



CORPORATE OVERVIEW 2021

TODAY'S FEATURES – TOMORROW'S TECHNOLOGY



GENTEX
CORPORATION

WHO WE ARE

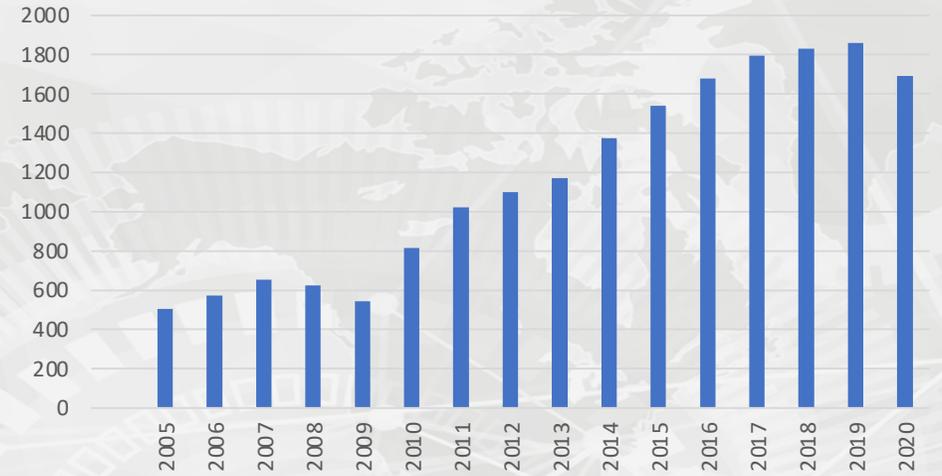
- Technology company specializing in electro-optical products
- Best known for turning the mirror into an electronic module for the custom delivery of advanced electronic features
- Primary markets
 - Automotive
 - Digital Vision
 - Connected Car
 - Dimmable Glass
 - Aerospace
 - Electronically Dimmable Windows
 - Fire Protection
 - Detectors
 - Signaling Devices



FAST FACTS

- Established: 1974
- Ownership: GNTX – NASDAQ Global Select Market
- Operations:
 - Headquarters/Manufacturing – Zeeland, MI
 - Sales/Logistics/Engineering – England, France, Sweden, Germany, Japan, Korea, China
- Employees: 6,084
- Sales (2020): \$1.69 billion
- Mirrors Shipped (2020): 38 million
- Sales Forecast 2021: \$1.94 - \$2.02 billion

Revenue (Millions)

