

Asteria's Gravio Introduced at Kawasaki Todoroki Stadium, Visualizing Congestion at 94 Restrooms as Precaution against COVID-19 Pandemic

Tokyo -- June 6, 2022 -- Asteria Corporation (Japan listed, Security Code: 3853) announced today that our AI-equipped IoT integrated edgeware Gravio sales partner, Okaya Electronics Corp., based in Yokohama has developed “a system to visualize the usage status of restrooms” using Gravio with Kawasaki Frontale, a professional football club in the city of Kawasaki, Kanagawa Prefecture, which belongs to the J. League. This system has been introduced as an experiment in the main stand of Kawasaki Todoroki Stadium where Kawasaki Frontale holds its home games.

■Background

Kawasaki Frontale was established as a community-based football club, and since February 2020, it has been implementing measures to prevent the spread of COVID-19 with the aim of creating a comfortable and safe environment for spectators. As the restrictions on the number of people who can attend a large event were relaxed in March 2022, consideration was given to put in place measures to avoid the “Three Cs” -- closed spaces, crowds and close-contact situations -- at Kawasaki Todoroki Stadium, the venue for the games.



A Gravio's door and window sensor installed in a restroom

Kawasaki Frontale and Okaya Electronics adopted Gravio for the purpose of monitoring congestion and preventing the Three Cs. They developed the restroom usage visualization service, installing about 100 door and window sensors in the restrooms of Kawasaki Todoroki Stadium to enable visitors to monitor congestion with their smartphone and avoid crowding.

The service will be tested during a total of 12 matches to be held at Kawasaki Todoroki Stadium from May 14 to October 29. Kawasaki Frontale and Okaya Electronics intend to contribute to the creation of a safe and comfortable environment for spectators by measuring the effectiveness of infection control measures using Gravio.

<The Overview of the Restroom Usage Visualization Service>

Test period	May 14, 2022 to October 29, 2022 (For a total of 12 games scheduled to be held this season)
Place of installation	About 94 restrooms inside the main stand of Kawasaki Todoroki Stadium
Service contents	94 door and window sensors, six edge computing PCs as control and operation platforms

The restroom usage visualization service can be accessed via QR code displayed at the stadium	Spectators can check the real-time congestion status of restrooms at the stadium with their smartphone
<p>A photograph of a blue and white sign posted on a metal railing at the stadium. The sign features a QR code and Japanese text, including 'AI搭載IoTエシウェア' and '本日はメインスタンドのトイレ(個室)混雑状況をお知らせしております'.</p>	<p>A photograph of a hand holding a smartphone. The screen displays a mobile application interface with a map of the stadium and various colored indicators representing restroom congestion levels.</p>

■About Kawasaki Frontale

With Kawasaki City in Kanagawa Prefecture as its hometown, Kawasaki Frontale turned professional in 1997 with the aim of joining the J. League, winning the Meiji Yasuda Seimei J1 League championship for the first time in 2017. It went on to win six titles by 2021. With the mission of "Bringing more smiles to people and this city through the power of sports," the team has also put effort into hometown activities off the pitch, and has been rated No. 1 in terms of contribution to the community for 10 consecutive years (2010-2019) in J-League fan surveys.

For more information about Kawasaki Frontale, visit <https://www.frontale.co.jp/> (eight languages including English is available on this site)

■About Okaya Electronics Corp.

Okaya Electronics Corp. was established in 1984 as a wholly owned subsidiary of Okaya & Co. Ltd., a company listed on the first section of the Nagoya Stock Exchange. Since its establishment, Okaya Electronics has formed partnerships with a number of major global companies with the aim of becoming a partner company which contributes to manufacturing and provides value-added solutions, and has pioneered a new era by continuing to develop new markets and offering products such as semiconductors, software, and electronic components.

Okaya Electronics is a club partner of Kawasaki Frontale.

For more information about Okaya Electronics, visit <https://www.oec.okaya.co.jp/en>

■About Asteria Corporation

Asteria Corporation develops and sells software and services which connect a variety of in-house computers and devices. Its key product, ASTERIA Warp, is data integration middleware has used in nearly 9,664 companies*, mainly large and medium ones. Another product, Handbook, allows users to carry around materials used for sales activities and meetings as well as product catalogues in electronic files on smartphones and tablets. A total of 1,647 companies* and public institutions had adopted the product. (*Numbers are as of the end of March 2022)

For more information about Asteria, visit <https://www.asteria.com/jp/en/>

■About Gravio

Gravio is an edge computing-based IoT integration software with AI functions which has been evolved for IoT using the technology developed for ASTERIA Warp, the leader in the Japan's market for data integration tools. Emphasis is placed on usability with no-code and intuitive screen design. Furthermore, the built-in AI-based recognition technology and multi-platform compatibility dramatically expand the scope of its application as an intelligent edge. A free loan program of various certified sensors is also available, eliminating complexity around installation. It realizes intelligent collection, processing and linkage of various data and easy and quick utilization of IoT.

For more information about Gravio, visit <https://www.gravio.com/en>

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