Tue, 7 June 2022
Weekly Newsletter

DVN
Lighting & ADAS

NEWSLETTER #754

Editorial

20-21 June: DVN Lighting Workshop Back After A 9 Month Absence

Nine months have passed without a lighting workshop, after the cancellation of the workshop in Paris early this year. After the difficult time caused by Covid, the travel restrictions making international destinations unreachable, now it is time to have a great workshop. Regrettably, some Chinese would-be attendees are prevented by that country's ongoing lockdowns.

Nevertheless, in less than two weeks' time the DVN Workshop will happen at Rochester, Michigan. We've put together a terrific program with Wolfgang Huhn for the opening remarks, and Michael Flannagan and John Bullough for the keynotes. Then five automakers will present their achievements in safety and design, and five tier-1 suppliers will describe their innovative technologies.

There'll be presentations from Forvia's Michael Kleinkes; Valeo's Brant Potter; Mind's Hossein Nafari; Hyundai Mobis' Hyunsoo Lee, and Marelli AL's Andre Baptista.
Two hours' time will be devoted to regulations—a session steered by Bart Terburg, with lectures by GTB and SAE affiliates followed by a panel session.
Tier-2 suppliers will have their turn, too, with presentations by key innovators including Samsung; Lumileds; Seoul Semiconductor; Texas Instruments; Kyocera SLD Laser; OLEDWorks; AML Systems; Docter Optics; BlueBinaries; SUSS; Ningbo Sunny Automotive Optech; Elmos; Covestro, and Ansys. Indeed, it will be a wonderful program. We look forward to seeing you there!

Sincerely yours

In Depth Lighting Technology

DVN US Workshop Docket

The US DVN Workshop starts in two weeks' time. Here's the docket to look forward to:

Opening: Wolfgang Huhn's vision on lighting
Keynote 1: Michael Flannagan (UMTRI) · Effect of Darkness on Crash Risk
Keynote 2: John Bullough (Mount Sinai) · Potential Impacts of ADB Legalisation on U.S. Pedestrian and Driver Safety

Wolfgang Huhn, Opening speaker and chairman of Automaker lecture session says:

"DVN Workshops are always high-level events with the best speakers and participants of science, industry and authorities. In Rochester we will have presentations and discussions about the consequences of the new ADB rules the NHTSA gave us. An exciting time full of questions and uncertainty. The general theme, safety and design, is a never-old story which

makes the car lighting so fascinating. I am looking forward to this event and, of course, I am looking forward seeing many colleagues and friends I have not seen in person since the Covid disaster".

Session I · Bringing Safety and Design Together (Chair: Wolfgang Huhn)

- "ADB: Science, Technology and Evaluation" (Audi, Michael Hamm)
- "Trends for the Introduction of ADB Technologies in US" (Stellantis, Whilk Gonçalves)
- "MLA Application and Advantages in Headlamps" (Lucid, H. Christoph Eckstein)
- "Doing the Basics Right" (Rivian, Shammika Wickramasinghe)
- "Premium OEM and Lighting, What Are The Stakes" (Volvo Car, Paul-Henri Matha)

Session II · Technologies for Safety and Design (Chair: Luciano Lukacs)

- "Perfect Match: Digital Light and C2X" (Forvia, Michael Kleinkes)
- "Safety and Design, the Perfect Match" (Valeo, Brant Potter)
- "New Technology Trends to Improve Safety and Highlight Brand Identity" (Mind, Hossein Nafari)
- "Mobis Development Direction and Products Lineup" (Hyundai Mobis, Hyunsoo Lee)
- “The Evolution of Signature Lighting: Improving the User Experience with Illuminated Body Panels” (Marelli AL, Andre Baptista)

Session III · Regulations (Chair: Bart Terburg)

- Regulatory Developments in GTB and GRE (Davide Puglisi)
- SAE lighting Committee report (Romeo Samoy)
- ADB: Reaction to NHTSA Final Rule (Mike Larsen)
- Objective Testing for Adaptive systems - GTB VLLTP Taskforce (Thomas Reiners)
- Headlamp Rating System Including ADB (Rainer Neumann)
- Panel session: "Development of Globally Harmonised Technical Requirements for Projection; Signature; Perimeter, and Zone Lighting"

Bart Terburg says:

"The target of this session is to provide an overview of activities in regulatory and standardisation bodies related to new lighting functions such as projection, signature lighting, perimeter and zone lighting. These topics are then further explored in a panel discussion by industry leaders, with a focus on the priority to develop globally harmonised technical requirements".