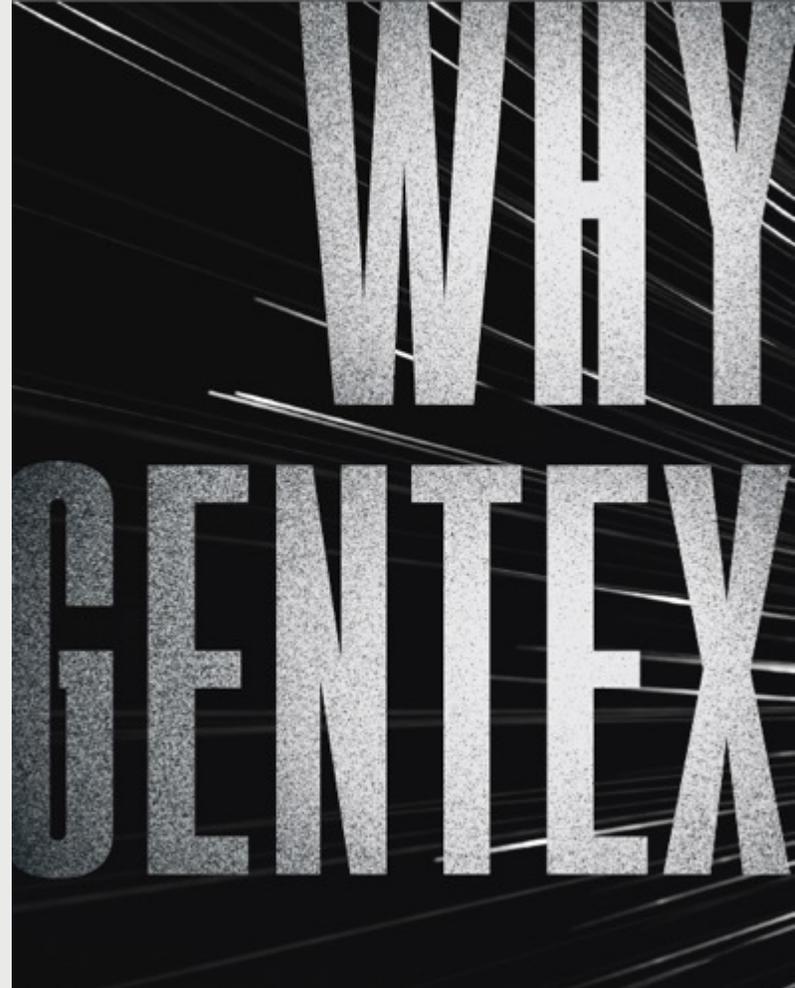


EC Mirror Unit Shipments



WHY GENTEX

- High-volume electronics manufacturer with unprecedented quality record
- Vertically integrated in a wide range of core competencies
- Trusted, long-time supplier of high-quality, innovative, priceable, and OEM-tailored electronic features
- Unique fusion of technologies
- Scalable features -- products for today based on tomorrow's emerging technology
- 20+ years experience in displays and CMOS imagers
- Products for OEM integration, accessory programs, and the automotive aftermarket



SCALED TO MEET GLOBAL DEMAND

- 93.8% market share
- Supply smart-mirrors and related content around the world:
 - Ship to 28 different OEMs
 - Content on over 600 vehicles
 - More than 50% of mirrors shipped contain advanced electronic features (displays, cameras, transceivers, interfaces, etc.)
- Global penetration rates:
 - IEC – 31.4%
 - OEC – 10.4%
- Manufacturing capabilities/capacity:
 - 2.3 million square feet of manufacturing/building space
 - Capable of producing over one million smart mirrors a week



CORE COMPETENCIES

- Vertically integrated to assure quality and drive innovation
- Core competencies:
 - Electronics
 - Microelectronics
 - Design & Engineering
 - Chemical Development and Coatings
 - Automated Assembly
 - Software Design
 - Displays
 - Glass Bending & Processing
 - Vision Systems & Cameras



QUALITY & PERFORMANCE AWARDS

- Gentex has received the highest awards from industry groups and nearly every major automaker
 - Technology innovation
 - Product quality
 - Manufacturing excellence
 - Supply excellence
 - Supplier diversity
 - Environmental stewardship
- One of the most decorated suppliers in the history of the *Automotive News* PACE Awards
 - 7-time winner
 - 2-time finalist



