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AEye's Lidar Technology for Autonomous Vehicles

Along with cameras and radar, LiDAR sensors are an important technology for the development of autonomous driving. AEye, situated in Dublin, California, has created a long-range LiDAR system that combines an amplifiable 1550 nm laser with a proprietary scanner with a microelectromechanical system (MEMS).

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Nauto's Platform for Enhanced Incident Visibility

The cars of the future will be smarter and more innovative, but our daily life is still filled with traditional cars, and everything is entrusted to the driver's attention because proactive safety features aren't generally a reality, especially on mid-high-range cars. This is why Nauto has developed a hardware-software solution capable of raising the safety level of traditional cars.

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BMW Secures Supply Chain with GaN Capacity

GaN Systems has announced an agreement with BMW to secure GaN transistor capacity. The volumes offered are expected to ensure supply chain reliability for automotive suppliers. CEO Jim Witham noted in an interview that GaN Systems will provide capacity for multiple applications in series production.

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TALK TO US



Lattice Enables Low Power 4K Video Processing

Lattice Semiconductor Corp. has updated its Lattice mVision solution stack to support 4K video data processing and LPDDR4 memory to deliver higher quality image signal processing (ISP) performance.

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Foundry Sales to Surpass \$100 Billion in 2021

Robust demand for advanced processors used in networking and data center computers, new 5G smartphones, and ICs used in other high-growth electronics market applications such as robotics, self-driving vehicles and driver-assist automation, artificial intelligence, machine-learning and image recognition systems is forecast to lift total foundry sales to \$107.2 billion in 2021

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AEye's Lidar Technology for Autonomous Vehicles

Along with cameras and radar, LiDAR sensors are an important technology for the development of autonomous driving. AEye, situated in Dublin, California, has created a long-range LiDAR system that combines an amplifiable 1550 nm laser with a proprietary scanner with a microelectromechanical system (MEMS). This technique may be customized and optimized for certain vehicles and applications using software. Indu Vijayan, AEye's head of product management for ADAS solutions, answered key questions about the prospects for autonomous vehicle in an interview with EE Times Europe, which analyzed her recent keynote presentation at DesignCon 2021 held in Silicon Valley in August.

AEye claims its LiDAR can detect vehicles at a distance of 1,000 meters and people at a distance of up to 200 meters. And its ability to detect tiny objects (such as bricks) at a distance of 120 meters using multiple measurement points is crucial for autonomous cars and trucks.

Nauto's Platform for Enhanced Incident Visibility

The cars of the future will be smarter and more innovative, but our daily life is still filled with traditional cars, and everything is entrusted to the driver's attention because proactive safety features aren't generally a reality, especially on mid-high-range cars. This is why Nauto has developed a hardware-software solution capable of raising the safety level of traditional cars.

The startup has developed a multi-sensor device mounted on the windshield and combined with two-way cameras. More importantly, the AI software running within the device is able to assess the driving environment in real-time, including the conditions of the driver, the vehicle, and the road. The platform identifies any elements of risk with real-time data, especially those that can be extremely hazardous due to the driver's distraction.

Stefan Heck, CEO of Nauto, said Nauto leverages the same kind of deep learning-based computer vision capabilities that people are using to develop autonomous vehicles, but the company has applied them to help assist, augment, warn and improve human drivers rather than to replace them. "We basically learn from good drivers what to do, and we learn from bad drivers what to avoid; we put it into a real-time neural network that runs in the vehicle on edge. And 12 times a second it assesses the situation..

BMW Secures Supply Chain with GaN Capacity Deal

GaN Systems has announced an agreement with BMW to secure GaN transistor capacity. The volumes offered are expected to ensure supply chain reliability for automotive suppliers. CEO Jim Witham noted in an interview that GaN Systems will provide capacity for multiple applications in series production.

The electric vehicle (EV) sector continues to face two major challenges: price and range. The latter is considered the most important in terms of full EV adoption. Integrating the powertrain and leveraging wide-bandgap semiconductors (GaN and SiC) are among the approaches being adopted to cut costs and improve system efficiency. By increasing switching frequency and exploiting other advantages of wide band-gap semiconductors, it is possible to miniaturize components for automotive applications while improving thermal performance.

Lattice Enables Low Power 4K Video Processing for Embedded Vision Applications

Lattice Semiconductor Corp. has updated its Lattice mVision solution stack to support 4K video data processing and LPDDR4 memory to deliver higher quality image signal processing (ISP) performance. This allows developers to quickly implement popular high-speed communication and display interfaces to accelerate embedded vision performance with class-leading low power consumption for Edge applications including machine vision, robotics, ADAS, video surveillance, and drones.

Industry analyst Bob O'Donnell with TECHanalysis Research noted, "LPDDR4 memory provides device designers with a great range of different capacities/densities, speeds, and power requirements that can be matched to specific applications. Because of its low power nature, LPDDR4 memory is particularly well-suited for embedded and machine vision in battery-powered devices or other applications where thermal management is a challenge."

Foundry Sales to Surpass \$100 Billion in 2021

Robust demand for advanced processors used in networking and data center computers, new 5G smartphones, and ICs used in other high-growth electronics market applications such as robotics, self-driving vehicles and driver-assist automation, artificial intelligence, machine-learning and image recognition systems is forecast to lift total foundry sales to \$107.2 billion in 2021, a 23 percent increase that would match the record growth rate set in 2017

It is worth noting, the research firm said, that the strong growth rate in 2017 was primarily due to Samsung re-classifying its System LSI internal transfers as foundry sales, rather than strong organic market growth. Total foundry sales this year are forecast to surpass the \$100-billion mark for the first time and continue increasing at a strong 11.6 percent average annual growth rate through 2025 when total foundry sales are expected to reach \$151.2 billion.