

Jan 7, 2020

At CES 2020 Panasonic Demonstrates the Future of Mobility, Immersive Entertainment, Broadcasting for Gaming and More

LAS VEGAS (January 7, 2020) – From once in a lifetime experiences and intergalactic travel to safer, more efficient roadways, smart mobility solutions, and immersive entertainment experiences, Panasonic is showcasing a wide range of innovation at CES 2020. Panasonic's booth is divided into three highly interactive zones – Connected Mobility, Immersive Experiences, and Intelligent Living Spaces – highlighting why the company is a leading integrated solutions provider and how those solutions deliver a better life, a better world.

At Booth #12908 in the Center Hall of the Las Vegas Convention Center, attendees can experience a collection of life moments...where technology, pop culture, gaming, lifestyle, entertainment as well as the future of two- and four-wheel mobility intersect.

New This Year! Panasonic Talks

Panasonic Talks is a series of succinct and insightful discussions with some of the brightest minds and passionate advocates in their respective industries and spaces. No more than 15 minutes in length, the Panasonic Talks discussions take place several times throughout the day. Speakers include:

- Michael Phelps, philanthropist and the most decorated Olympian of all time with 28 Olympic medals, 23 gold, speaking with Lauren Sallata, CMO of Panasonic Corporation of North America, on brand purpose and social responsibility
- Katie Ledecky, 15-time world champion and five-time Olympic gold medalist, speaking with Alejandra Ceja, Executive Director, Panasonic Foundation, on advancing equity in education
- Andrew Poliak, CTO, Panasonic Automotive Systems Company of America, on the future of in-vehicle infotainment
- Chris Liedel, CEO, U.S. Olympic & Paralympic Museum, and Joe Conover, national manager, Panasonic System Solutions Company of North America, on creating personalized, immersive experiences, and a host more.

Live Streaming the Panasonic Press Conference and Panasonic Talks

The Panasonic CES press conference, which will be held on January 6, 2020, at 10:00 a.m. PT, and the Panasonic Talks, will be live streamed here: <https://www.panasonic.com/CES> and archived after. A schedule of Panasonic Talks is also available on that Panasonic site.

Main Exhibits at the Panasonic Booth (Las Vegas Convention Central Hall (LVCC) #12908):

LVCC Booth #12908 Overview

Period: Tuesday, January 7 – Friday, January 10, 2020

Location: Las Vegas Convention Center, Central Hall (#12908)

Booth size: 1,486 m²

CIRRUS by Panasonic®

Connected vehicles that communicate with other cars and infrastructure can help make roads safer and reduce CO2 emissions and congestion, while giving traffic managers real-time actionable data to re-route traffic and dispatch emergency crews.

In 2020, Panasonic will be running one of the nation's most advanced transportation data networks, connecting roadways in Utah, Georgia and Colorado. Winner of the CES 2020 Innovation Award – Honoree in Vehicle Intelligence & Transportation, *CIRRUS by Panasonic* is a connected vehicle data platform that can improve safety and mobility on the road by sharing data between vehicles, infrastructure, roadways and traffic operators in real time. The centerpiece of a smart transportation ecosystem, *CIRRUS by Panasonic* provides cloud analytics data processing, real-time analysis and transmission, and data storage capabilities for sharing and updating vehicles and municipalities with road conditions, operations and other safety information. *CIRRUS by Panasonic* is accessible, adaptable, extensible and secure, developed using industry V2X standards so that it can be easily integrated into existing transportation systems. *CIRRUS by Panasonic* will be demonstrated in a replica of a transportation network operations center.

Tropos Electrical Industrial Vehicles

Panasonic is advancing hyper-efficient electric compact utility vehicles (eCUV) through a collaboration with Tropos Motors. Featuring electrification and connectivity solutions that enable a variety of use cases, the low-speed eCUV addresses the needs of businesses and government agencies with the capabilities of a larger truck in a smaller package. At CES, Panasonic will be showcasing 2 Tropos eCUV concept trucks: an emergency fire truck and a refrigeration cargo truck integrated with Hussmann by Panasonic products and solutions. Both trucks are operational and available now.

OneConnect™ Connectivity for Harley-Davidson® LiveWire™ Electric Motorcycles and 2020 Touring Models

Panasonic is connecting riders to Harley-Davidson® motorcycle models beyond LiveWire™. In 2020, Panasonic will also connect 2020 Harley-Davidson Touring motorcycle models, equipped with H-D Connect™ Service, designed to enhance the motorcycle experience by connecting riders to their motorcycle through a cellular connection to the telematics control unit (TCU) utilizing Panasonic's OneConnect™ service. The H-D Connect™ service allows owners to connect remotely to their motorcycle to view key vehicle health information to ensure their bike is ready for that next ride. Visitors to the booth can experience the thrill of a real-feel demo ride of LiveWire.

