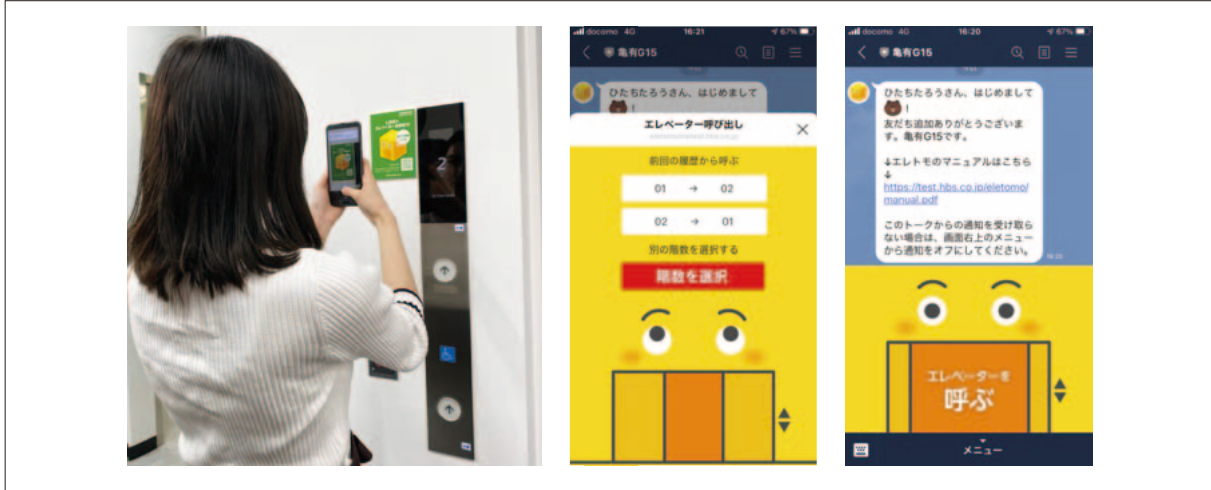


Buildings Systems



1 Screenshots of the LINE-linked touchless elevator calling service

1 LINE-linked Touchless Elevator Calling Service

Hitachi has released a LINE-linked touchless elevator calling service that allows users to register as friends to an official LINE* account provided for each elevator and use their private smartphones to call the elevator and register destination floors.

The user can read a QR code* (two-dimensional code) provided in each elevator hall, register a desired elevator as a friend, call the elevator in Talk (for exchanging messages) and then set a destination floor to use the elevator without touching any elevator button. User can use elevators more smoothly by registering as a friend to the official LINE accounts of the elevators that the user frequently uses at home, work, and other places.

As one of the possible ideas for providing the new service to more users in response to the lifestyle of the new normal, a maintenance contract service for administrators has been combined with the LINE application, which has 86 million monthly active users in Japan. As LINE Corporation's system is connected to a remote monitoring platform of Hitachi Building Systems Co., Ltd. via an external cloud environment, the new service was developed in a very short time. The service can be provided simply by modifying software without additional hardware or onsite modification.

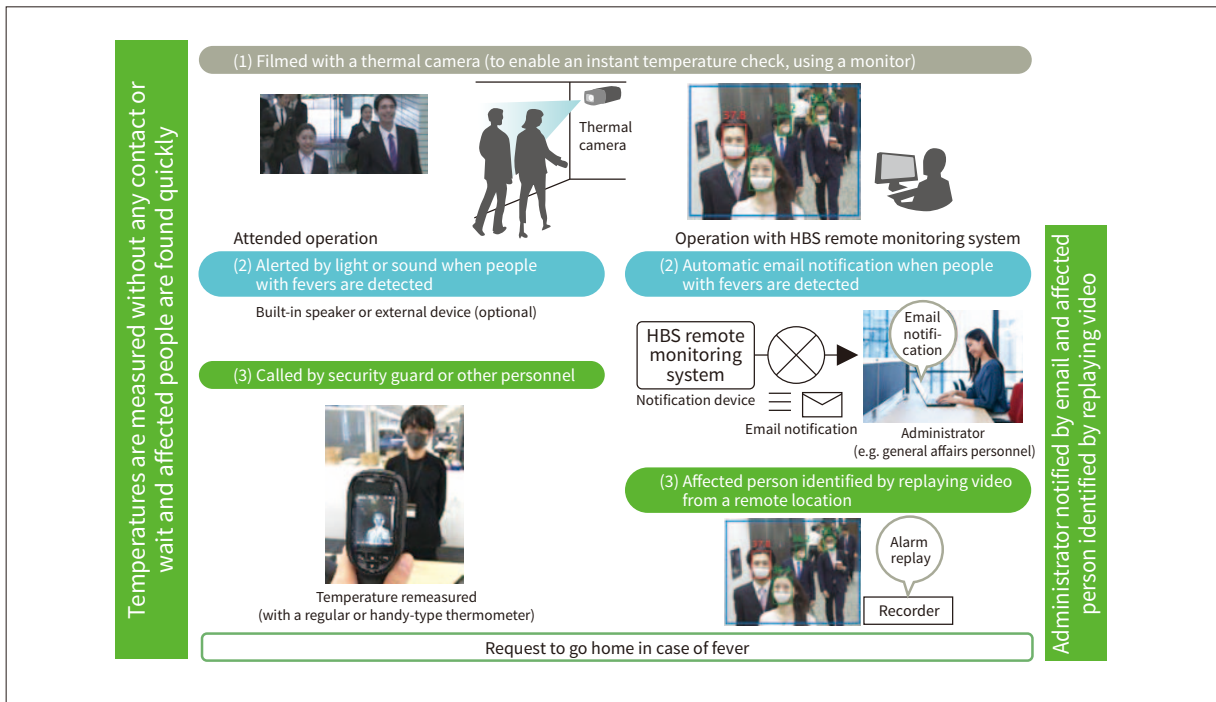
* See "Trademarks" on page 158.

