started my career at Bosch in Reutlingen, which became part of Automotive Lighting in 2000. I have been working in lighting my entire career. After different positions, I had my first touch point on R&D for lighting in 2003.

Before joining Valeo, I had the chance to discover different lighting companies, with different cultures, different sizes, in different regions (Europe, Asia, and US), at different positions—R&D, business, CEO—touching different technologies (headlamp, rear lamp, radome, small lamps).

**DVN: You joined Valeo a year ago. How has that been for you?**

**K.M:** This is a great experience!  I really enjoy working at Valeo. We have a lot of interesting challenges, and I am really impressed by the level of technical knowledge and expertise of the Valeo people I have met. Many of my colleagues have a very long experience in the business and many have been with the company for years, and even decades.

As the automotive industry is facing the biggest revolution of its history, lighting is directly impacted. For example, the move towards electrification opens many opportunities to use lighting as a design differentiator and as vehicles become more autonomous, lighting helps them to optimize detection and to communicate with their environment.

The pace of innovation is picking up and we have to be agile to meet the new requirements from our OEM customers, for example the drastic decrease of development time (minimum by one third). For that, Valeo is very well prepared with a high level of flexibility. Secret for that is not organization, but mindset.

**DVN: if I am correct, your latest position was in America. Do you see the same vision in Europe and America when we talk about lighting?**

**K.M:** The US has always been a different market when we talk about automotive, and this is valid also for lighting. The US premium car market is quite low compared to Europe (around 15 per cent) and the majority of vehicles, even trucks, have a lower technical content in comparison to the European premium cars. For lighting it is similar. But this is changing. February 2022 they opened the possibility to have ADB in the US. This is a significant milestone and it will be in production soon.

**DVN: Valeo is a big player in ADAS, electrification, interior experience—and of course, lighting. How are you linked with the other divisions?**

**K.M:** This is a big chance to be part of a big group like Valeo (turnover around €20bn). Valeo R&D workforce is composed of 20,000 engineers, of whom 8,000 are software engineers. It is always a real advantage to have different expertises in house, and we try to make the most of it!

**DVN: about ADAS, we are talking about sensor integration. Concretely, do you work on it in your division, and especially with Valeo sensors like the Scala lidar? is it a benefit to be part of a company producing and developing sensors?**

**K.M:** This i clearly an advantage to have different activities within the group. For ADAS, we should not reduce the discussion to lidar. Valeo offers the largest portfolio of sensors on the market, including cameras and HD radars as well as all the associated software. Valeo can integrate these sensors into lamps or smart zones. We have the expertise necessary to simulate transparency and limit interference for all types of sensors, produced by Valeo or competitors.

**DVN: Electrification is also a clear challenge for the automotive business industry; everybody is talking about SDV. How does this affect Valeo, and especially the lighting department?**

**K.M:** The development of new architectures to support the development of software-defined vehicles requires us to be flexible and agile. We have a lot of discussions with OEMs and partners. All Valeo business groups contribute to the SDV. Valeo Comfort and Driving Assistance in particular offers computing units and zone controllers. This is the strength of Valeo to be able to propose the complete scope from ECU (high computing units, zonal controllers, local ECUs) to sensors and Software. SDV opens a lot of opportunities to offer new functionalities through the software and we are already selling software as a product (SWaaP), including software for lighting.

**DVN: If we focus now on lighting, what do you think about ADB evolution? Do you see this trend to go to a 30-per-cent take rate in 2030 or do you think it is too optimistic?**

**K.M:** 30 per cent take rate seems to be possible in 2030. It will depend on how the Chinese market is evolving thanks to the new CNCAP rating including ADB. It could be a real game changer.

**DVN: Are you investigating HD technology for ADB? if yes, in which technology?**

**K.M:** Sure. You cannot be a lighting player without HD technology. The technology we are working on is based on microLED arrays. We have two customers with a first SOP in 2024. We are also investigating the next generation with 100 kilopixels for premium OEMs.

**DVN: At CES, most of the focus was on signaling technology, and how to display information with displays or projection systems. How do you see this evolution and how are you organization to tackle this (r)evolution?**


**K.M:** The trend is clear. At our CES booth, Valeo exhibited the new Zeekr equipped with a front display with 1,700 LEDs. China is clearly leading the market for display and lighting integration. It opens fantastic opportunities for personalization, design, and communication for autonomous vehicles.

