



CORPORATE OVERVIEW 2022

TODAY'S FEATURES – TOMORROW'S TECHNOLOGY



GENTEX
CORPORATION

WHO WE ARE

- Technology company and long-time supplier of electro-optical products
- Best known for automatic-dimming rearview mirrors and strategic electronic modules that help automakers get new tech in vehicles

Markets:



AUTOMOTIVE



AEROSPACE



FIRE PROTECTION



MEDICAL

FAST FACTS

- Established: 1974
- Ownership: GNTX – NASDAQ Global Select Market



4,998

Full-time Employees



41.8M

Auto-Dimming Mirror Units

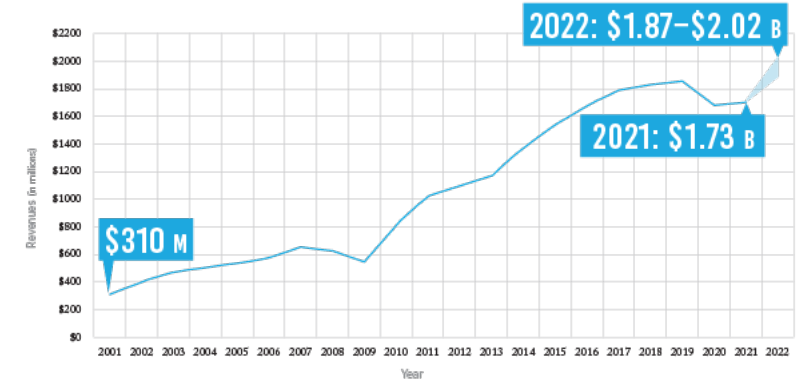


35+

OEM Customers Shipped*

650+

Nameplates our Content Appears On



STRATEGY



Gentex's strategy is to cultivate emerging technologies that address the industry's macro trends while also acting as innovation platforms for today's vehicles.

In short, we look to introduce features for today based on tomorrow's emerging technology paths.



STEVE DOWNING

President & CEO
Gentex Corporation

TODAY'S FEATURES, TOMORROW'S TECHNOLOGY

COMPANY HISTORY: MILESTONES

1974

Foundation of the
Gentex Corporation



1987

Inside electrochromic
rearview mirror



1991

Outside electrochromic
rearview mirror



2010

Dimmable
aircraft windows

Mobileye ADAS
integration

2013

Acquisition of



2017

Biometrics and
camera monitoring
systems



2021

Acquisition of



Inside electro-
mechanical
rearview mirror

1982



SmartBeam camera
assisted forward lighting

2004



Video display mirrors

2006



Full Display Mirror
(FDM)

2014



Acquisition of



2016



HomeLink Connect
Car2Home automation

2018

WHY GENTEX



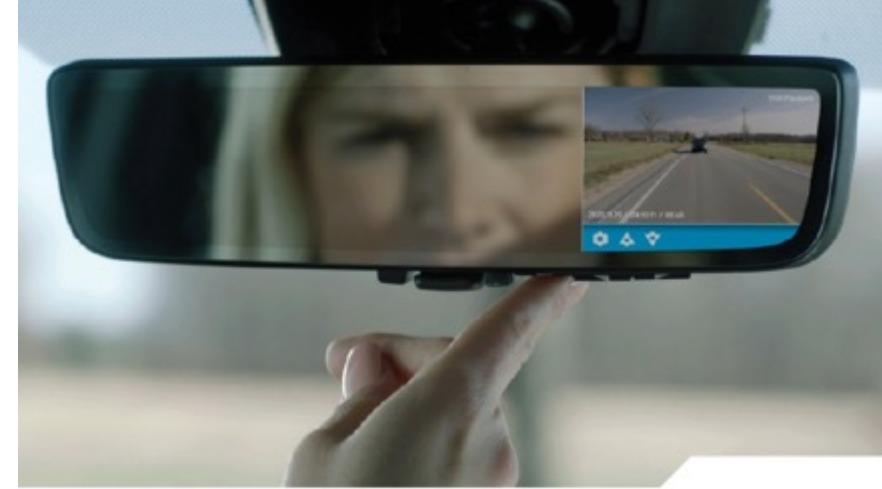
Trusted, long-time supplier of high-quality, innovative, priceable, and OEM-tailored electronic features



Vertically integrated in a wide range of core competencies

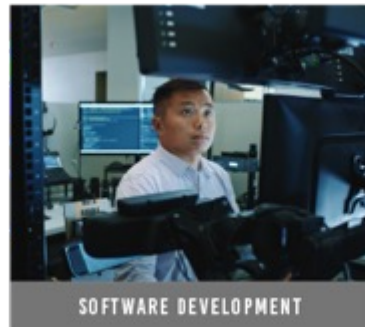
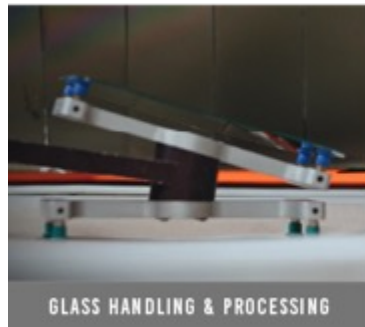


Scalable products for OEM integration, accessory programs, and the automotive aftermarket






CORE COMPETENCIES

- Gentex is highly vertically integrated to drive innovation
- We're skilled in:



IP IN OUR
PRIMARY MARKETS

2,017
PATENTS

	715 US Patents 1169 Foreign Patents
	60 US Patents 43 Foreign Patents
	18 US Patents 12 Foreign Patents

396
TRADEMARKS

	31 US Trademarks 341 Foreign Trademarks
	8 US Trademarks 16 Foreign Trademarks

SUSTAINABILITY

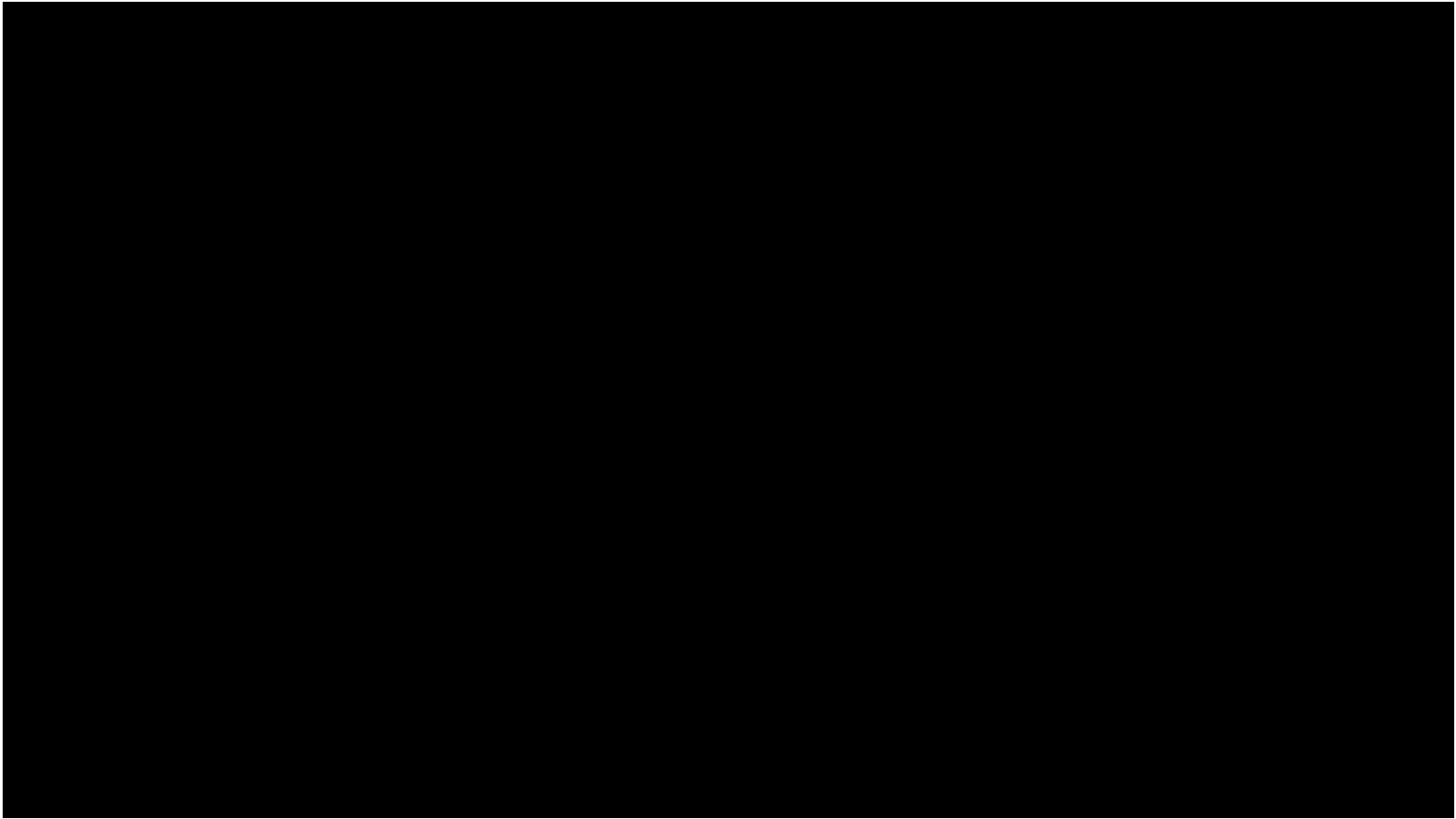


Carbon neutral by
2049

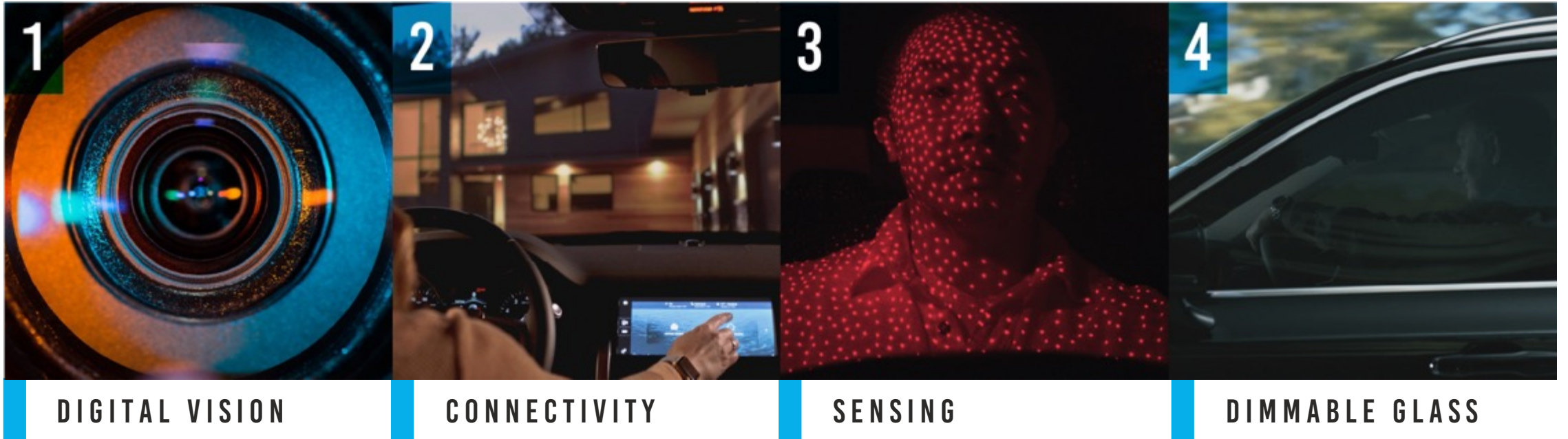
Energy
Waste Stewardship
Water Management
Transportation
Environmental

Diversity, Equity and Inclusion Council
Spanish-Speaking Production Lines
Business Resource Groups
like 'Women@Gentex'

GENTEX CORPORATE OVERVIEW



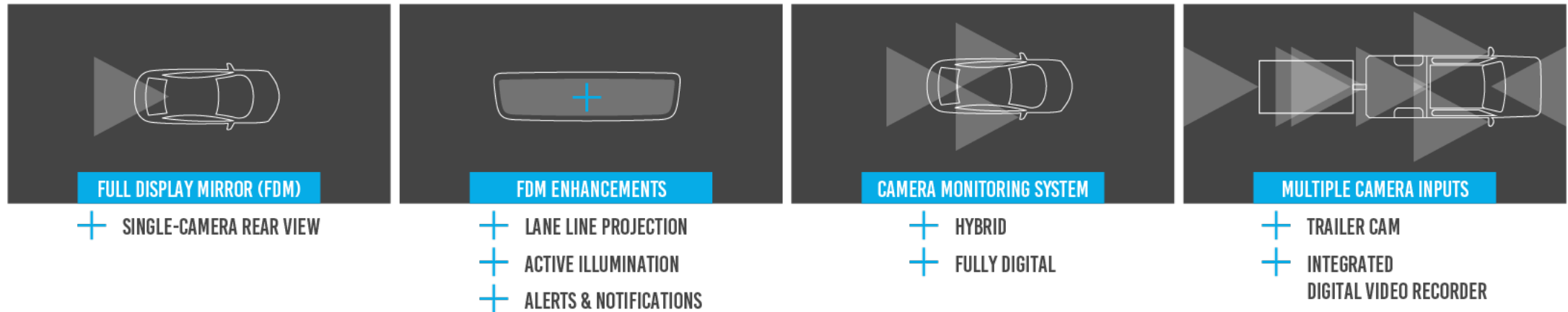
PRODUCT PORTFOLIO - AUTOMOTIVE



DIGITAL VISION

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

Product portfolio:



FULL DISPLAY MIRROR® (FDM®)

- Intelligent rear-vision system
- Custom camera streams live video to unique mirror-integrated LCD display

The Camera Feature Drivers Are Looking For!

