



March 8, 2021

Press Release

Ball Wave Inc.

Ball Wave Inc.—headquartered in the city of Sendai in Miyagi, Japan and led by CEO Shingo Akao, with the mission of revolutionizing gas metrology—has raised 181.44 million yen in a Series-C funding round to support business expansion. In conjunction with this latest capital infusion, Ball Wave has also launched R&D collaborations or enterprise partnerships with three investors participating in this funding round: Toyota Gosei Co., Ltd., JA Mitsui Leasing, Ltd., and Taiwan’s Industrial Technology Investment Corporation (ITIC).

The ball SAW sensors that constitute Ball Wave's core technology are high-speed, high-sensitivity gas sensors based on a phenomenon that seems to defy the laws of physics: long-distance propagation of surface acoustic waves on a spherical body. Trace moisture analyzers employing these sensors are capable of detecting moisture content at dew points^{*1} below -100 °C, and their miniature footprint (sensor diameter just 3.3 mm) and high-speed operation makes them ideal candidates for applications at cutting-edge semiconductor production facilities—and as embedded components in manufacturing support systems.^{*2} Ball Wave is also exploring new applications of ball SAW sensors for sensing applications in natural-gas pipelines and monitoring of trace moisture content in hydrogen gas generation via renewable energy sources.^{*3} The new collaborations inspired by the latest funding round have also accelerated the commercialization of hydrogen gas sensors and airborne virus sensors, helping to ensure the purity of the air we breathe today and enabling the hydrogen-powered societies of tomorrow. Finally, a palm-sized portable gas chromatograph developed in collaboration with the Japan Aerospace Exploration Agency (JAXA) has not only proved useful for air travel and space exploration, but is now a focus of active commercialization efforts targeting applications in everyday life on Earth.^{*4}

About Ball Wave Inc.

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Toyoda Gosei Co., Ltd.

Since its establishment in 1949, Toyoda Gosei has provided society with products using rubber and plastic polymer technology, centering on its automotive parts, under the company's management philosophy of "Boundless Creativity and Social Contribution." Presently with 64 group companies operating in 17 countries and regions worldwide, Toyoda Gosei aims to become a global company, assembling the combined energy of its 40,000 employees to deliver peace of mind, safety, and comfort to customers around the world.

Website: <https://www.toyoda-gosei.com/>

JA Mitsui Leasing, Ltd.

Under its Real Change 2025 medium-term management plan, JA Mitsui Leasing has set one of its key policies as expanding business in specialized fields by changing business models. The company has produced synergies through collaborative structures that transcend the financial framework, such as investments in leading edge start-ups and sales collaborations. JA Mitsui Leasing has decided to invest in Ball Wave, focusing on the company's advanced technological capabilities and future business prospects, as well as its high affinity with JA Mitsui Leasing's business platform.

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Industrial Technology Investment Corporation (ITIC)

Established in 1979, ITIC has invested 12 billion TWD in ventures worldwide. Its companies under investment span the globe and represent ventures and companies at all stages. ITIC has assembled the many possibilities of different industries to open up new positions that are difficult for technology-based venture investment to achieve. In all cases, ITIC possesses a unique dominance in its technological depth accumulated over the decades and the breadth of its resources to be deployed around the world.



Website: <https://itic.com.tw/?lang=en>

*1) The *dew point* is the temperature at which a gas containing water vapor, cooled under atmospheric pressure, first exhibits condensation. A dew point of -100°C at a pressure of 1 atmosphere corresponds to a moisture content of 14 ppb.

*2) In 2020, Ball Wave was selected for NEDO's Technology-Based Startup Support Program / Product Commercialization Alliance (PCA) to explore applications for ball-SAW trace moisture analyzers in the semiconductor industry.
(http://ballwave.jp/images/pre_6.pdf).

*3) Metrology for Advanced Hydrogen Storage Solutions
(https://www.euramet.org/research-innovation/search-research-projects/details/project/metrology-for-advanced-hydrogen-storage-solutions/?L=0&tx_euramettcp_project%5Baction%5D=show&tx_euramettcp_project%5Bcontroller%5D=Project&cHash=44fb6812cfaa610d1772e23e4ade526e)

*4) See the presentation delivered at the 68th Japan Society of Applied Physics Spring Meeting 2021:
<https://confit.atlas.jp/guide/event/jsap2021s/subject/17p-Z13-8/advanced>