Session IV · Light Source Innovations (Chair: Gerd Bahnmueller)

- "Next Generation LED Technologies for Front and Rear Lighting" (Samsung, Will Chung)
- "Innovative Light Source Technology" (Lumileds, Dr. Thorsten Anger)

- "Encouraging a New Generation of Slim Headlamps" (Seoul Semiconductor, Mahad Abbasi)
- "Concepts to Simplify Vehicle Integration for DLP Projection" (Texas Instruments, Brandon Seiser)
- "LaserLight: Designing for Safety and Performance" (Kyocera SLD Laser, Cole Cunnien)
- "Improving Safety and Design With OLED Lighting" (OLEDWorks, Michael Boroson)

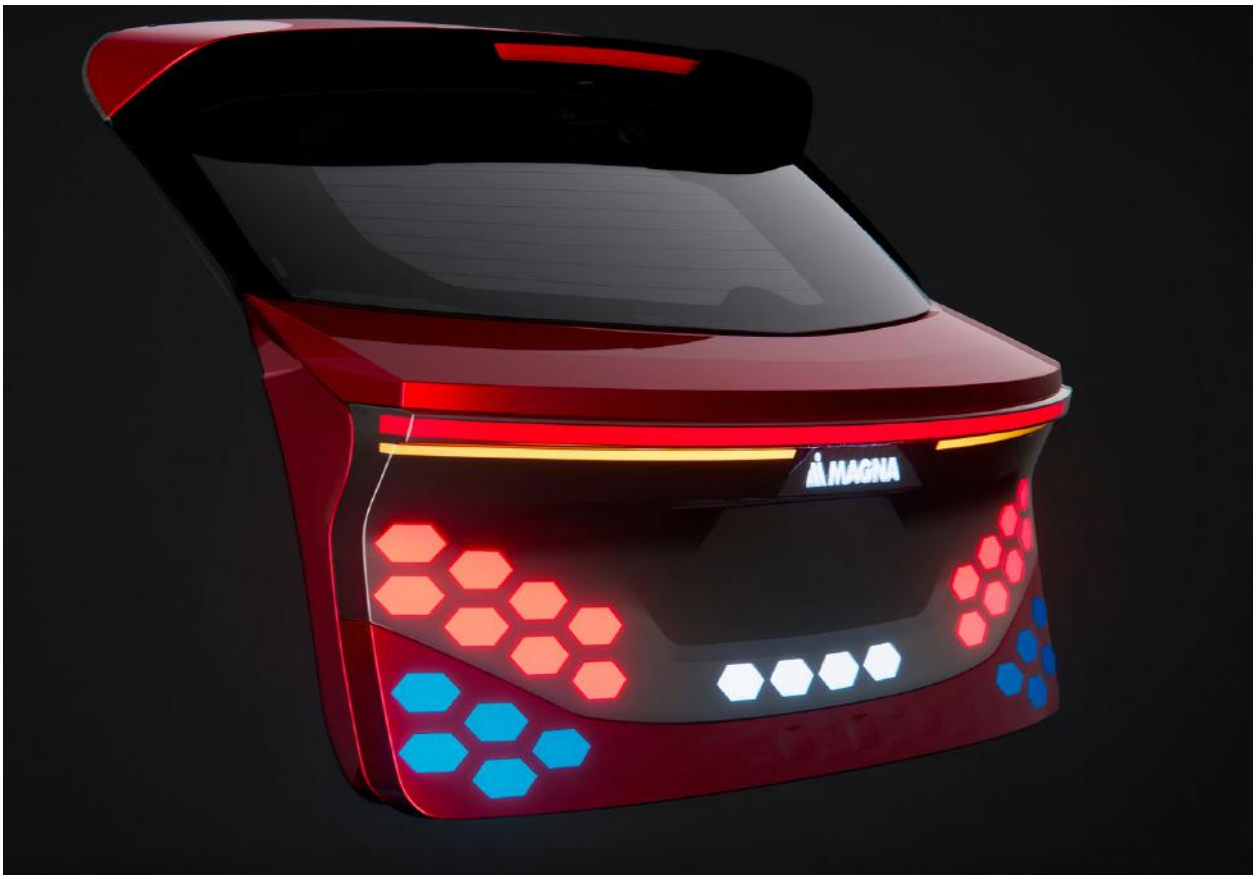
Session V · Technology Enablers (Chair: Michael Hamm)