**DVN: most of these displays, called ISD in China, are in the bumper. But you are a lamp supplier. How do you tackle this problem? Some bumper suppliers have bought lighting companies to answer this question. What is Valeo's approach?**

**K.M:** Valeo is able to offer all solutions: in headlamps, rear lamps or in bumpers. Our partnerships with SRG and Swell offer us the possibilities for integration in bumper and/or front and rear fascia. In China, the Valeo R&D centre has the necessary skills to develop these technologies. Very soon we will see more.

**DVN: You developed some OLED rear lamps on the Audi A8 if I am correct. What do you think about OLED, will take rate increase?**

**K.M:** There are very few lighting suppliers able to integrate OLED in lamps on the market. At Valeo, we already have such lamps in mass production, like Audi A8. Now that there is no longer a durability issue, Chinese OEMs are starting to integrate OLEDs. For sure, take rate and interest in this technology will increase.

# Lighting News

## TactoTek's Munich Innovation Office is German-Expansion Milestone

LIGHTING NEWS


TactoTek's CEO Jussi Harvela with DVN Advisor Gerd Bahnmüller

Printed-electronics experts TactoTek have upped their German expansion with a new office Munich. The opening ceremony took place on 26 February, one day before the Munich DVN Workshop.

The new Munich office will serve as a strategic hub for the German-speaking region, and as a central hub for TactoTek's innovative IMSE (in-mould structural electronics) technology. The presence in Munich underlines the company's commitment to maintaining and further strengthening close partnerships with German automakers and tier-1 suppliers.

The opening was presided over by senior executives and TactoTek CEO Jussi Harvela, who emphasized the importance of the new office. The Munich office will serve as a sales and service base to further strengthen proximity to customers and promote collaboration.

The choice of Munich as a location not only reflects the economic strength of the region with its good transport infrastructure, but also underlines TactoTek's appreciation of creativity and technological excellence. The company is convinced that the opening of the Munich office will further drive innovation and looks forward to setting new standards in the printed electronics industry.

TactoTek are headquartered in Oulunsalo, Finland, and specialize in the development and manufacture of printed, textured and functional surfaces for various industries. The company was founded in 2011 and since then has continuously developed pioneering solutions in the field of printed electronics.

The company's vision is to break down the boundaries between conventional materials and electronic components. Through the integration of technology and creative design, the company strives to create innovative solutions that revolutionize the way people interact with technology.

| 100 | 3 | 220 | 10+ |
|---|---|---|---|
| 100 employees from 10 different countries. | Represented on three different continents with offices in Finland, Germany, USA, Japan, and South Korea | Industry leading portfolio of intellectual property and patents | Years of Experience in MSE® |

Core competencies are based on 3 pillars:

- **Structural Electronics**: TactoTek with its IMSE is the global leader in combining traditional electronics with plastics creating the basis for smart surfaces.
- **Design and engineering**: TactoTek combines innovative design concepts with state-of-the-art engineering to create customized solutions that meet customer requirements.
- **Cross-industry applications** (Platform Technology): TactoTek's technologies have applications in various industries in addition to automotive, including consumer products, healthcare, and industrial.

TactoTek's IMSE technology brings an impressive value proposition:

- Efficiency: TactoTek's light platforms provide over 10× the efficiency of conventional inlight structures, creating clear, high contrast light applications for brand illumination (light emblems), ambient and functional interior lights, and exterior light elements.
- Sustainability: by reducing or eliminating printed circuit boards, IMSE provides over 50-per-cent reduction in greenhouse gases, enabling mobility to be sustainable.
- Lightweighting: IMSE-based user interfaces and HMIs deliver over 50-per-cent weight reduction compared to conventional structures.
- Packaging: by reducing the number of parts, IMSE delivers thin structures, enhancing HMI.
- Simplified structures: with IMSE, parts can be reduced by up to 98 per cent, reducing or optimizing the supply chain.

