



Editorial

Just Days Left To Register For DVN Lidar Conference!

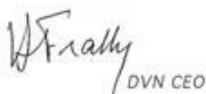
Almost two years after the DVN workshop in Munich, DVN will come back to the 100 per cent live event in Europe with our fourth DVN Lidar Conference, to be held on 15-16 November at the Dorint hotel in Frankfurt. Registration is still [open](#), but it will close soon; registrations are capped at 200 attendees for safety reasons, so reserve your place right away if you haven't yet done so. Our intent is an event to equal the networking opportunities brought to the lidar community during our smash-hit 2018 and 2019 Lidar Conferences.

We've got a strong docket full of excellent speakers. The conference will start by a keynote of Mostafa Taie, Autonomous Driving System Team Leader at ZF Automotive with the title "*The importance of Lidars in L2-L3 Automated Driving Systems - Vehicle level systems engineering perspective*" followed by sessions 1 and 2 on automotive lidar applications with lectures from Ford, Volvo, Daimler (tbc), Marelli-AL, ZKW, Koito, and Fraunhofer ILT. The first day will end with session 3 on the lidar market and ecosystem which features lectures from Leddartech, VSI Labs, Yole, and Carhs Training.

The second day will start with a keynote speech by Clement Nouvel, Lidar Technical Product line Director at Valeo. The title of his speech is: "*Standardization: the key to LiDAR adoption*". After that in sessions 4 and 5, talks by executives and experts from Cepton, Xenomatix, Ibeo, Blickfeld, Continental, Aeye, Lumentum, and Liangdao will follow. The final sessions 6 and 7 will be dedicated to technology enablers presented by Auer Lighting, Canatu, KSLD, AMS Osram, Dioptic, Fraunhofer IMS, Trioptic and 3M. We will close with a panel discussion with experts and executives brought together to discuss a challenging theme provided and moderated by DVN.

The Covid pandemic is not over, of course, only vaccinated or Covid recovered attendees will be admitted, and all safety precautions and provisions will be in place as a matter of top priority. We look forward to welcoming you at an inspiring, exciting, lively, and safe conference in Frankfurt!