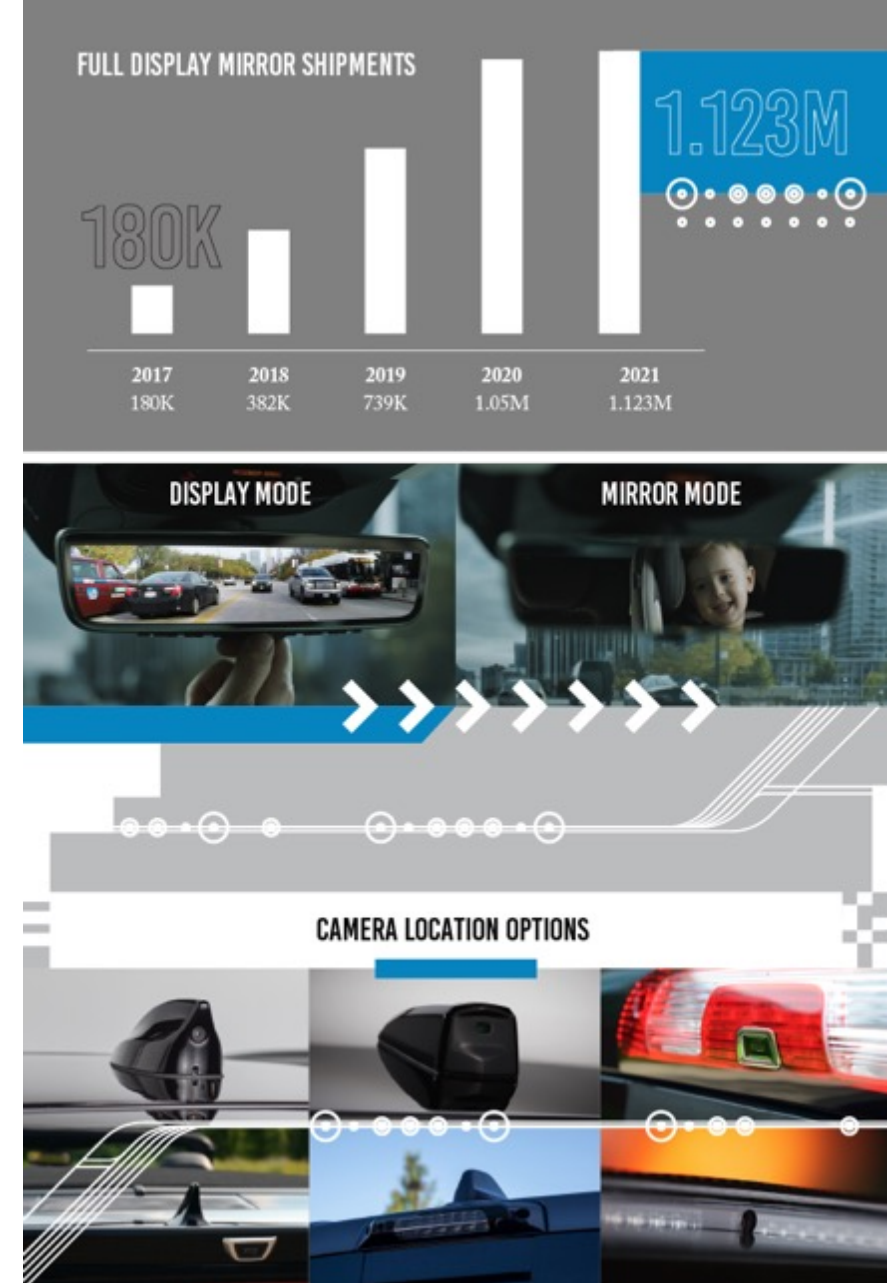
- Highest feature desirability score in the JD Power 2021 Tech Experience Index StudySM (TXI)

The Industry Benchmark!

- Shipping for over 60 vehicle models on 16 different brands
- From luxury to mass market; from cars to trucks to SUVs

+BENEFITS

- 1 Unobstructed, panoramic view
- 2 Bi-modal functionality
- 3 Platform for technology



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
 - Peugeot

FDM-equipped cars have won the 24 Hours of Lemans, Rolex 24 at Daytona, the 12 hours of Sebring, and other top races



HIGH-PERFORMANCE VISION SYSTEMS BUILT FOR SPEED



GNTX-R



FDM ENHANCEMENTS

- Active Illumination
 - Infrared emitters illuminate rearward scene to improve nighttime vision
- Lane Projection
 - Rearward scene overlaid with dynamic, digitally generated lane lines to improve lane awareness/lane keeping
- Information Delivery
 - Display alerts and notifications related to the driving task



+BENEFITS

- 1 Ease the driving task
- 2 Increase safety
- 3 Possible customization

CAMERA MONITORING SYSTEM

- Three cameras provide digital rear and side vision
- **Hybrid:**
 - Side-view cameras integrated into downsized exterior mirrors with video streamed to inside mirror
- **Fully digital:**
 - Exterior mirrors replaced with side-view camera pods and curved interior OLED displays

+ BENEFITS

- 1 Expanded field of view
- 2 Aerodynamic improvement
- 3 Modern appearance



MULTIPLE CAMERA INPUTS

CHOOSE YOUR VIEW



Digital Video Recorder	In-cabin View	FDM View	Trailer View
1. Forward View (capture road scenes)	2. Selfie Cam (in-cabin selfies) 3. Baby Cam (hub camera brought inside vehicle cabin)	4. Standard FDM View (view using standard FDM camera) 5. Bed Cam View (view from hub looking at pickup bed)	6. Trailer Hitch View (view from hub angled to look at trailer hitch) 7. Interior Trailer View (view from camera in the trailer) 8. Behind Trailer View (far field view of camera mounted to rear of trailer) 9. Reverse View (near field view of camera mounted to rear of trailer)