TactoTek offer a wide range of products and services, including IMSE™ technology; in-mold structural electronics enable the integration of electronics into three-dimensional surfaces during the molding process. They offer comprehensive design and engineering services, from concept development to implementation. Their offerings include a trainer product, plugins and design rules for eCAD and mCAD, and reference designs.
Applications were on display in the experience center during the grand opening of the Munich centre. The basic idea of combining electronics and plastic in an intelligent and space-saving way and providing them with decorative surfaces is manifested in the company's first demonstrators. One remarkable innovation is the low overall thickness of just a few millimeters, achieved by over-molding the electronics. This technology not only enables the direct integration of positioning and fastening elements but also a functional addition with haptic feedback for electronic switches and operating units.

Electrical circuits and their application in overmolded parts

Insert molding of electrical circuit with a decorative wooden look

Another idea recognized the potential of light and lighting effects to significantly increase the attractiveness of the components. The introduction of the IMSE Platforms—'Light Channel' and 'Surface Light' elements and principles led to the creation of components that are now also arousing great interest in vehicle lighting technology. Particularly impressive is the thin installation depth of just 6 to 8 mm in the front application.

Sample with "Light Channel" and "Surface Light" elements and prototype of an illuminated front panel

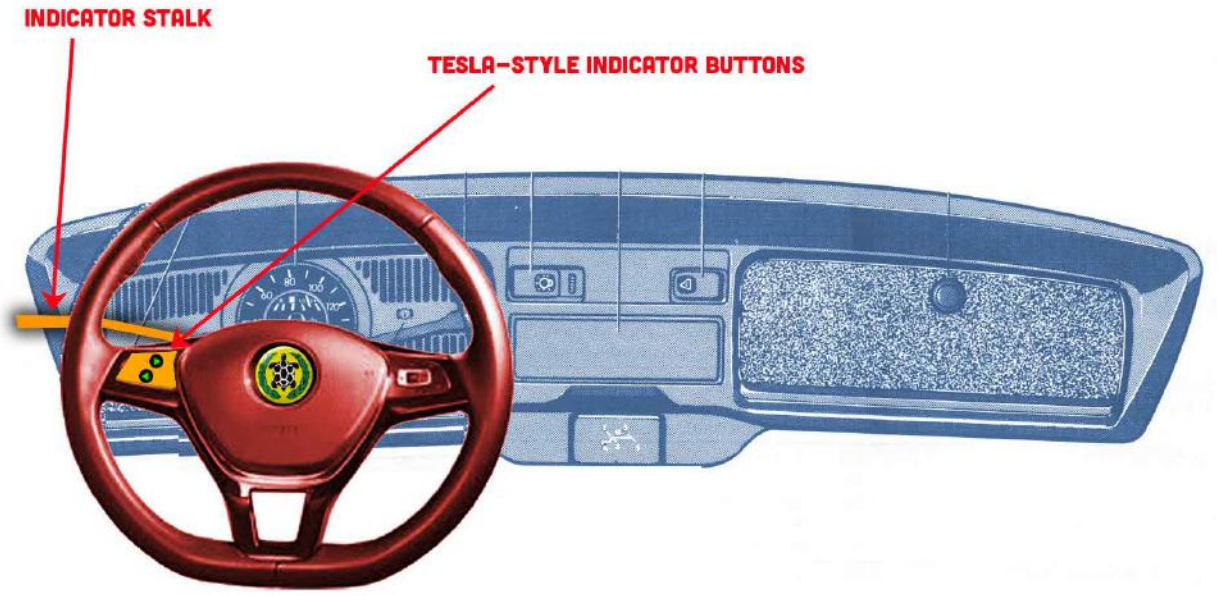
Another highlight of the showroom is colored ambient lighting, presented by a stone panel only about 1.5 mm thick, as well as an illuminated, insert molded wood veneer with small punched openings. These innovative solutions underline TactoTek's versatility and creativity in the field of printed electronics.

Backlit panels with thin stone plate and wood veneer

We are curious to see what highlights will follow next!

# Physical Buttons to be Incentivized: Euro NCAP

LIGHTING NEWS




It's hardly a secret any more; using touchscreens for all car controls is **the wrong way to do it**. Soon, in an attempt to promote safer driving, car makers in Europe will be encouraged to stop using touchscreens for basic functions like turn signals and wipers. Euro NCAP will introduce new rules in January 2026 that require the vehicles they assess to have physical controls if they're to receive a top five-star safety rating.

