

February 24, 2021

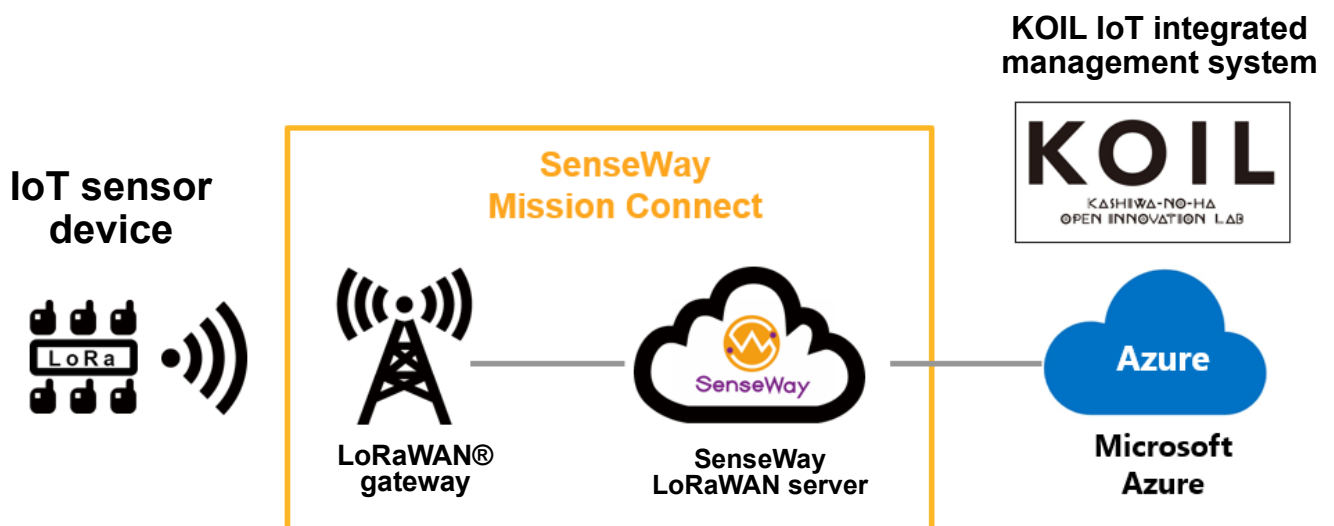
For immediate release

Mitsui Fudosan Co., Ltd.
SenseWay Inc.
Kashiwanoha IoT Business Co-creation Lab

Utilizing IoT to Create Safe and Secure Office Spaces
Simultaneous Starts on Multiple Trials in Kashiwa-no-ha Smart City
～ Visualize Ventilation, Seating, Toilet Vacancies, Temperatures and Mask Use,
Enabling Remote Confirmation of Multiple Data in One Place ～

Tokyo, Japan, February 24, 2021 – Mitsui Fudosan Co., Ltd., a leading global real estate company headquartered in Tokyo, and SenseWay Inc. have established and launched the first initiative of a smart office working group within the Kashiwa-no-ha IoT Business Co-creation Lab, which aims to spread and leverage IoT in Kashiwa-no-ha Smart City in Chiba Prefecture.

This project aims to provide safe and secure office spaces. In offices at the Kashiwa-no-ha Open Innovation Lab (KOIL), an innovation creation base in Kashiwa-no-ha Smart City, a system will be introduced to check air circulation in co-working spaces, visualize seating and toilet vacancies and detect body temperatures and mask use, making it an effective initiative amid the current spread of COVID-19. Using SenseWay Mission Connect, an IoT communications platform provided by SenseWay, and Microsoft Azure, the system will feature central management and viewing on a single cloud service of various IoT data gathered through sensors covering multiple floors through a solitary IoT gateway.



