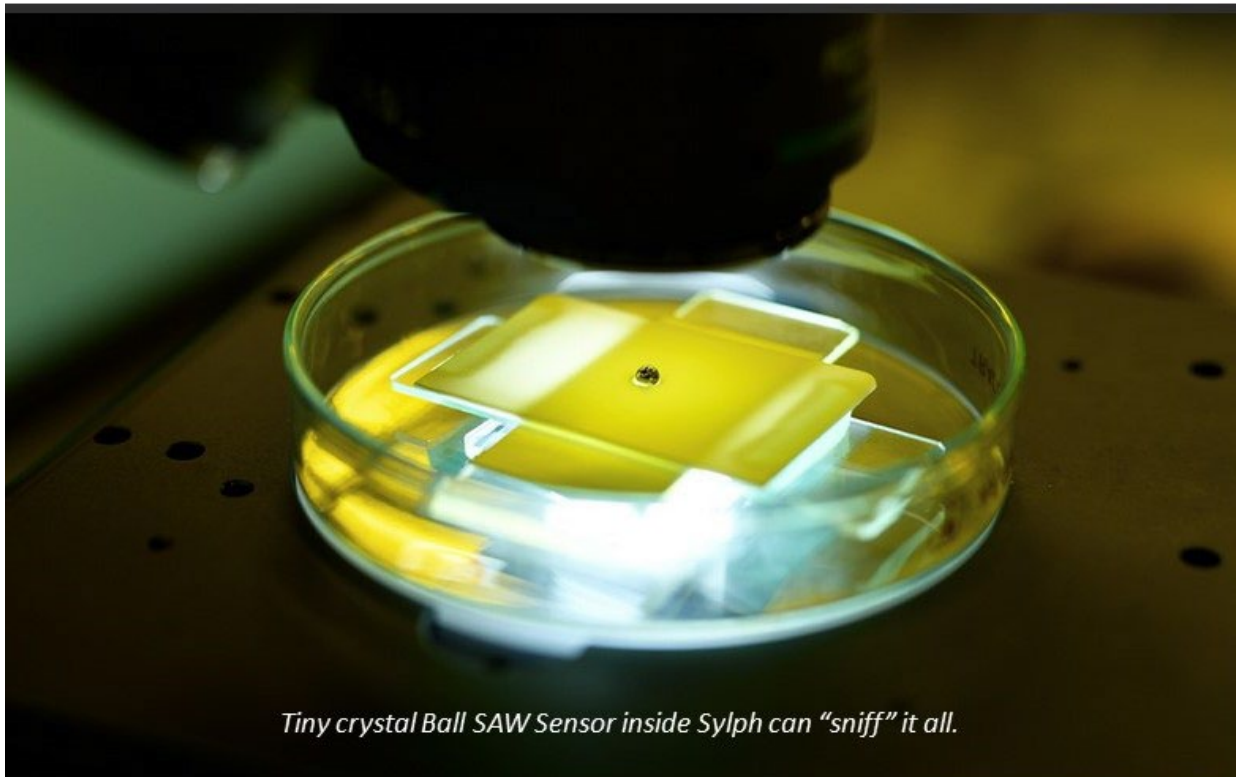


Ball Wave to Showcase ‘Sylph,’ the World’s Smallest Device for ‘Sniffing’ Chemicals in the Air, @CES Unveiled & CES 2023

Tiny crystal sensor used to make Sylph has the potential to serve as the ‘nose’ of robots to sniff out anything from sick buildings to diseases in our bodies.



LAS VEGAS (Dec. 26, 2022) – At CES® Unveiled (Jan. 3), CES 2023 (Jan. 5-8) and ShowStoppers® (Jan. 5), [Ball Wave](#), a Japanese sensor startup, will present “Sylph,” **the world’s smallest and lightest gas analyzer (chromatograph) that enables instant onsite environmental assessment anywhere**, here on Earth or in space. Powered by the company’s proprietary Ball Surface Acoustic Wave (SAW) Sensor® – the world’s first and only spheric SAW sensor – Sylph is as sensitive in detecting chemicals as state-of-the-art desktop gas chromatographs while requiring only 1/20th of the power needed to operate those conventional instruments. [Sylph won a CES 2023 Innovation Award in the Mobile Devices & Accessories category.](#)

Developed in collaboration with the Japan Aerospace Exploration Agency (JAXA), Sylph can also make space exploration and living easier and safer for astronauts and civilians alike.

“Until now, gas analysis required dormitory refrigerator-sized instruments. Our invention of the Ball SAW sensor, the 3.3 mm (0.13 inch)-diameter crystal sensor, enabled us to create the palm-sized Sylph that operates on mobile battery power, making gas chromatography accessible anywhere,” said Ball Wave’s President & CEO Shingo Akao. “This compact and powerful sensor has the potential to serve as the ‘nose’ of robots, sniffing out environmental hazards, yeast in foods, or even disease-signaling chemicals in our bodies. We are thrilled to introduce this life-transformative technology and our vision for the future at CES 2023.”

‘SYLPH’ EXHIBITS

Jan. 3 (5:00-8:30 p.m.) – **CES Unveiled** (Mandalay Bay)

Jan. 5 (6-10 p.m.) – **Showstoppers** (Bellagio Hotel, Grand Ballroom)

Jan. 5-8 – **CES 2023** (Japan Pavilion @Eureka Park)

Press Kit: [Click here](#)

About Sylph:

- **1/20th of conventional devices:** 174 x 132 x 98 mm (6.9” x 5.2” x 3.6”), 2 kg (4.4 lbs.), 20 watts
- Top-notch performance in detecting chemicals despite its compact size
- The combined use of our Ball SAW Sensor and our proprietary ultra-compact concentrator makes it possible to measure chemicals to the ppb order (equivalent of conventional devices)

About Ball SAW Sensor®:

Surface acoustic waves (SAW) sensors measure changes in the composition of a piezo substrate’s surface wave to identify the chemicals that are present. Our proprietary “Ball SAW Sensor” is the world’s first and only spheric SAW sensor that takes advantage of the laws of physics to create waves that travel around its equator fast, multiple times on end without deviating from the tract, cumulatively intensifying and enhancing both its detection sensitivity levels and its response speed.

About Ball Wave:

Ball Wave is a Japanese startup specializing in acoustic waves sensing technology. Founded in 2015 at Tohoku University in Sendai, Japan, Ball Wave is led by a team of researchers involved in the research project that resulted in the invention of the Ball SAW Sensor®. For additional info, visit:

<https://www.ballwave.jp/english/>

About ‘Japan (J-Startup) Pavilion @Eureka Park’:

Presented by the Japan External Trade Organization (JETRO), the “Japan (J-Startup) Pavilion @Eureka Park” brings together the country’s innovative startups with proprietary leading-edge technologies. At CES 2023, the pavilion will feature 36 companies in industries ranging from AI to robotics, space to mobility, among others. For additional info about JETRO: <https://www.jetro.go.jp/en/>

About CES®

CES® is one of the world’s largest technology trade shows held annually in Las Vegas. Bringing together 2,279 exhibitors and 84,500 attendees between Las Vegas and online venues at CES 2022, the event is billed as the “the proving ground for breakthrough technologies and global innovators.” At CES 2020 held prior to the COVID-19 pandemic, 4,600 companies showcased 20,000 products and services.

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