- "Smart Leveling and Safety Improvement (AML Systems, Hassan Koulouh)
- "Slim Multi Beam Optics for Innovative Matrix Lighting" (Docter Optics, Markus Winkler)
- "High Performing Freeform Collimator" (BlueBinaries, Siraj Varikkodan)
- "How MLA Technology Enables Design and Safety Features" (Suss, Christophe Bremer)
- "Imaging Optics Technology for Intelligent Light" (Ningbo Sunny Automotive Optech, Tani Gu)
- "Safety and Security for Exterior Lighting Semiconductors" (Elmos, Thomas Geistert)
- "Headlamp Miniaturisation & Modularity with Enhanced Heat Management" (Covestro, Jim Lorenzo)
- "Lighting the Way for Headlamp Innovation" (Ansys, Julien Muller)

Lighting News

Latest Magna's Innovation: "Breakthrough Lighting"

LIGHTING NEWS



MAGNA'S BREAKTHROUGH LIGHTING: TURN ANY BODY PANEL INTO A LIGHT SHOW - HDDEN WHEN OFF

Magna last week announced its latest innovation. Its "Breakthrough Lighting" technology allows an automaker to turn the entirety of a vehicle's liftgate into a lighting element.
The company is showing off the technology's capabilities with, what it calls, a "Litgate." The part is an entire vehicle liftgate that has been turned into a lighting element.
"Magna's Breakthrough Lighting enables increased design freedom and features more options for brand differentiation that can elevate our customers' experiences," said Grahame Burrow, Global President of Magna Exteriors. "As the industry builds significant momentum around electrified and autonomous vehicles, we expect more desire for developments like this that are seamlessly integrated into exterior surfaces."

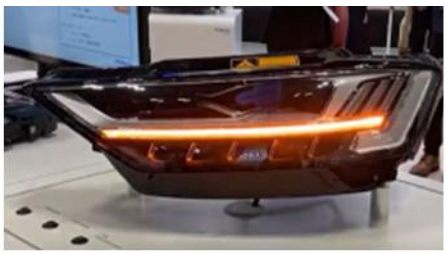
Breakthrough Lighting is hidden in the material until lit, making it look like a normal body panel. That makes it easier (and potentially cheaper) to incorporate lighting into a vehicle's design. Thanks to the use of thermoplastic materials, meanwhile, the lighting panels can be molded into complex shapes, again making them easier to add to a vehicle.
That, predicts Magna, will make it appealing to designers, who are increasingly using lighting elements to distinguish a vehicle's appearance. They are not, however, the only ones the technology could appeal to.

Because of the size of the panels that are possible with Breakthrough Lighting, engineers designing advanced driver assistance and autonomous technologies could find it useful, too. With a large canvas on which to draw with lights of multiple colors, they could use the panels to communicate important safety information to other road users.
Magna expects Breakthrough Lighting to be ready for production in 2023.

Hella, Faurecia Co-Present Technologies

LIGHTING NEWS

Following the successful takeover of Hella by Faurecia, the two companies made their first joint appearance at an automotive trade fair under the new umbrella brand Forvia.
This year's Automotive Engineering Exposition at Yokohama, Japan late last month featured a Forvia expo with technologies for safe, sustainable, advanced, and customised mobility for the first time as part of a joint stand concept.
The stand was designed in the stylistic colours blue and white, which characterise the new brand identity of the Forvia umbrella brand. Around 1,000 customers, business partners, and other guests visited the Forvia stand.



NHTSA Gets a Leader—Finally

LIGHTING NEWS

Steffen Cliff, the former California pollution regulator will run the National Highway Traffic Safety Administration.
NHTSA's mission, which the agency has long been adjudged incompetent to fulfil, is to set and enforce vehicle safety and fuel efficiency standards and manage safety defects and recalls.
The agency has been adrift without a confirmed administrator since Mark Rosekind left at the end of 2016.

Nearly 43,000 people were killed on U.S. roads last year, the highest number in 16 years; this 10% jump over 2020 was the largest percentage increase since the agency began their fatality data collection system in 1975.

Cliff told the Senate Commerce Committee last December that he is "committed to turning [the worsening traffic violence figures] around" and would work to adopt rules urging seat belt use and work to reduce drunk driving. He said the infrastructure law will help by increasing NHTSA's budget by 50 per cent, with money used to boost staffing and improve U.S. data collection to understand where and how crashes happen.