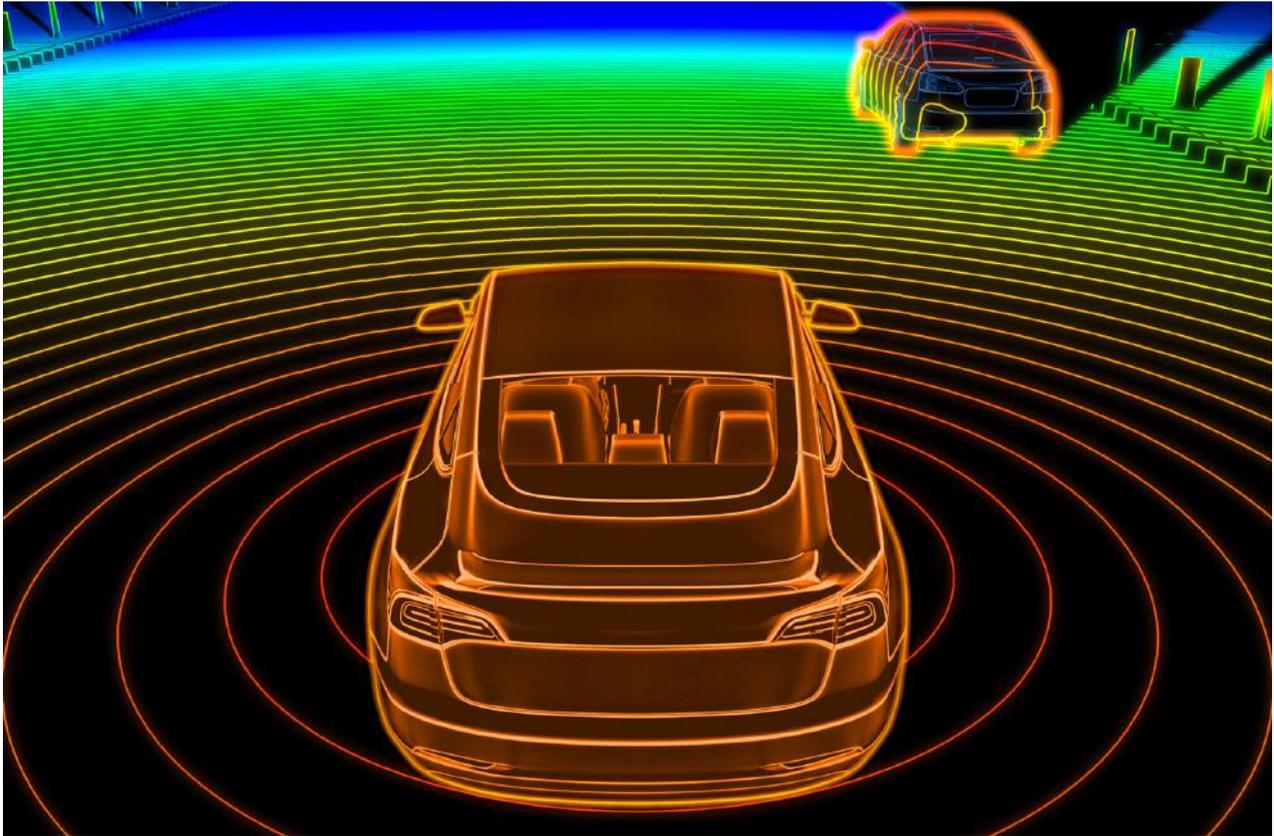
Sincerely yours,



W. Frally
DVN CEO

In Depth Lighting Technology

Target and Expectations of 2021 DVN Automotive Lidar Conference



The DVN community clearly expressed its wish to interact again in the most direct way—we all want to get back to normal. This is also the intention of our conference, but at the same time all the Covid pandemic is not over. Of course, we are all looking forward to meet each other in person again, but on the other hand participants need to be safe and this has the highest priority.

Last month, we received information, based on the directives provided by the German Government, that if we assure that all conference participants are vaccinated and/or are recovered from Covid 19, we are allowed to organise our conference without additional restrictions such as masks and distancing.

We thought hard and carefully about whether to restrict access and check participants' vaccination/recovery status and decided to plan our conference for vaccinated or recovered participants only. Thus, we can allow personal contact in a safe environment. We will organise this conference as a live event only, not as a virtual or hybrid one. We ask your understanding and support of our approach.

We registered a record number of 23 exhibitors and sponsors as you can see in the graphic. The maximum of two hundred allowed attendees has posed a limit to the number of participants for the event.

15-16
NOV.
2021

FRANKFURT

DrivingVisionNews.com
Automotive lighting, driver assistance and smart interior

DVN AUTOMOTIVE LIDAR CONFERENCE & EXPO

“APPLICATIONS, SYSTEMS, TECHNOLOGY ENABLERS,
MARKET & ECOSYSTEM ”

THE DORINT HOTEL MAIN-TAUNUS CENTER, FRANKFURT-SULZBACH

- 4TH DVN CONFERENCE & EXHIBITION ON AUTOMOTIVE LIDAR -

EXHIBITORS



Additionally, we observe two important trends evolving for this conference:

- Existing as well as new stakeholders out of the LiDAR Eco-System are bringing in their vision about the future of LiDAR in the automotive environment. Therefore, DVN has organized a specific session related to “Market & Ecosystem” involving speakers expressing their view on the LiDAR ecosystem, expected market developments, but especially also the link to NCAP and Active Safety research.
- Tier2 technology suppliers are covering a significant space of the conference docket with their contributions to make automotive LiDAR commercially and from the “real life” application feasible. Advances in components, testing and manufacturing technologies as well as solutions to environmental challenges like dirt, fog, snow and frost are under discussion.

DVN will give follow-up to this European based conference by considering its extension to North America and Asia. Furthermore, the foundation of a LiDAR Community like the existing DVN Lighting Community is another viable opportunity to promote use of Automotive LiDAR further.

DVN Automotive Lidar Conferences: More and More Success

In 2017, DVN saw quite some similarities and potential synergies between the automotive lidar and the automotive lighting industry. Therefore, the DVN team started serious investigations of the lidar industry, which resulted in following activities:

- The regular DVN newsletter gave more attention to news from the lidar ecosystem.
- A study was launched and published in 2019 with the title “Automotive LiDAR: Hype or Must Have”.
- A series of yearly conferences was started in 2018 and is this year continued with its 4th edition.