While Euro NCAP testing is voluntary, it is widely backed by EU governments. Automakers use their five-star scores to market the safety of their vehicles. “The overuse of touchscreens is an industry-wide problem, with almost every vehicle-maker moving key controls onto central touchscreens, obliging drivers to take their eyes off the road and raising the risk of distraction crashes,” said Matthew Avery, director of strategic development at Euro NCAP. To be eligible for the maximum safety rating after the new testing guidelines go into effect, cars will need to use buttons, dials, or stalks for the horn, the hazard warning lights, the turn signals, the windshield wipers, and SOS calls.

Some manufacturers like Tesla and Volkswagen have gained a reputation for placing basic vehicle controls behind touch-sensitive interfaces. There’s no shortage of complaints about such features, but equipment manufacturers continue to push touchscreen interfaces because they’re cheaper to make than physical buttons and dials.

The Euro NCAP’s safety guidelines aren’t a legal requirement, but automakers take safety ratings seriously, so any risk of points being docked during such assessments is likely to be taken into consideration. Matthew Avery says, "It is our intention to adopt these new requirements in 2026 as stated and the vehicle manufacturers are aware and are in support of the initiative.”

# Audi Q6 e-tron: World First in Lighting Technology

LIGHTING NEWS


Audi's new Q6 e-tron has a captivating lighting system. The headlamps are hidden in the air intakes, and the high-positioned light units contain the LED daytime running lights. Many different light graphics are possible here with the pixel display. The digital daytime running lights and the light modules are now arranged separately from each other, which creates more clarity in the design. The designers have created the individual LEDs of the new evolutionary stage in digital daytime running lights - 70 in total - as transparent 3D objects. The front section of the digital daytime running light is fitted with a precise prismatic structure, while metalized 3D trim surrounds the daytime running light to draw the viewer's focus to the vehicle's digital 'eyes'.

Audi say they've devised headlamps and rear lights that look 'alive' at first glance: this is how customers can imagine the optional active digital light signature. César Muntada, Audi's Head of Lighting Design, says, "Audi is designing not only the shape of the light but also its entire movement for the first time in a series-production vehicle. The light in the new Audi Q6 e-tron appears more lively and intelligent than ever before. We have given the light signature its own personality and at the same time given the digital world its own aesthetic".

A software module in one of the domain computers of the Audi Q6 e-tron makes this form of light signature possible. In the case of the second-generation digital OLED rear lights, six OLED panels with a total of 360 segments generate a new image every ten milliseconds using a specially developed algorithm. In this way, the active digital light signature conveys the liveliness and personal interaction of the car by making the "brain activity" of the Q6 e-tron visible through constant movement. At the front, the active digital light signature is created by the interaction of the algorithm with twelve segments that dim up and down. At the rear, all digital OLED segments are used for this purpose. The individual light segments interact in such a way that the overall brightness of the light signature does not vary.

Audi's Head of Lighting Development, Stephan Berlitz, says the company "recognized the potential for the use of OLED technology in rear lights early on and is the only car manufacturer to consistently develop and digitalize this lighting technology. As a result, we can now offer our customers a constant stream of new lighting functions. Digital OLEDs are more efficient, lighter, and more homogeneous than conventional lighting systems. Thanks to their high contrast, they will gradually become exterior displays and thus an essential enabler for communication with the surroundings. With the proximity detection function, Audi has been interacting with other road users through light since 2020. In the Audi Q6 e-tron, the communication light has now been added to further increase safety".

For the first time, the digital OLED rear lights can communicate with the immediate surroundings (car-to-x). The new electronic architecture makes it possible to control the significantly increased number of segments of 360 via a dedicated software module on one of the domain computers. The steady increase in the number of segments per digital OLED panel will enable the combination rear light to be developed into a display that further improves car-to-x communication and road safety.

The innovative digital OLED technology not only creates the conditions for a completely new rear light design but also ensures unique homogeneity and very high contrast in the display. A further advantage: The surface light source does not require any additional reflectors, light guides, or other optics, so it is very efficient. Together, these properties allow engineers and designers to finally break down the boundaries between two- and three-dimensionality in design: The Four Rings create three-dimensional shapes on two-dimensional surfaces. In addition to an expressively integrated LED light strip at the rear, 3D glass creates a successful separation between the rear light signature and the other lighting functions.