Cliff has been serving as NHTSA's deputy administrator while the agency has undertaken a rewrite of vehicle fuel-economy standards to reduce greenhouse gas emissions, ordered automakers to report crashes involving automated driving systems, opened an investigation into Tesla's crash-prone "Autopilot" system, and released a problematic and thoughtless ADB specification that will likely keep effective ADB off American roads.

Nevertheless, he brings an extensive scientific and regulatory background to his leadership role at NHTSA. Most recently, he served as the deputy executive officer at the California Air

Resources Board, an organization he first joined in 2008 as an air pollution specialist. Since then, he held a variety of positions at CARB, eventually overseeing its climate program. From 2014 to 2016, Cliff joined the California Department of Transportation as the assistant director for sustainability. He returned to CARB in 2016 when then-Governor Jerry Brown of California appointed him senior advisor to CARB's board chair.

Mitsubishi Xpander Gets New Lights

LIGHTING NEWS

Mitsubishi have given their Xpander crossover a refresh, with heavy attention paid to the lighting system. The Xpander, mainly sold in Southeast Asia, Latin America, Africa, and the Middle East, was Mitsubishi's № 4-selling model globally in 2018 and '19.

The new model includes a modern front lighting system, with LED DRLs in a dart-shaped array just ahead of the leading edge of the hood, and reflector LED low and high beam headlamps replacing the pre-facelift model's more complicated and expensive ice cube optics and projectors. The turn signal is provided by an incandescent bulb below the headlamp reflectors, with all three elements behind a common cover lens.

Deltoid-shaped rear light clusters feature a thick LED rear position light dashing downward-inward and zagging inboard across both lamp clusters on each side.

ZKW Pick Up Three Awards

LIGHTING NEWS

ZKW have received three notable awards recently. Their "Black Box", a fully automatic robot station, accelerates and simplifies the processing and quality inspection of headlamp lenses; it won an Excellence in Business-to-Business (Machines & Engineering) award. A ZKW site in Slovakia received the Customer Care and Aftersales On-Time Shipping Award from General Motors. And ZKW China received Geely's Outstanding Contribution Award for outstanding performance as a supplier for the market launch of the new Geely Xingyue L SUV. The particular challenge of the project was the advanced start of production of the vehicle. ZKW Dalian developed, manufactured, and delivered the LED headlamps right on schedule.

Leoni to Sell Off Cable Unit

LIGHTING NEWS

German wiring system manufacturer Leoni are selling their automotive standard and special cables business to their competitor Stark, a Thailand-based wire and cable supplier. The sale does not include Leoni's wiring systems business, which makes cable harnesses and includes two factories whose production has been disrupted by Russia's war on Ukraine.

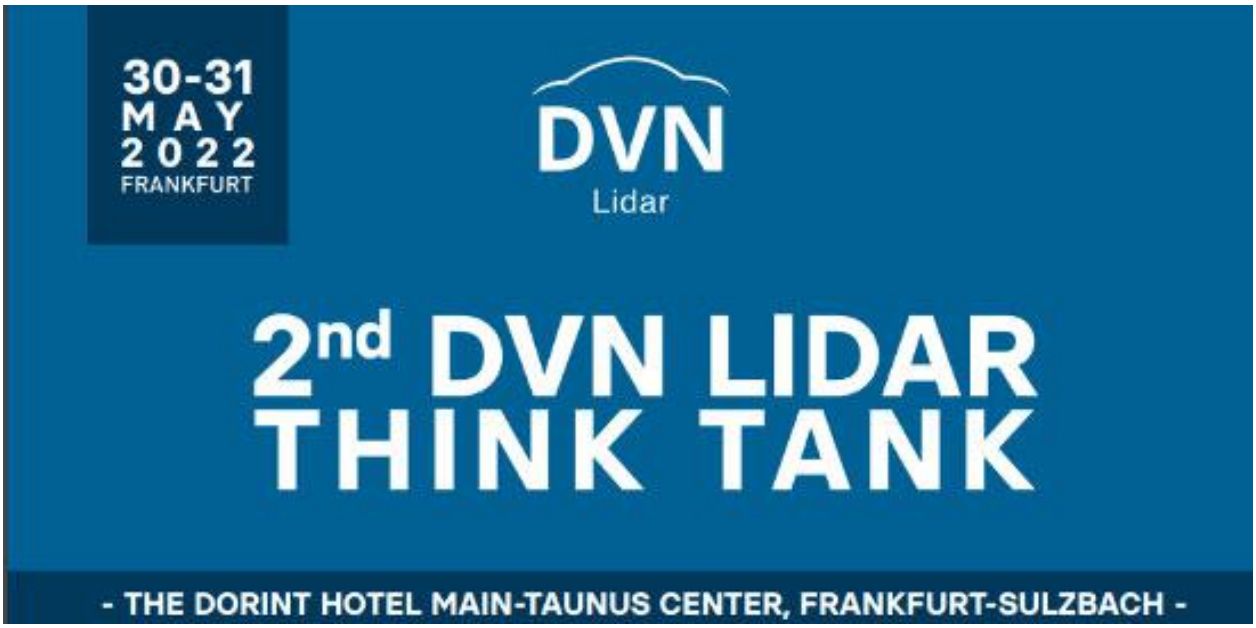
Leoni CEO Aldo Kamper (photo) says the move is to "strengthen our balance sheet; support the ongoing talks regarding our refinancing, and drive forward our well-known strategic focusing on the wiring systems business".

