News Release

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Connect with Innovation

December 9, 2019

Sumitomo Electric Industries, Ltd.

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Sumitomo Electric Starts Solar Power Generation Diagnostic Services for Power Plants in Japan

Sumitomo Electric Industries, Ltd. started a service that reports on the status of solar power generation in each power plant by using AI-analysis algorithm (proprietary development) in this November. This service is applicable for the Company's power line communication (PLC) string monitoring systems within Japan.

For solar power plants to maintain stable power generation over a long period of time, it is vital to immediately detect malfunctions in the facilities and determine countermeasures. Accordingly, it is indispensable for solar power plants to install a constant monitoring system. Sumitomo Electric has already provided PLC-string monitoring systems* that can detect a large reduction in power generation in advance. After having received requests for more effective use of collected data from many customers, the Company starts a service that automatically analyzes a large quantity of data by using AI and provides daily, monthly and annual analysis reports including anomaly detection, location identification and countermeasure proposals at low cost.

The daily report provides power generation status, malfunction locations and causes of malfunctions on the day. The monthly report presents the monthly power generation status at a glance. The annual report detects and analyzes abnormalities for each string from various viewpoints, such as reverse current, aging degradation and the effects of shadows from surrounding buildings and trees to identify strings that require inspection. In addition, the annual report provides detailed analysis on each power plant, including proposals for increasing power generation capacity and comparison of power output with the previous year.

In the trial operation for the past year (for power plants of 1 MW to 80 MW in DC equivalent), this service contributed remarkably to the improvement of plant maintenance efficiency, operational stability and power output. For example, it

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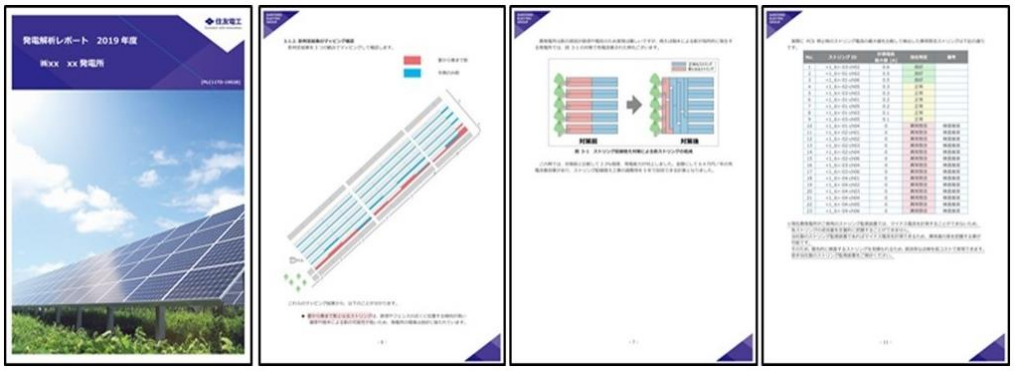
successfully identified locations that tend to be affected by shadows, clarified the amount of loss in power sales, and proposed wiring improvements to maximize power sales income. In another case, defective panels were identified early enough to be replaced at no charge within the warranty period.

In this analysis, we have utilized the verification results accumulated in the FY 2017 Advanced Energy Safety Regulations for New Energy (Evaluation and Verification Project for Advanced Safety Technology for Electrical Facilities) sponsored by the Ministry of Economy, Trade and Industry. We will continue to support the expansion of smart security by developing and providing new products and services that contribute to the labor-saving and efficient operation of solar power plants.

This service is applicable for products other than the string monitoring systems provided by Sumitomo Electric (the content of some of the analysis may be restricted). Please feel free to contact us.

* String is a minimum configuration unit of series-connected photovoltaic panels



▲Annual report to be provided (actual example)

■ Reference

Sumitomo Electric's Website

https://sumitomoelectric.com/