2 Contactless Operation Solution for Detecting and Guiding People with Fevers, Using a Thermal Camera

Measuring people's temperatures at the entrances of buildings increases the operation load of those stationed at the site and also incurs the risk of infection. As a thermal camera can measure the temperature of the person's forehead detected by the camera using infrared rays, it enables the efficient measurement of people's temperatures at entrances. In operation without a human, however, a problem arises as people with fevers cannot be dealt with. To solve this issue, Hitachi's solution for detecting and guiding people with fevers combines a thermal camera and Hitachi Building Systems (HBS) remote monitoring system to enable remote checking of people with fevers, while reducing the operational load.

In addition to its original live video monitoring, an HBS remote monitoring system that has functions to send an email notification when an alarm is triggered, and add a replay label for later investigation. By combining this with a thermal camera, an email can be sent to an administrator who is far away from the monitoring site when the threshold for a preset temperature is exceeded. Moreover, the affected person can be identified by replaying the video from the remote location.

In addition, by linking the thermal camera with the communication robot "EMIEW," people with fevers can



2 Solution for detecting and guiding people with fevers, using a thermal camera

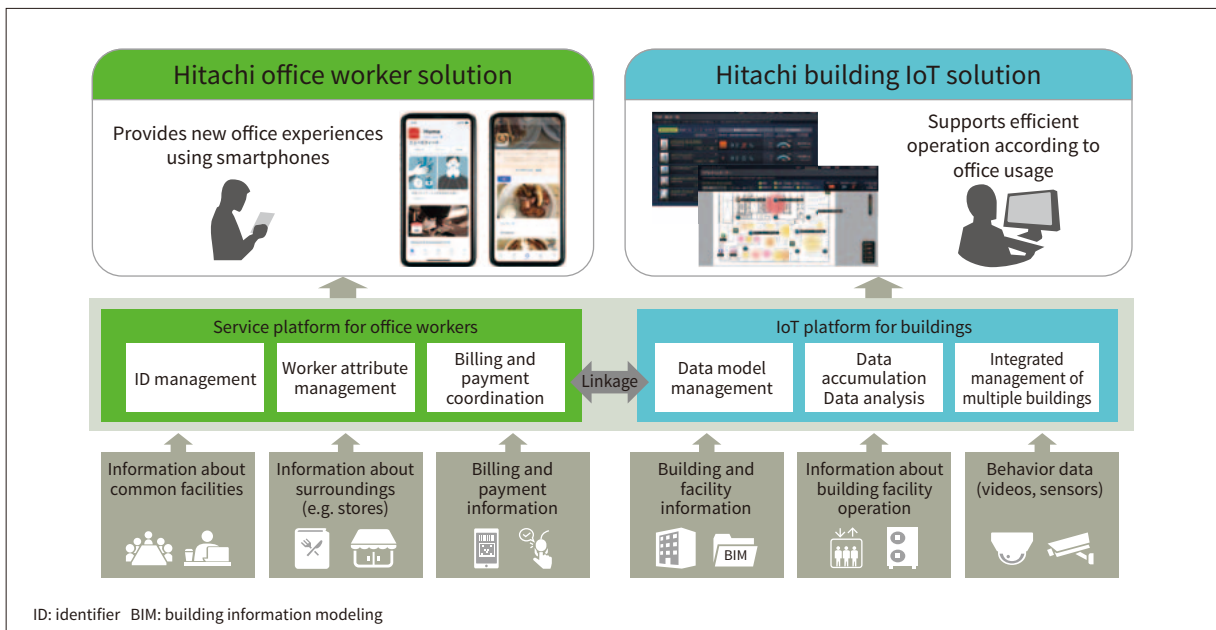
be guided and given a simple medical examination by having an interview in a contactless manner, which can be expected to reduce the load of the building operator and administrator.