The cables business unit has a global production network of 10 locations in seven countries, and about 3,300 employees. Leoni have been hit hard by the war on Ukraine: in the first quarter, sales dropped by seven per cent year over year to €1.26bn. The business sale comes as Leoni are trying to raise about $53 million on the capital market, though plans to sell the wire and cable division have been in the works since 2019.

Driver Assistance News

DVN Lidar Seminar: A Great Success

DRIVER ASSISTANCE NEWS



After the success of the first DVN Think Tank Seminar three months ago, DVN organised a second one to reinforce the lidar community.40 companies involved in lidar, of which 15 automakers including Stellantis, Ford, Hyundai; Great Wall, participated live or online.

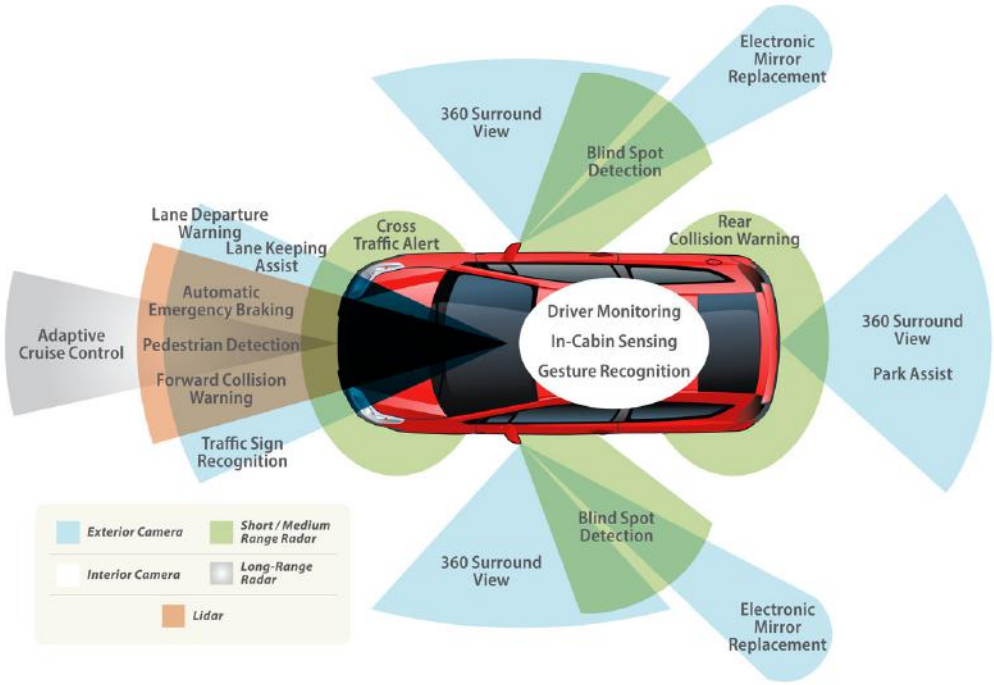
Three lectures opened the seminar: Professor Ling Ming from Shanghai University of Engineering Science described progress in China's vehicle lidar standards; Dr. A. Zlocki from Aachen University spoke on lidar testing and evaluation initiative, and GreatWall's Li Pu spoke about automaker perspective on lidar.