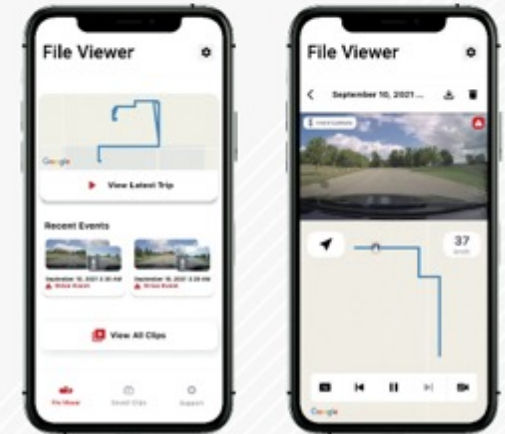
DIGITAL VIDEO RECORDER

- Mirror-integrated digital video recorder (DVR)
- Capable of recording from front, rear and interior cameras
- Scalable product line with core recording functionality and a host of value-added options



+ BENEFITS

- 1 Elegantly integrated
- 2 Cross-car-line module
- 3 System scalability



SELFIE CAM

- Mirror-integrated RGB camera facing the cabin for
 - In-cabin selfies
 - Video calls
- Capture the Moment function
 - Combines selfie cam with metadata from vehicle bus (computer network) into social media posts



DATE



TIME



LOCATION



SONG PLAYING



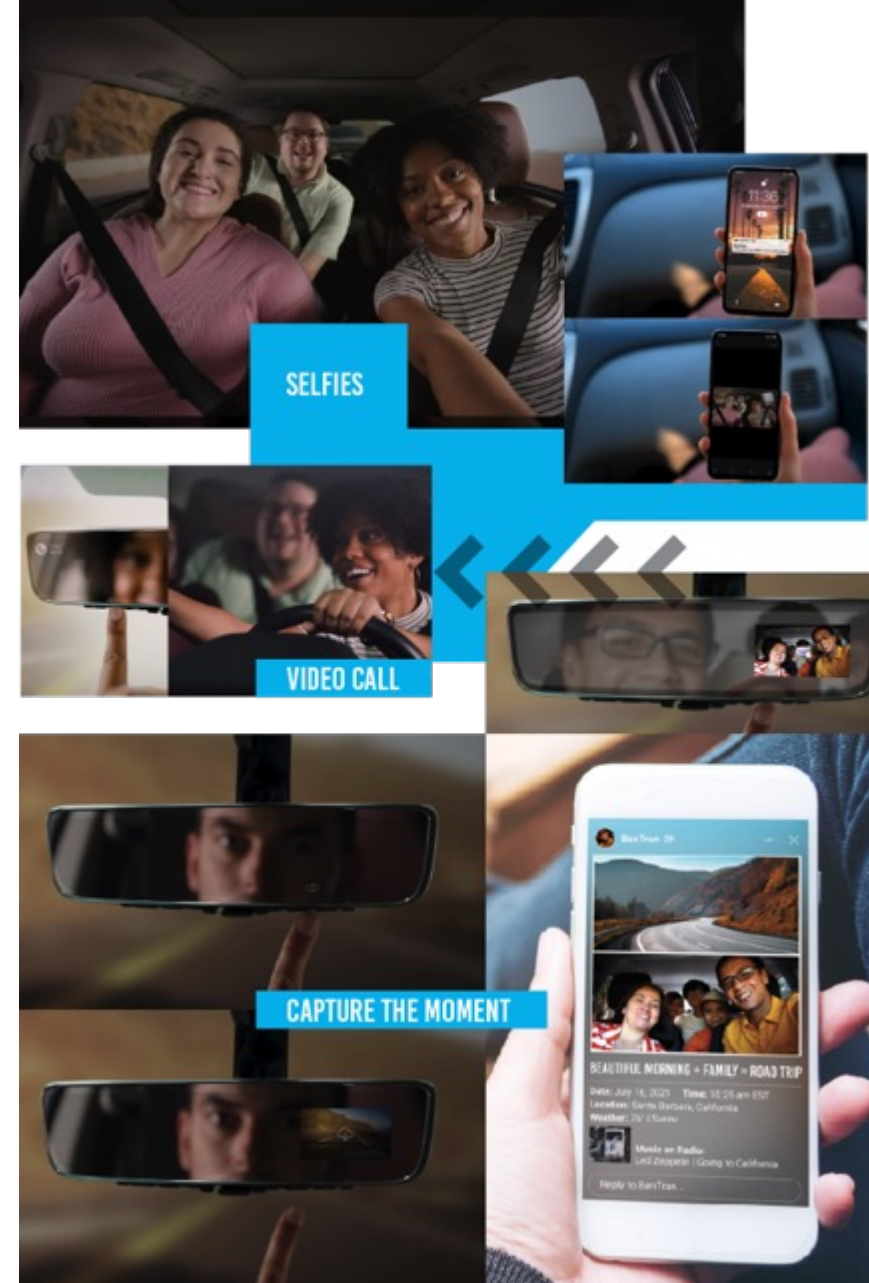
WEATHER

+ BENEFITS

1 Added customer value

2 Priceable option

3 Enhanced brand loyalty



MULTI-VIEW TRAILER CAM

- The system relays the video signal from multiple cameras via a trailer-mounted WiFi hub to a WiFi enabled Full Display Mirror

CHOOSE YOUR VIEW!



- | | | |
|--|--|---|
| 1. Standard FDM View
(view using standard FDM camera) | 3. Trailer Hitch View
(view from hub angled to look at trailer hitch) | 5. Behind Trailer View
(far field view of camera mounted to rear of trailer) |
| 2. Bed Cam View
(view from hub looking at pickup bed) | 4. Interior Trailer View
(view from camera in the trailer) | 6. Reverse View
(near field view of camera mounted to rear of trailer) |
| | 7. Cabin View
(hub camera brought inside vehicle cabin) | |

+BENEFITS

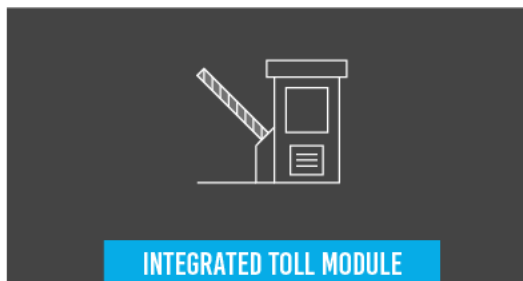
- | | | |
|--------------------------|-----------------------------------|-----------------------------|
| 1 Enhanced vision | 2 Choice of multiple views | 3 System scalability |
|--------------------------|-----------------------------------|-----------------------------|



CONNECTIVITY

Gentex is **connecting the car** to the surrounding infrastructure through comprehensive, robust, **V2I features** and solutions for the **transactional vehicle**.