Automotive eCockpit Solutions

Panasonic will be showcasing its latest fully connected eCockpit concept. The technology platform integrates Panasonic's proprietary SkipGen 3.0 in-vehicle infotainment (IVI) system with Google's Android Automotive OS running on Android 10. In a Karma SC-1 concept vehicle, SkipGen 3.0 is paired with the next generation cockpit domain controller, SPYDR 3.0. At the core, the single brain SPYDR 3.0 acts as a hypervisor and is capable of driving up to eleven displays. Both SkipGen 3.0 and SPYDR 3.0 are connected and powered by Panasonic's proprietary software and cloud platform, OneConnectTM. Whether sending or receiving key infotainment messages on the run, this advanced cockpit system can also seamlessly run multimedia streaming or gaming applications for passenger and rear seat entertainment.

-SPYDR 3.0 is the next evolution of Panasonic's cockpit domain controller. SPYDR 3.0 features 4K display resolution with multimedia streaming and can effectively support up to eleven information or entertainment displays in a vehicle. As such, this platform is capable of driving a variation of head-up displays, infotainment displays, rear seat and passenger seat displays all from a single brain system. Content streaming can range from interactive gaming on today's most popular systems to streaming video via the owner's application of choice. The show exhibit will include a live play gaming demo.

-SkipGen 3.0 IVI is Panasonic's third generation in-vehicle infotainment system running on Google's Android Automotive OS, Android 10 and is also equipped with Qualcomm's Gen 3 processor Snapdragon 8155/6155. As Google's reference hardware supplier,

Panasonic designs SkipGen 3.0 to deliver the most advanced infotainment spectrum of assistance and entertainment features available. Many of these features can be seamlessly controlled and activated by voice. SkipGen 3.0 will also proudly support SiriusXM™ with 360L, the next generation content platform with 200 live channel choices via both satellite and streaming.

-Panasonic's OneConnect™ global platform ensures vehicles are maintained and up to date by providing predictive maintenance reminders to the driver, while providing analytics via the platform to the OEM and end consumer. According to Statista, by 2023, there will be over 342 million connected vehicles worldwide. As represented in the concept vehicle, OneConnect™ analytics can be customized to focus on electric vehicle data to create algorithms that improve battery efficiency to optimize short and long-term state of health of the vehicle. OneConnect™ analytics and data can be stored or accessed through SkipGen or SPYDR and transferred between the OEM, the vehicle and the end consumer.

WHILL Next Autonomous Wheelchair

Featuring sensors for object recognition and autonomous driving software from Panasonic, the electric wheelchair by WHILL has passenger assisted robotic technology for safe and comfortable movement indoors. WHILL Next includes automatic braking to prevent collisions, autonomous mobility, and an automatic following function for ease of traveling in a family or group, the perfect accessibility solution enabling attendees and spectators at Tokyo2020.

Whether it's our hardware, software, platform solutions, or services, everything Panasonic Avionics Corporation does is designed to pioneer the passenger experiences that make our airline partners the most valuable, desirable and differentiated.

Arc™ Inflight Map Platform

Panasonic's state-of-the-art 3D inflight map application brings a range of new capabilities and is inspired by the latest design thinking of digital and gaming experiences. Arc leverages the high viewership of inflight moving maps with an omnichannel approach and is the industry's first personalized map. Built as a gateway to the inflight entertainment experience, Arc is so much more than just a map; Arc brings 'geotainment' with interactive, contextual content to the inflight experience.

Gaming and Casting

Forward-looking concepts under exploration in our effort to bring technologies enjoyed by gaming enthusiasts at home to the air. Gamers could one day be able to enjoy console gaming experiences right at their seat, while others could use their own devices as part of the entertainment system through wireless streaming.

Wellness

A collection of care and comfort technologies that promote well-being and engage multiple senses. A customized premium seat display will showcase our latest passenger experience innovations in health and well-being. With Serenity In-Seat, enjoy more comfortable rest, relaxation, and sleep in lie-flat seats through reduced fatigue-causing low frequency aircraft noise without wearing headphones. Premium Seat Lighting uses variable color and brightness of lighting within the seat to help passengers better adjust to the time zone in their destination city with configurable sleep and wake light cycles. Panasonic's nanoe™ technology suppresses odors and improves air quality around the passenger through ultrafine, electrified water nanoparticles –15,000 times finer than the width of a human hair. And finally, infuse well-being throughout the travel experience with our Wellness digital application, starting from pre-flight schedule recommendations, to in-flight content curation on the seatback monitor, all based on activities to encourage optimal time zone adjustment.