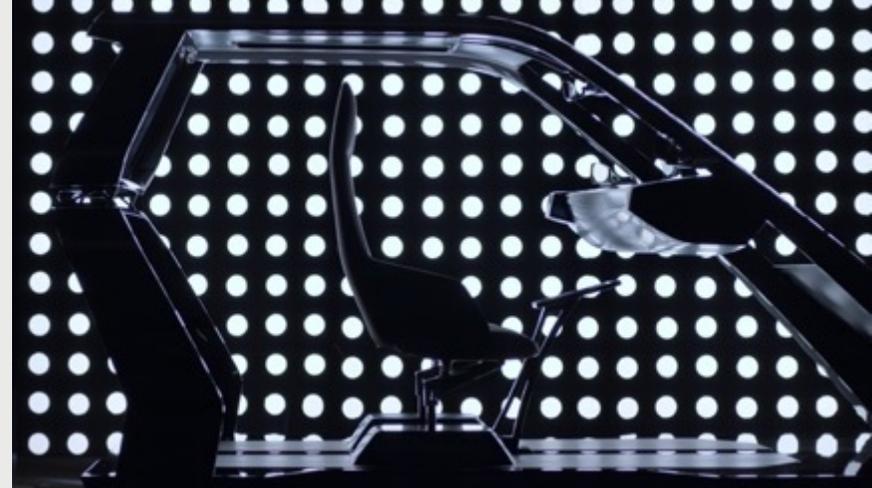
GENTEX CORPORATE OVERVIEW



PRODUCT PORTFOLIO - AUTOMOTIVE

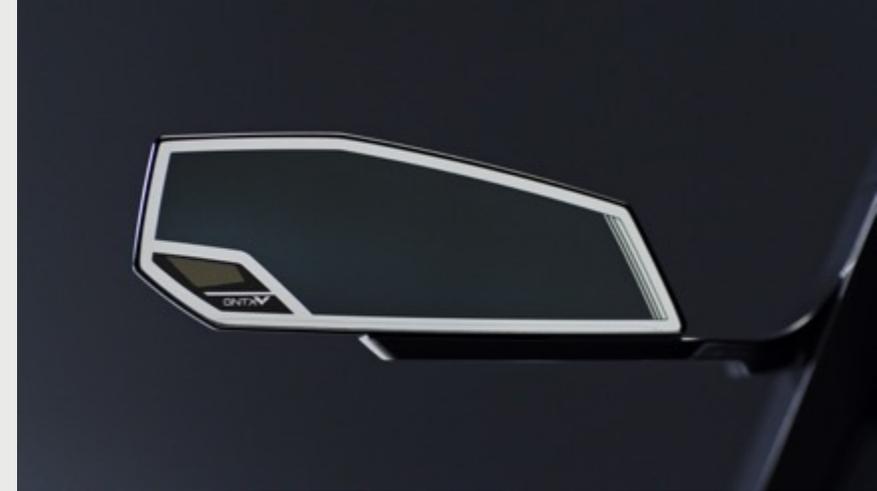
“Our focus is to develop **scalable technology paths** with features ready for immediate automaker implementation based on technology platforms that can grow, advance, and adapt as **new mobility models** emerge.”

Gentex President & CEO Steve Downing



DIGITAL VISION

Gentex is helping the auto industry manage the **evolution** from analog **to digital rear vision.**



FULL DISPLAY MIRROR® (FDM®)

- Intelligent rear vision system – camera streams live rear video to mirror-integrated display
- Hybrid system:
 - Display mode - wide, unobstructed digital view
 - Mirror mode - standard analog mirror (fails safe/driver preference)
- Complete system provider:
 - Display
 - Imager – multiple solutions available
 - Custom camera design, packaging and vehicle integration
 - Software and video processing



DIGITAL VISION FOR RACE TEAMS

- Gentex provides custom racing FDMs for OEM-sponsored race teams
- Over the years, Gentex has provided digital rear vision systems for:
 - Audi
 - Nissan
 - Toyota Gazoo Racing
 - Toyota Motorsports GmbH
 - Porsche Motorsports
 - Cadillac Wayne Taylor Racing
 - Mercedes Safety Cars
 - CUPRA e-Racer
- FDM-equipped cars have won the 24 Hours of Lemans, Rolex 24 at Daytona, the 12 hours of Sebring, and other top races

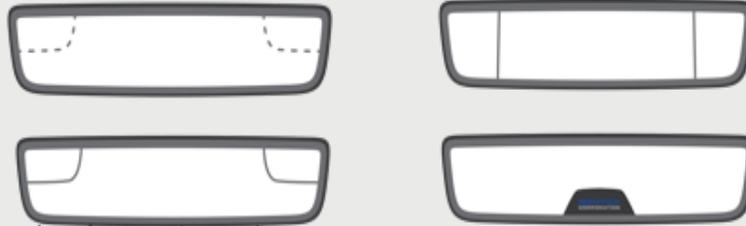


GNTX-R

CAMERA MONITORING SYSTEM

- Three cameras provide digital rear and side vision
- Video feeds streamed to FDM in various driver-selectable composite views:

- Dynamic Spotter
- Spotter
- Segmented
- Stitched



- Side view cameras located in downsized exterior mirrors
- System benefits:
 - Enhanced vision – unobstructed rear and side vision
 - Fails safe – mirror views available if digital view is disrupted
 - Fuel efficiency – smaller mirrors offer weight savings
 - Ready to implement – tailored to meet regulatory requirements
 - Cost effective – no need to retool for additional displays



FDM FOR INFORMATION DELIVERY

- The mirror is the ideal location for alerts and notifications related to the driving task
- Potential display items/value-added features:
 - ADAS/driver assist alerts (LDW, TSR, etc.)
 - Around-view monitor
 - Backup camera
 - Picture-in-picture
 - Turn-by-turn navigation
 - Secondary camera input/trailer tow
 - Semi-autonomous/driver control status



CUSTOM CAMERAS

- Gentex develops custom cameras for machine vision and video
- In-house microelectronics and camera manufacturing
- SmartBeam® – the world's first and best-selling automatic high-beam assist system
 - Mirror-integrated camera and system intelligence
 - Functionality
 - High-beam assist/auto high beam
 - LED Matrix Beam control
 - Village detection
 - Motorway detection
 - Tunnel detection
 - Fog detection
 - Dynamic forward lighting/constant-on high beams
- Cameras for automotive video - rear and side vision



CONNECTED CAR

Gentex is **connecting the car** to the surrounding infrastructure through comprehensive, robust, **V2I features** secured by emerging **biometrics technology**.