Product portfolio:



HOMELINK®

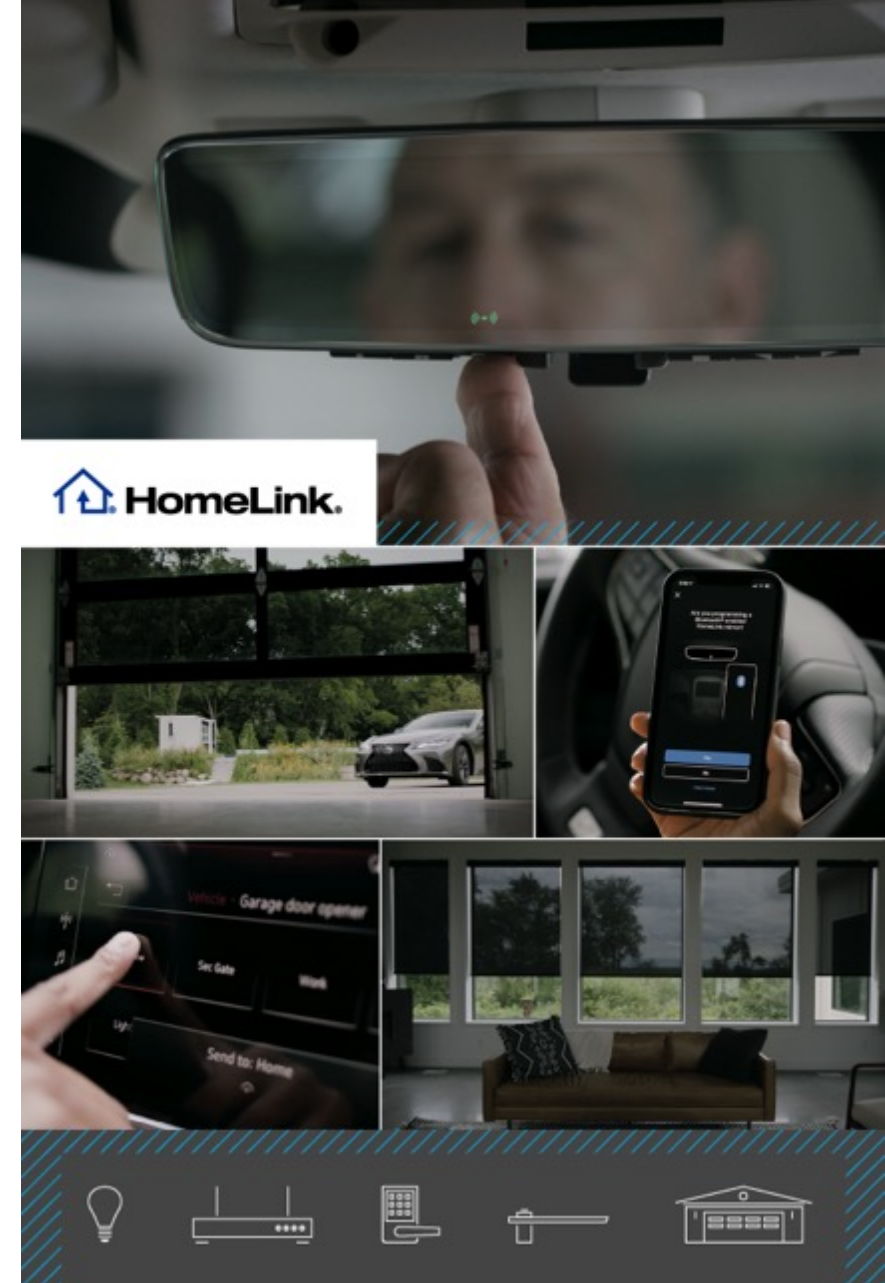
- With HomeLink, users can control
 - garage doors
 - gates
 - lights and more
- Vehicle-integrated programmable buttons operate virtually any type of home automation device
- HomeLink Connect adds additional Wi-Fi-enabled device control via the HomeLink Connect App, allowing users to operate a variety of technologies from their phone.

+ BENEFITS

1 Vehicle integrated

2 Great compatibility

3 Secure connection



INTEGRATED TOLL MODULE

- Integrated Toll Module® (ITM®) is a nationwide toll collection technology for factory integration into new vehicles
- Uses a vehicle-integrated, multi-protocol toll tag to provide access to toll roads across the United States, Canada, and Mexico
- Mirror- and dash-integrated versions available
- Eliminates toll-tag windscreen clutter and the need to manage multiple toll accounts
- Shipping for Audi and Mercedes



+ BENEFITS

1 Vehicle aesthetics

2 One single account

3 Enables in-vehicle payments

TRANSACTIONAL VEHICLE

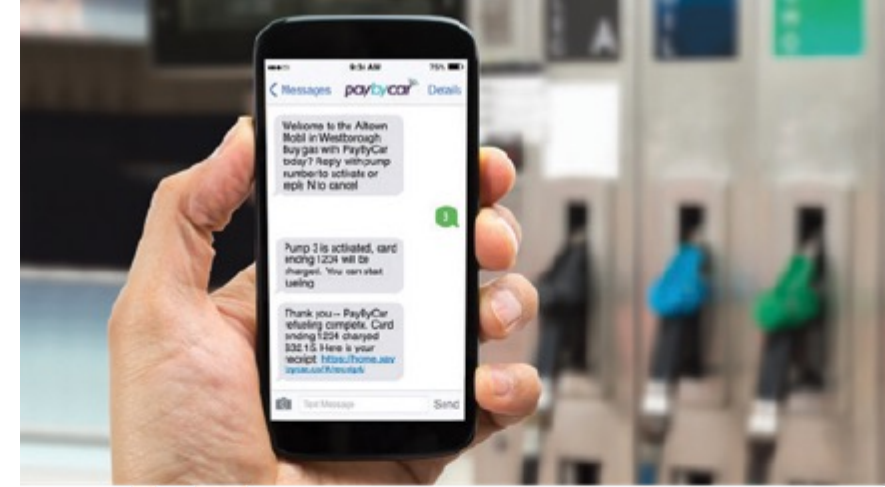
- PayByCar™
 - Uses ITM module to detect when a user pulls into a gas station and provides touch-free payment via text.



- Simplenight®
 - Access a variety of bookable events, hotels, restaurants, and experiences from your connected device.

