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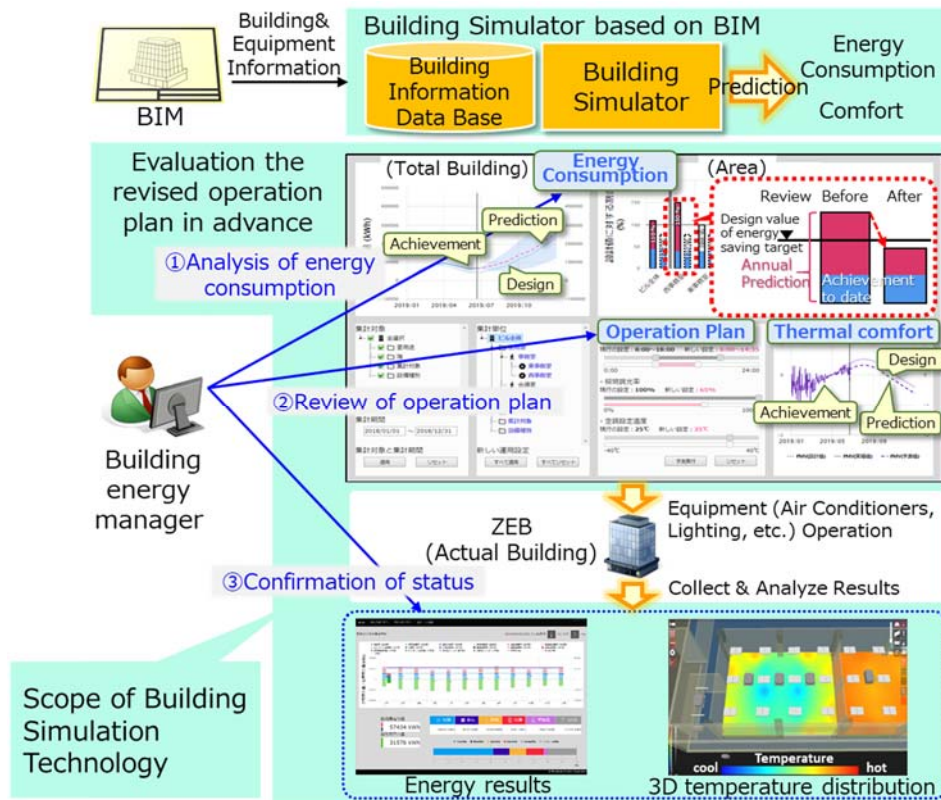
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Mitsubishi Electric Develops Simulation Technology for ZEB Operation

Helps to determine ideal settings for energy savings and comfort levels in net zero energy buildings

TOKYO, February 13, 2019 – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has developed a simulation technology for predicting energy consumption and comfort levels to operate net zero energy buildings (ZEBs). The new technology helps building energy managers easily and efficiently to determine in advance the ideal settings for balancing energy savings and comfort levels in ZEBs.



Overview of simulation technology for ZEB operation

Key Features

1) Highly accurate prediction of energy savings and comfort levels based on simulations

Simulation data is created for each building based on building information modeling (BIM) data, which includes information on the building itself and equipment installed in the building. The simulation also includes weather information and equipment schedules and settings, which further enhances the simulation's accuracy in predicting energy savings. The technology also predicts comfort levels in terms of temperature, humidity, wind speed and so on.

2) Operating plans based on simulations enable building energy managers to work efficiently

Simulations enable the building energy manager to analyze energy consumption while comparing the building's design values for floor/room usage, equipment types, etc. against the simulation's predicted values. Through this process, the manager can easily identify any large difference between design and predicted values. To correct for such differences, the manager can first execute a simulation using new settings for air conditioners, lights and other equipment to see if these changes bring the predicted values acceptably close to the design values. Simulations also can be used to predict comfort levels and balance them with energy savings. Moreover, the ability to determine proper settings before actually resetting equipment helps to reduce the building energy manager's workload. Further, once the settings are actually changed, conditions can easily be confirmed using the system's Energy Performance Screen and Three-dimensional Temperature Distribution Screen.

Contribution to the Environment

Using simulations and predicted results, building energy managers can determine ideal settings under a wide range of conditions to manage energy consumption effectively, which helps to conserve energy.

Background

In view of the advantages ZEBs offer in terms of not only energy savings but also improved comfort, health and intellectual productivity, the Japanese government in July 2018 set an energy policy goal of realizing ZEBs in new public buildings by 2020 and in new private-sector buildings by 2030. The government is promoting ZEBs through subsidies for demonstration projects aimed at stimulating market growth.

In a ZEB's design stage, expected energy consumption levels are expressed as design values. Once the building begins operating, the energy manager is required to keep energy consumption within appropriate ranges of the design values. The process of maintaining a balance between energy savings and comfort levels can be difficult because the manager must continually check actual conditions and make adjustments as needed.

Patents

Pending patents for the technology announced in this news release number three in Japan and three outside of Japan.

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About Mitsubishi Electric Corporation

With nearly 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,444.4 billion yen (in accordance with IFRS; US\$ 41.9 billion*) in the fiscal year ended March 31, 2018. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 106 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2018