20
NOV.
2018
FRANKFURT

DVN CONFERENCE ON LIDAR

“SYNERGIES OF LIDAR AND AUTOMOTIVE LIGHTING”

- THE DORINT HOTEL MAIN-TAUNUS CENTER, FRANKFURT-SULZBACH -

The first DVN Lidar conference in 2018 increased and expanded reciprocal knowledge of lidar and lighting technologies and techniques and brought together the lidar and lighting worlds to get to know one another much better. This first conference featured 11 exhibitors (see in the graphic) and brought together about 80 attendees.



At the end of the conference, DVN was proud of the lidar and lighting community members now talking with and listening to one another, most of them having not met before the conference, even those who work in the lidar and lighting departments of the same company.

02-03
DEC.
2019
FRANKFURT

DrivingVisionNews.com
Automotive lighting and driver assistance technologies

2nd DVN CONFERENCE AUTOMOTIVE LIDAR

“APPLICATIONS, INTEGRATION, TESTING AND RELEASE”

- THE DORINT HOTEL MAIN-TAUNUS CENTER, FRANKFURT-SULZBACH -

The second DVN Lidar Conference in 2019, took place again at the Dorint Hotel in Frankfurt. An enormous diversity of companies attended and contributed to the event, automakers, tier-1 and -2 suppliers of lidar and lighting systems and components, materials, and equipment, and researchers from various institutes. Attendees came from Europe, North America, Japan, Korea, and China, reflecting global interest in lidar for use in roadgoing vehicles. All in all, over a hundred companies and institutions were represented—that's almost twice the number of 2018. Every last seat in the conference room was taken by the more than 200 attendees.



In the extended expo booth area, 14 exhibitors presented their products and services.



The conference closed with two discussion panels kicking around the questions of how fast automotive lidar will be adopted, and whether lidar will impact vehicle lighting. On both questions there is not yet a consensus within the automotive lidar and lighting industries. Looking with a helicopter view on the event, the quality of presentations and speakers, the highly interested audience as well as the lively discussions and networking during breaks, cocktails, and dinner encouraged DVN to plan a third conference with a similar format in 2020. Unfortunately, this plan was disturbed by the Corona pandemic.



The third DVN Lidar Conference in 2020 was an online conference. At DVN, we observed the developments and tendencies around the pandemic very carefully. The team prepared the 2020 conference in the beginning still as a “live” conference with a back-up plan to switch to virtual. At the end of the summer period, it became obvious, that the probability of a “live” event diminished more and more. Therefore, DVN started full steam with setting up of a virtual conference. One of the challenges was the organization of the exhibition. At in-person workshops, the kind we all got accustomed to over many years, exhibitions represent a great part of the workshop; attendees physically visit the booths, talk with exhibitors presenting their products, and leave with a lot of information to be used in later meetings. That was not safe right in the middle of a pandemic, so DVN has devised virtual booths to provide almost the same opportunities. Virtual booth visitors can chat with suppliers and customers while getting two additional benefits:

- The virtual booth offered easily-accessible video and photo galleries, downloadable brochures, and key company contacts.
- Every virtual booth was visible for a full week after the day of the event—for attendees and also by the greater DVN audience—thousands of Lighting and ADAS professionals.



In total, 13 virtual expo booths were available for visits by the public.

Another challenge was the organization of the presentation part of the conference. Session introductions by the chairpersons as well as speaker talks all had to be pre-recorded and combined to a consistent conference schedule. In this context, special attention had to be given to the execution of the Q&A sessions which took place as a “live” chat even in view of the considerable time differences between North America, Asia and Europe.

Under the given circumstances and constraints, DVN was happy with the organization and outcome of its 3rd conference. Nevertheless, all of us at DVN are really looking forward to meet again face to face and fortunately the current pandemic situation allows our **Forth DVN Lidar Conference in 2021** as a “live event” in Frankfurt.

Lighting News

Motherson, Marelli JV Build New Toolroom

LIGHTING NEWS



MARELLI AUTOMOTIVE LIGHTING CEO SYLVAIN DUBOIS

Motherson have extended their cooperation with Marelli Automotive Lighting for a new toolroom in India. This will be the first of its kind dedicated to lighting applications. It's to be an extension of the existing company Marelli Motherson Automotive Lighting India, a 50/50 JV established in 2008 to address the Indian exterior lighting market, now with four plants in India.

