DrivingVisionNews.com
Automotive lighting and driver assistance technologies

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Editorial

Shanghai DVN Workshop: Many Automaker Lectures

The 22nd DVN Workshop will take place on 19-20 April in Shanghai. For the first time this year, it's a hybrid event with two ways of attending.
Those living in China and able to travel to the Marriott Shanghai ParkView hotel can attend the face-to-face event. This means listening to the speakers, asking questions, talking with colleagues from automakers, suppliers, regulators, and universities, and visiting real exhibition booths—all live and in person.
Those who can't travel to the event can attend the workshop online with live Q&A sessions and a participatory panel discussion. Everyone can get all the lecture and Q&A videos on-demand, for convenient viewing anywhere in the world, no matter what time zone.

25 lectures will be presented by speakers from Audi, BMW, FAW VW, GM, Stellantis, Shanghai VW, and Volvo; Ansys, Autolin, Everlight, Hasco Vision, Hyundai Mobis, Johnson Electric, Marelli AL, Lumileds, Mind Optoelectronics, NXP, Osram, Texas Instruments, Valeo, and Varroc. Regulators Xie Dongming, Bu WeiLi, He Yuntang, Wang Wei, and Zhu Caiping will share their perspectives, and former Audi lighting director Wolfgang Huhn—now DVN Senior Advisor, and surely one of the world's great vehicle lighting luminaries, will talk about his experience at Audi, and his vision of lighting in the future.

Attendees and exhibitors will receive a 60 pages Best in Class report in Chinese about ADB, Adaptive Driving Beam, the last lighting innovation. It is the most important report published in Chinese on lighting.

We've been working hard to make this new kind of DVN Workshop a grand success, and it's never been easier to attend, so…we'll see you there, whether live or remotely!

To register, contact Andy Ma, andy.ma@limengevent.com, tel : +86 137 6430 3456 , Salomon Berner sberner@drivingvisionnews.com , or go to www.drivingvisionnews.com

Sincerely yours

In Depth Lighting Technology

Ansys: A long History of developing Multiphysics Simulation Solutions

DR. SANDEEP SOVANI

Ansys Optics & Virtual Reality optical simulation software easily solves complex optical problems and refines visual appearance for perceived quality. It significantly elevates final product quality with true-to-life visual experiences and combines design and engineering processes in a single, connected workflow. It is possible to prepare and appraise virtual prototypes of a cockpit HMI in a real-time, immersive VR environment, or to simulate for optical sensors on autonomous vehicles with the diversity offered by Ansys Optics & Virtual Reality.

DVN interviewed Dr Sandeep Sovani, Program Director of ADAS and Autonomy at ANSYS Inc. to learn more.

Dr. Sandeep Sovani is Program Director of ADAS and Autonomy at ANSYS Inc., the world's largest, independent simulation software company. He is responsible for product management of a comprehensive tool chain for safety-oriented design, development and validation of ADAS and automated driving systems. He holds a Ph.D. in Mechanical Engineering from Purdue University.
Dr. Sovani has been actively involved in various areas of automotive technology and business for over two decades.
Dr. Sovani has authored more than 40 papers, articles, reports and has delivered

numerous invited lectures at academic and industry conferences. He is the recipient of Lloyd Withrow Distinguished Speaker Award from SAE International, and he is a member of SAE International, Sigma Xi, MENSA International.

DVN: Tell us a few words about your company?

Ansys : If you have ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Ansys is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A

DVN: DVN members were very familiar with OPTIS simulation products offer. What has Ansys added since OPTIS acquisition to complete their offer.

Ansys: Optis products cover ray-tracing light simulation use cases. However, for photonics application and for very small optical components such a microlenses on camera CMOS sensors optical wave simulation is required. Ansys Lumerical product suite provides solutions for such cases and complements Optis products. For instance, Ansys SPEOS and Ansys Lumerical FDTD are used in conjunction for accurately simulating light scattering in an environment and traveling through the lens system of a camera and through the microlenses on to the CMOS sensor.

