

Exhibitions

TDK to showcase cutting-edge technology at CES 2024 across automotive, robotics, IoT, machine learning, and more

- Exhibiting at CES 2024, TDK will demonstrate its component and system solution portfolio in Central Hall - booth #20521
- Numerous demonstrations and immersive experiences will be available at the booth, showcasing the latest solutions within automotive, IoT, renewable energy, robotics, medical, machine learning, and more
- Qeexo's collaboration project with Doosan Robotics also earned an honoree award in the artificial intelligence category of the 2024 CES Innovation Awards

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TDK Corporation (TSE: 6762) will exhibit again at the annual Consumer Electronics Show (CES) in Las Vegas, Nevada, from January 9th through January 12th, at booth #20521 located in the Central Hall. The company will showcase more than 30+ technology demonstrations and experiences across its portfolio, highlighting components, sensors, and system solutions for the entire spectrum of electronics applications. TDK will also host an invite-only, private showcase called Techno Forum featuring an additional 10+ demonstrations of prototypes, pre-prototypes, and updated solutions. TDK will also be releasing a series of sensor products and partner announcements from its InvenSense brand at the show. Numerous TDK group companies, such as Qeexo, ICsense, TDK, TDK Electronics, TDK-Micronas, TDK-Lambda, and InvenSense, will be present at the booth.

Additionally, Qeexo and Doosan Robotics were named as honorees in the 2024 CES Innovation Awards, which spotlights outstanding design and engineering, for their collaboration on an AI recycling & order-picking robot. Together, Qeexo and Doosan Robotics created Oscar the Sorter, a cobot that utilizes Doosan's Dart-Suite where users can download an app specifically programmed for recycling and order pick-up. With minimal user setup, the robot quickly learns to recognize and sort objects, eliminating common classification errors. This smart robotic solution also allows for real-time downloads of new models and streamlined programming.

The TDK booth (Central Hall - booth #20521) will feature company experts showcasing solutions ranging from automotive (including e-mobility, advanced driver assistance systems (ADAS), and autonomous driving, robotics, 5G, machine learning (ML), and the Internet of Things (IoT) – as well as additional fun demos including a smart cane, a soccer ball, robotic lawn mower, ultrasonic door lock, and more.

Product highlights and demonstrations include:

- **Mobility: ADAS, & EV**
 - **Inertial-Based Positioning Solution:** Leveraging motion sensors and Global Navigation Satellite System (GNSS).
 - **Battery Electric Vehicle (BEV) Motor Sensing:** Showcasing integrated motor sensing solutions within a car.
 - **Automotive MEMS Sensors:** Car rollover prevention, ADAS and other automotive technologies.
 - **Haptics in Steering Wheels and Auto Displays:** Powerful piezo actuators will be showcased to demonstrate flexibility and precision for active haptic feedback.
 - **Piezo Automotive Speaker:** A full-range speaker for cars mounted on a thin board, which is also relevant for other applications beyond automotive.

- **Integrated Sensor Solutions:** Showcasing various technologies for BEV thermal management and safety.
- **TMR Dies for Next-Gen Integrated Current Sensors:** Incorporated TMR dies into integrated current sensors (ICS), a critical component used in rapidly expanding electrification applications like onboard chargers (OBCs) in EVs.
- **TMR & MEMS Gyro Fusion:** Tracking everything every time, a super high accuracy position sensing solution, using on-chip system level sensor fusion of IMU and magnetometer.
- **Industrial & Service Robotics**
 - **Ribbit Robot:** An interactive roaming robot showcasing the broad spectrum of TDK technologies in a single use case.
 - **Voice Command Module:** An automatic voice sensing solution for devices without audio or wireless capabilities for voice control of home appliances, toys, and robots with preset command words.
- **IoT**
 - **Automated ML solutions:** Demonstration of an ML solution that generates actionable insights from sensor data.
 - **Scalable Indoor Positioning Solution:** An indoor positioning solution that tracks people, assets, and vehicles.
 - **Battery-Powered Wireless Mesh Sensor Module:** The world's first ultra-compact sensor module featuring embedded edge AI for predictive maintenance to prevent anomalies in machinery and equipment to minimize downtime.
 - **SmartEdgeML Machine Learning:** Build and run a machine learning algorithm on a 2.5*3 mm motion sensor chip at < 30uA in 2 minutes.
 - **Industrial MEMS Sensors:** Demo of high-performance sensors for vibration detection and robotics.
 - **Augmented AI for Electromagnetic Compatibility (EMC) Solutions:** Augmented AI quickly identifies and provides solutions to EMC issues at the design level.
 - **Application-specific integrated circuits (ICs):** Multiple demos in analog, high-voltage, mixed-signal, ASIC design and supply, including hearing aid and glucose measurement.
- **Medical & Healthcare**
 - **Smart Coffee Machine:** Detects if your coffee machine is dispensing good quality coffee, using TDK motion sensors and machine learning.
 - **Ultrasonic Water Dispenser:** Ultrasonic Time-of-Flight (ToF) sensor for presence detection in water dispensers.
- **Renewable Energy**
 - **Low Power Modules:** Display of brick power supplies and filters.
 - **Industrial Power Supplies & Converters:** Industrial non-isolated and isolated DC-DC converters to 2500W bi-directional power supplies.
 - **Batteries:** Lithium-ion Batteries for ESS and industrial applications: Reliable, compact, high power constant voltage, constant current programmable power supplies, designed for industrial applications, as well as for residential energy storage systems.
- **AR/VR**
 - **Full-Color Laser Module / Smart Glasses:** Full-color laser module for direct projection onto the retina, used in AR/VR.
 - **AR Glasses:** Showcasing navigation and direction based on head movement.
- **Beyond 5G**
 - **Smarter Hearables (True Wireless Stereo):** TWS devices showing 360 spatial audio and active noise cancellation, enabled by TDK's ultra-low power VibeSense360™ motion sensor solution.
 - **Analog & Digital MEMS Microphones:** showcasing audio capture, acoustic activity detection, and spoken keyword detection.
- **Other**
 - **Ultrasonic Front Door Lock:** Ultrasonic sensing wake-up with power-saving smart detection.
 - **MEMS-Equipped Soccer Ball:** Ultra high-performance for high-impact applications enabling precise analysis.
 - **Robotic Lawn Mower:** Residential lawn mower with sensing technologies inside.
 - **Personal Relaxation Mobility:** Unit will highlight mobility evolving into personal relaxation mobility that provides time and space for relaxation incorporating multiple advanced technologies, including Piezo and haptics.

To see the full show map, visit the CES exhibits site at <https://www.ces.tech/Exhibits/Exhibitor-Directory.aspx>

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 people worldwide.

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