The new toolroom will localise lighting tools for the domestic market, enhancing local capabilities. With the additional capabilities in tooling, Motherson's manufacturing and existing tooling competence combined with the technical know-how of Marelli will result in highly precise vehicle lighting products, made in India. The new facility will be based in Noida, in the Delhi Region, and is slated to begin production in the second quarter of FY23.

Marelli Automotive Lighting CEO Sylvain Dubois (photo) says "We are glad to make available to the JV the Marelli Automotive Lighting competences for high precision and high aesthetical tools, that will be transferred with a strong attention to the local team, for a flawless launch from the first tool manufactured. Enabling excellence and quality aimed at customers will be the mission also of the new tool room and further opportunities will arise from the synergies with the other three tool rooms in other regions."

Hella Double Shanghai Plant Capacity

LIGHTING NEWS



Hella have doubled the production capacity at their Shanghai location. A new building was added to the electronics plant located there, and the existing space was fundamentally remodelled.

With a total building area of around 50,000m², this is now the largest electronics plant in the global Hella network. The investment volume of the overall measures is in the high double-digit-millions-of-Euros range. Hella currently employ around 1,600 people at the Shanghai site, which is also home to an R&D centre. Within the next three years, the workforce there is slated to comprise up to 2,200 employees.

The plant makes products that fit in Hella's entire range and are sold to local Chinese as well as global automakers; over 40 million electronic components are manufactured there each year. Series production of 77-GHz sensors for a Chinese car manufacturer is expected to start in the new building at the end of November; in a next step, the production of voltage converters and components for steering electronics will be initiated on highly automated production lines.

Valeo Keep Head Well Above Choppy Waters

LIGHTING NEWS



Valeo's sales are up 15 per cent over the first nine months of 2021, with third-quarter sales of around €4bn, down 10 per cent.

Aftermarket sales grew 26 per cent over the first nine months and are up 18 per cent in the third quarter. And automotive production is up 11 per cent over the first nine months, despite an 18 per cent contraction in the third quarter

In a market made turbulent by Covid-19 and the chip shortage, those numbers say Valeo have done well—and they're aiming to carry right on. Assuming global automotive production of 71 million vehicles, Valeo's objectives include continued outperformance; a tighter 2021 EBITDA margin of more than 13 per cent, and free cashflow of between €330m and €550m. Valeo Siemens eAutomotive's sales are expected to come out at around €750m, representing a year-on-year increase of 45 per cent, with growth slower than initially projected in the second half due to the semiconductor shortage.

Suss Win Swiss Manufacturing Award

LIGHTING NEWS



Süss MicroOptics won a Swiss Manufacturing Award in recognition of their outstanding contribution to the microtechnology industry. The Institute of Technology Management at the University of St. Gallen honors companies who choose Switzerland as a manufacturing location with this prestigious award.

Süss CEO Reinhard Voelkel says "I am extremely excited about having won this award. It is an outstanding recognition of the whole team at Süss MicroOptics which has worked very hard over many years. Süss MicroTec have made significant investments to develop new and upgraded production capacity and set up a new manufacturing site in Neuchâtel, including cleanroom space which quadruples overall production capacity. In addition, the existing high-volume manufacturing of innovative optics for vehicle lighting will be significantly increased with the ramp-up of a new product line by the end of this year.

Expertise in high-quality refractive and diffractive micro optics has made Süss a key supplier for innovative photonic solutions in vehicle lighting applications. They make microstructural components and highly specialised optics such as microlens arrays. They employ 142 people at their homebase in Neuchâtel, and are a wholly-owned subsidiary of Süss MicroTec SE, a leading supplier of equipment and process solutions for microstructuring in the semiconductor industry and related markets.

