Gentex Provides Technology Update as Part of Virtual CES

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ZEELAND, Mich., Jan. 11, 2021 (GLOBE NEWSWIRE) -- In conjunction with this year's all-digital CES 2021, Gentex Corporation (NASDAQ: GNTX) today provided an update of its product development efforts, which over the past year consisted of new partnerships, technology acquisitions, and product portfolio expansions that extend the company's footprint not only in the automotive industry, but also entirely new markets.

Gentex is a long-time supplier of electro-optical products for the global automotive, aerospace and fire protection industries. It's best known for supplying nearly every major automaker with connected-car technologies and advanced electronic features that optimize driver vision and enhance driving safety.
"The pandemic may have paused in-person events, but it hasn't curtailed our new product development efforts," said Gentex President & Chief Executive Officer Steve Downing. "CES is where we typically meet with customers, suppliers and potential partners to discuss our latest innovations. This year, we're going to need to be equally innovative in the ways we keep everyone up to date."

Downing noted that in the weeks and months to come, the company plans to make a concerted effort to update key audiences on its technology developments using company announcements, web sites, newsletters, and new online presentation tools. Gentex customers are encouraged to contact their sales representative to setup a private, virtual CES presentation at a time of their convenience.

Digital Vision
Gentex's expertise in digital vision is perhaps best demonstrated by its industry-leading Full Display Mirror (FDM), an intelligent rear-vision system that uses a custom camera and mirror-integrated video display to optimize a vehicle's rearward view. The system captures video from a rearward-facing camera and streams it to a unique mirror-integrated LCD that provides the driver with an unobstructed, panoramic view behind the vehicle.

In 2020, Gentex began shipping its FDM to two additional automakers and over 18 additional vehicle nameplates. That means the company is currently shipping FDM for a total of 8 automakers and over 50 vehicle models around the world.

"FDM puts the smart mirror on a whole new growth trajectory," said Downing. "We turned the automatic-dimming mirror into a home for advanced features, and now with FDM, the mirror becomes an actual display, which opens the door to further feature integration."

One such feature is a mirror-integrated digital video recorder (DVR), or dash cam, designed to capture road scenes, accidents, vandalism, and other traffic events. The system is completely scalable, capable of recording from forward, rearward, and interior-facing cameras, with add-on features like Bluetooth, WiFi, internal shock sensor and audio recording. Files can be downloaded via an integrated SD card or via a custom app for mobile devices.

Drivers worldwide have long used aftermarket, windscreen-mounted dash cams, which often have suction-cup mounting brackets, dangling power cords and screens that block the forward view. By integrating the feature in the mirror, automakers can offer their customers a factory solution in a quick-to-market, high-performance, cross-car-line module that simplifies factory installation.

Gentex launched its first DVR-integrated FDM mirror in mid-2020 on a crossover vehicle in the Japan market. Additional programs are currently in development, and Gentex plans to introduce new features and functionality as the product gains popularity.

This past year, Gentex also developed a unique, scalable trailer cam system that streams video feeds from multiple cameras via wired connections or WiFi-enabled FDM. In the case of a wireless solution, a trailer-mounted WiFi hub relays the video signal from each camera to the FDM, providing a clear view of not only what's behind the trailer, but also what's inside, outside, and all around it.

Locating the trailer cam in the mirror enhances the driver's ability to safely hook-up and trailer, reverse, change lanes, and execute other driving maneuvers. It also eliminates the need for aftermarket solutions, which add clutter to the vehicle interior and can't provide the same level of reliability as the Gentex system.

Dimmable Glass Systems
Gentex is the world's leading supplier of dimmable devices, shipping over 42 million units annually. The Company's current product portfolio consists of glare-eliminating interior and exterior rearview mirrors, and electronically dimmable windows for the aerospace industry.

Last year at CES, Gentex demonstrated large-area dimmable devices for in-vehicle lighting, sunload, and privacy control. The

Company's booth featured multiple vehicles equipped with fully functioning dimmable sunroofs, which darkened on demand or in conjunction with system intelligence.

This past year on its corporate campus, Gentex constructed a new, 20,000-square-foot assembly area for the manufacture of dimmable sunroofs, which will allow the Company to supply large-area dimmable devices in volume. As a vertically integrated supplier, Gentex's operations include everything from the coating, bending and cutting of glass to the development of dimming control algorithms and related electronics manufacturing. Gentex is currently working with several OEMs on sunroof prototypes.

In addition, recent developments in Gentex's core electrochromic dimming technology have resulted in dramatically improved darkening speeds, more neutral colors, and enhanced dynamic range. The Company also continues to experiment with film-based dimming methods that use an electrochromic film laminated between pieces of glass.

Car Connectivity
In 2020, Gentex continued to bolster its vehicle-to-infrastructure (V2I) technology lineup, most notably in the transactional vehicle space. Advancement continues on Integrated Toll Module (ITM), the Company's nationwide toll collection technology for factory integration into new vehicles. ITM, which was a recipient of a 2020 Automotive News PACE Award, uses a mirror-integrated, multi-protocol toll tag to provide drivers access to toll roads throughout the U.S. Gentex expects to announce its second ITM customer later this year.

Late last year, Gentex also announced a partnership with PayByCar, an innovative provider of transactional vehicle solutions, that will allow an increasing number of drivers to pay for gas and other essentials directly from their vehicle. The companies are working to ensure compatibility between Gentex's ITM and PayByCar's innovative payment solution that allows drivers to use their smartphone and toll transponder to fuel up at certain gas stations without using cash or a credit card.