KOIL IoT integrated management system using SenseWay Mission Connect and Microsoft Azure

In this project, Mitsui Fudosan will provide field testing environments and on-site support at KOIL, where the project will be conducted, and SenseWay will provide IoT solutions combining sensors and networks. Advancing this project will also accelerate activities undertaken by the Kashiwa-no-ha IoT Business Co-creation Lab, in which both companies are corporate participants.

Various initiatives have been underway since September 2020, and introduction of the system at other properties in the Kashiwa-no-ha area or managed by Mitsui Fudosan will be considered in the future based on the results of these tests.

【Overview of Various Initiatives】

(1) Visualization of office ventilation

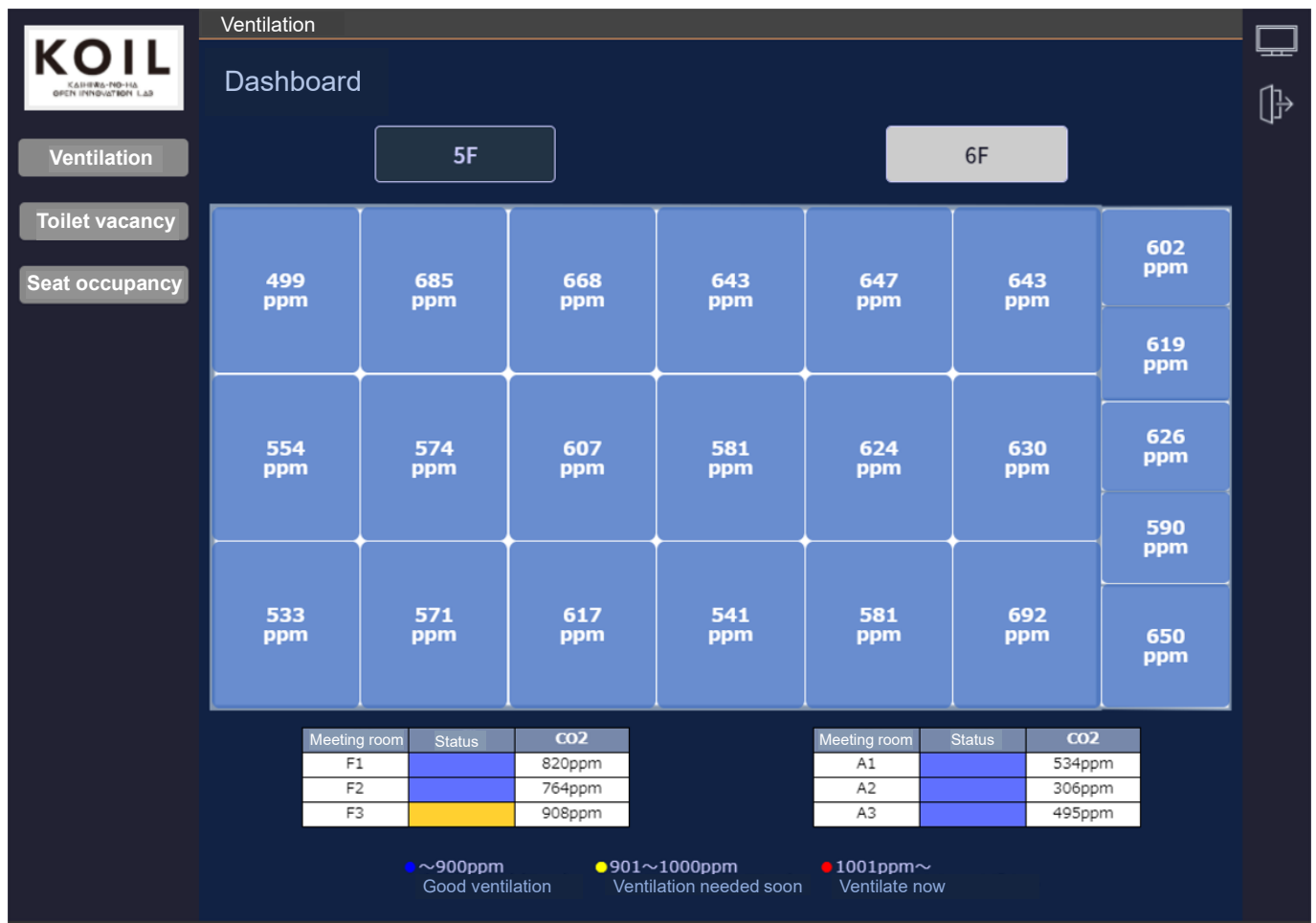
Carbon dioxide concentration in rooms is measured and displayed in different colors to visualize appropriate ventilation timing.