HOMELINK®

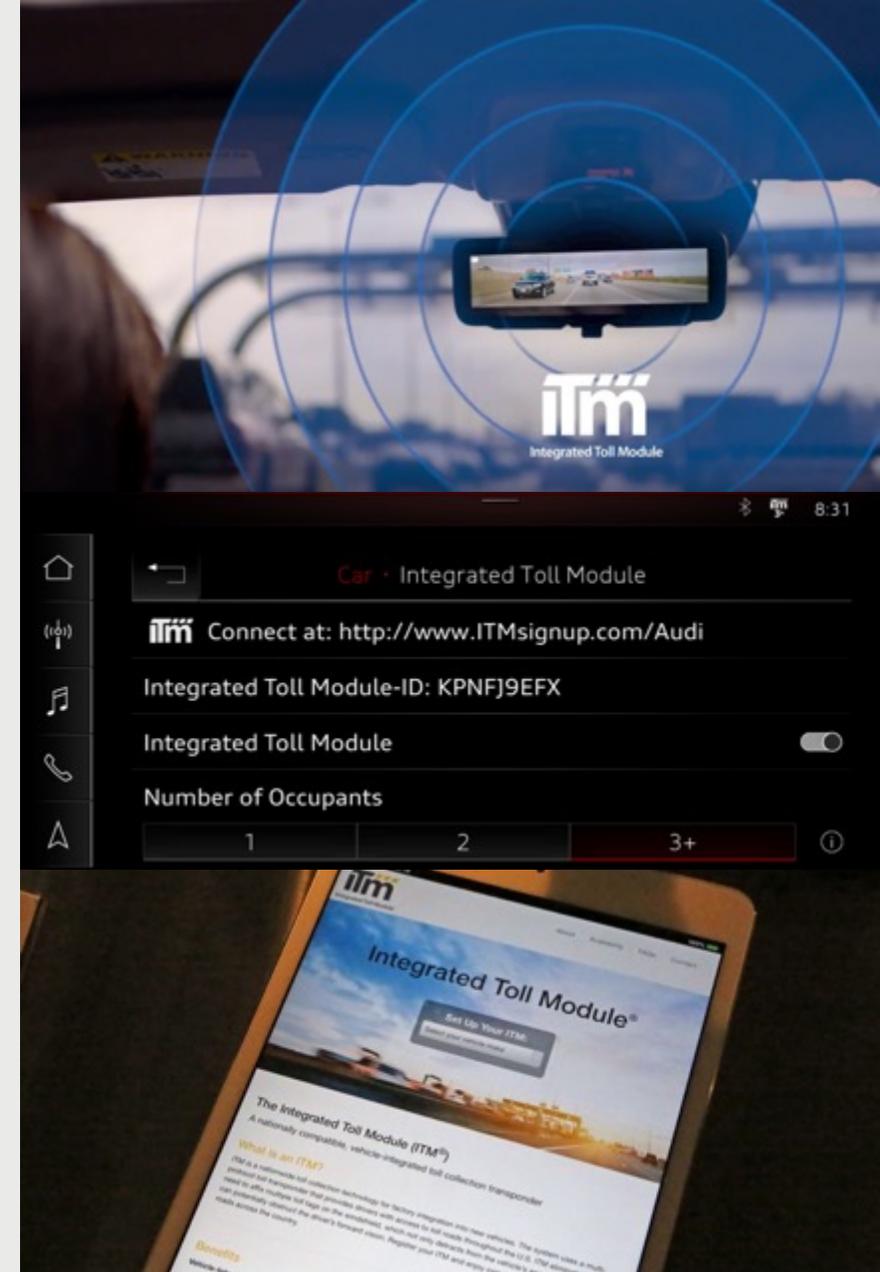


- HomeLink is the industry's most widely used and trusted car-to-home automation system, with more than 80 million HomeLink-equipped vehicles on the road today
- Vehicle-integrated programmable buttons operate virtually any type of home automation device
- Dual transmission:
 - Radio frequency (RF) to activate entry-critical appliances such as garage doors and security gates
 - Cloud-based wireless transmission to operate home lighting, thermostats, smart outlets, security systems, and other IOT devices
- IOT devices are controlled by HomeLink Connect®, a new home automation app that pairs with the vehicle and allows drivers to operate home automation devices from the vehicle's touch screen or Bluetooth-enabled rearview mirror



INTEGRATED TOLL MODULE

- Integrated Toll Module® (ITM®) is a nationwide toll collection technology for factory integration into new vehicles
- Uses a mirror-integrated multi-protocol toll tag to provide motorists with access to toll roads throughout the U.S.
- Allows automakers to offer yet another connected-car feature to their customers and benefit from an ideal, high-performance transponder location
- Motorists benefit by convenient, unfettered access to the country's toll roads while eliminating toll-tag windscreen clutter and the need to manage multiple toll accounts



