

## MEMS Sensors

# TDK technologies empower accessibility innovation with WeWALK's AI-powered smart cane

- New WeWALK Smart Cane 2 enables “unlimited mobility for visually impaired people” utilizing TDK sensor technology
- IMU motion sensors enable highly accurate navigation while operating at ultra-low power
- MEMS microphones accurately capture voice commands while consuming very little power
- Ultrasonic time-of-flight sensors enable real-time presence detection and obstacle avoidance
- TDK offers a WeWALK Smart Cane 2 giveaway at its CES 2025 booth #15815\*

January 6, 2025

TDK Corporation (TSE:6762) is presenting in its CES 2025 Booth #15815 how TDK MEMS sensors and solutions enable innovation in accessibility technology, as multi-award-winning company WeWALK announces global availability of its Smart Cane 2 for visually impaired people. The WeWALK Smart Cane 2 is an intelligent assistive device empowered by TDK motion sensors, MEMS microphones, and ultrasonic time-of-flight sensors, for highly accurate navigation, voice prompts, and obstacle avoidance.

WeWALK, whose recent accolades include The King's Awards for Enterprise Innovation and Edison Awards 2024, will join the CES Consumer Technology Association's (CTA) Accessibility roundtable on January 6, 2025 in Las Vegas and demonstrate its innovative Smart Cane 2 at the TDK CES booth #15815, January 7-10 and WeWALK CES booth #62035.

At the CTA Accessibility roundtable, WeWALK will unveil its groundbreaking Smart Cane 2, featuring an AI-powered voice assistant. During CES 2025, live demonstrations of this innovative cane will showcase its ability to enhance mobility and independence for visually impaired people, marking a significant leap forward in accessible technology.

The WeWALK Smart Cane 2 integrates multiple sensor solutions by InvenSense, a TDK group company, as well as TDK SMT inductors and RF antennae, showcasing the potential of TDK technology to enable a variety of IoT innovations. Also at the TDK booth, members of the visually impaired community can enter to receive one of eight WeWALK Smart Cane 2 devices, in a giveaway sponsored by TDK.\*

“The new AI-powered WeWALK Smart Cane 2 combines insights from our own lived experiences and the visually impaired community with TDK's expertise in advanced sensor technology,” said Kursat Ceylan, co-founder of WeWALK. “This collaboration has allowed us to redefine mobility and accessibility, creating a truly empowering tool for visually impaired individuals worldwide.”

TDK technology within the WeWALK Smart Cane 2 includes:

- InvenSense SmartMotion® 6-axis IMU sensor, enabling Smart Cane 2 users to navigate both indoor and outdoor environments with the accuracy of an integrated gyroscope and accelerometer
- InvenSense SmartSound™ microphone sensor, offering an intelligent voice assistant to help Smart Cane 2 users explore wherever they want to go
- InvenSense SmartSonic™ ultrasonic time-of-flight sensor, for world-class presence detection and obstacle avoidance, to help ensure nothing gets in the way of safety and mobility

- TDK multilayer chip antenna, to send and receive signals in the required frequency
- TDK wound metal inductors for power circuits
- TDK multilayer ferrite inductors for decoupling circuits

“By using multiple TDK sensors to help create the intelligence of the Smart Cane 2, the WeWALK team shows the vast potential for sensor innovation,” said Massimo Mascotto, director of product marketing for InvenSense, a TDK group company. “We believe WeWALK inspires other engineers to use TDK sensors in creating products that improve lives.”

#### **Learn more**

For additional information about WeWALK and TDK products within the WeWALK Smart Cane 2, please visit [invensense.tdk.com/wewalk](https://invensense.tdk.com/wewalk).

#### **About WeWALK**

Founded in 2019, WeWALK is a UK-based startup with a mission to enhance the mobility of visually impaired people. It leverages cutting-edge technology and artificial intelligence to provide innovative solutions, such as the smart cane. WeWALK's technologies enable blind and visually impaired people to enjoy greater mobility, safety, and independence. For more information, please visit <https://wewalk.io>. Images are available in the [WeWALK press kit](#).

#### **About the CES giveaway**

\*To enter TDK's giveaway of the WeWALK's new AI-powered Smart Cane 2, visit the TDK CES booth #15815 reception desk or WeWALK booth # 62035 and provide your contact information with a request to enter the Smart Cane 2 giveaway. Daily on January 7, 8, 9 and 10, TDK and WeWALK will randomly draw two entries and confirm winners by email; all eight winners will receive the Smart Cane 2 and associated training materials on the product's estimated shipping date of February 2025.

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#### **Glossary**

- IMU: Inertial Measurement Unit
- 6-axis: 3-axis gyroscope + 3-axis accelerometer
- MEMS: Micro-Electro-Mechanical Systems

#### **Main applications for TDK MEMS sensors**

- Accessibility and medical devices
- IoT and smart home
- Smartphones
- Wearables
- Hearables / TWS
- AR/VR and gaming
- Action/dash cameras
- Drones
- Navigation modules
- Home and industrial robotics

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#### **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 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 people worldwide.

**About InvenSense**

InvenSense, a TDK group company, is a world-leading provider of Sensing Solutions. InvenSense’s vision of Sensing Everything® targets the consumer electronics and industrial areas with integrated Motion, Sound, Pressure, and Ultrasonic solutions. InvenSense’s solutions combine MEMS (micro electrical mechanical systems) sensors, such as accelerometers, gyroscopes, compasses, microphones, barometric pressure sensors, and ultrasonic time-of-flight sensors with proprietary algorithms and firmware that intelligently process, synthesize, and calibrate the output of sensors, maximizing performance and accuracy. InvenSense’s motion tracking, ultrasonic, audio, fingerprint, location platforms and services can be found in Mobile, Wearables, Smart Home, Industrial, Automotive, IoT, Robotics, and many more types of products. InvenSense became part of the MEMS Sensors Business Group within the Sensor Systems Business Company of TDK Corporation in 2017. In April of 2022, Chirp Microsystems formally merged with InvenSense. InvenSense is headquartered in San Jose, California and has offices worldwide.

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You can download this text and associated images from <https://invensense.tdk.com/news-media/tdk-technologies-empower-accessibility-innovation-with-wewalks-ai-powered-smart-cane>

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