Driver Assistance News

GM Announce ADAS Ultra Cruise Door-to-Door

DRIVER ASSISTANCE NEWS

The infographic features a dark blue background with a glowing blue particle effect. On the left, the GM logo is in the top left corner, followed by the text 'ULTRA CRUISE' in large white letters. Below this is a stylized illustration of a car's interior dashboard and steering wheel, with a speedometer showing '12'. To the right of the illustration, there are three key statistics: '95% OF DRIVING SCENARIOS' (with a small note '& public paved roads in U.S.'), 'MORE SENSORS' (with a small note 'than SUPER CRUISE'), and '2 MILLION ROADS' (with a small note 'In the U.S. & Canada, with a total of 3.4 million miles covered over time'). At the bottom, there are three columns of bullet points. The first column lists 'Ultra Cruise Dynamic Display (Shown above)', 'Full 360-degree perception', and 'Sensor Fusion of cameras, radar & lidar'. The second column lists 'Developed by Israel, U.S., Canada & Ireland', 'Launching in 2023', and 'The goal is to cover every public paved road in U.S. & Canada'. The third column lists 'Level 2 Advanced Driver Assistance System (ADAS)' and 'Powered by a 5-nanometer scalable architecture'. A small '© GENERAL MOTORS' logo is in the bottom right corner.

- Ultra Cruise Dynamic Display (Shown above)
- Full 360-degree perception
- Sensor Fusion of cameras, radar & lidar
- Developed by Israel, U.S., Canada & Ireland
- Launching in 2023
- The goal is to cover every public paved road in U.S. & Canada
- Level 2 Advanced Driver Assistance System (ADAS)
- Powered by a 5-nanometer scalable architecture

Ultra Cruise, the next generation of GM's hands-off driving assistant system, is expected to appear first on Cadillac models in 2023. With radar, cameras, and lidar, GM say it will eventually enable hands-free operation in 95 per cent of driving scenarios on paved public roads. When launched next year, the system is expected to cover more than 2 million miles of roads.

GM say their system was developed entirely in-house, via collaborating teams based in Israel, the United States, Canada and Ireland. Ultra Cruise will be able to add functionality over time through over the air updates (OTA) and has added significant capabilities to Super Cruise, including residential aisle parking; reaction to permanent traffic control systems; following internal shipping routes; support for avoidance of near objects; automatic and on-demand lane changes, and left and right turns.

The system's sensor suite will take advantage of a combination of cameras and radars, with an integrated lidar module behind the windshield to provide a 360° statistical 3D representation of the environment surrounding the vehicle with redundancies in the vehicles' critical areas. This approach is in line with the broad consensus on what is required for reasonable, realistic levels of safety; only Tesla are taking a cameras-only approach (notoriously cocksure Tesla CEO Elon Musk has said lidar "is for losers").

Building on the HMI currently used in Super Cruise, the illuminated steering wheel and driver attention camera system will carry over to Ultra Cruise, a Level 2 automated driving system (which means the human driver still needs to be vigilant).

Opsys Demonstrate Low-Cost Lidar

DRIVER ASSISTANCE NEWS



Israel-based Opsys Tech say they've developed a new category of lidar for autonomous vehicles, a fully solid-state design called Scanning Microflash Lidar (SML). According to Opsys, SML integrates the solid-state advantages of flash lidar with the range and resolution of mechanical scanning or oscillating MEMs), all in a single sensor. Using recently-scaled VCSEL smartphone technology, Opsys will soon be offering high-performance solid-state lidar units for less than USD \$200 per module.

