

Tue, 9 January 2024
Weekly Newsletter



NEWSLETTER #837

PixCell LED

Ultimate precision in perfect alignment

100+ individual cells with just 25 µm spacing, perfectly matrixed onto a single LED chip for intelligent headlamps



Editorial

2023 Still In The Mirror

Here we are in the first days of 2024. Car makers and lighting suppliers are announcing a big slate of innovations and developments to be unveiled during CES—lots of press releases so far, and soon we'll see the actual innovations. Our DVN team will be there at the show, taking notes and pictures. Among many other things, we are looking forward to discovering the new Atala lighting brand from Oledsworks, which has just been revealed (and which justified a slight delay for this newsletter).

So, let's have one more glance in the mirror, at 2023.

I took time to talk with ZKW about their new Starz United direct imaging technology—a single module providing low beam and high beam without need of a separate light for the foreground. Size is clearly reduced compared to previous pixel versions; so, it'll be great for short-overhang vehicle design and BEVs.

You'll also find in this week's DVNewsletter our final batch of Daniel Stern's pics and observations from the Los Angeles auto show.

We are starting our 2024 marathon in Las Vegas right now, as you read this, with Daniel Stern and Philippe Aumont. Me, I am replacing Wolfgang who cannot attend. Feel free to contact me, Daniel, or Philippe if you are there.

We'll bring you a summary in the next DVNewsletter on the 16th. Leave your computer behind and enjoy the show; DVN will do your CES summary work for you! It's just one of the many services we provide you, the DVN member community.

Take care,

Paul-Henri Matha

DVN Chief Operating Officer and Lighting General Editor

A handwritten signature in blue ink, appearing to read 'pammum'.

In Depth Lighting Technology

Overview + Interview: ZKW's Boehm Talks Starz United



By Paul-Henri Matha, DVN COO and Lighting General Editor

ZKW's presentation at the Shanghai DVN Workshop centred on their new matrix and pixel technology, Starz United. The presentation was done by ZKW Dalian system engineer Song Hongrui.



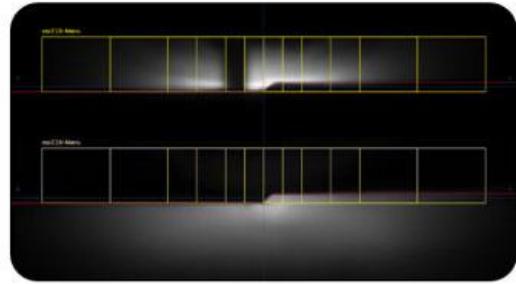
The goal of this module is to offer a very compact solution, all in one, with high performance and affordable cost.

In the current ZKW module portfolio, and more generally in all vehicles currently in the field, a single-module approach is possible for BiLED (low /high beam) or BiMatrix (low beam + S-Matrix ADB, maximum 16 segments) systems.

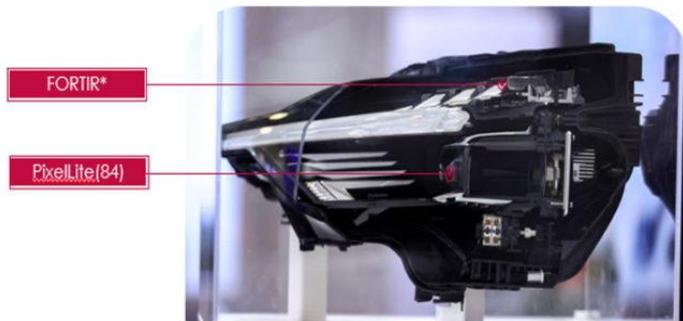


Facts:

- Optical lens size: ~40x70
- LB: **without** DBL
- HB: ADB ≤ 16 segments



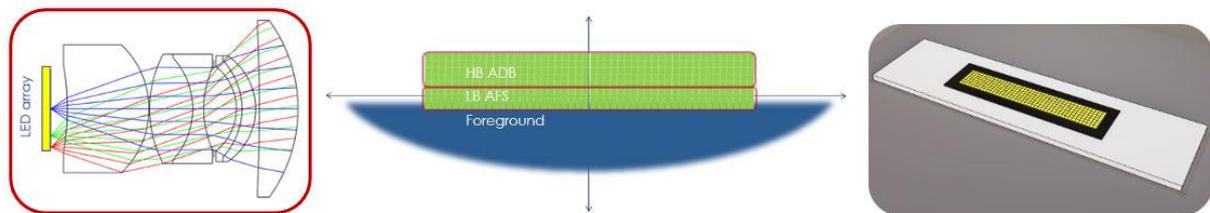
The hardware configuration for an 84-pixel system has always involved two modules; an additional module was needed to provide the foreground width and fill light for the low beam.