solution, an office worker solution that provides new experience value to office workers, and Hitachi building Internet of Things (IoT) solution, an IoT solution for buildings that utilizes sensing data such as information about the operation of building equipment and people flow to support efficient, advanced building management.

3 Smart Building Solutions to Support New Value Creation for Buildings

To create added value for buildings in the era of the new normal, Hitachi has developed Hitachi office worker

Office buildings are now at a large turning point. Commercial real estate companies and facility management companies are facing a range of challenges. For example, responding to rapid workstyle changes, providing safe and secure spaces that consider preventive



3 Overview of Hitachi's smart building solutions

measures for infectious diseases, and maintaining the quality of building management with a shortage of human resources and experts.

The currently-developed Hitachi office worker solution integrates various services that are essential to every worker into its smartphone application. Hitachi office worker solution provides functions such as event notification, participation registration, promotion of interaction among tenants, understanding of congestion of surrounding restaurants, application-based order placement, and contactless building entry and exit.

Hitachi building IoT solution collects and accumulates sensing data about building equipment in a centralized manner and provides the data to various applications via an application programming interface (API). Hitachi is going to improve the efficiency of building management through the visualization of the operating status of building facilities and the use of people flow information to achieve comfortable operation of building facilities in order to provide people with spaces that are friendly, more comfortable, and highly productive.

4 Completion of “H1 TOWER,” World’s Tallest Elevator Test Tower in Guangzhou, China

On January 16, 2020, a ceremony was held to mark the completion of the world’s tallest* elevator test tower “H1 TOWER” in Guangzhou, China.

H1 TOWER is 288.8 m tall (aboveground: 273.8 m, underground: 15 m) and the world’s tallest elevator test tower. There are 15 hoist-ways inside the test tower and their overall length is 2.2 km. The longest of all is 250 m and the world’s longest* hoist-way. H1 TOWER can help

develop and test not only flagship products that require advanced technology, such as large-capacity models with a loading capacity of 5,000 kg or more, ultrahigh-speed elevators, and double-deck elevators, but also group control systems and other control units.

Together with G1 TOWER in Japan, the recently-completed H1 TOWER will promote Hitachi’s global strategy in the elevator business and play an important role in meeting the needs in both China and global markets.

* According to Hitachi’s research in September 2020.

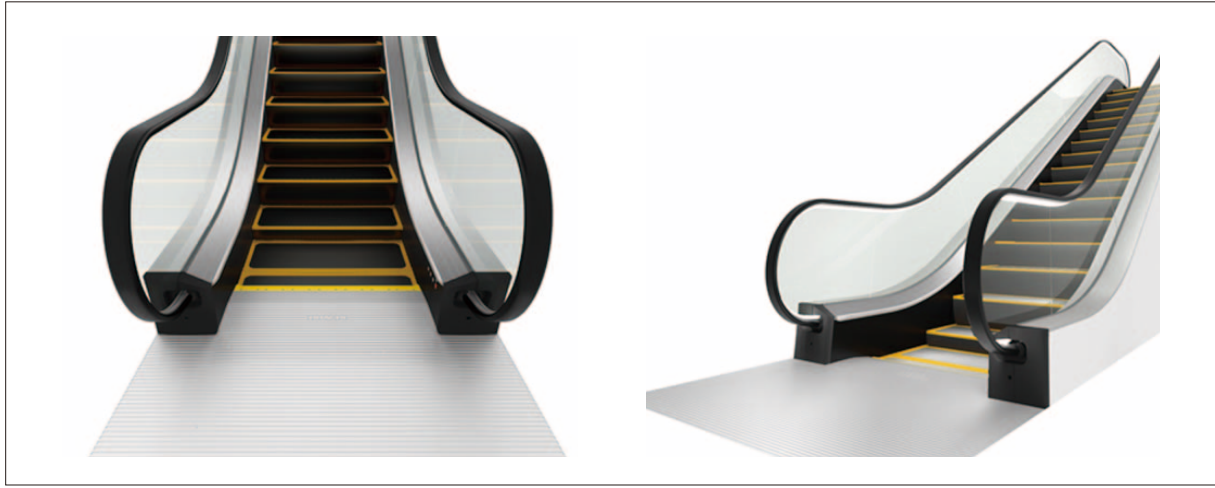
5 “TX Series,” New Escalator Model with High Functionality and Advanced Design, and Solutions for Reducing Infection Risk Involving Escalators