Data on temperature, humidity and carbon dioxide retrieved by multiple sensors located in offices will be collected on the cloud and visualized by connecting SenseWay Mission Connect and Microsoft Azure. Real-time results will be displayed on digital signage at KOIL's 1F entrance and KOIL Park on 6F, enabling facility managers to maintain safe office environments, such as through appropriate ventilation timing and issuing alerts to users of individual rooms.

Going forward, we plan to provide an application where KOIL users can view the same screen on a members-only website on PCs and smartphones. In addition, collecting and combining ventilation data with data on meeting room use from other sensors aims to maintain comfortable office spaces by limiting the number of people in a particular space and efficiently managing space usage.



Temperature, humidity and carbon dioxide sensors installed in offices



Ventilation is visualized and can be confirmed through signage inside KOIL or a members-only website

Furthermore, in the Kashiwa-no-ha IoT Business Co-creation Lab, the environmental working group, as part of a joint project involving SenseWay and Keiyo Gas Co., Ltd., has been conducting demonstration testing since May 2020 to measure temperature, humidity and carbon dioxide within Kashiwa-no-ha T-SITE, a retail facility in Kashiwa-no-ha Smart City, with the aim of developing an air-conditioning management solution through visualizing ventilation.

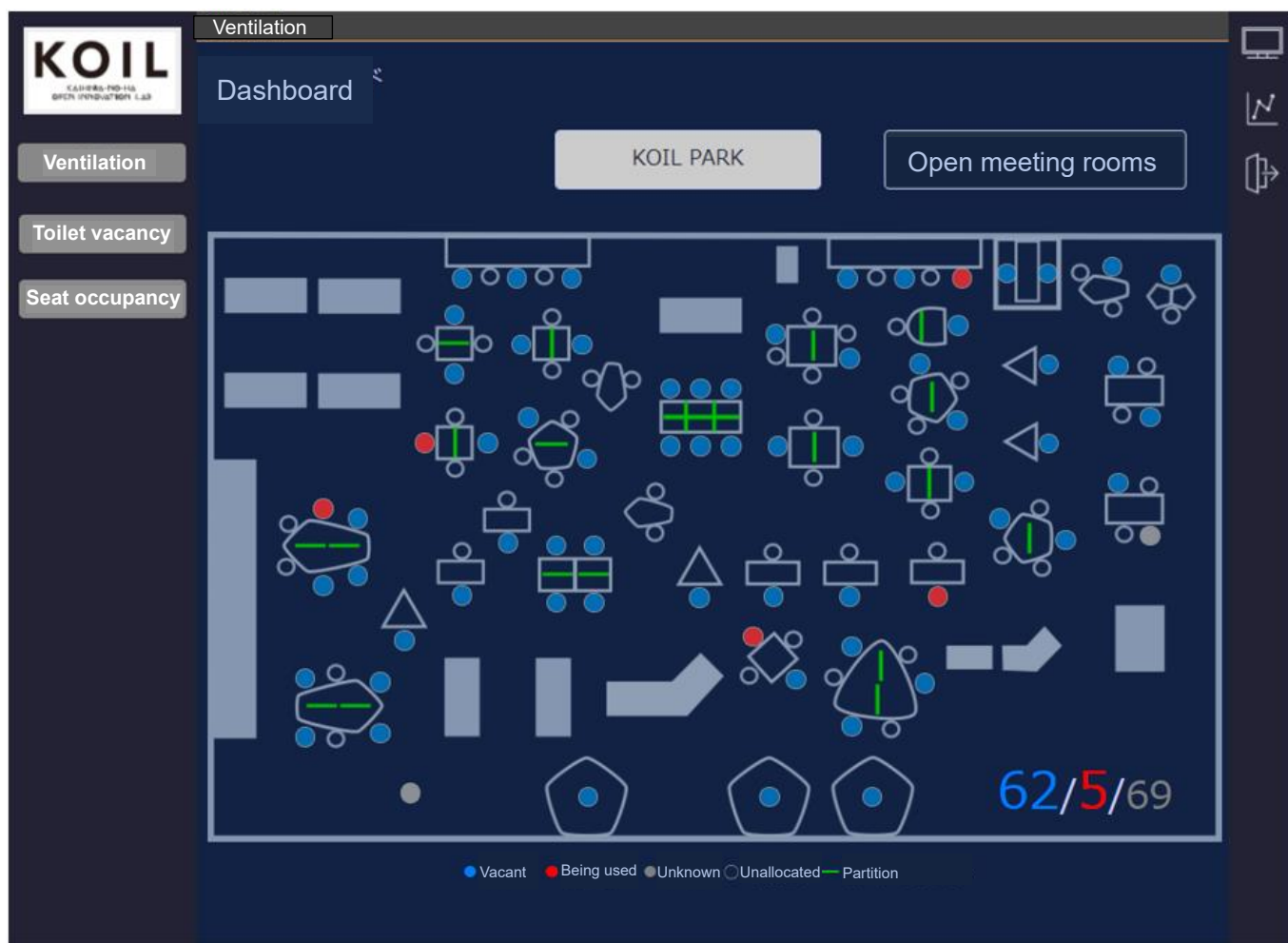
(2) Visualization of seat occupancy in co-working offices