Most engineering products, whether car headlamps or ADAS cameras, are governed by multiple physical disciplines such as optics, heat transfer, fluid mechanics, structural mechanics, electromagnetics and others. Therefore, to develop a product, engineers need to consider multiphysics effects. Ansys has a long history of developing and delivering industry-leading physics simulation solutions. Now that Optis products are in the Ansys portfolio, customers can get simulation solutions for all optical, thermal, structural, fluid, and electromagnetic aspects for their product, from Ansys.

Moreover, most engineering products are parts of larger systems. Such systems contain not only other hardware components, but increasingly software components. Ansys SCADE and Ansys medini complement Optis tools in developing the embedded software and conducting functional safety and cybersecurity analysis of such systems.

DVN: Automotive Simulation is more important than ever in vehicle engineering with the surge of innovating technologies. What are ANSYS best selling points when addressing the DVN Community of members active in automotive lighting and ADAS?

Ansys: With Optis products now part of the Ansys portfolio, customers can perform wholistic, multiphysical simulation of headlamps. Optis products provide solutions for light simulation, and other products in the Ansys portfolio such as Ansys Mechanical, Ansys CFD provide solutions for structural optimization and

reliability analysis as well as the cooling and condensation simulation of the same headlamp.

Further, headlamps of modern cars are part of ADAS systems that provide smart features such as Auto High Beam, Glare-Free Beam, etc. In such systems, the headlamp works in conjunction with a forward-looking camera, switching actuators, and advanced software controls. Ansys tools in conjunction with Optis tools help in developing many aspects of this system. For instance, light emanating from the headlamps is simulated with Ansys VRXPERIENCE Headlamp, night drive simulations are conducted with Ansys VRXPERIENCE Driving Simulator powered by SCANER and Ansys VRXPERIENCE Sensor, and the control software is developed with Ansys SCADE and analyzed with Ansys medini for ensuring functional safety and cybersecurity.

DVN: How are Ansys simulation products coping with Smart cockpits and the need to enhance User Experience (UX) as passengers?

Ansys: Ansys VRXPERIENCE helps cockpit engineers test and validate a full cockpit HMI (Human Machine Interface) design, including virtual displays and actuators, through visual simulation, eye and finger tracking, and haptic feedback. Ansys VRXPERIENCE provides a full HMI evaluation for next-generation vehicles using virtual reality. This tool reduces the time and cost of design, since design evaluation is mostly performed on virtual prototypes, dramatically decreasing the number of expensive physical prototypes necessary to validate the product. Ansys VRXPERIENCE offers collaborative driving scenarios based on virtual HMIs, taking into account human factors analyses and cognitive workloads. A test driver can interact directly with the virtual interfaces, from touchscreens to switches, thanks to a fine, high-resolution finger-tracking system. As the system records the behavior of the driver and displays driving and infotainment information, it identifies and interprets the driver's actions and triggers the adapted HMI reaction automatically. This makes it easy for you to evaluate the relevance of the displayed information, in real time, for a safer drive.

Furthermore, Ansys SCADE Display provides cockpit engineers with a versatile graphics design and development environment for embedded software of HMIs. With native support for the OpenGL® SC1 & SC2 (Safety Critical) and ES1 & ES2 (Embedded System) standards, SCADE Display represents a new generation of graphics software development tools, spanning prototyping, display design, simulation, verification and validation, and certified code generation supporting several safety standards in a certifiable environment. SCADE Display is tightly integrated with SCADE Suite to provide a comprehensive development environment for both embedded HMIs and their behavioral logic.

DVN: Could you present your achievements with ADAS companies such as Aeye or Edge Case Research?

Ansys : AEye is an artificial perception pioneer and creator of iDAR™, a perception system that acts as the eyes and visual cortex of autonomous vehicles. Since its demonstration of its solid-state LiDAR scanner in 2013, AEye has pioneered breakthroughs in intelligent sensing. Last year, Ansys and AEye jointly announced that AEye is incorporating Ansys' industry-leading simulation solutions into the design of its Intelligent Detection and Ranging (iDAR™) platform