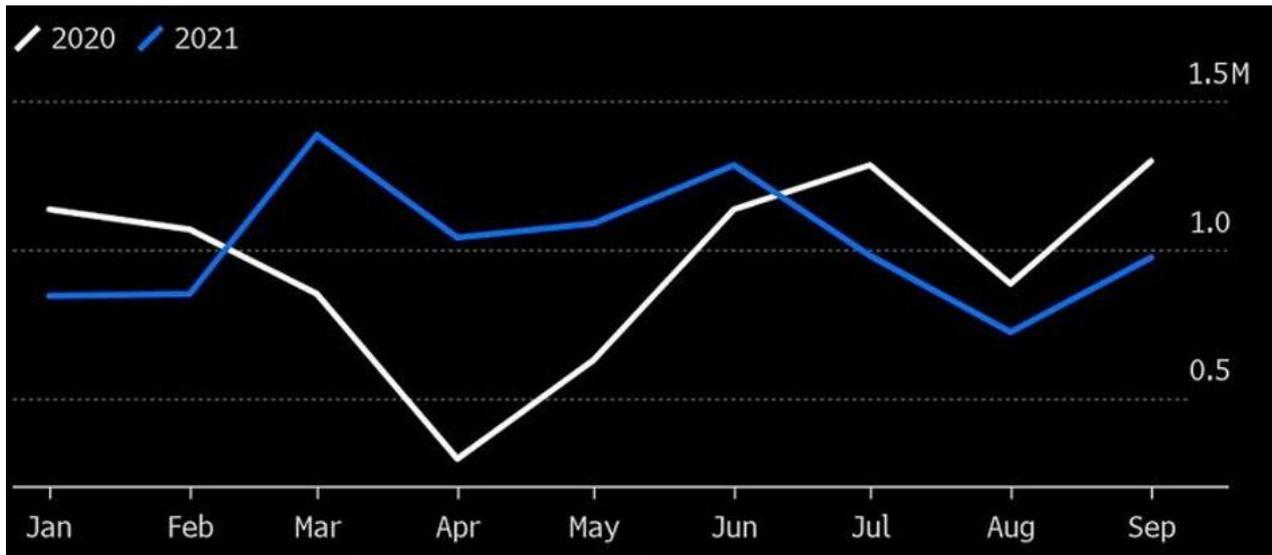
Only lidar produces its own light while providing depth-mapped resolutions, leaving cost as the only real downside to lidar, even as more and more flash-based solid-state options are coming onstream. Existing Extensive integration and recently scaled smartphone technology led Opsys to devise the new lidar, for which they assert four times the range of flash lidar (> 200 metres) and favourable FOV ($0.1^\circ \times 0.1^\circ$) and scan rates of 300,000 dots/second. Opsys also say their SGLs are 30 times faster than mechanical scanning or oscillating-mirror lidars.

The Opsys units will operate at both 905 and 940 nm, using both wavelengths in a patented SPAD configuration with a very narrow band filter to avoid interference between adjacent lidar modules. Opsys say they are working with tier-1 suppliers and automakers.

General News

Europe Sales Fall on Chip Supply Crisis

GENERAL NEWS



EUROPE CAR SALES (EAMA CHART)

European passenger car registrations slumped 25 per cent in September as the microchip shortage squeezed the supply of vehicles to dealerships. Sales of new cars were 972,000 in the European Union, UK, and EFTA markets—the lowest for the month since 1995. Industry group ACEA attribute the decline to the semiconductor shortage, which has led to production stoppages at car factories.

After three consecutive declines, sales in Europe have fallen in more months than they have risen this year. Market researchers now expect sales to be down this year after optimism in early 2021 when ACEA predicted growth of about 10 per cent.

"We currently forecast that this year will not eclipse the desperately weak 2020 result," LMC Automotive said in a report. "Our assumption is that sourcing issues will be with us throughout next year and continue to undermine the connection between positive underlying demand drivers and new-vehicle sales."

All major European markets recorded double-digit declines in September, with sales in UK down 35 per cent, Italy shrinking 33 per cent, Germany down 26 per cent, and France down 21 per cent. Sales at Volkswagen Group and Stellantis, Europe's № 1 and 2 automakers, respectively, fell by 30 per cent. Renault Group registrations fell by 24 per cent.

Lack of chips Continues to Drag Auto Industry Down

GENERAL NEWS



The shortage of semiconductor components is having a broad impact on the production figures of the car industry.

