Gentex Announces Smart Lighting Technology For Medical Applications

January 7, 2020

LAS VEGAS, Jan. 07, 2020 (GLOBE NEWSWIRE) -- Today at CES, Gentex Corporation (NASDAQ: GNTX) unveiled an innovative lighting technology for medical applications that was co-developed with Mayo Clinic. This new lighting concept represents the collaboration of a global, high-technology electronics company with a world leader in healthcare.



Gentex's smart lighting system is comprised 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.



Gentex's new smart lighting system combines ambient room lighting with camera-controlled, adaptive task lighting to optimize illumination for surgical and patient-care environments.

Gentex's new smart lighting system combines ambient room lighting with camera-controlled, adaptive task lighting to optimize illumination for surgical and patient-care environments. The system emerged during the last 18 months of collaboration between Gentex engineers and Mayo Clinic surgeons, scientists, and operating room staff. The teams researched, designed, and rapidly iterated multiple prototypes in order to develop unique features that address major gaps in current surgical lighting solutions.

The result of this collaboration is 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.

The project allowed Gentex, best known for supplying advanced electro-optical products to the automotive, aerospace and fire protection industries, a chance to apply its expertise and platform technologies to the medical industry.

"Gentex has a long history of combining camera systems with control algorithms to manipulate light, but medical applications afford a host of new opportunities and challenges," said Gentex Chief Executive Officer Steve Downing. "Thanks to our cross-disciplinary collaboration, we've engineered an advanced prototype system that has the potential to transform how patient care is delivered."

The Gentex-Mayo team credits its success to critical problem identification, accelerated development cycles, an open exchange of ideas, and a lack of constraints on the form and function of the lighting solution itself.

"Starting with a blank slate allowed the team to develop novel design criterion, user requirements, and performance expectations," said Mayo's Jordan D. Miller, Ph.D., who directs Mayo Clinic's Center for Surgical Excellence and leads the development project for the Mayo Clinic team. "Our surgeons and operating room staff then provided system critique to each prototype iteration. We're now preparing for clinical trials in order to assess system performance in our operating rooms specifically geared towards testing innovative technologies."

Gentex and Mayo anticipate that smart lighting is just the first in a series of collaborative opportunities. The two organizations share a common goal of improving healthcare through the development of innovative technologies.

Judy Boughey, M.D., a surgeon and Vice Chair for Research in Surgery at Mayo Clinic, elaborated on this point: "We've faced challenges in optimizing surgical field lighting for more than 50 years. We believe this represents an opportunity to bring fresh perspective on how to deliver the best care to our patients every day."

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.

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

Photos accompanying this announcement are available at:
https://www.globenewswire.com/NewsRoom/AttachmentNg/c2407cbf-30a2-4618-b360-150f3f774ea6
https://www.globenewswire.com/NewsRoom/AttachmentNg/334ae819-7ce6-4b60-b65e-829e197e7345

GENTEX CORPORATION
A Smarter Vision®

Source: Gentex Corporation