— enabling customers to reduce physical prototyping and improve the safety and reliability of autonomous systems. Safeguarding autonomous driving requires next-generation sensors to quickly and correctly interpret certain hazardous road scenarios that cannot be reliably detected by conventional perception platforms. To validate the sensors' effectiveness, exhaustive road testing must be successfully completed — demanding significant development time and expenses. With Ansys, AEye empowers automotive manufacturers to potentially simulate driving situations across millions of miles in just days, minimizing physical prototyping. AEye is implementing Ansys® SPEOS® and Ansys® VRXPERIENCE®, a state-of-the-art driving simulation tool with physics-based sensor models, into the design of AEye's iDAR — empowering customers to quickly test and certify iDAR designs within a realistic virtual driving environment. AEye's automotive-grade iDAR combines deterministic and AI-driven perception to deliver detection and classification at high speed and far range not possible for conventional LiDAR or camera sensors. Through the integration, automotive customers deploying autonomous vehicle and advanced driver assistance systems (ADAS) will be able to virtually prototype AEye's software-definable, agile LiDAR to simulate exactly how they want to sense their environment.

DVN: Ansys is the world leader in engineering simulation, offering the best and the widest portfolio of technical simulation software. Could you name some customers in the automotive lighting and ADAS activities? Have you some examples on your offers to them?

Ansys: Every year, Ansys conducts a large virtual conference,called Simulation World, which serves as a showcase of the work being done by Ansys customers, partners, and other relevant thought leaders. For instance, in last year’s Simulation World conference, presenters from BMW, FLIR, SKODA, Valeo and other companies presented their work related to ADAS and automated driving systems.

FLIR Systems and Ansys are collaborating to deliver superior hazard detection capabilities for future assisted driving and autonomous vehicles (AVs) — empowering automakers to deliver improved vehicle safety. Through a technical collaboration, FLIR Systems will integrate a fully physics-based thermal sensor into Ansys’ leading-edge driving simulator to model, test, and validate thermal camera designs within an ultra-realistic virtual world. Current AV and advanced driver assistance systems (ADAS) sensors cannot dependably identify objects in darkness and through smog, inclement weather, shadows and sun glare. Thermal cameras, however, can effectively detect and classify objects in these conditions. Integrating FLIR Systems' thermal sensor into Ansys® VRXPERIENCE®, will enable engineers to simulate thousands of driving scenarios across millions of miles in mere days and reduce physical prototyping. Engineers can also simulate uncommon and difficult scenarios where thermal excels, including wildlife encounters and distinguishing pedestrians from other roadway objects in low-contrast environments. The new ADAS solution will slash OEMs' development time by optimizing thermal camera placement for use with systems such as automatic emergency braking (AEB) and within future AVs for the critical aspect of pedestrian detection.

Ansys and BMW Group are creating the industry's first holistic simulation tool chain for developing autonomous vehicle (AV) technologies. The simulation tool chain will enable highly automated and autonomous driving (AD) with the first vehicle launch expected in just two years. BMW Group is leveraging Ansys' broad

pervasive engineering simulation solutions and experience to speed up the development of a safety-focused solution for the validation of AD systems. The new automated simulation tool chain will make efficient use of BMW´s large amount of sensor data through intelligent data analytics and the creation of scenarios according to statistical relevance and AD system sensitivity. The scenarios will include usual driving situations and corner cases to ensure maximum test coverage. Based on these scenarios, the tool chain will perform rigorous safety assessments of the AD systems in a high-performance virtual environment. Ansys and BMW will support its adaptability and openness regarding relevant interfaces and validation approaches to accommodate and foster safety initiatives.

Lighting News

56-inch Flex OLED Display in Mercedes EQS EV

LIGHTING NEWS

The upcoming Mercedes EQS electric vehicle will bear a curved 56-inch front display called the MBUX Hyperscreen.

The display comprises three different OLED units, embedded in a single glass display. There's a central 17.7-inch panel plus two 12.3-inch panels. The 56-inch glass also includes holes for the HVAC ducts, which are integrated into the display. The whole AI-enabled system is powered by eight CPU cores and 24 gigabytes of RAM.

Hella Name New Tail Lamp Head

LIGHTING NEWS

Vladimir Kubena joined HELLA last month to be the Head of Product Segment RCL
Vladimir is an experienced Senior Research & Development Manager with a demonstrated history of working in the automotive industry.