The proximity detection system already familiar from other Audi models has been expanded to include the communication light. It warns other road users of accidents and breakdowns. For this purpose, the communication light displays a specific static rear light signature with integrated warning symbols in the digital OLED combination rear light alongside the regular rear light graphics in critical driving or traffic situations. This assistance system not only supports Audi drivers but also all other road users. As with the extended traffic information, which warns of accidents or dangerous situations in the Audi A8 thanks to digitalized headlights, the communication light also draws its data from the swarm. In addition, the second generation of digital OLED rear lights activates the communication light with warning symbols for Emergency Assist, for the RECAS (Rear-end collision alert signal), when the hazard warning flashes, during an emergency call (eCall), during a breakdown call (bCall) and when the emergency stop lights are flashing.

The communication light also gives the exit warning system an additional dimension. Previously, it only informed the occupants of the vehicle when they got out, for example,

when other road users were approaching. The warning symbol of the communication light, which lights up within the rear light graphic, now also warns road users approaching from the rear. The Audi Q6 e-tron thus integrates others into its safety concept and increases road safety for everyone.

The communication light also uses a specific light signature at the front and rear to indicate the status of the vehicle's parking assistant when it is in an automated parking process. This makes it clear to road users in the immediate vicinity that the vehicle is in a safe state.

With eight digital light signatures for the Matrix LED headlights and the digital OLED rear lights 2.0, drivers can personalize their Q6 e-tron. There are two options for selecting a signature—via the myAudi app or directly in the vehicle via the MMI. A specially designed welcome and farewell scenario is available for each digital light signature when leaving and unlocking the vehicle.

When using the myAudi app, customers can activate their personal light signatures from outside the vehicle and also experience the dynamic light staging directly on the vehicle, as well as the precisely tailored welcome and farewell functions. The same applies to the communication light of the second-generation digital OLED rear lights and the proximity detection function. On request, the Matrix LED headlights can provide a live demonstration of the sign glare suppression and object masking features.

To enable customers to personalize their Q6 e-tron to an even greater extent, they can also add the digital light signature package to the LED headlamps, plus via functions on demand after purchasing the vehicle, either permanently or only for a specified time. The Matrix LED headlights and the digital OLED rear lights have eight digital light signatures as standard, allowing the Q6 e-tron to be customized according to personal preferences. It is also possible to purchase the high beam assistant and the Matrix package via Functions on Demand.

# Driver Assistance News

## Plus, Scania, MAN, Navistar in L4 Truck Pact

DRIVER ASSISTANCE NEWS


Plus, a provider of autonomous driving software, have announced a long-term partnership with Scania, MAN, and Navistar for global commercial deployment of $L^4$ autonomous trucks. The companies will create a commercial autonomous transport solution using Scania, MAN, and Navistar autonomous-ready base vehicles and Plus' autonomous driving software in hub-to-hub operations.

Trucks equipped with Plus' SuperDrive $L^4$ autonomous driving system, built on their Open Platform for Autonomy, already are being tested on public roads in Europe and the U.S., with a safety driver aboard. The companies will pilot commercial operations with fleets in 2024, then start series production and global commercial deployment at scale.

The long-term partnership builds on the joint development between the truckmakers and Plus over the last year and a collaboration that goes back even further. The teams have started testing their autonomous trucks in the busy freight corridor between San Antonio and Dallas, Texas, and will expand to other routes in the Texas triangle and Interstate 10 corridor. Commercial deployments will expand incrementally along strategic U.S. corridors. In Europe, testing is currently on a route between Södertälje and Nyköping in Sweden, and there are plans to conduct pilot operations with customers in other European countries this year.

Through partnerships with fleets, vehicle makers and tier-1 suppliers, and infrastructure providers, Plus are validating and refining SuperDrive for integration into vehicles at the factory level.

# Hesai Anticipate Continued Momentum After 'Landmark' Year

DRIVER ASSISTANCE NEWS


Chinese lidar supplier Hesai Technology say they're on course for another year of rapid growth in 2024.