Immersive Experiences	<p data-bbox="507 159 619 185"><u>VR Glasses</u></p> <p data-bbox="507 219 1358 304">The ultimate immersive experience while gaming or in your personal theater with ultra-high quality visual and audio on these small, lightweight VR Glasses with stylish design featuring Panasonic's HDR image processing and optical technology.</p> <p data-bbox="507 338 823 365"><u>High Speed Projection Mapping</u></p> <p data-bbox="507 398 1366 607">Whether you call it table tennis or Ping-Pong, experience a game with high speed projection mapping that creates an entirely new visual experience to amplify the excitement of sporting and entertainment events. The system can detect the movement of the tiny objects, like a Ping-Pong ball, moving at high speed, enabling the instantaneous creation of dynamic projected content based on real-time movement. It takes only .000016 seconds from detection to projection, making sports and entertainment events more exciting and enjoyable.</p> <p data-bbox="507 640 834 667"><u>Technics SL-1200MK7 Turntable</u></p> <p data-bbox="507 701 1374 786">Derived from the original Technics SL -1200, this sleek direct drive turntable system was designed with DJs in mind. It is packed with sound-enhancing technologies and boasts the popular reverse playback functionality.</p>
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Intelligent Living Spaces

At Panasonic, we're rethinking our assumptions about home electronics design to create a new, connected home environment. By learning your habits and patterns, your future home will be able to tailor experiences specifically for you.

HomeX

The integrated home experience platform is the blueprint to make everyday life better. Through advanced analytics and learning algorithms, HomeX adapts to your patterns and behaviors, allowing appliances, electronics and services to adjust to be more personalized to accommodate and anticipate your needs.

Connected Homeware

Life Touchpoint

Connected Homeware is Panasonic's answer to the need for an integrated, personalized home experience. By combining functions under the entire home environment, Connected Homeware can deliver an optimized home solution that is fine-tuned to the needs of each individual. This creates a more comfortable and entertaining environment. And, by connecting to a platform such as HomeX, Connected Homeware delivers a seamless experience to users.

Activity Sensing Technology

New activity sensing technology learns to predict your behavior and support your routine. The activity sensing platform specializes in the understanding of human behavior by processing and analyzing data from multiple sensors, enabling more comfort and personalization for the home.

Home Cybersecurity

Panasonic offers a new approach to detect and repel cyberattacks for IoT devices such as smart home and connected vehicles. The cybersecurity solution protects IoT devices in the local network by countering malicious control commands. The system can adapt to evolving threats, while recording security status to the cloud. The system's AI engine identifies suspicious events through data analysis and helps maintain network security throughout the life cycle of connected devices.

Human Insight Technology

Panasonic's human insight technology offers a new level of understanding of physical and mental states. Panasonic's human insight technology can provide data to make recommendations to improve the individual's experience at home, in their place of business or in public spaces. Human insight technology uses non-invasive sensor and imaging to capture and interpret data based on human habits and behaviors. Through analysis of this physical stress data, it becomes possible to design products and environments more optimized for typical human movements and physiology. At CES, participants can see human insight technology in action through an interactive yoga studio.

HomeHawk FLOOR

A CES 2020 Innovation Awards honoree, the Panasonic HomeHawk FLOOR combines a slim, ambient floor lamp with a near-invisible camera system. Unlike traditional security cameras that look like security cameras, HomeHawk FLOOR blends into any décor for smart, discreet and reliable home monitoring so you can keep an eye on pets, kids, elderly parents and your belongings from your smart device.

eBike Certification by UL

Panasonic's eBike has achieved the industry's first eBike Safety Standard Certification in North America. The eBike standard safety criteria were developed by a panel of industry leaders and government officials and published in early 2020 by Underwriters Laboratories (UL), the not-for-profit safety standards development organization and leading safety science company. The number one eBike drive system manufacturer in Japan with more than 40% market share, Panasonic has helped grow the popularity and

advancements of electric bicycles around the world. Working with UL, Panasonic is helping meet the growing needs of the U.S. market by driving industry-wide safeguards that would protect riders and their equipment.

Other

Panasonic camcorders

New at CES 2020 are three of the industry's smallest and lightest*1 4K 60p camcorders from Panasonic. Perfect for the professional videographer or video enthusiast, all models show off a compact and lightweight design, a wide-angle 25 mm*2 lens with 24x optical zoom, and high-precision auto-focus. They also feature built-in WiFi to live stream directly from the camcorder to the world's most popular video and social networks.

*1 For a camcorder with an integrated lens capable of 4K 60p recording (as of January 6th, 2020. Panasonic research).

*2 35 mm camera equivalent.