Hitachi has developed the “TX Series,” which is a new escalator model with high functionality and advanced design for the Japanese market. Hitachi has also systematized solutions for reducing the risk of getting infectious diseases involving escalators for the TX Series and other models, and added a new handrail disinfection system and other devices to its product lineup.

The recently-released new TX Series escalator is a product with specifications and design optimized for the Japanese market, based on the baseline design of the TX Series for the markets in China, Asia, and the Middle East, which was released in 2017. Maintaining some of the features of the existing “VX Series” for the Japanese market, including safety, security, and energy-saving functions, the new model has improved functionality and design with changes in the yellow demarcation line that



4 H1 TOWER, an elevator test tower in Guangzhou, China



5 Image of the new escalator model “TX Series”

borders the step surface to alert people for safe use and in the handrail design.

As novel coronavirus infections are spreading, the needs for disinfection and antibacterial treatment of escalators and social distancing during their use are increasing. In response, Hitachi has systematized solutions for reducing the risk of getting infectious diseases involving escalators and added to its product lineup a new handrail disinfection system and handrail cleaner that can disinfect handrails during operation at all times.

6 Large Contracts Awarded in Singapore

Hitachi has clinched two large contracts to supply, deliver, and install elevators by the Housing & Development

Board (HDB) of the Republic of Singapore and HDB housing groups in 2019 and 2020. Each contract consists of 300 elevators, bringing the total number of units to 600. These contracts are the largest for Hitachi Group’s elevators and escalators business in Singapore. The 600 elevators are to be supplied, delivered and installed in HDB blocks at both mature and non-mature estates.

These elevators are designed in Singapore and manufactured in Thailand. HDB is the statutory board of the Ministry of National Development responsible for public housing in Singapore and they currently house up to 80% of the resident population. The registration for new flats is administered every quarter by HDB to provide affordable, quality housing and a great living environment to majority of the population.

(Hitachi Elevator Asia Pte. Ltd.)



6 HDB blocks in Singapore



7 Outdoor escalator installed in the rooftop observation space of Shibuya Scramble Square

7 Elevators Delivered to Shibuya Scramble Square

Hitachi supplied Shibuya Scramble Square, which opened in November 2019, with a total of 76 elevators and escalators, including an escalator located about 230 m above the ground, which is the highest outdoor escalator in Japan.

Shibuya Scramble Square is the tallest skyscraper in the Shibuya area, Tokyo, about 230 m from the ground with 47 stories above ground and seven stories underground. It has the largest commercial rooftop observation space in Japan and the largest commercial facilities around Shibuya Station as well as offices.

The shuttle elevator, which moves between the 14th floor of the building and the 45th floor in the rooftop observation space, has two short-focus projectors in its ceiling to compose images taken with the two projectors and project the images all over the ceiling.

The elevator has eight speakers inside to control images and stereophonic sound for a stage effect as the elevator goes up and down.

(Hitachi Building Systems Co., Ltd.)

8 Elevators Delivered to Takanawa Gateway Station on JR Yamanote Line

Takanawa Gateway Station is a new station on the JR Yamanote line and the first new station to be built since 1971. The station opened provisionally on March 14, 2020. As it is located between Tamachi and Shinagawa Stations on the JR Yamanote line, the surrounding area will be developed into Global Gateway Shinagawa, which will have seven skyscrapers to accommodate offices, hotels, and commercial facilities, which will be completed gradually in line with the full opening of the station. The new town will open around 2024.

The main station building was designed by Kengo Kuma, who also designed the new Japan National Stadium and Shibuya Station. It features a large roof resembling origami. Timber is embedded all over the station and timber is also used for the elevator cage ceilings. Hitachi received and delivered a bulk order for nine elevators and 12 escalators, totaling 21 items. As the station is also positioned as a showroom where new technologies will be introduced, it will have automatic ticket gates using QR codes, guide robots, and unattended convenience stores.



8 Building of Takanawa Gateway Station on JR Yamanote Line (photo courtesy of: JR East)