Vladimir joined Visteon in 2000 managing the development of LED modules in front and rear lighting. Four years later, he became responsible for exterior lighting R&D activities globaly - Europe, North America and Asia-Pacific
In 2012, when Visteon lighting activity was sold to Varroc, he became Varroc R&D Senior Manager, globally responsible for new advanced exterior lighting technologies developement.

In his new role he will be responsible to built up a full scope R&D Hub to serve out of Banovce/Slovakia entire customer projects. This is a further strategic milestone to extend the capabilities of HELLA in Slovakia.

Apple Car patent describes truly smart in-car lighting

LIGHTING NEWS

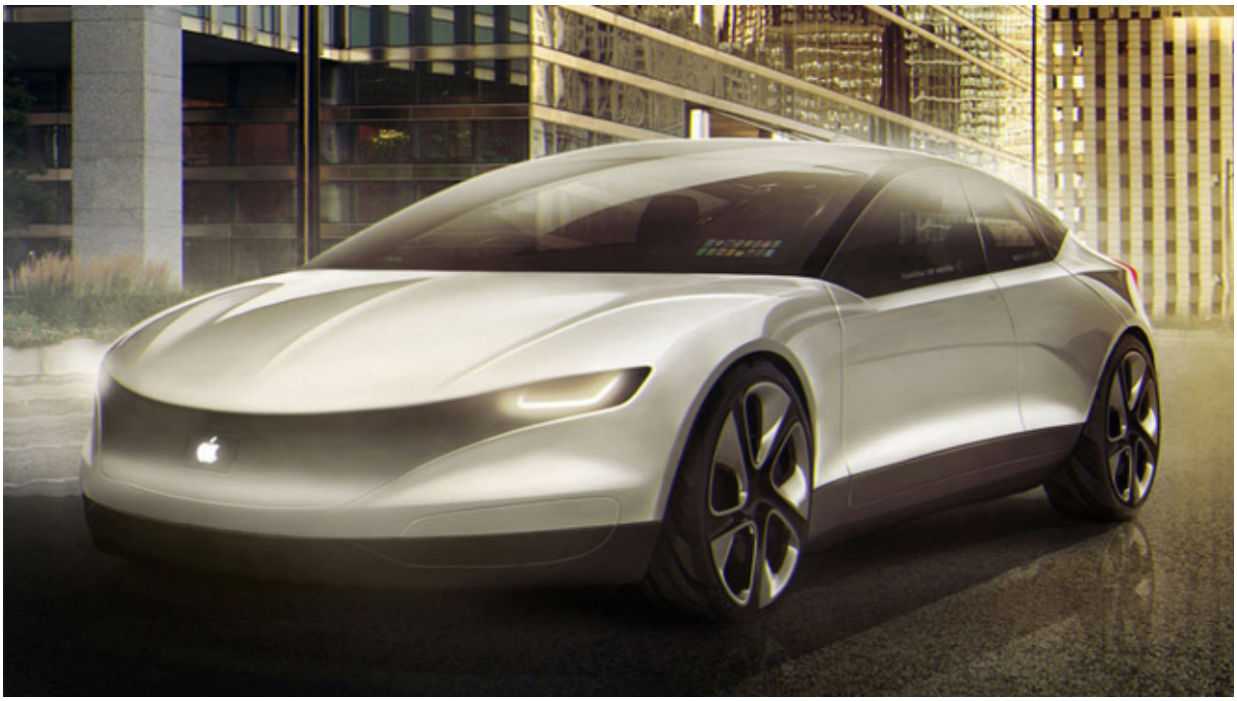
An Apple Car patent granted last month describes smart in-car lighting, able to intelligently determine what the occupants are likely to want or need at any given moment.
Conventional vehicle interior lights are static and typically vehicle occupants have to control the lights using a switch or a physical button. A conventional vehicle interior light may only illuminate a limited area while failing to illuminate large swaths of the interior of the vehicle. As an example, the vehicle occupant may be attempting to find an object dropped onto the floor of the vehicle at night. When the occupant turns on a light mounted on the roof of the vehicle, the light may not be helpful because the occupant's body may create a shadow or the light may not illuminate a correct location within the vehicle. Objects within the vehicle also may be difficult to view based on limited lighting options in the interior of the vehicle. In short, a vehicle with conventional lighting would benefit from many improvements.