The Shanghai-headquartered firm have just reported full-year sales of C¥1.88bn (USD $264m), up nearly 60 per cent on the 2022 figure.

Thanks to their shift into mass production towards the end of 2023, the annual sales figure is expected to rise at around the same rate this year, to somewhere between $400m and $450m.

That optimism comes as key customers in China begin to deploy lidar for ADAS applications much more widely, outweighing a slowdown in demand for robotaxis—and the negative impact of the US Department of Defense's recent decision to include Hesai on the list of Chinese military companies.

Hesai CEO and co-founder Yifan Li and his colleagues are contesting that listing, vehemently denying any connection to the Chinese Communist Party and its military or defense-related application of their products—and accusing US-based rivals including Ouster and their Velodyne subsidiary of a smear campaign.

In an investor conference call discussing the latest developments, Li and CFO Louis Hsieh did concede that the DoD listing had had a negative impact on perceptions of the company among potential US customers.

However, with most of the impetus towards near-term adoption and deployment of lidar currently coming from Chinese EV makers, the Hesai management team remain confident of increased shipments for dozens of production vehicle models this year.

The firm have recently announced key deals with the likes of Li Auto, Great Wall, and Leapmotor, claiming design wins with each of China’s top five EV makers and adoption in

ADAS among 16 automakers and tier-1 suppliers globally, across more than 60 vehicle models.

Hsieh told investors the company's "outlook for 2024 is highly optimistic, driven by the addition of 13 SOP vehicle models and six ADAS OEM customers in the second quarter of 2024 based on our customers' order forecasts. We believe this will lead to an approximate 3x quarter-over-quarter increase in total lidar shipments, or about 150,000 units, in the second quarter of 2024. We expect the third and fourth quarters orders to jump even further, to about 200,000 units per quarter".

That rapid increase in production is expected to mean that Hesai will have shipped a cumulative two million lidar units by the end of 2025, driven largely by the Chinese EV industry—described by Li as being five years ahead of rivals in the US and Europe.

Li also used the latest investor call to say that Hesai was challenging what he called "longstanding misconceptions" that long-range perception exceeding 250 metres is possible only by using lidar with lasers emitting at the longer 1,500-nm wavelength. Hesai's long-range AT512 lidar for ADAS applications, which is set to move into production next year, uses conventional 905-nm emission, and Li claims rivals are now converging on the shorter wavelength.

He says the Moore's law effect enabled by Hesai's investment in mass production is enabling lower-cost production of lidar units, opening up the market to significantly cheaper passenger vehicles than the premium models where the technology has appeared so far.

# General News

## Italy in Car Plant Talks with Chery

GENERAL NEWS


The Italian government wants to attract another major car manufacturer, in addition to Stellantis, and increase the national production of automobiles to 1.3 million vehicles per year, compared to less than 800,000 in 2023.

Italian Industry Minister Adolfo Urso has already revealed that the government wants a second manufacturer to add about 300,000 vehicles to national production.

If the negotiations are successful, Chery will be among the first Chinese car manufacturers to set up production units in Europe, thereby increasing competition with European brands, especially in the electric vehicle segment.

# By 2028, Cars Will Be Built Around Software: VW

GENERAL NEWS


Volkswagen have planned the next stage of their industrial revolution: they will launch their first vehicle designed around software by 2028. This is a process that involves all the manufacturers to some extent, as a natural development of an increasingly massive digitisation that combines advances in connectivity with those on safety and autonomous driving, leading precisely to the conception of cars designed around the digital platform rather than the physical one.

As CEO Oliver Blume said during his speech at last Wednesday's financial results conference, reported by *Automotive News*, by 2028 VW hope to have completed development of the first software-defined vehicle models under the Audi and Volkswagen brands.

This orientation promises to simplify design and development, offer better services, better attract and retain customers who are increasingly attentive to digital services and, last but not least, improve profitability by proposing a new model of economy of scale that, according to surveys, including one carried out by the Accenture company cited by *Automotive News*, will increase turnover in the sector by as much as 40 per cent in the future.

To get there, however, will require another phase of 'tears and blood', because it will be necessary to once again revolutionise the approach to platform design itself, really thinking of the car as a self-propelled smartphone instead of a vehicle.