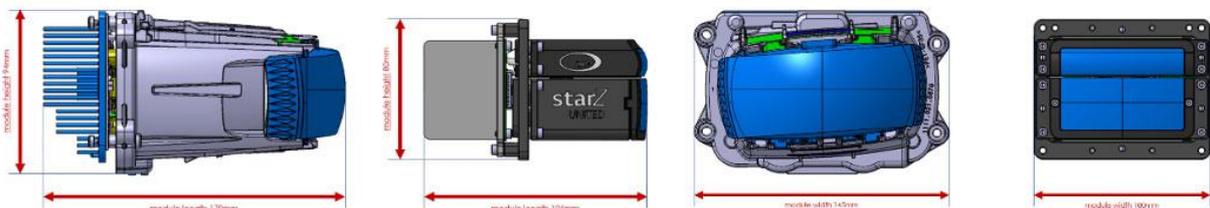
PIXELLITE 84 SETUP ON POLESTAR 2

The new Star United technology involves direct-imaging, and brings an impressive set of specifications and capabilities:

- Pixel count scalable from 30 to 3,000 (in partnership with Seoul Semiconductors)
- High Beam field of view: max 6° height, I_{max} 87,500 cd
- Low beam field of view: 38°
- Low beam bending: 8° with 1.5° resolution
- Lens size: 50 or 70 mm wide; 45 mm high



This is a very compact solution. Depth is 126 mm, down from the 170 mm of the Pixellite 84 as installed in the Polestar 2, Volvo XC40, and Opel Astra. Width is down, too, from 145 to 100 mm. The upper area of the module is dedicated to the near field of low beam, while the lower part is dedicated to the direct-imaged LED matrix.



After the Shanghai DVN Workshop, I discussed the technical concept with ZKW Austria's general sales and technology relationship manager for advanced technology, Gerald Boehm:

DVN: What can you tell us about homogeneity? That's been a challenge for direct-imaged LED headlamps.

Boehm: The homogeneity of a direct imaging system can be influenced in various ways. A well-designed microstructure in combination with a wisely-chosen sharpness of the imaging system as well as the ray characteristics of the emitter are parameters that influence the homogeneity of the system and need to be carefully adapted to the needs of the customer.

In general the field of tension spans between high homogeneity at blurry single pixels and sharper single pixels that clearly show a 'garden fence' effect. Both at the same time is extremely demanding, which is why a clear and early communication with the customer has to elaborate a good working point within this field.

DVN: Can the same module meet both the US and rest-of-world regulations? More to the point, can you design a lamp compliant with US-ADB and rest-of-world ECE ADB with the same hardware, and just adapt with software? What kind of pixel count is required?

Boehm: The development of the module strives for a maximum of functionality at a balanced size and cost. Thus, worldwide applicability and especially US ADB are one of the keys focuses for this module. It faces the same challenges regarding US ADB as any other module. While successors of current modules have to build on existing platforms, the development of a totally new module opens the freedom to fulfil certain requirements in a different way independent of former platforms. For ADB and AFS functionality a minimum of two rows of pixels seems reasonable. Combined with a meaningful high-beam field of view, a total number of 48 pixel seems to be a good starting point for the development. Further progress on the sector of light-sources and driver logic certainly promises for higher pixel counts in the future.

Lighting News

Synopsys in Advanced Talks to Acquire Software Maker Ansys

LIGHTING NEWS



According to Bloomberg, Synopsys Inc. is in advanced talks to acquire engineering software provider Ansys Inc. for about \$35 billion.