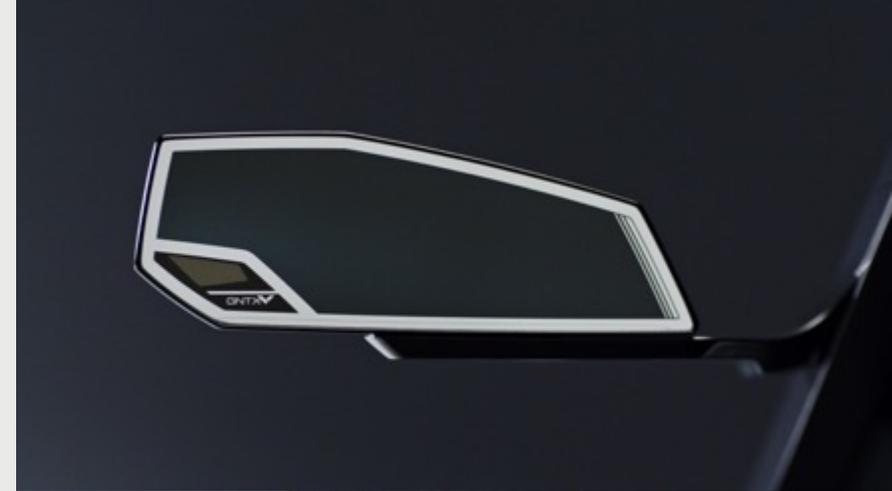
BIOMETRICS/IRIS SCANNING

- To enhance the security of connected car features, Gentex is developing an in-vehicle biometrics system that authenticates the driver with an iris scan
- Delivers customized security, comfort and convenience features
- Consists of a mirror-integrated display, near-infrared emitters, an iris-scanning camera, and system-level intelligence
- Upon entering the vehicle, a glance to the mirror by an authorized user would allow the vehicle to:
 - Operate according to preset parameters/user modes
 - Personalize the cabin (adjust seat position, HVAC controls, music favorites, etc.)
 - Sanction the safe, secure access to a host of cloud-based, connected-vehicle services, like home automation control, tolling, and in-vehicle payments



DIMMABLE GLASS SYSTEMS

Gentex is the world's **leading supplier** of **dimmable smart glass**, shipping nearly 42 million dimmable devices annually.



AUTO-DIMMING INTERIOR MIRRORS

- Mirror glare is a universal problem
- Auto-dimming mirrors are active safety features that eliminate dangerous rearview mirror glare
- Sophisticated light sensors, proprietary gels and microprocessor-based algorithms darken mirror to the precise level necessary
- Benefits
 - Prevents nighttime blindness
 - Improves reaction time
 - Decreases stopping distances
 - Prevents driver fatigue
- Mirror is a module for additional electronic features
 - Displays, alerts and signals
 - Lighting
 - Microphones
 - Forward-facing cameras and ADAS components
 - Telematics components
 - Car-to-home automation



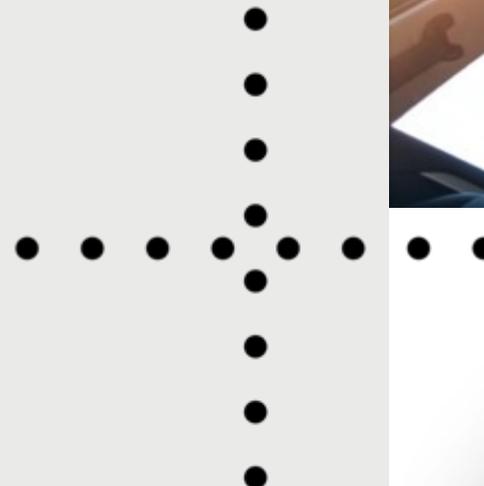
AUTO-DIMMING EXTERIOR MIRRORS

- Three-mirror auto-dimming technology is central to any vehicle's active safety system
- Eliminates nearly all rearview mirror glare
- Advanced feature integration
 - Auxiliary turn signals
 - Side blind zone alerts
 - Curved glass
 - Convex
 - Aspheric
 - Approach lighting