Volkswagen are working on this together with their Cariad software division, founded a few years ago precisely to accelerate the development of new digital systems and create its own, original, native software platforms, making the company as independent as possible from external suppliers.

However, it does not exclude making this technology available to others within the framework of strategic collaborations and optimisations, as it did for instance with the MEB electric platform shared with Ford for some vehicles.

The group also have streamlined their bureaucratic procedures to make decision-making processes faster, demonstrating that tightening the timeframe is a priority.

# Automotive HUD and Display-Light Quality Design Forum

GENERAL NEWS


On March 9, the GVIC Automotive HUD and New Display Light Quality Design Forum, with IFAL as the main organizer, was successfully held in Shenzhen, with around 150 attendees from the automotive industry.

Yandan Lin, Chairman of IFAL and Professor of Fudan University, delivered the opening speech.

Professor Guo Gang from Chongqing University delivered a speech focusing on "scene-experience-driven", introducing the innovative design ideas of intelligent cockpit and sharing how to optimize the user experience through scientific evaluation technology.

Associate Professor Xie Minzhi from Shanghai University of Science and Technology introduced the impact of graded alarms on autonomous driving takeover in emergency situations. He analyzed the important role of hierarchical alerts in autonomous driving systems from a practical application perspective, and how to effectively take over control of autonomous driving in an emergency.

Associate Professor Chen Chengming from Shanghai Ocean University shared his research on the human factors of in-vehicle HUD (head-up display).

Qu Liang, Intelligent Driving System Development Manager of Shanghai Volkswagen Automobile presented the new interaction mode of intelligent driving vehicles.

A session was dedicated to HUD (head-up displays). Mingxuan Lu, Senior Optical Engineer at Synopsys, presented a detailed analysis of the optical solution for AR HUD. He introduced that in the design stage, the core of AR HUD lies in the precise construction of its optical system, which realizes the perfect integration of virtual images and the real world by optimizing lenses, mirrors and other components.

Le Gang, general manager of Shanghai Fuzhan Intelligent Technology, presented a new method for light quality detection of display products based on hyperspectral technology.

Wang Leilei, R&D Manager, shared Hasco Vision's practical experience in AR HUD-enabled cockpits.

Zhou Minjie, head of DLP application technology of TI (Shanghai), elaborated on the wide application and potential value of DLP technology in smart cars.

Dr. Yu Xin believes the integration of multi-scene optical display is the key to achieving display technology innovation. By integrating the display requirements and technical characteristics in different scenarios, we can develop display products that are more in line with the needs of users.

Dr. Wu Xinmin focused on DLP intelligent pixel headlights, introducing its working principle, technical advantages, and excellent performance in different application scenarios.

Dr. Zhai Jinhui of Diqing Optoelectronics shared the AR HUD solution for smart cars based on DLP technology from the perspective of optical optimization design of AR HUD.

Liu Haipeng, general manager of Elepn, introduced the innovative application in the field of DLP technology to achieve personalized customization and intelligent interaction.

Wang Shenggui, GM of Ahwit, shared the research results of Ahwit Precision Machinery in high-precision optical manufacturing.

DVN Interior General Editor Philippe Aumont was invited to deliver an online speech. Following James Shan’s introduction, Philippe comprehensively introduced the trends of automotive interior including topics about cabin experience, interior design, HMI, Display, Safety, interior lighting, sustainability, and more.