Seat occupancy in co-working spaces and meeting room vacancies can be displayed in real time on digital signage at KOIL's 1F entrance and KOIL Park on 6F.

SenseWay's originally developed motion detectors installed behind desks detect whether seats are occupied, and data is collected on the cloud and visualized by connecting SenseWay Mission Connect and Microsoft Azure. These motion detectors not only sense coming and going but also someone staying put, and even more accurate data can be expected.

Facility managers can also ascertain details such as seats with high occupancy rates in co-working offices, the times and days of the week they are occupied, and meeting room vacancies, and will be able to use this information to plan seating arrangements and so forth in the future.

Going forward, users will be able to avoid crowding by providing an application where KOIL users can view the same information as the digital signage on a members-only website on PCs and smartphones.



Seat occupancy is displayed using color, enabling checks for crowding or vacancies

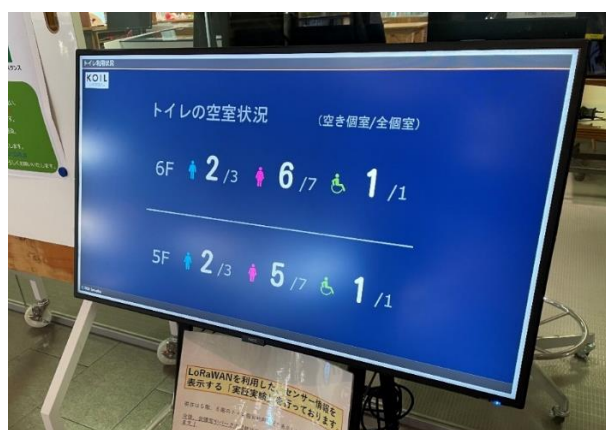
(3) Visualization of toilet vacancy

Toilet cubicle vacancies can be displayed in real time on digital signage at KOIL's 1F entrance and KOIL Park on 6F.

Motion detectors installed on toilet doors detect whether toilets are occupied, and data is collected on the cloud and visualized by connecting SenseWay Mission Connect and Microsoft Azure.