+ BENEFITS

- 1 Convenient
- 2 Saves time
- 3 Growing list of partners



SENSING

Gentex is shaping the future with its innovative **sensing technologies** for today's vehicles though the **autonomous age** keeping passengers safe and vehicles up and running.

Product portfolio:



BIOMETRIC AUTHENTICATION

- In-vehicle biometrics system that authenticates the driver
- Cases for authentication:
 - Preset parameters/user modes
 - Driver and vehicle personalization
 - Secure authorization for in-vehicle transactions
- Iris scan
 - Most secure forms of biometric identification, with a false acceptance rate as low as one in 10 million

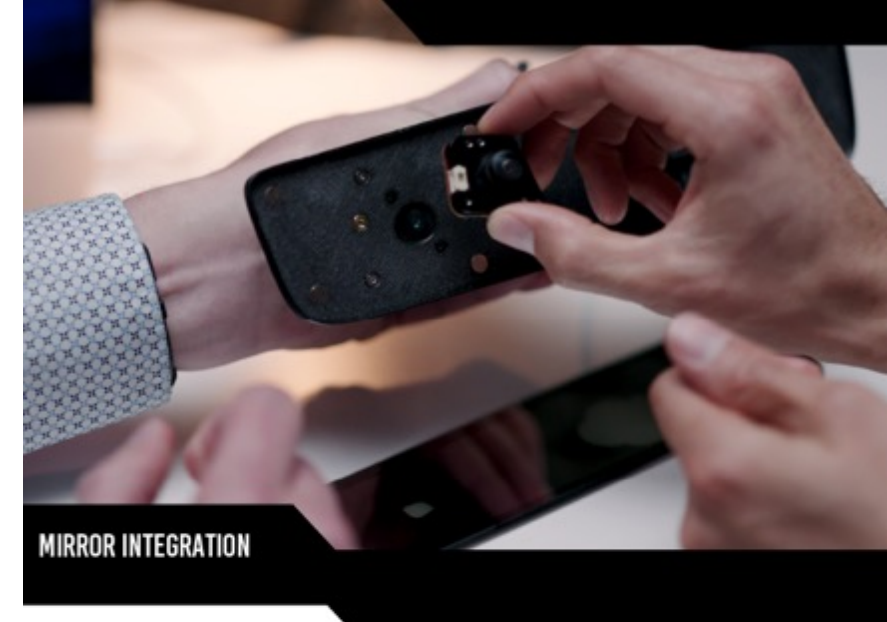
+BENEFITS

- 1 Security
- 2 Personalization
- 3 Comfort



DRIVER MONITORING

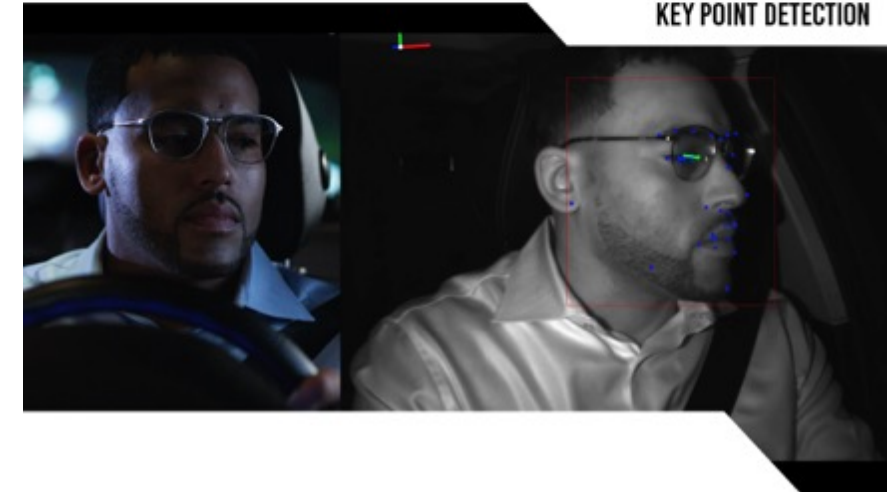
- Mirror-integrated cameras and emitters monitor the driver to:
 - Detect drowsiness
 - Identify distractions
 - Detect sudden sickness
 - Manage transition from automated to manual control in autonomous vehicles level 3



MIRROR INTEGRATION



KEY POINT DETECTION



+BENEFITS

- 1 Discrete camera location
- 2 Cross-car-line module
- 3 Ideal view into cabin interior

IN-CABIN MONITORING

- 2D, 3D and structured-light-based analytics for determining:
 - Occupant detection/behavior/classification/identification
 - Hands on wheel/vehicle interaction
 - Object left behind
 - Body pose/position/posture detection
 - Micro-vibrations/presence of life

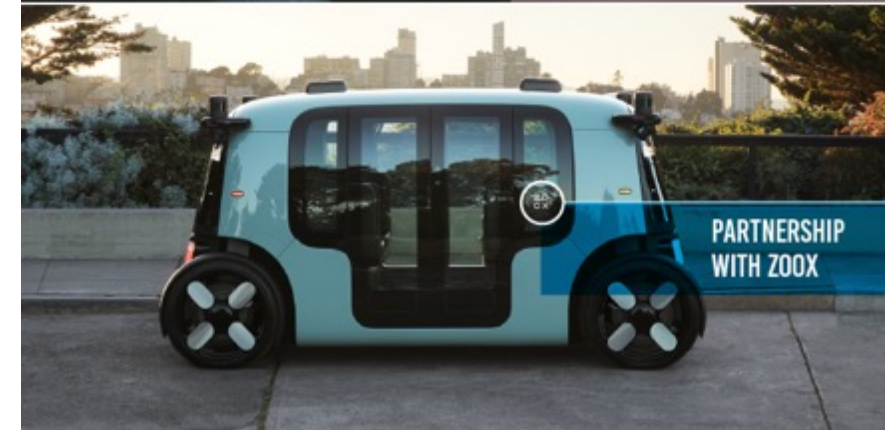
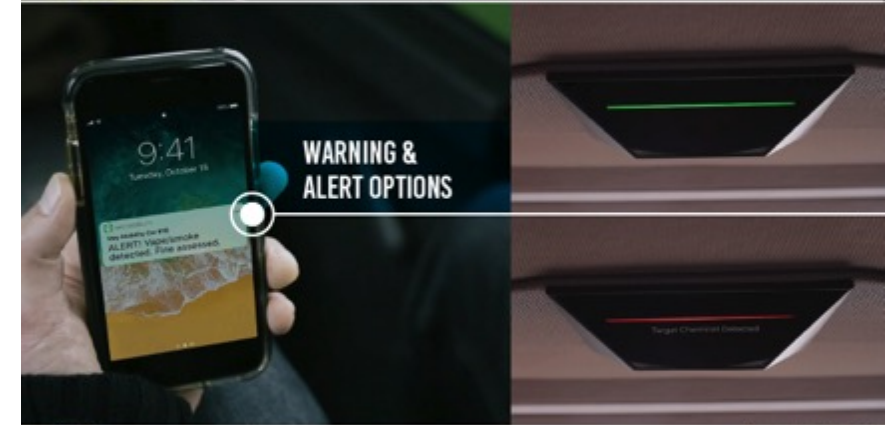