# New CEO for Hertz Rentcar

GENERAL NEWS

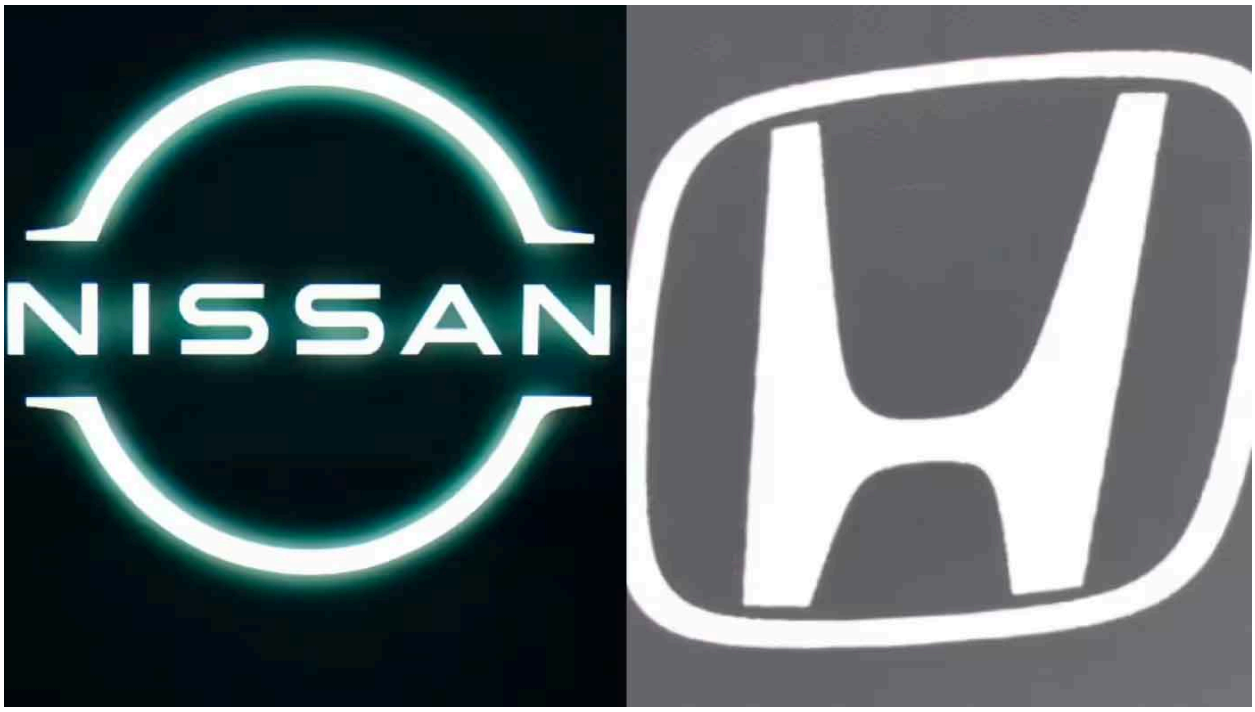

Following an EV dance with Tesla, which got that company's crafty CEO Elon Musk out of a jam, but saddled Hertz with high write-downs, Hertz have installed a new CEO. Stephen Scherr is stepping down and will be replaced on 1 April by Gil West, who until recently was responsible for operations at GM's robotaxi company Cruise.

Hertz announced in mid-January that they would sell 20,000 electric cars in the US over the course of this year, around a third of their global electric fleet. Officially, this measure is intended to “better balance the supply and expected demand for electric vehicles” and enable the company to “eliminate a disproportionate number of lower-margin rentals and reduce the damage costs associated with electric vehicles”. Bloomberg had reported an additional write-down of $245m at the time.

The order for 100,000 Teslas was decided in 2021 before Scherr took over, but he greatly expanded the program and ordered around 175,000 electric cars from General Motors and 65,000 from Polestar.

# Honda, Nissan Join Forces to Take On Chinese EV Rivals

GENERAL NEWS




Honda and Nissan have put aside their rivalry to join forces and work together on electric vehicle technology as Japan's carmakers try to catch up with Chinese companies.

The Japanese manufacturers will work together on technology for EVs, including components and software, after signing a memorandum of understanding. Honda and Nissan, respectively Japan's second- and third-largest carmakers behind Toyota, aim to cut costs by combining resources.

Traditional manufacturers are struggling to compete profitably with upstart rivals as the electric vehicle sector grows rapidly, adding significant development costs. China's BYD and Li Auto have gained market share in a competitive industry, alongside Elon Musk's Tesla. Earlier this year, BYD overtook Tesla as the world's top-selling electric carmaker.

Nissan were an early mover in EVs: their electric Leaf model became the world's first mass-market electric car when it was launched in 2009. Nissan recently concluded production of the second-generation Leaf in Sunderland, UK, with its successor expected to be made there from 2026.

But Nissan have struggled to keep pace with Chinese players able to access cheaper raw materials and labour, as well as greater scale and potential customers.

Honda and Nissan each sell more than 3 million cars globally.