Synopsys is discussing paying about \$400 a share for Ansys, in a deal that could be announced as soon as next week, according to the people, who asked to not be identified because the details aren't public. A final agreement hasn't been reached and talks could still fall through, or the terms could change, the people added.

A spokesperson for Synopsys declined to comment. A representative for Ansys didn't immediately respond to a request for comment.

A takeover of Ansys would be one of the largest transactions globally of the past 12 months and provide an early boost for dealmakers in 2024 as they seek to move on from a lacklustre period of mergers and acquisitions activity.

Ansys, founded in 1970, makes simulation software used by engineers to predict how products from rockets to airplanes will work in the real world. Engineers use its structural analysis software before a project to cut manufacturing costs, reduce risk and bring products to market faster, according to its website. Its software is used by companies in the aerospace, automotive and industrial industries.

Synopsys, with a market value of about \$75 billion, provides design technologies for creating circuits and chips used in the electronics market.

Based in Sunnyvale, California, Synopsys is one of a few major companies that make software used to design semiconductors, competing primarily with Cadence Design Systems Inc. In August, the firm completed a purchase of PikeTec GmbH, a closely held German software company that focused on autonomous driving, in deal valued at \$200 million.

Synopsys generated \$5.84 billion in sales in the fiscal year ending Oct. 31 and analysts project a 13% revenue jump in fiscal year 2024.

The timing and value of the potential deal was reported earlier by the Wall Street Journal.

OLEDWorks' New Car Lighting Brand: Atala

LIGHTING NEWS



OLEDWorks' new vehicle lighting brand Atala has been unveiled at CES. It stands for advanced technology for automotive lighting applications, and features a range of qualified OLED lighting products tailored for tier-1 suppliers and automakers.

OLEDWorks say their Atala products are made possible by the unique combination of technical expertise, American entrepreneurship, and German precision engineering, coming together to form the most technically advanced digital OLED lighting technology engineered specifically for the automotive industry.

Atala OLED light is highly customisable and creates outstanding custom brand differentiating displays, dynamic symbols, and animated 3D effects that are crisp, clear, and elegant. OLEDWorks say their Atala technology offers lifetime, reliability, and energy-efficiency comparable to LED solutions; custom design within the panel itself, allowing for personalised shape, size, and segmentation; and high-contrast segmentation for superior communication capabilities.

The Atala products are designed for performance, backed by rigorous technology research and stringent reliability testing. Designed to last the lifetime of a vehicle, Atala OLED technology has successfully undergone extensive automotive reliability tests meeting AEC-Q-102 standards for high heat, humidity, shock, and vibration.

The redesigned Audi A8 features Atala OLED as standard and offers four unique lighting signatures. Atala technology currently on the road features ECE + SAE-certified deep red-light colour and 2,000 cd/m² brightness, achieved through its best-in-class multi-stack OLED technology.

Ongoing development promises a greater number of individually-addressable segments within the panel design, for even better display-like capabilities. Panels have been demonstrated with over 600 segments, enabling greater communication and branding options for automakers.

Another significant milestone for Atala will be the commercialisation of flexible OLED lighting that can curve with the contours of the vehicle. Flexible OLED rear lighting will allow for additional design considerations and enhance visibility from all angles, contributing to enhanced communication and road safety.

Additionally, Atala OLEDs are in development for higher brightness and additional colour options including amber and white. Once on the market, they'll be usable in turn and stop light applications, as well as CHMSLs and DRLs.

CES 2024 Innovation Award for Plastic Omnium Dynamic Interior Dashboard Projection System

LIGHTING NEWS



For the second consecutive year, Plastic Omnium wins an Innovation Award at CES 2024 in the "In Vehicle Entertainment" category for its dynamic interior dashboard projection system. This award represents the international recognition of the innovative strength that drives Plastic Omnium.

Laurent Favre, Plastic Omnium's Chief Executive Officer, says: "We are proud and delighted to have once again been honoured at CES 2024, the most influential tech event in the world! With our dynamic interior dashboard projection system, Plastic Omnium addresses key automotive industry trends in design and digital personalization".

Plastic Omnium's dynamic projection system illuminates the entire dashboard with colors and patterns to match the mood chosen by the driver. Already integrated into the interior of the new MINI Cooper Electric, it creates an immersive driving experience including lights, animations and projections.