LUMIX S1H

As part of the suite of LUMIX cameras that are the official digital cameras of the Olympic and Paralympic Games, the LUMIX S1H makes its CES debut this year. The LUMIX S1H is a Digital Single Lens Mirrorless camera equipped with a full-frame image sensor, combining cinema quality video recording with the high mobility of a mirrorless camera. It is the world's first camera capable of video recording at 6K/24p*3 (3:2 aspect ratio), 5.9K/30p (16:9 aspect ratio) and 10-bit 60p 4K/C4K*4 *5.

*3 As a full-frame digital interchangeable lens system camera, as of August 27, 2019 (U.S.). Panasonic research.

*4 As a full-frame digital interchangeable lens system camera, as of August 27, 2019 (U.S.). Panasonic research. In Super 35 mm-equivalent size.

*5 Corresponding to 4K (4096×2160) as defined by Digital Cinema Initiatives (DCI).

Panasonic True wireless headphones

The new RZ-S500W compact true wireless headphones boast reliable connectivity and industry-leading*6 noise cancellation technology for easy listening and crystal-clear phone conversations. On-the-go smartphone users will enjoy watching videos, playing games and talking on the phone with superior sound and reliable Bluetooth connection that up levels every aspect of the entertainment experience.

*6 As of 6 January 2020

Technics True wireless headphones

The new in-ear Technics EAH-AZ70W True Wireless Headphones combine Dual Hybrid Noise Cancelling Technology with a new 10-mm dynamic driver to create a premium listening experience in a compact, light-weight design. Dual Hybrid Noise Cancelling Technology combines feedforward (FF) and feedback (FB) methods as well as digital and analog processing working together to minimize noise inside and outside of the headphones, so listeners can immerse themselves in the music without interference.

Panasonic M headphone

Panasonic brings concert-level performance of bass-heavy tracks to CES 2020 with its new M series wireless over-ear headphones. Equipped with the Panasonic XBS DEEP (Extra Bass System Deep)*7 playback technology, these headphones are built for enjoying low frequency beats like those found in trap and rap music.

*7 XBS DEEP (Extra Bass System Deep) is a fusion of three technologies: Harmonic Tuning EQ, Free-Edge Driver System, and Bass-Blow Port.

Panasonic TV

New for CES 2020, the Panasonic HZ2000 OLED TV is expertly built by collaboration between Hollywood professionals and Panasonic and Technics engineers to provide beautiful color, immersive sound and smart home connectivity.

Gaming Speaker

Designed specifically for gaming, the SC-HTB01 Gaming Speaker allows players to experience the world of games filled with intensity and tension with a high level of realism. Three game modes – including Role Playing Game (RPG), First-Person Shooter (FPS) and Voice modes- heighten the entertainment experience unique to that style of gameplay, while supporting Dolby Atmos, DTS:X(R) and DTS(R) Virtual:X™ for dynamic 3D sounds.



In addition to the main booth at the LVCC described above, Panasonic has a booth at Sands Expo, where it will be showcasing smart home technology:

Sands Expo Booth #42711 Overview

Period: Tuesday, January 7 – Friday, January 10, 2020

Location: Sands Expo, Level 2, Booth #42711

Booth size: 90 m²

Content: Smart Home

On exhibit is:

ENY (Battery-less & Wireless Button)

-The system includes battery-less and wireless-switch module to get/analyze feedback from your customer

Vacuum Insulated Glass

-Vacuum insulated glass with high thermal insulation window glass that provides new value to the space inside the mobility or a house.

100BANCH:

-STAND BY D: A desk lamp with robot arm that keeps your desk clean.

-RGB_Light: A pendant light to make colorful shadow from red, green and blue lights. Application of the additive color mixing of light.

-Teplo: An appliance to infuse tea in the best way for you by sensing your physical condition

Shifall

- Cook'Keep: A smart home appliance that cools down and warms up your meal whenever you want.
- BeamAR: This pendant light with projector function enables any tables can be smart table.
- Project: NeSSA: It remembers the last time you wear the clothes you wear now, and lets you know if you are scheduled to see the same person as last time.

Press Kit:

Please visit <https://na.panasonic.com/CESPressKit> for announcements, a booth map and more.

<https://www.panasonic.com/CES>

#PanasonicCES

About Panasonic

Panasonic Corporation is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses. The company, which celebrated its 100th anniversary in 2018, has expanded globally and now operates 582 subsidiaries and 87 associated companies worldwide, recording consolidated net sales of 8.003 trillion yen for the year ended March 31, 2019. Committed to pursuing new value through innovation across divisional lines, the company uses its technologies to create a better life and a better world for its customers. To learn more about Panasonic:

<https://www.panasonic.com/global>.

**The content in the following news releases is accurate at the time of publication but may be subject to change without notice. Please note therefore that these documents may not always contain the most up-to-date information.*