The solution, says Apple, is to take a zone-based approach to lighting, and then use a mixture of sensors and cameras to figure out what is happening and how to automatically adapt the lighting to suit.
A system includes a vehicle with a computing device and lighting hardware modules. Briefly described, and according to one embodiment, aspects of the present disclosure generally relate to systems and methods for providing adjustable lighting that utilizes sensors and imaging devices of the vehicle to intelligently illuminate a particular object, location, or zone within an interior of the vehicle.
That might be intelligently switching individual lights on and off, or it might mean a motorized spotlight tracking to the object you're trying to see.

The lighting system recognizes the objects, locations, and zones within the vehicle to be illuminated and responds to explicit requests or commands for illumination.

Apple Car: 3 times Further at Night by Using IR Headlights

LIGHTING NEWS



Apple was granted a patent for the night vision system that combines visible light, near-infrared (NIR), and long-wave infrared (LWIR) sensors.
Apple's patent explains that self-driving cars have the same limitations as human drivers when it comes to seeing at night, citing the typical 60-meter (200 feet) range of car headlights.

Nighttime or low-light environments present challenges for automated vehicle control systems. For example, the illumination level provided by headlights on a vehicle at night may be limited by laws or regulations, which may in turn limit the effective range of a visible spectrum sensor (e.g., a camera) used for detecting objects in or near the path of the vehicle. Having a limited effective range of around 60m for detecting and or classifying objects can reduce safety and/or reduce the speed at which the vehicle can travel safely.

A combination of multiple complimentary image sensing technologies may be employed to address the challenges of nighttime or low-light environment object detection and classification. For example, there may be looser or no restrictions on the illumination level of a near infrared illuminator mounted on a vehicle. A near infrared sensor with a near infrared illuminator can be configured to capture high resolution image information about objects in or near a path of the vehicle out to a significantly longer range of around 200m from the vehicle. This may enable earlier detection and classification of objects as the vehicle moves and improve safety and/or maximum speed. Near infrared illuminators may project near infrared light in a relatively narrow field of view of around 30°.
The patent notes that visible light provides the highest resolution; NIR provides the greatest range; and long-wave IR provides the widest field of view. Combining input from all three would give the car the best possible model of what is in front of and around it at night.

Brightek Join DVN Community

LIGHTING NEWS

Brightek Optoelectronics, established in 2001, are a dynamic group headquartered in Taiwan and operating divisions in Shenzhen, Kunshan, Chongqing, Tianjin, Hangzhou, and Wuhan.

Brightek are a professional optoelectronic semiconductor packaging and solution provider, also specialising in developing LED components and manufacturing LEDs in compliance with international certificates system and standard such as IATF 16949, VDA 6.3, ISO 9001, ISO 14001, SONY Green partner, Samsung Eco-partner, etc.

The inspection system in Brightek complies with AEC-Q102, and Brightek use a eutectic production process for low thermal resistance and take ceramic/compound ceramic substrate with multi-angular optical lens design to fulfill customers' diverse requirements.

Brightek's professional team are customer-oriented to provide comprehensive solution per customer's request. Brightek have developed a series of LEDs specifically suitable for automotive interior and exterior lighting, and the company have joined the ISELED Alliance—an open alliance initially formed by Inova Semiconductors to promote the next-generation of in-car lighting.

MEMS Laser Scanning from STMicroelectronics, OQmented

LIGHTING NEWS

STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications, and OQmented, a deep-tech startup focused on MEMS-mirror technology, have agreed to collaborate on the advancement of the technology for Augmented Reality and 3D-sensing markets. The joint effort aims to build on the expertise of both companies to advance the technology and products behind the leading MEMS mirror-based laser-beam scanning (LBS) solutions in the market.

From this joint effort, ST and OQmented plan to market a wide range of scanning solutions. These would include MEMS mirrors, MEMS drivers and controllers, and complete reference designs of laser-beam scanning engines for a range of applications.

Oakland Univ.: Automotive Lighting Certificate Program

LIGHTING NEWS

At Oakland University in Auburn Hills, the Automotive Lighting Certificate Program is now open for registration. The program is ideal for graduating/working engineers new to the lighting industry and existing lighting engineers looking to enhance their knowledge from industry experts.
Oakland University's School worked with automotive lighting suppliers to collaboratively develop a hands-on program designed for STEM professionals interested in a career in automotive lighting. Designed and taught by practicing lighting engineers, the program will reduce employment transition time and provide opportunities for students to interact with automotive lighting professionals.