More precisely, this module is composed by several microlens arrays (MLA), integrating different patterns. The light beam is generated by RGB LEDs (R-red, G-green and B-blue. Thanks to the combination of these three colors, all other colors are possible), and is then sent to the microlenses, which project the desired patterns onto the dashboard. It can be installed behind a central HMI (display) at dashboard level or elsewhere in the interior. This module is the first to market interior projection, demonstrating Plastic Omnium's technological leadership in automotive lighting and infotainment.

CES 2024 Innovation Award Honoree for Marelli Red LASER & Optical Fiber Rear Lamp

LIGHTING NEWS



Marelli was named a CES 2024 Innovation Award Honoree for its Red LASER & Optical Fiber Rear Lamp. Marelli is the first lighting manufacturer to develop and bring to market red LASER technology paired with rear lighting functionality. To produce the lamp, Marelli coupled a red LASER diode with optical sidelight fibers within the LASER. The result is a very thin illuminated line, that gives OEMs the flexibility to create equally unique and stylish brand signatures.

Marelli developed this technology for a German luxury vehicle manufacturer with very specific requirements – to achieve a unique night-time appearance using thin suspended light guides no more than 1 mm in diameter. State-of-the-art light guides could not be used, as they are about 6 mm in diameter, made of plastic, heavier than optical fibers, and not aesthetically suitable for the application. Optical fibers offer more design flexibility in that they can achieve different shapes and curves using light - and guarantee homogeneity - which can't be achieved with a larger plastic light guide. The decorative fibers occupy very little space while giving the appearance of multiple illuminated lines. The fibers can be considered a standard component that can be reused with different design and position options 360 degrees around the car.

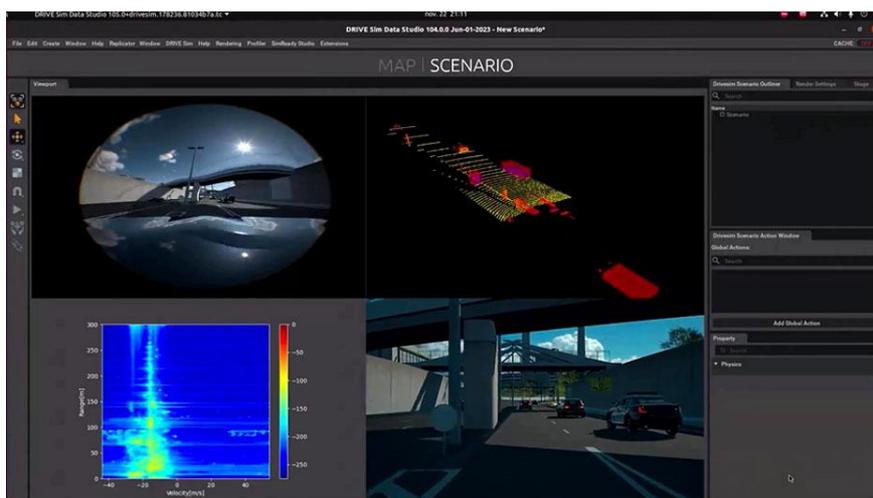
The LASER and optical fiber combination is truly unique in that it supports styling flexibility while also being sustainable, due to its power efficiency and reduced weight. To achieve the same illumination and homogeneity with LEDs as the light source, the power consumption would be three times higher. LASER technology also enables a “speckle effect” along the fibers, resulting in a distinguishing appearance never before seen in a rear lamp.

Ansys Accelerates AV Development with Nvidia Omniverse

LIGHTING NEWS



Ansys say their AVxcelerate Sensors will be accessible within Nvidia Drive Sim, a scenario-based AV simulator powered by Nvidia Omniverse, a platform for developing universal scene description (OpenUSD) applications for industrial digitalisation. The integration will provide users access to high-fidelity sensor simulation outputs for training and validating ADAS-AV perception systems.



AV sensors and software must be extensively tested and validated in real-world driving scenarios, including critical edge cases, to safely navigate roadways. The scale of this challenge is too large for physical on-road testing alone, which would require billions of kilometres. The future of AVs depends on highly realistic, scalable simulations to test and validate AV sensor and software performance in a controlled virtual environment.