PayByCar uses the driver's toll transponder to identify the vehicle upon entering a participating gas station. The system immediately sends a text message to the driver, who replies with the appropriate pump number. PayByCar then turns on the pump, registers the transaction, charges the driver's credit card, and issues an email receipt.

Earlier today, Gentex announced that it is partnering with Simplenight to provide drivers and vehicle occupants with access to enhanced mobile capability for booking personalized entertainment and lifestyle experiences in addition to everyday purchases.

Simplenight delivers a customizable and robust platform that enables brands globally to offer real-time bookability across multiple categories such as dining, accommodations, attractions, events, gas, parking, shopping and more. The platform is unique in that it is designed to seamlessly integrate into automaker infotainment and navigation systems, as well as mobile applications and voice assistants.

Gentex plans to integrate Simplenight into its current and future connected vehicle technologies, including HomeLink, the automotive industry's leading car-to-home automation system. HomeLink consists of vehicle-integrated buttons that can be programmed to operate a myriad of home automation devices. Gentex is currently integrating Simplenight into its HomeLink Connect app, which helps users program their HomeLink buttons and control cloud-based devices from their vehicles.

"We view the transactional vehicle and the broader V2I space as a leading growth driver," said Downing. "We have features like ITM and HomeLink that are ready for immediate automaker implementation, and with our new Simplenight and PayByCar partnerships, we're adding functionality that will increase in usefulness as time goes on."

Driver & Cabin Monitoring
For decades, Gentex has designed and manufactured automotive-grade cameras engineered for precise applications, integrating millions into vehicles every year. To support the growth of in-vehicle sensing, Gentex has developed a camera-based sensing unit capable of monitoring drivers and passengers alike. The system consists of a high-resolution imager and NIR emitters discretely hidden behind the glass of an interior rearview mirror, which has an ideal view of the vehicle cabin and is constantly monitored by the driver.

The system monitors the driver's head pose, eye gaze, and other vision-based metrics to determine driver distraction, drowsiness, and readiness for return of manual control in semi-autonomous vehicles. It can also track passengers and their behavior, as well as objects and other environmental factors. It can even turn the vehicle into a mobile communications center for making a video phone call, conducting a meeting, or capturing an in-cabin selfie.
Gentex also continues to develop an in-cabin sensing unit that uses a variety of methods to detect smoke, vape, VOCs, and other airborne contaminants in the vehicle. These units will become increasingly important for autonomous vehicle operators in order to keep passengers safe and vehicles clean. The Company is currently working with an autonomous vehicle manufacturer to introduce the first smoke detector designed to detect smoke and vape within the vehicle environment. The system consists of a sensing unit placed within the vehicle's ductwork where it continuously samples the air quality. Once smoke or vape is detected, the vehicle operator could be notified, the vehicle flagged for cleaning, and the offending passenger assessed a fine.

Medical
Last year at CES, Gentex introduced a new smart lighting system that combines ambient room lighting with camera-controlled, adaptive task lighting to optimize illumination for surgical and patient-care environments. The system consists of a series of flush, ceiling-mounted lighting units containing banks of dynamically adjustable LED arrays that work in concert to place focused illumination when and where it's needed. The system uses voice commands, hand gestures or a hand-held tracking device to

establish a target lighting zone. An integrated machine-vision camera then orchestrates light-array activation, intensity, and direction to mitigate shadows and create optimal lighting conditions within the defined surgical field.
Over the past year, Gentex continued to enhance product functionality, with a focus on meeting medical device standards and regulatory requirements while working toward clinical trials sometime in 2021.

In October, Gentex announced a partnership with RetiSpec Inc. to engineer, manufacture and commercialize technology for the early detection of Alzheimer's disease. RetiSpec is an artificial intelligence (AI) medical imaging company developing tools for the early detection of disease biomarkers in the eye. By harnessing hyperspectral imagery, RetiSpec's patented technology allows for the rapid, simple, non-invasive, and cost-effective identification of Alzheimer's biomarkers years before the emergence of clinical symptoms.

Aerospace
Gentex is the world's leading supplier of electronically dimmable windows (EDWs) for the aerospace industry. EDWs allow passengers to selectively darken the aircraft windows while still enabling them to view the scenery outside. Not only do EDWs eliminate the need for traditional window shades, but they also incorporate a heat control solution which blocks infra-red energy from entering the cabin from outside – thus lessening dependence on air-conditioning systems.

Over the past year, Gentex continued to market its EDW solutions along with new aerospace concepts that leverage technologies originally developed for the automotive industry, including an in-cabin sensing system tuned to identify explosive or incendiary components during the boarding process, a smart lighting system that selectively illuminates crew task areas, and a concept seatback biometrics system to identify passengers and provide them with an immersive, personalized flight experience.

CES (the Consumer Electronics Show) is the world's gathering place for all who thrive on the business of consumer technology. Owned and produced by the Consumer Technology Association, it has served as the proving ground for innovators and breakthrough technologies for over 50 years. This year's show is digital and runs January 11-14.

Founded in 1974, Gentex Corporation (NASDAQ: GNTX) is a supplier of automatic-dimming rearview mirrors and electronics to the automotive industry, dimmable aircraft windows for aviation markets, and fire protection products to the fire protection market. Visit the company website at www.gentex.com.

Gentex Media Contact
Craig Piersma
(616) 772-1590 x4316
craig.piersma@gentex.com

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