The 12-week, 72 hour program covers fundamental topics exposing students to Optics and LED Lighting, Electricals and Electronics, Design and Testing, Manufacturing Processes and Marketing.
Advances in lighting such as smart lights, LED innovations, high efficiency and low cost are fueling the rapid pace of technology changes.

Module 1 - Introduction, Optics, and Lighting 4 weeks
Tuesdays and Thursdays, April 6 - April 29, 2021
27 contact hours, 3 hour field experience – optional

Module 2 - Electricals, Electronics, Design, and Testing 5 weeks
Tuesdays and Thursdays, 6 – 9 pm - May 4 - 29, 2021
27 contact hours, 3 hour field experience – optional

Module 3 – Manufacturing process and marketing
This module will provide an introduction to the electronics/electrical design, sensor interface, thermal design that underlay the automotive lighting systems.

Topics covered include: Electrical & electronics Design, Vehicle interface, CAN bus, outage, Electromagnetic compatibility, Sensor interface (ADB, AFS, Camera), Autonomous drive, Thermal Design Considerations, Structural considerations, Testing & validation, Moisture Management,
Each module will be offered twice per year (Fall & Winter) at a **Cost of** $1200 per module)

Driver Assistance News

TechnoTeam, Trioptics in Development Pact

DRIVER ASSISTANCE NEWS

Manufacturers in consumer electronics and automotive industries depend on analysing the imaging quality of their display products—VR/AR headsets, head-up displays, and suchlike—in various aspects in detail. Both photometric properties like colour and luminance and imaging properties like modulation transfer function and distortion must be characterised in combination.

TechnoTeam and Trioptics will combine their competencies in a strategic partnership to meet those needs. The aim is to develop a measuring system that integrates both measuring processes in one device. TechnoTeam have expertise in the field of spatially resolved light and colour measurement technology, while Trioptics supply most of the world's MTF measurement systems. For the measurement of projectors, head sets, and displays, the two companies' core competencies are synergistic, and a combination of both measurement techniques in one device offers production advantages for customers.

