

<Press Release Translated Version>

November 17, 2014

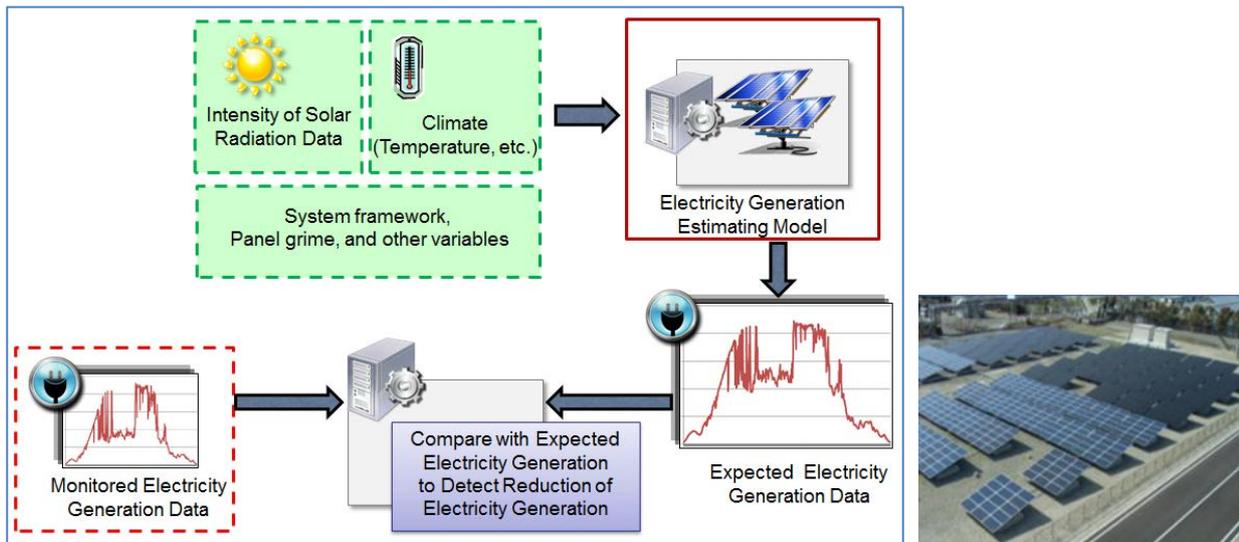
**Joint Development of Data Diagnostics to Detect Drops in Power Generation
at Mega Solar Power Plants Caused by Solar Panel Deterioration**
～Data mining system for big data in power generation～

Mitsui Chemicals, Inc. (Tokyo: 4183, President & CEO: Tsutomu Tannowa) and Tensor Consulting Co. Ltd. (CEO: Koji Fujimoto) have announced the successful joint development of a data diagnostic technique to analyze big data in the power generation of mega solar power plants. The new technique is 80 times more effective in diagnosing performance than conventional diagnostic methods.

The two companies will present the results of this development at the 6th World Conference on Photovoltaic Energy Conversion (WCPEC-6), which will be held at the Kyoto International Conference Hall from November 23 (Sun) to 27 (Thursday) 2014.

This new technique addresses needs to accurately detect decreases in power generation capabilities. At mega solar power plants, deterioration of solar panels may cause decreases in electricity generation, which directly affects electricity sales revenues. With conventional methods, it is difficult to accurately detect drops in generation as: (1) monitoring is conducted by analyzing the power generation conditions of 2000 to 3000 interconnected panels, and (2) power generation may vary widely with weather and environmental conditions, solar panel failures, and other outside factors. Current methods rely heavily on comparison between estimated electricity generation, which is based only on the amount of solar radiation and actual generated power, making accurate detection of generation drops difficult.

The two companies combined resources, with Mitsui Chemicals bringing its accumulated data and knowledge of solar panel deterioration/ failure, and Tensor Consulting bringing its advanced data mining technology, to the table. Using Mitsui Chemicals' test facilities, the companies measured power generation reductions from deterioration of solar panels and jointly developed diagnostic techniques to accurately detect drops in generation.



left) Trouble flow right) Solar generation test facility at Mitsui Chemical Mobara Works

■ Data mining technology for big data used to diagnose power generation

The newly developed technique allows monitoring and measurement of power generation by automatically incorporating factors which may impact generation including system framework, panel grime, weather conditions, as well as other variables. The new technique allows calculation of power output and detection of minor output abnormalities using data mining based on statistical mathematical models and, as a result, is over 80 times more effective in diagnosing power output and abnormalities than conventional methods.

As this new technique does not rely on specific solar panel types or manufacturers, it is a diagnostic service that can be applied to any mega solar power generation system worldwide.

With repeated simulations, Mitsui Chemicals and Tensor Consulting confirmed superiority of the newly developed data diagnostic technology to conventional methods. The two companies will pursue further development and aim for commercialization in fiscal 2015.

Press Contacts

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About Mitsui Chemicals, Inc.

Mitsui Chemicals, one of the world's leading chemical companies, traces its roots back to 1912.

The Company's vast portfolio includes environment friendly solutions for next generation vehicles, health care innovations to heighten comfort in an aging society, performance driven packaging for food safety, agrochemicals for improved crop production, products to support the electronic information industry, and breakthrough materials to improve energy while

protecting the environment.

With annual sales of 1.5 trillion yen, Mitsui Chemicals has grown into a global enterprise with more than 135 companies and 14, 271 employees in 27 countries. (consolidated base as of Mar 31, 2014) The Mitsui Chemicals Group will continue to discover solutions to help solve issues facing people around the globe.

Latest news can be found at www.mitsuichem.com/index.htm

About Tensor Consulting Co. Ltd.

Tensor Consulting is a management consulting firm with advanced expertise in "Data Mining" technology that can dig up the true messages to be found big data. The firm has recorded a great number of achievements in Marketing and Risk Analysis, over a wide range of business categories; major financial firms such as bank, credit card and leasing companies; major telecommunications operators such as mobile phone and portal sites; and manufacturer and mail order suppliers. Tensor Consulting is actively involved in research and the development of the most up-to-date technology, and has been granted multiple patents (including pending ones) that utilize state-of-the-art statistical techniques, such as EC search engine automatic learning methodology. The company name of Tensor is meant to imply both a "sharpening of the nerves" as in muscular tension, and the mathematical concept that indicates how forces are distributed in space.

Established: January 1, 2007

Address: 13-6 Ichibancho, Chiyoda-ku, Tokyo

President: Koji Fujimoto, Ph.D.

Business: Management consulting firm based on mathematical modeling

Number of Employees: 10

Capital: 22.1 Million Yen

Website: <http://www.tensor.co.jp/>