Innovation 3

Rooftop Solar Power Project Leveraging IoT + Cloud Technologies

Supporting Stable System Operation through Fujitsu's Solar Power Monitoring Service that Supports Maintenance Service

Amid expectations for the expansion of renewable energy, Leopalace21 Corporation, a developer of leased residential properties, operates its Roof Mega Solar Project.
Fujitsu supports this project with an IoT and cloud-based monitoring service that contributes to the expansion of solar power.

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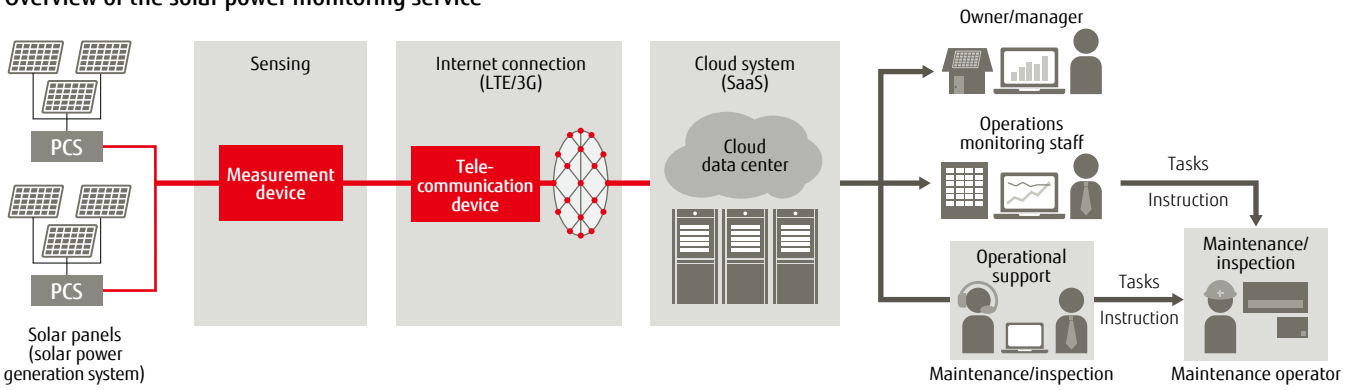
Leopalace21 Corporation is a major company in the rental property business. Seeking to conserve energy and reduce emissions of CO_2, the company launched a new project in 2011 to install solar power systems on the rooftops of its managed properties. However, the initial cost of installing rooftop solar power systems on rental properties is high and the burden on the property owners is large. In addition, solar power systems are exposed to wind, rain, and other elements, making them susceptible to failure and reduced power generation performance caused by external factors. These issues hindered the expansion of Leopalace21's new project.

Around the same time, Fujitsu launched a new business model for central management of its solar power remote monitoring service to support maintenance service. This was aimed at promoting the spread of solar power in residences in Fukushima Prefecture, which suffered extensive damage from the Great East Japan Earthquake. However, Fujitsu lacked know-how for selling to the residential market, and faced issues in growing the business.

Accordingly, Fujitsu approached Leopalace21, which develops rental properties nationwide, to propose an idea that paired the rental of rooftops from owners with the solar power monitoring service that combines the IoT and the cloud. Owners of the residential properties are able to earn fees from renting out their rooftops, without having to bear the initial expense of system installation. Through this innovative business model, the Roof Mega Solar Project was launched to aid the expansion of solar power. As of September 2015, the project has installed solar power generation equipment on the rooftops of 4,500 buildings.

Through sensors in solar power systems installed on rooftops in rental properties around the country, Fujitsu's solar power monitoring service collects data on solar panels' power generation, comparisons of amount of sunlight and expected power generation, and other data, every minute. The information obtained is sent to the data center every five minutes. When the system detects a problem, it sends an email alert to the operations monitoring center; if the center determines that a failure has occurred, maintenance workers are dispatched to the site. In this way, the system achieves central management, and by detecting trouble early, it prevents the loss of opportunities for power generation and helps achieve the stable operation of solar power generation systems.

Overview of the solar power monitoring service



Data sent from sensors installed in solar power generation system