The combined strengths of Nvidia and Ansys narrow the gap between reality and simulation. Ansys AVxcelerate Sensors will augment Nvidia Drive Sim's high-fidelity, scalable 3D environments for scenario generation with Ansys' predictively accurate physics solvers for camera, lidar, and radar sensors. This way, Nvidia Drive Sim users will be able to develop, train, test, and validate the performance of AV perception systems while saving time and cost.

Yanfeng, TactoTek Partner for Advanced Interior Lighting

LIGHTING NEWS



Automotive supplier Yanfeng and 'smart surface' experts TactoTek will collaboratively develop highly integrated HMI solutions for automotive interior applications. The goal of their partnership is to combine advanced lighting, user interfaces, and decorative trim with a deeply integrated product approach to enable design flexibility.

Yanfeng have decided to augment their 'Smart Cabin' activities with TactoTek's Injection Molded Structural Electronics (IMSE) technology. The goal is to enhance the overall user experience by offering advanced lighting features and introducing new functional elements like haptic feedback and display integration. Yanfeng says this will allow them to align with emerging automotive industry trends, including autonomous driving, and address non-driving related tasks.

The companies hope to create, together, a unique in-vehicle user experience by accelerating seamless lighting integration into all surfaces. The IMSE technology offers a fresh unique design and styling principles for slim, compact configurations and unconventional shapes.

Yanfeng CTO Patrick Nebout says, "The partnership with TactoTek is a great addition to support our global technology portfolio for future 'Smart Cabin' applications and is designed for long-term engagement. Together, we can offer innovative and integrated lighting solutions tailored to our customers' needs in the automotive industry. By combining our expertise, we can accelerate design and development activities, providing advantages for our customers along the entire value chain".

DBM reflex, GM & Magna International Lighting win SPE award for Uniformly Lit Animated Tail Lamps

LIGHTING NEWS



In collaboration with General Motors & Magna International Lighting, DBM Reflex's custom built optics for the 2024 GMC Sierra & Chevrolet Silverado 's Tail Lamps, has resulted us being nominated as a finalist for the Society of Plastics Engineers (#SPE) Innovation award! DBM is honored to have been selected for this title and proud to contribute to these beautiful, uniformly lit, animated tail lamps.

With DBM's TEXILIT™, an optical surface technology, they have contributed again in the evolution of light uniformity !

Bright Lights, Big City: Los Angeles Auto Show Part III

LIGHTING NEWS



Here's the next and last batch of eye-catching lighting we examined on the cars at Automobility LA 2023, the Los Angeles auto show. At DVN, we have an equal-opportunity lighting passion; we point our cameras at even the most minor of lights, if they're interesting in some way, and whether they're on a sexy car or a utility van. That said, let's start with something sexy: our first in-person look at the lights on the Cadillac Lyriq. It's got an artful stack of ice cubes for the headlights, with a vertical light line (DRL/position light, maybe turn signal) outboard and a tastefully hidden horizontal light line (turn signal, we guess) as an eyebrow above. The side marker is around the corner. Dig those classy pinstripes on the grilleboard!



Round the back, the vertical-and-horizontal-lines theme continues. There are cool flying-buttress lights at the top of the quarter panels, a red assembly at the bottom-aft of the quarter panels, reflectors and reversing lamps at the bottom of the bumper fascia, and a nifty CHMSL tucked just after the spoiler at the top of the hatch glass.

Sliding along the Sloan Ladder from Cadillac to Chevrolet, here's the Trax, and we'll start with the taillights: a big, bold, bisected unit with a reversing lamp tucked in the negative space of the red stop-turn-tail clamshell.



The headlamp hews to the popular trend of DRL eyebrows just below the hoodline, with a high/low-beam projector and turn signal down aflank of the grille.

This Ford Explorer has the horizontal-oblong LED headlight optics long a Ford landmark, but they're icecube-clear now. There's a slimline DRL lightguide at the top of the lamp, and the turn signal is above the inboard high beam headlamp.



Here's the big, blocky taillight on that same Explorer: a smooth, evenly-lit red ear surrounding the reversing lamp and the turn signal (bulb type, but at least it's amber).