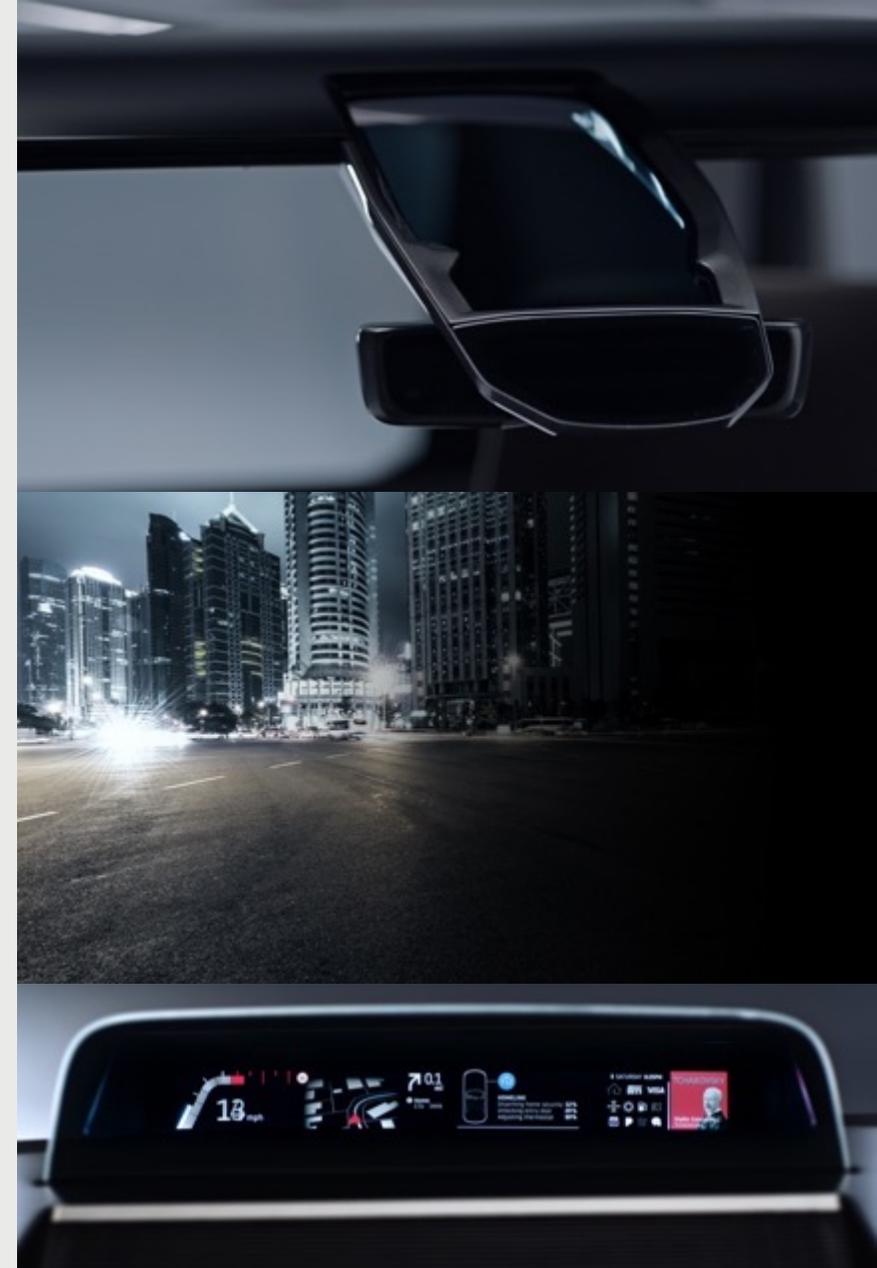
DIMMABLE SUNROOFS

- Electrochromic glass darkens on demand
- Manual or automatic switching modes
- Industry-leading dynamic range:
 - $> 55\%$ to $< 1\%$ visible light transmission
 - Full gray scale control throughout range
- Extremely low haze
- Neutral gray color
- Blocks up to 88% of total solar energy in dark state
- OEM development programs underway