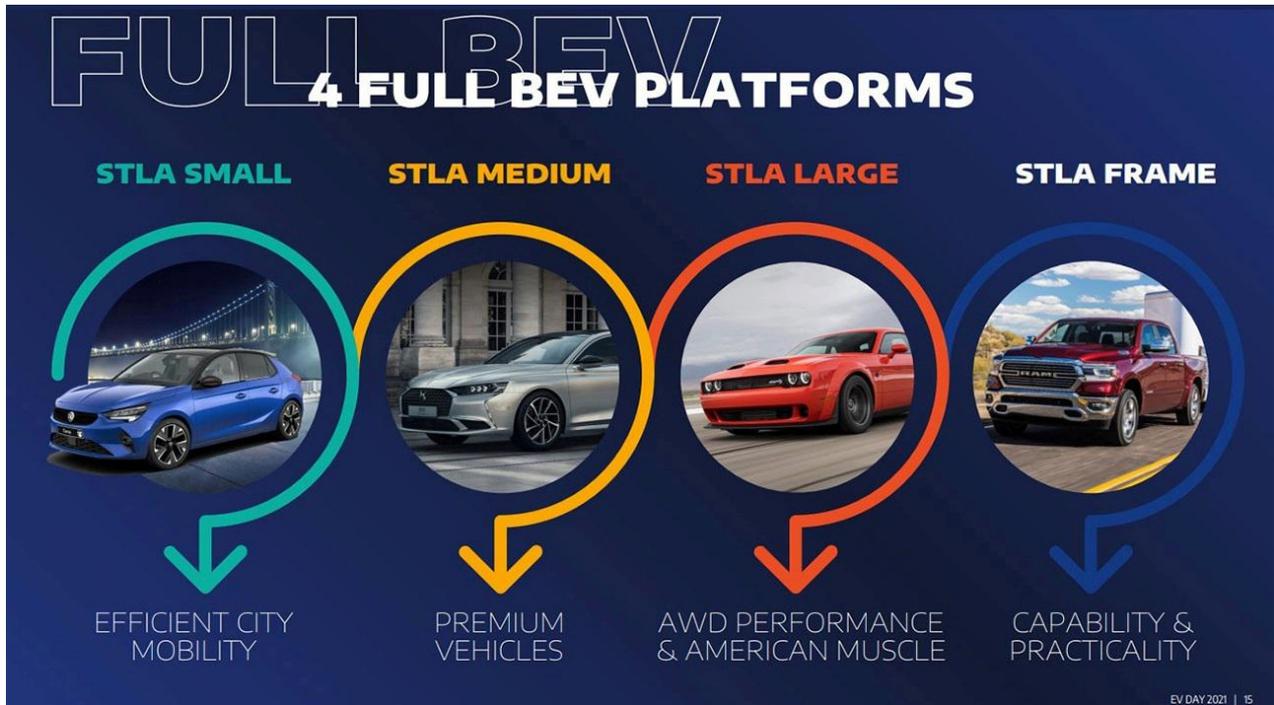
The volume brands of the Volkswagen Group were particularly hard hit. Production in terms of units slumped by 26 per cent compared to the same period of the previous year. Because the chips for the vehicles' electronic systems could not be delivered, the companies had to temporarily store many unfinished vehicles. The same applies to battery cells and other raw and auxiliary materials that were delivered but could not be installed.

Volkswagen don't expect any improvement in the near future; they anticipate capacity bottlenecks for semiconductors to continue into next year. The spectre of job cuts is already circulating; there is talk of 30,000 jobs at stake at Volkswagen.

The chip crisis has also left its mark on the quarterly figures published at the same time by Stellantis: around 600,000 vehicles could not be built because not enough semiconductors were delivered.

Stellantis' Four EV Platforms

GENERAL NEWS



Stellantis' four new electric platforms are each expected to underpin the production of up to two million vehicles a year. The automaker will invest over €30bn through 2025 on electrifying their vehicle range. As part of this plan the maker announced the new platforms.

"The four platforms are designed with a high level of flexibility and parts sharing, to create scale economies," Stellantis' Italy Chief Santo Ficili said. "In this way, each platform will be able to support the production of up to two million units every year."

Stellantis are aiming for more than 70 per cent of their sales in Europe to come from low-emissions vehicles by 2030 and aim to make the total cost of owning an EV equal to that of a combustion-powered model by 2026.

Volvo Cars: Publicly Trading on Stock Exchange

GENERAL NEWS



Last week, Volvo cars officially opened their first day of trading on the stock exchange in Stockholm, Sweden. To celebrate this momentous occasion, CEO Håkan Samuelsson was joined by members of the board and executive management team, Eric Li and Daniel Li from Geely Holding via video link, as well as Ibrahim Baylan, Sweden's minister for business, industry and innovation.

"As a listed company we can welcome new global investors to our exciting future and we are glad for the strong support we have from Nordic and international cornerstone and anchor investors," said Samuelsson. "This marks a momentous day in the future of Volvo Cars as the company diversifies and broadens its ownership base by offering investors the opportunity to buy shares in the company. Volvo cars can build on its recent success and uses the money raised through the IPO to accelerate its transformation strategy towards full electrification, direct customer relationships and the next level of safety. "