Look at the taillight on this electric Ford F-150 Lightning. We took a lot of pictures of it, because it's a fascinating lamp; its red lens looks almost opaque when it's unlit. It lights up in a foggy red effect with ghostly bright-red concentrations of bright light seeming to come from deep within—neat!



Smooth, smooth, smooth. There's no need for a discrete side marker light; the whole lamp is a great big one as viewed from the side. The side retro-reflector is tidily integrated into the outer lens, as shown here.

The rear retro-reflector is likewise integral to the outer lens. Photos really don't do justice to this lamp; it must be seen in person. The clear-lens vertical array here just at the inboard edge of the photo appears to be a rear cornering lamp...



...which we see lit in conjunction with big, bright, rear-facing reversing lamps on the tailgate, in the middle of the full-width red light band. Pickup trucks are often used in situations where bright, broad illumination can really be a help while reversing.

It looks to us as though these taillights have a bigger lit area from the side than from the rear!

Fascinating stuff to see in the electric F-150's front lights, too. There's a great big outer figure-7 at this end, too, and it looks homogeneously white whether unlit or lit. That turn signal separating the upper and lower LED projectors...



...also serves as the DRL, making the whole thing a figure-F (for Ford?).

Here we see the side marker light, looking outward from the inboard wall of the lamp; the side retro-reflector is neatly tucked just aft of the crook in the outer 7-shaped chunk of light. Here we've caught that figure-7 in the middle of its scanning or scrolling on/off cycle, used to control the perceived brightness—a strategy that might bring along its own set of issues, as described in the [keynote](#) at the US DVN Workshop '23.

The F-150 is a seemingly perpetual cash machine for Ford in the North American market; it's been the best-selling model in the United States for a bunch of years. So, there are many different submodels. Here's the Raptor, which has another set of Ford's unusually well-blacked-out-when-off reflector LED headlamps.

The Raptor has identification lamps, the trio of amber (front) and red (rear) marker lights centred about the vehicle's longitudinal middle, required along with outboard clearance lights in North America on vehicles over 2,032 mm wide. Often the identification and clearance lights are drab, utilitarian items, but Ford have come up with elegant new ones that look like light encased in ice. Here's a close look at the Raptor's left front clearance light.



The Raptor's rear lighting is big, blocky, and bold, with a stylised figure-F theme to the all-red rear lighting system. We see a blind spot radar cover made of opaque red plastic outboard of the reversing lamp. The flag-shaped brake/turn light compartment, shown here lit up, has a colourless appearance when unlit. We also see the red version of that light-encased-in-ice clearance light.



And here's the F-150 Tremor, with yet another different lightstyle. It has amber horizontal turn-park-daytime running lights continuing the gold bar on the grille, and dividing the upper and lower headlamps. The headlamps are another spiffy extra-super-blackout job; whatever magic Ford do to make that work...it works!



Here's the newest in Ford Mustang taillights: continuing the model-iconic triple-bar design, now with a heavily convex horizontal crease. This design shift recalls the taillight refresh for 1967, when horizontally-concave lamps replaced the 1966 horizontally-convex ones. In this latest design, the light seems to come from deep within the lamp.



Another triple-treatment up front, for the headlamps and the DRL/position/(turn signal?) lamps alike.



Driver Assistance News

Continental, Aurora plan self-driving truck launch

DRIVER ASSISTANCE NEWS



Continental and Aurora Innovation have finalized the design and architecture of an autonomous truck for launch at the end of the year.

The Aurora Driver is a Level 4 autonomous driving system that Continental plans to start production in 2027 for a self-driving truck. The finalized hardware design comes less than a year after the companies entered an industry-first partnership aimed at high-volume manufacturing of autonomous trucking systems.

Introducing new hardware to the market is complex and time-intensive, often taking years from initial design to the start of production. Aurora teamed up with Continental to jointly develop reliable, serviceable, cost-efficient autonomous hardware kits for mass production.