Next came breakout working groups with three topics of interest:
• WG1: Automotive lidar industry standardisation and testing
• WG2: Regulation of automotive lidar: opportunity or threat?
• WG3: How to make the best lidar newsletter?

To conclude this seminar, Leo Metzemaekers and Ralf Schaefer described upcoming events relevant to the lidar community: a lidar Workshop this September in Wiesbaden, Germany, and the lidar Conference this November—also in Wiesbaden.

Smarter Interface to React Faster

DRIVER ASSISTANCE NEWS



In the automotive industry, features such as ADAS are more important than ever, making vehicles safer and improving the driving experience. Yet they also create new requirements that are increasing complexity and making product development more expensive and time-consuming.

Automakers are facing pressure to include the latest capabilities while containing costs; minimising power consumption, and ensuring electronic systems are reliable, safe, and secure for the life of the vehicle. Meeting these expectations requires new approaches to in-car connectivity, especially the physical-layer interfaces that link sensors and displays to their associated electronic control units.

In 2021, research firm Canalys estimated that about 33 per cent of new vehicles sold in major markets have ADAS features. They also predicted that half of all cars on the road in 2030 will be so equipped. High-grade ADAS platforms can use upwards of 12 cameras along with radar, lidar, and ultrasonic sensors, for safety capabilities such as 360° visibility, lane keeping assistance, traffic sign recognition, and automatic emergency braking. Many vehicles also have driver and occupant monitoring systems. Autonomous vehicles are equipped with even more sensors, and the requirements for resolution and performance are steadily increasing.

A standardised approach to sensor and display connectivity can help manufacturers meet these requirements. It can eliminate expensive, time-consuming integration and testing of proprietary solutions, which can delay the introduction of new features. Interoperability based on standard interfaces also allows more new suppliers and innovators to enter the market, giving automakers more options.

Panasonic's Big HUD in Nissan Ariya

DRIVER ASSISTANCE NEWS

The large-screen WS HUD (Windshield Head-Up Display) developed by Panasonic Automotive equips the new Nissan Ariya crossover—the sixth Nissan model to use it, following the Skyline, Rogue, Qashqai, Pathfinder, and Infiniti QX60.

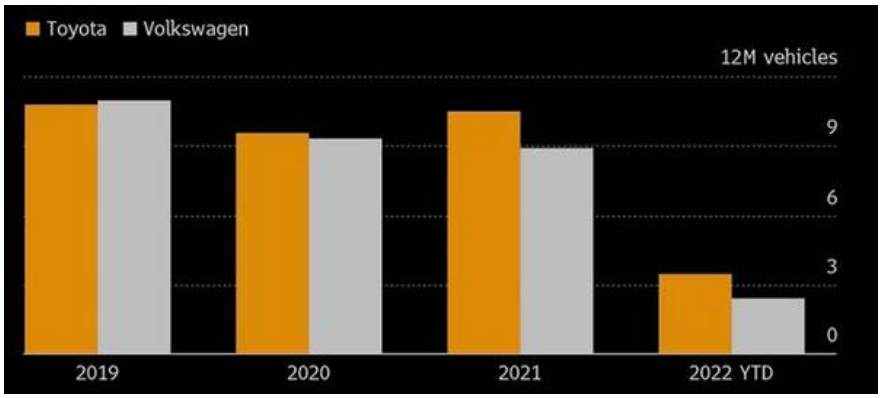
The WS HUD presents vehicle speed: navigation instructions, and ProPILOT 2.0 driver assist information in the driver's line of sight by projecting it on the windshield. Since the display is projected near the centre of the driver's field of view, it reduces the driver's burden by reducing eye movements, and enhances the smooth interaction between driver and system.

General News

Toyota Edge Out VW for Top Sales Slot

GENERAL NEWS

Toyota are on track to keep their crown as the world's № 1 automaker by sales for the third year in a row, having outsold Volkswagen Group by more than a million units through April.



While both makers' Chinese operations have been hobbled by that country's Covid lockdowns, Toyota have been weathering the storm a bit more effectively; they have said their worldwide deliveries slipped 5.8 per cent in the first four months, while VW Group sales dropped by 26 per cent.

Bentley, DS, Tesla, Hyundai, and Kia all had double-digit sales percentage increases in April, in a European market down by 20 per cent. All in all, 24 brands made gains during the month, including Honda, and Dacia, according to figures from market researcher Dataforce.

Tesla was up 20 per cent, helped by strong demand for their Model Y—now Europe's second-best selling EV.