Facility managers can ascertain the amount of time a toilet cubicle is used via the screen, enabling arrangement of effective cleaning times, discovery of ill people and dealing with those occupying cubicles for a long time.

Going forward, we will enhance convenience so users can avoid crowded times by providing an application where KOIL users can view the same screen on a members-only website on PCs and smartphones.



Signage inside KOIL displaying sensing data

(4) Thermocamera checks temperature and mask use of visitors

EG-Keeper, a thermocamera equipped with edge computing AI technology, has been installed at the KOIL entrance and trials are being carried out to judge whether visitors are wearing a mask in addition to quickly measuring their body temperatures.

The thermocamera used in this initiative is equipped with AI technology functions using ultra-fast edge computing so body temperatures are measured and displayed in just 0.3 seconds. The camera has extremely high precision with a margin of error of only $\pm 0.2^{\circ}\text{C}$ of the actual skin surface, and is capable of simultaneously determining whether a mask is being worn. It can also be used in dark areas and take temperatures even when people are wearing helmets or masks thanks to infrared sensors and LED lights.

Depending on the characteristics of the facility, the camera can issue alerts when someone fails to wear a mask or has a high temperature, so it is expected to be used at unmanned entrances in facilities where entry restrictions apply.

Going forward, consideration is also being given to using the cameras for an initiative managing the health of employees from KASHIWA UOICHIBA Co., Ltd., a participant in the Kashiwa-no-ha IoT Business Co-creation Lab, through automated confirmation of temperatures and mask use and sending collected data to the cloud.



Thermocamera installed at the KOIL entrance

■ Kashiwa-no-ha IoT Business Co-creation Lab and Innovation Field KASHIWA-NO-HA

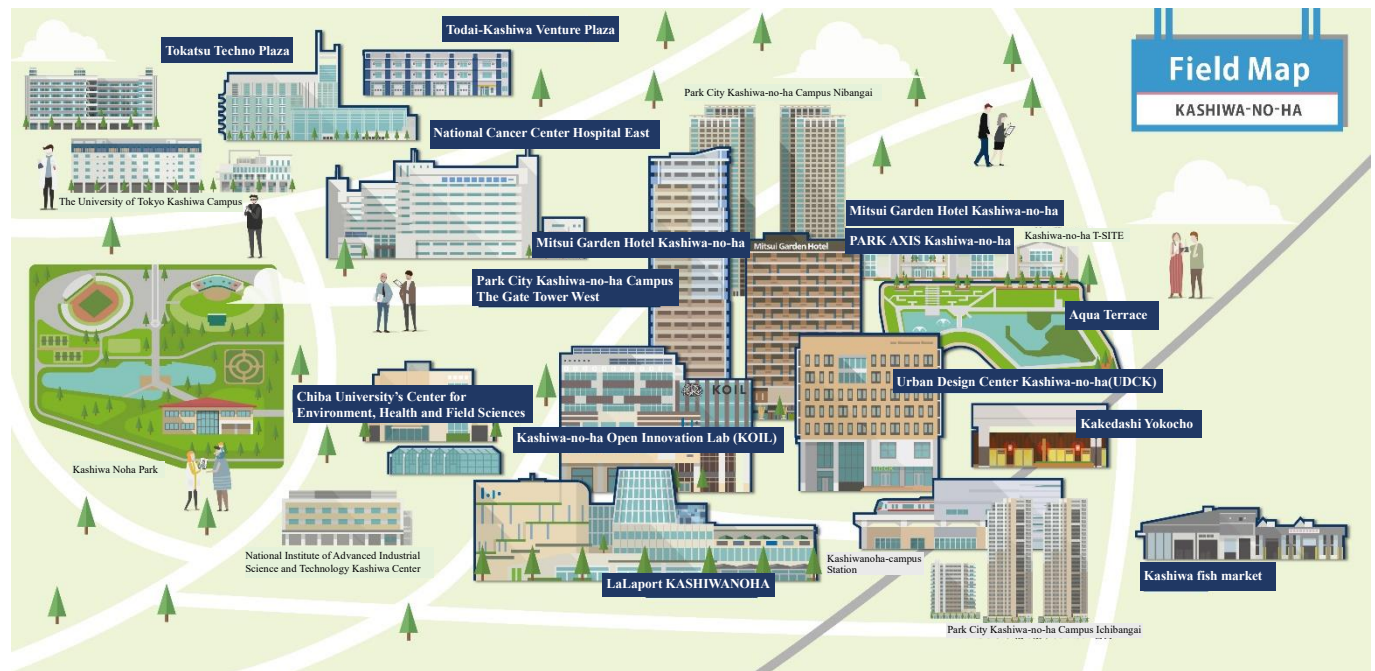
The City of Kashiwa and Mitsui Fudosan are central in advancing the smart city concept in collaboration between the public, private and academic sectors under the three themes of creating “an Environmental-Symbiotic City,” “a City of Health and Longevity” and “a City of New Industry Creation” in Kashiwa-no-ha Smart City, where the aim is to create an urban development model that resolves worldwide issues.