- SPAC deal moves self-driving technology closer
- Continental, Infineon team for vehicle Zone Control
- Kodiak Robotics to use Ambarella AI Domain Controller

The partnership gives Aurora a path to deploy autonomous self-driving trucks at scale after its initial driverless launch planned for the end of 2024. The future Aurora Driver will be designed to work for one million miles using Continental's automotive development and manufacturing expertise.

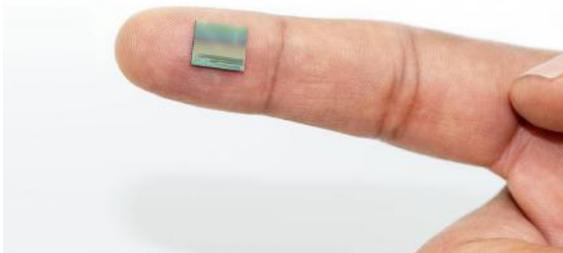
Continental will show its latest technologies, including its self-driving truck work with Aurora, at CES 2024 in the US next week.

Aeva Win Supply Contract for FMCW Lidar Replacing ToF

DRIVER ASSISTANCE NEWS



Aeva, the California-based FMCW lidar specialist supplier, say a major automaker have signed on to replace their existing time-of-flight lidar with Aeva FMCW lidar. The supplier say the deal will start to deliver revenues soon, with a production ramp expected by 'mid-decade'.



Aeva's chip-scale FMCW lidar

In a statement, Aeva said that as far as they know, "the production win represents one of the largest automotive series production awards in its class; the selection positions Aeva to become a trusted direct tier-1 supplier" to the world's automakers.

CEO and cofounder Soroush Salehian calls the supply agreement "a defining moment for Aeva and the larger automated driving industry, as it represents one of the largest production design wins with an OEM transitioning to FMCW technology...this is the culmination of multiple years of diligent effort by the Aeva team and extensive collaboration and qualification of our 4D lidar in the automotive industry". Salehian added that more about the program will be revealed in the near future.

At CES, Aeva will highlight their Aeries II FMCW lidar, and show off their technology in action on board an autonomous transit vehicle developed by Michigan-based May Mobility.

Valeo and Applied Intuition Partner to Provide Digital Twin Technology for ADAS Simulation

DRIVER ASSISTANCE NEWS



Valeo and Applied Intuition's platform will provide OEMs with a digital twin database representing locations all around the world, offering an extensive and diverse set of scenarios and environments for ADAS perception testing and validation. Using the digital twins in Applied Intuition's sensor simulation product, Spectral, OEMs can create more accurate simulations than using traditional simulation methods. This allows OEMs to ensure the safety, performance, and reliability of critical algorithms and to develop production-ready ADAS perception systems more rapidly.

The digital twin platform focuses on simulating Valeo's SCALATM 3 LiDAR and expands to other Valeo sensors for software-in-the-loop (SIL) and hardware-in-the-loop (HIL) testing.

"Valeo has always been at the forefront of automotive innovation," said Clement Nouvel, CTO of Valeo LiDAR. "Our partnership with Applied Intuition exemplifies our commitment to pushing the boundaries of what is possible and how fast autonomous driving features can be brought to end-customers while improving safety. Together, we aim to redefine the future of LiDAR perception through digital twin technology."

The partnership between Valeo and Applied Intuition marks a significant milestone in the automotive industry's journey toward safer, more efficient, and more intelligent mobility solutions. The two companies will continue to innovate and build state-of-the-art technology that enables faster, safer, and more reliable transport.

Valeo & Teledyne FLIR: Agreement for Thermal Imaging

DRIVER ASSISTANCE NEWS



Valeo and Teledyne FLIR, part of Teledyne Technologies have started a strategic collaboration to bring thermal imaging technology to the automotive industry to enhance the safety of road users.

Together, the team already secured a major contract in late 2023 from a leading global automotive OEM to deliver their new thermal imaging cameras as part of a new generation of ADAS to improve vehicle and road safety.

Valeo and Teledyne FLIR will deliver the first Automotive Safety Integrity Level (ASIL) B thermal imaging technology for night vision ADAS. This system will complement Valeo's large range of sensors and rely on Valeo's ADAS software stack to support functions such as automatic emergency braking (AEB) at night for passenger and commercial vehicles as well as for autonomous cars. The collaboration brings together Valeo with Teledyne FLIR, the world leader in thermal imaging technology, to create the next generation of multispectral sensor fusion systems for automotive safety.