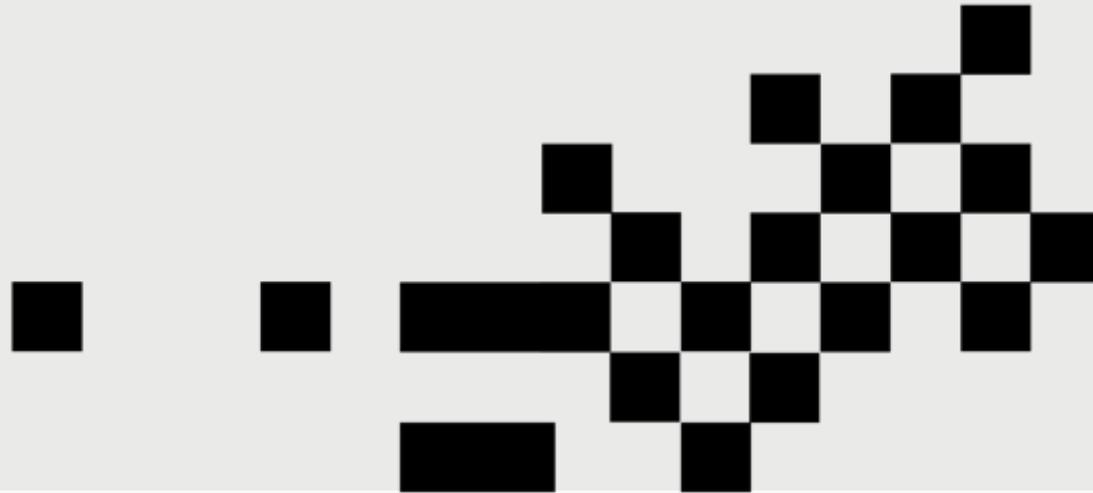
SUNLOAD CONTROL

- Sensor Shrouds
 - Small, dimmable panels that conceal cameras and sensors for enhanced aesthetics
 - Optimize camera operation by minimizing sunlight glare
 - Clears and darkens according to camera function
 - Very low current draw; can remain dark when vehicle is shut off
- Sun Visors
 - Dimmable panel prevents glare from reaching mirror or digital vision system
- Combiner HUDs
 - Sensor-controlled darkening minimizes sunlight glare and assures optimal display visibility



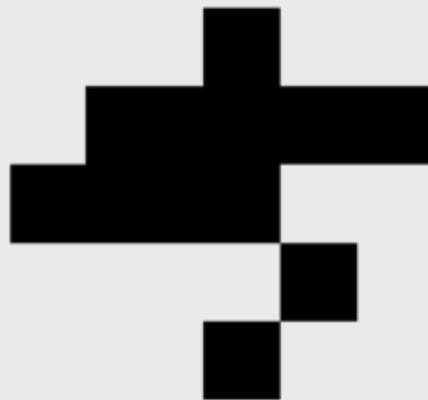
PRIVACY CONTROL

- For the autonomous age, Gentex is working to provide large-area dimmable panels for privacy control
- Demonstrated on the Rinspeed microSNAP, a “last-mile” autonomous concept vehicle for commuting or localized delivery



PRODUCT PORTFOLIO - AEROSPACE

Gentex is the world's **leading supplier** of **electronically dimmable windows** (EDWs) for the **aerospace** industry.



AIRCRAFT WINDOWS & CONTROLS

- EDWs are an electrochromic-based sunlight and heat control solution that:
 - Eliminates the need for traditional window shades
 - Lessens dependence on AC systems
 - Allows passengers to selectively darken the aircraft windows as desired while still enabling them to view the scenery outside
- Currently shipping for Boeing 787 Dreamliner
- The latest generation of dimmable aircraft windows will be offered as optional content on the new Boeing 777X
- The 777X program will be the first to utilize Gentex's latest EDW technology, capable of eliminating more than 99.999% of the visible light at twice the darkening speed of previous windows



PRODUCT PORTFOLIO – FIRE PROTECTION

Gentex was **founded** as a manufacturer of **fire protection products** and is best-known for introducing the **world's first** dual-cell **photoelectric** smoke alarm.



SMOKE DETECTORS AND SIGNALS

- Gentex supplies the commercial fire protection market with:
 - Photoelectric smoke detectors and alarms
 - Carbon monoxide detectors and alarms
 - Audible/visual signaling appliances
 - Bells and speakers
- Millions of Gentex detectors and signals can be found in schools, dormitories, hotels and hospitals throughout North America and the world



FOR MORE INFORMATION

- Check out:
 - www.gentextech.com
 - www.gentex.com
 - www.fulldisplaymirror.com
- Follow us on social media:
 - www.linkedin.com/company/Gentex-corporation
 - <https://twitter.com/GentexCorp>
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- Contact your sales representative to schedule a product demonstration or private technology expo





THANK YOU!



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