



## Gentex Rear Vision System Excels During 24 Hours of Le Mans

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ZEELAND, MI--(Marketwired - Sep 18, 2015) - Gentex Corporation (NASDAQ: GNTX) -- Seeing what's behind you is critical to safe driving, whether you're in a passenger vehicle or one of the most technologically advanced racecars in the world. A new pioneering technology designed to improve rear vision recently took a step closer to reality after successfully debuting at the grueling 24 Hours of Le Mans on Nissan's new GT-R LM NISMO race car. The system consists of a tiny rearward-facing camera that feeds live video to a mirror-integrated display in order to optimize a vehicle's rearward view.

Gentex Corporation, a leading supplier of vision-related technologies to the global automotive industry, developed the technology. The system was originally designed for application on passenger vehicles; however, the Company recently formed a partnership with the Nissan Motorsports Team, which allowed the system to be installed on Nissan's new LM P1 race cars and thoroughly vetted under demanding race conditions.

"Our partnership with Nissan helps ensure that we have the most robust system possible," said Craig Piersma, Gentex's director of marketing. "It allows us to comprehensively test the entire system -- full display mirror, custom camera and image processing software -- before we begin shipping the technology for passenger vehicles."

As an Official Technical Partner of the Nissan GT-R LM NISMO, Gentex also developed dimmable exterior mirrors that eliminate glare from trailing vehicle headlights.

"At Le Mans, where you race day and night in wet and dry conditions, in close proximity to other cars at extraordinary speed, having visibility of what's behind your car without being blinded by other headlights is a priority," said Nissan LM P1 technical director Ben Bowlby.

"The Gentex dimming mirror and rear vision system both provide optimized rearward vision for the drivers. We love the stuff they provide."

For the drivers of the front-engined Nissan GT-R LM NISMO, it has proved highly effective.

"Sitting so far back in a closed cockpit, naturally creates limited peripheral and rear visibility in the car," said Nissan LM P1 driver Harry Tincknell. "But with the Gentex rear-view display, the vision is the best I've ever had in a race car. It's a fantastic bit of kit and a huge help when in a pack of cars."

"And I know from experience it's so easy to get dazzled by other car's headlights in the exterior mirrors at nighttime, and it's great to have this dimming solution preventing a critical problem and improving safety."

The forthcoming passenger-vehicle version of the Gentex rear vision system consists of a hybrid full display mirror that offers bi-modal functionality. In mirror mode, the product functions as a standard rearview mirror. During nighttime driving, digital light sensors talk to one another via a microprocessor to automatically darken the mirror when glare is detected. But with the flip of a lever, the mirror enters display mode, and a clear, bright, LCD display appears through the mirror's reflective surface, providing a wide, unobstructed rearward view.

The two modes are essential, because should the camera or display become non-operational, the product fails safe and operates as a standard mirror. The driver can also switch between modes to accommodate usage preferences for various weather conditions and driving tasks.

Automotive video for rear vision requires a camera with high dynamic range, which is the ratio between the brightest and darkest areas of a given scene. The challenge is to display the details in the darkest and brightest areas of a given scene simultaneously, without causing the display to "washout" due to bright light sources. A new Gentex-designed camera meets this challenge in a unique way, with a proprietary CMOS (complementary metal oxide semiconductor) imager that delivers unprecedented dynamic range. The imager allows each individual camera pixel to choose its own exposure, self-adjusting so that the brightest and darkest areas of any given scene are clear and visible.

The camera ultimately is custom-integrated into the vehicle's rear spoiler or trunk lid, a roof-mounted shark-fin antenna, or the CHMSL (center high-mounted stop lamp). It is ultra-lightweight, aerodynamically optimized, and can be heated and coated for better performance in adverse weather conditions.

The full display mirror system also uses Gentex-designed image processing software developed for high-speed data transmission.

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](http://www.gentex.com).

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