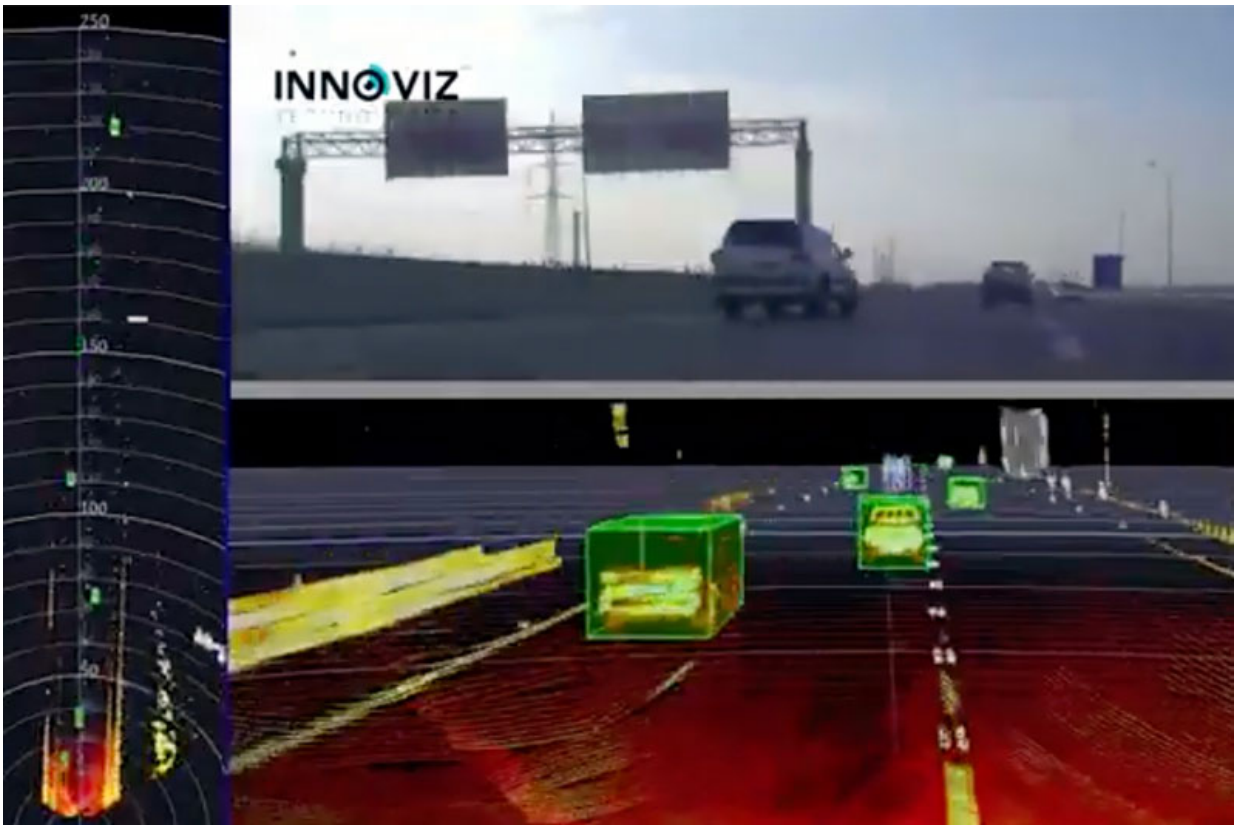
"As part of a customer project in which both we and TechnoTeam were involved, we found that the competencies of TechnoTeam and Trioptics complement each other ideally," says Stefan Krey, technical managing director of Trioptics. And Udo Krüger, Managing Director of TechnoTeam, says
"We are convinced that the combined know-how of Trioptics and TechnoTeam will help us to meet individual customer requirements even more efficiently. The measurement devices developed in the collaboration will enable our customers to significantly increase the quality of their products, such as the imaging quality of future AR/VR headsets, for example".

TechnoTeam are a German company with subsidiaries and distribution partners worldwide. TechnoTeam manufacture measurement systems for digital image processing and image-resolving light and color measurement technology. Their measurement systems are used in the development of luminous and illuminated devices, such as displays and headlamps.

Trioptics have subsidiaries in the United States, France, Singapore, China, Taiwan, Korea, and Japan. Since September 2020, Trioptics have belonged to the photonics group Jenoptik. They offer the world's most comprehensive portfolio of optical measurement, inspection, and manufacturing technology for development, quality control, and production.

Innoviz launches automotive perception platform to OEMs

DRIVER ASSISTANCE NEWS



Innoviz has launched its automotive perception platform, “InnovizAPP”, designed for the automotive industry. InnovizAPP includes automotive-grade hardware and software that enable AVs to identify and classify objects along the road. The company stated that it is already shipping InnovizAPP “to selected automaker giants, helping them accelerate timelines for consumer AV programs globally.”

InnovizAPP enables a safe autonomous driving experience as it identifies, detects and classifies objects. The system is based on Innoviz's advanced Perception Software, which leverages data derived from its LiDAR sensors, coupled with proprietary AI algorithms, to analyze the point cloud and precisely estimate an object’s speed.

The associated hardware provides an automotive-grade reference design based on low-cost automotive-grade components. It connects to existing vehicle systems and enables real-time perception in a simple plug-and-play manner, allowing automakers to test and learn how to build their own autonomous driving systems.

Omer Keilaf, CEO and Co-Founder of Innoviz, commented, “InnovizAPP is a technology breakthrough, offering an adaptable automotive-grade chip and platform that can be incorporated into existing vehicles. We developed it in response to requests from major automakers, and our worldwide customers are already optimizing their AV programs with this platform, which is rapidly becoming the gold standard for customer validation.”

Innoviz claims to be the only company with lidar technology that can perceive better than a human driver, while also meeting the automotive industry's strict requirements for performance, safety, and price. Selected by BMW for its fully electric iX autonomous car program, Innoviz's technology will be the first to be deployed in consumer vehicles.

Jenoptik expects ‘significant and profitable’ growth in 2021

DRIVER ASSISTANCE NEWS

JENOPTIK’S CFO HANS-DIETER SCHUMACHER AND CEO STEFAN TRAEGER.