Valeo will leverage its extensive expertise in automotive vision systems to integrate Teledyne FLIR thermal vision technology and supply the OEM with a complete solution for night vision, including perception software based on Valeo's AI and Graphical Visualization stack.

"Valeo has the most extensive portfolio of perception solutions on the market and we are looking forward to working with Teledyne FLIR to add thermal imaging to our offer," said Marc Vrecko, president of Valeo comfort and driving assistance. "This new camera and its perception software will complement our offer and improve the overall performance of ADAS and autonomous vehicles systems to bring even more safety to road users, especially at night."

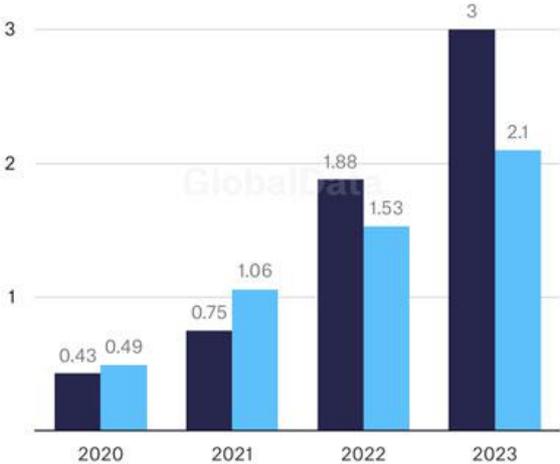
General News

BYD Hits New High in '23

GENERAL NEWS



Annual sales numbers for BYD in recent years show a quite stunning rise in volume. Strong growth in China’s domestic market and well-received models at attractive prices have been key factors in the company’s growth over the past two years. In China, BYD and Tesla have been in a price war. BYD hit 3 million units in 2023 (December saw sales of 341,000 units, a 45-per-cent increase on a year earlier) after 1.88 million units in 2022.



Sales of BYD and Tesla in million

BYD now lead the market in China, and also are gaining traction in export markets. Europe is next with a European manufacturing strategy evolving, as [previously reported in DVN](#).

Arcfox Alpha T5 is Officially Launched

GENERAL NEWS



China's BAIC have released their new Arcfox Alpha T5. It has a narrow grille slot high up on the front of the car, connected to arrow-and-dart themed headlamps. LED high and low beams and DRLs are standard, of course, with automatic headlights, while higher-trim models will also be equipped with adaptive beams. The LED taillights have a blacked-out, full-width design. The car is claimed to have a 660-km range, and prices range from C¥155,800 to C¥199,800 (USD \$21,800 to \$28,000).



Dongfeng Nammi 01 EV launched

GENERAL NEWS



On January 7, Dongfeng launched its Nammi 01 EV with a price range of 74,800 – 104,800 yuan (10,400 – 14,600 USD). Nammi is a new energy vehicle brand under Dongfeng that focuses on compact electric vehicles.

The 01 is Nammi's first model, built on the Dongfeng Quantum Architecture S3 platform. Positioned as a compact EV, the Dongfeng Nammi 01 measures 4030/1810/1570 mm, with a 2660 mm wheelbase. It can seat 5 people as the standard layout.



At first glance, the Dongfeng Nammi 01 looks round. The front face adopts a closed grille design, coupled with triangular headlights on both sides. Other notable elements include the hidden door handles, frameless doors, a suspended roof design, and round taillights. Headlamps are executed with a Biled module for low beam high beam, and we can still see bulbs on the rear for rear fog and reversing lamp.

At the same time, level 2 advanced driving assistance functionalities are not absent, including blind spot monitoring, autonomous parking, remote parking, forward collision warning, lane keeping assist, traffic sign recognition, and adaptive cruise control.

Power comes from a front-mounted permanent magnet synchronous motor that outputs 70 kW and 160 Nm. The vehicle has a top speed of 140 km/h.

Furthermore, its 31.45 kWh and 42.3 kWh lithium iron phosphate battery packs provide corresponding CLTC cruising ranges of 330 km and 430 km, respectively.