+BENEFITS

- 1 Driver and occupant safety
- 2 Meet NCAP requirements
- 3 OEM-tailored features

IN-CABIN SENSING

- Particulate sensing
 - In-vehicle smoke detector to detect smoke or vape
- Chemical sensing
 - Nanofiber sensors tuned to detect target chemicals, including explosives, drugs, VOCs, toxic industrial chemicals, amines, and more



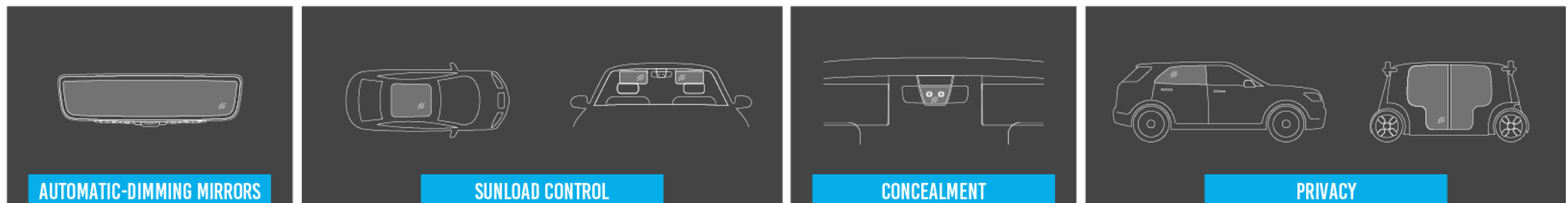
+ BENEFITS

- 1 Safe vehicle environment
- 2 Enhanced rideshare vehicle uptime
- 3 Ensure vehicle cleanliness

DIMMABLE GLASS SYSTEMS

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

Product portfolio:



AUTOMATIC-DIMMING MIRRORS

- Auto-dimming mirrors are active safety features that eliminate dangerous rearview mirror glare
- Electro-optical components darken the mirrors to the precise level necessary:
 - Sophisticated light sensors
 - Proprietary gels
 - Microprocessor-based algorithms

+ BENEFITS

- 1** Prevents rearview glare
- 2** Improves reaction time
- 3** Prevents driver fatigue



SUNLOAD CONTROL

- Electrochromic glass and film-based solutions
- 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

+BENEFITS

1 Prevents glare

2 Control in-cabin heat load

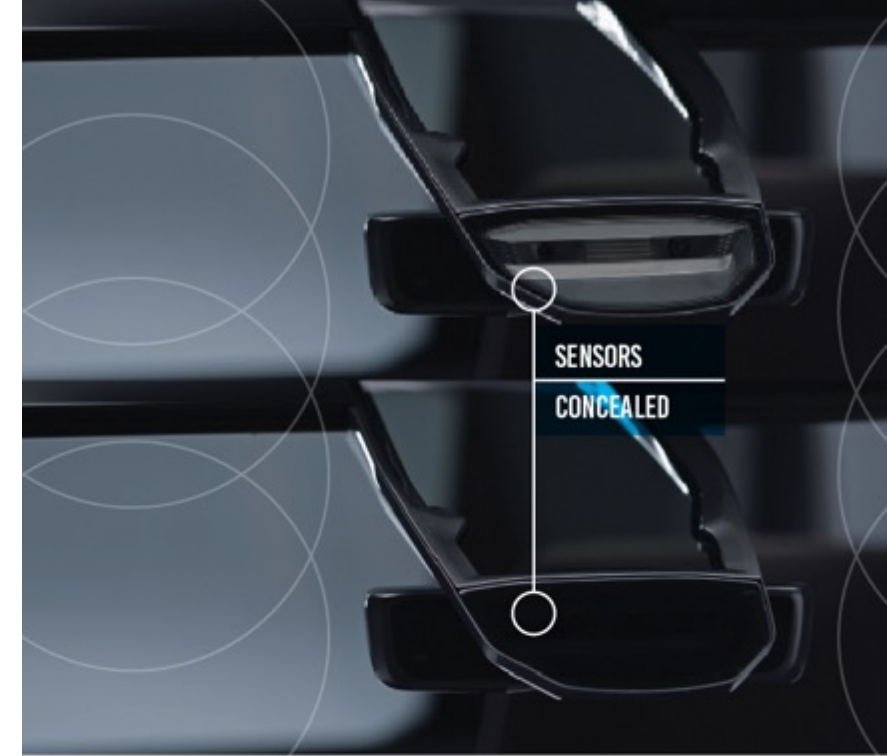
3 Enhanced vehicle aesthetics

SPECIFICATIONS



CONCEALMENT

- Sensor Shrouds
 - Small, dimmable panels that conceal cameras and sensors for enhanced aesthetics
- Pillar displays
 - Vehicle pillar-integrated display behind dimmable glass
 - Conceals cameras and displays



+BENEFITS

1 Vehicle aesthetics

2 System performance

3 Customer surprise and delight



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



PRIVACY FOR THE AUTONOMOUS AGE



+ BENEFITS

- 1 Privacy on demand
- 2 Still affords outside view
- 3 Vehicle aesthetics

PRODUCT PORTFOLIO - AEROSPACE

Gentex is the world's **leading supplier** of **electronically dimmable windows** (EDWs) for the **aerospace** industry is working to evolve its core technologies to enhance **security, comfort, and convenience**.