Jenoptik ended its 2020 reporting year with a strong fourth quarter and was able to significantly increase profitability in 2020, the company announced last week. This “positive development was supported by sustained high demand from the semiconductor equipment industry, the acquisition of Trioptics and a largely stable capital spending by public sector customers. At the beginning of 2021, Jenoptik stands for growth, innovation, and profitability even more than it did a year ago,” said Dr. Stefan Traeger, President and CEO.
“We are confident for 2021 thanks to an upturn in demand, improved cost efficiency and external growth. We expect revenue growth in the low double-digit percentage range and want to increase profitability of 16% to 17%.”
In the 2020 fiscal year, Jenoptik generated revenue of €767M, which, as expected, was clearly down on the prior-year figure of adjusted €837M, mainly due to the Covid-19 pandemic and structural issues in the automotive industry. As in the prior year, the fourth quarter was strongest, with €262.2M (prior year: €255.7M).

Based on good order intake growth in the fourth quarter of 2020, Jenoptik stated that “a well-filled project pipeline, and the continued promising development in the semiconductor equipment business, the Executive Board expects further growth in the current fiscal year. In addition to the organic growth in the divisions, Trioptics, which will be consolidated for the full year for the first time, will also

contribute to the positive development.”
For 2021, Jenoptik is expecting revenue growth in the low double-digit percentage range, including Trioptics (prior year: €767.M). The Group currently forecasts EBITDA to increase significantly in the current fiscal year (prior year: €111.6M). The EBITDA margin is due to reach between 16.0 and 17.0%.

General News

Daimler names Pischetsrieder as chairman

GENERAL NEWS

MANFRED BISCHOFF AND BERND PISCHETSRIEDER WITH NEW EQS

Former BMW and Volkswagen Group CEO Bernd Pischetsrieder has been named chairman of the supervisory board at Daimler, succeeding Manfred Bischoff, who is stepping down after 14 years in the position.

Pischetsrieder has been a member of Daimler's supervisory board since 2014. He began his career at BMW in 1973 and rose to become CEO in 1993, a position he held until 2000. He was appointed CEO of VW Group in 2002 but was ousted four years later after a power struggle with Ferdinand Piech, the chairman at the time.

His nomination was approved last week at Daimler's annual shareholders' meeting, which was held remotely.

Bischoff, 77, joined Daimler in 1976 and became head of the finance department in 1985. He later became chairman of Deutsche Aerospace (later DaimlerChrysler Aerospace) and of the European Aeronautic Defense and Space Company (EADS). He stepped down from the management board of DaimlerChrysler in 2003, and in 2006 joined the supervisory board, becoming chairman in 2007.

Geely Mull (Again) Volvo Cars IPO

GENERAL NEWS

Geely Holding Group might revive plans for an initial public offering of their Volvo Cars unit, which could be valued at around USD $20bn. Geely Holding bought Volvo Cars from Ford for $1.8bn in 2010; last year, Volvo sold more than 660,000 cars round the world.

Automakers have been searching for ways to fund the enormous investments needed for the sea change toward EVs. In February, Geely Holding scrapped plans to merge Volvo Cars with the Chinese group's publicly traded unit, Geely Automobile Holdings. They decided instead to bundle the two firms' powertrain operations into a new company and team up on technology development. A spokesperson for Volvo Cars said the February agreement "enables both companies to explore respective capital market options to realise shareholder value".

TESLA: Global deliveries double from 2020 Q1

GENERAL NEWS

Tesla Inc. delivered 184,800 cars worldwide in the first quarter of 2021, up from about 88,400 in the first three months of 2020.

“We are encouraged by the strong reception of the Model Y in China and are quickly progressing to full production capacity,” the electric vehicle maker said in a statement Friday. The new Model S and Model X have also been “exceptionally well received,” it said, adding that it’s in the early stages of ramping up production.

Tesla currently makes the Model S and X only at its factory in Fremont, Calif., and the smaller Model 3 and Y both there and at its plant in Shanghai. The company doesn’t break out sales by geography, but the U.S. and China are its largest markets and the bulk of sales were of the Model 3 and Y.