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For immediate release

Mitsui Fudosan Co., Ltd.
GIRASOL ENERGY Inc.

Solar Power Panels Installed at Kashiwa-no-ha GATE SQUARE and LaLaport KASHIWANOHA Start Operating IoT Platform for Individual Panel Maintenance Management

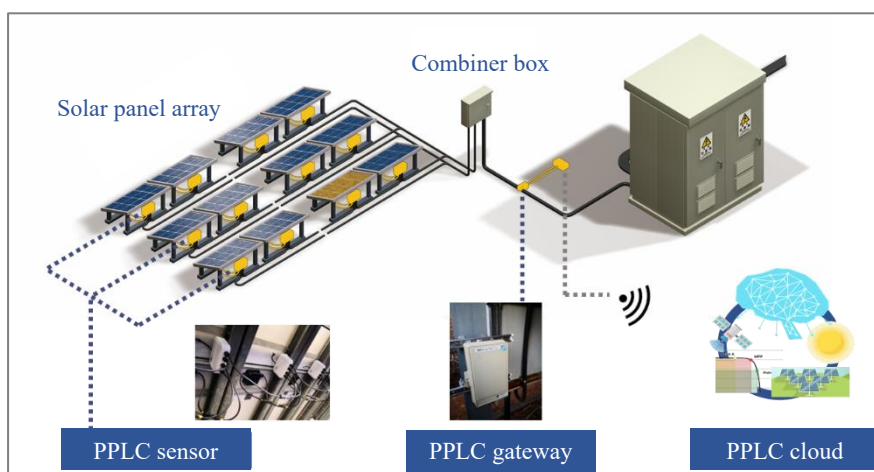
Tokyo, Japan, October 31, 2019—Mitsui Fudosan Co., Ltd., a leading global real estate company headquartered in Tokyo, hereby announces that it has decided to start trial operations from January 2020 of an IoT platform for panel-level maintenance and management of solar power plants provided by GIRASOL ENERGY Inc.

These trial operations came about because GIRASOL ENERGY won third prize and the Kashiwa-no-ha Award in the Asian Entrepreneurship Award 2018 (AEA). Mitsui Fudosan has participated in the AEA since its launch in 2012 as an innovation award for technology startups from countries and regions in Asia. The Kashiwa-no-ha Award recognizes technologies that will contribute to the development of Kashiwa-no-ha Smart City, a concept that will provide a blueprint for the creation of neighborhoods that help to solve global issues, based on the three themes of creating “an environmentally symbiotic city,” “a city of health and longevity” and “a city of new industry creation.”

The Kashiwa-no-ha area centered on Kashiwanoha Campus Station has operated a smart grid capable of accommodating community electricity interchange from distributed energy sources such as solar power and storage batteries since 2014, contributing to reduced CO₂ emissions. Currently, 2,800 solar power panels have been installed at Kashiwa-no-ha GATE SQUARE and LaLaport KASHIWANOHA. Mitsui Fudosan has decided on a trial installation of PPLC™, GIRASOL ENERGY’s IoT platform in order to efficiently manage the maintenance of the solar power panels.

■What is PPLC™-PV, the IoT-AI system that automatically inspects solar power generation equipment?

Inner solar power plant, a single panel not working properly because of a breakdown or the like can affect the entire electricity yield, and conventionally the only way to find the faulty panel causing the decrease in power generation was to actually dispatch someone to regularly inspect the panels and find out the cause. PPLC™-PV, to be used in this trial, can remotely detect irregularities among solar panels by analyzing data on voltage and temperature collected from sensors attached to the exterior of each panel. By detecting and responding rapidly to each faulty panel, it aims to maximize power generation and reduce overall life cycle costs, including those for equipment inspection and regular panel replacement.



<IoT platform for solar power generation equipment maintenance management>

■ **Mitsui Fudosan Kashiwa-no-ha Smart City** Website <https://www.kashiwanoha-smartcity.com/en/>

Mitsui Fudosan has been promoting the Kashiwa-no-ha Smart City urban development project in the area around Kashiwa-no-ha Campus Station on the Tsukuba Express Line in Kashiwa City, Chiba Prefecture since 2005. Aiming to create an urban development model that resolves worldwide issues, the Company is undertaking various initiatives through partnerships among the public, private and academic sectors, based on the three themes of creating “an Environmentally Symbiotic City,” “a City of Health and Longevity” and “a City of New Industry Creation.” In terms of new industry creation, Mitsui Fudosan aims to realize a city that creates new industries by connecting people of all ages, fields, and nationalities throughout the entire town, as well as companies at various stages, to spark innovation.

■ **GIRASOL ENERGY Inc.** Website <https://www.pplc.co/>

GIRASOL ENERGY is a University of Tokyo startup. Established in February 2017, the company aims to commercialize PPLC-PV (Pulse Powerline Communication for Photovoltaic), an original current-based power line communication technology which is a research result from Dr. Ochiai , Associate Professor of the Graduate School of Information Science and Technology, The University of Tokyo. Now, GIRASOL ENERGY commits to develop an AI embedded IoT system for solar power plant with its mission to build an evergreen, next-generation maintenance management method and realize sustainable solar power source.