Product portfolio:



AIRCRAFT WINDOWS & CONTROLS

- Electronically dimmable windows (EDWs) are an electrochromic-based sunlight and heat control solution
- Gentex designs and manufactures all electronics (controller, switch) to ensure robust performance and flawless integration

Customers:

AIRBUS



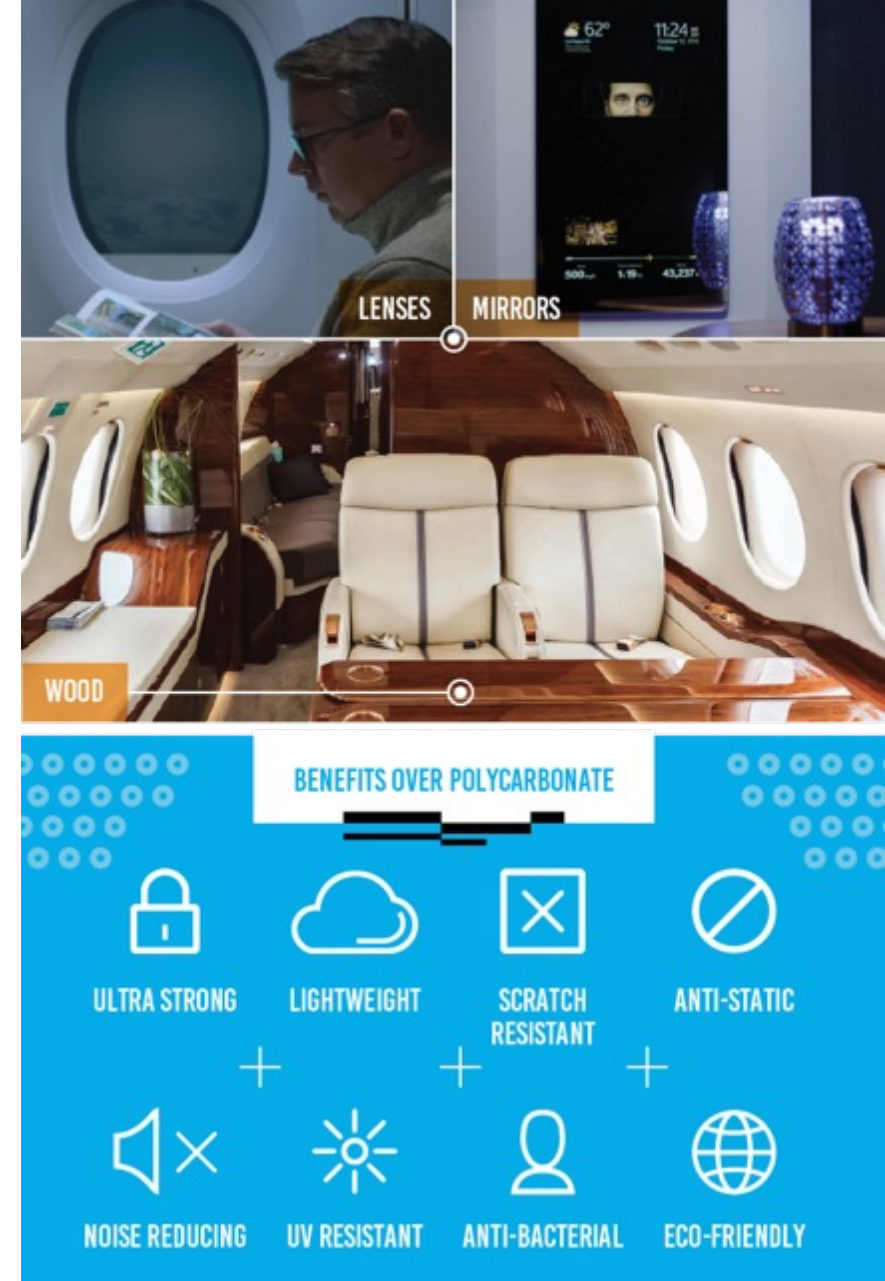
+ BENEFITS

- 1** Cuts sunlight glare
- 2** Still affords outside view
- 3** Variable darkening states



LAMINATES

- Glass laminates using a special laminating technique to produce strong, ultra-thin laminated glass sheets
- Meets the rigorous standards set by the
 - Federal Aviation Administration (FAA)
 - European Aviation Safety Agency (EASA)
 - International Civil Aviation Organization (ICAO) and the airline industry.
- Meets and exceeds aircraft specifications in terms of preventing smoke, fire, toxicity, and other potential effects.



+ BENEFITS

- 1** Ultra-thin and light weight
- 2** Luxurious look and feel
- 3** Outperforms polycarbonate

EMERGING TECHNOLOGIES

- Biometrics
 - The highly accurate iris scanning system allows for added security and convenience during the flight
- Smart Lighting
 - Intelligent lighting uses a combination of CMOS imagers and focused LED pods to shine light when and where it is needed
- Sensing
 - A comprehensive environmental sensing system using a variety of sensing methods to improve security and health on board

+ BENEFITS

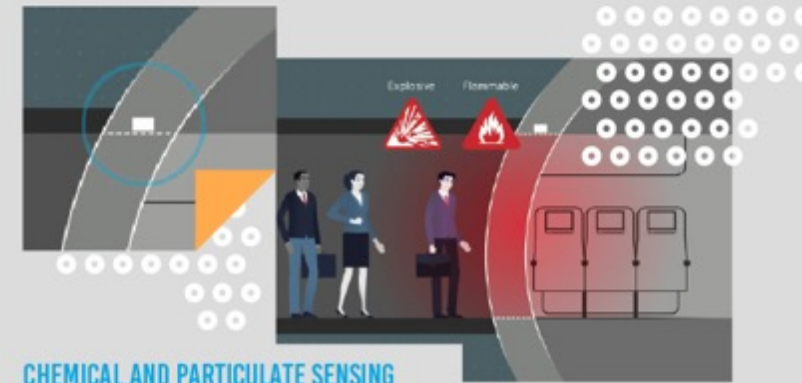
- 1 Security and safety
- 2 Convenience
- 3 Personalization



IDENTIFICATION & PERSONALIZATION



SELECTIVE ILLUMINATION



CHEMICAL AND PARTICULATE SENSING

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

1

Nearly 50 years of fire protection expertise

2

Invented the dual-cell photoelectric detector

3

Quick to detect slow, smoldering fires



PRODUCT PORTFOLIO – MEDICAL

Gentex is cooperating with several partners in the medical industry by transferring the **expertise in vision systems and manufacturing** from automotive to medical applications.



WEARABLE VISION-ASSISTS



SMART LIGHTING



DISEASE DETECTION

MEDICAL PARTNERSHIPS



Gentex and eSight are working to develop a wearable vision-assist technology that allows people living with visual impairment to stay on the go while performing daily life tasks.

This ongoing development combines our camera and vision systems with advanced lighting components to optimize, control, and direct light within medical and surgical environments.

We are working with Retispec to develop and manufacture tools and systems for early detection of Alzheimer's and other disease biomarkers in the human eye.

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>
 - <https://www.instagram.com/gentexcorporation>
 - <https://www.facebook.com/GentexCorporation>
- Subscribe to our YouTube channel:
 - <https://www.youtube.com/user/GentexCorporation>
- Contact your sales representative to schedule a product demonstration or private technology expo





THANK YOU!



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