The Kashiwa-no-ha IoT Business Co-creation Lab (administrating company/secretariat: Mitsui Fudosan and others) was established in June 2018 under a theme of new industry creation, and individual working groups comprised of participating companies spread and utilize IoT technologies in the IoT test field environment constructed in the Kashiwa-no-ha area and have worked on conducting various tests and experiments to create opportunities for IoT business.

The Kashiwa-no-ha IoT Business Co-creation Lab is engaged in a wide variety of other public-private-academic IoT initiatives, and plans to broadly roll out this project within and beyond the Kashiwa-no-ha area.

Kashiwa-no-ha Smart City has narrowed its focus to the two fields of AI/IoT, including the Kashiwa-no-ha IoT Business Co-creation Lab, and life science/medical, and Innovation Field KASHIWA-NO-HA (Website: <https://innovation-field-kashiwanoha.jp/> (Japanese)) serves as a receptor for all experimental projects staged in the town of Kashiwa-no-ha, providing a testing platform for a wide variety of private companies to create new products and services.

This project has been positioned as a project of the Kashiwa-no-ha IoT Business Co-creation Lab leveraging Innovation Field KASHIWA-NO-HA's testing platform.



Map of Innovation Field KASHIWA-NO-HA's testing field

■ Mitsui Fudosan Group's Contribution to SDGs https://www.mitsuifudosan.co.jp/english/corporate/esg_csr/

The Mitsui Fudosan Group aims for a society that enriches both people and the planet under the principles of coexist in harmony with society, link diverse values and achieve a sustainable society, and advances business with an awareness of the environment (E), society (S) and governance (G), thus promoting ESG management. By further accelerating its ESG management, the Group will realize Society 5.0, which the Japanese government has been advocating, and contribute significantly to achieving the SDGs.

* The initiatives covered in this press release are contributing to four of the UN's SDGs.

Goal 3	Good Health and Well-Being
Goal 8	Decent Work and Economic Growth
Goal 9	Industry, Innovation and Infrastructure
Goal 17	Partnerships for the Goals



■Mitsui Fudosan's Digital Transformation (DX) Initiatives

Mitsui Fudosan is promoting DX groupwide in the belief that it should “harness technology to innovate the real estate business” as stated in VISION 2025, the Group’s long-term vision. The Company released the “2020 DX White Paper” in February 2021, summarizing focus themes and case studies related to the respective domains of business reform, work style reform and the promotional platform to realize them.

<https://www.mitsuifudosan.co.jp/english/dx/>

■SenseWay Inc.

SenseWay provides the IoT platform service SenseWay Mission Connect using LoRaWAN[®], the low-power, wide-area (LPWA) communication system needed for IoT. SenseWay promotes COVID-19 measures to avoid the three Cs and promotes corporate DX, backed by its LoRaWAN technological capabilities and by leveraging IoT data.

<https://www.senseway.net/en/>