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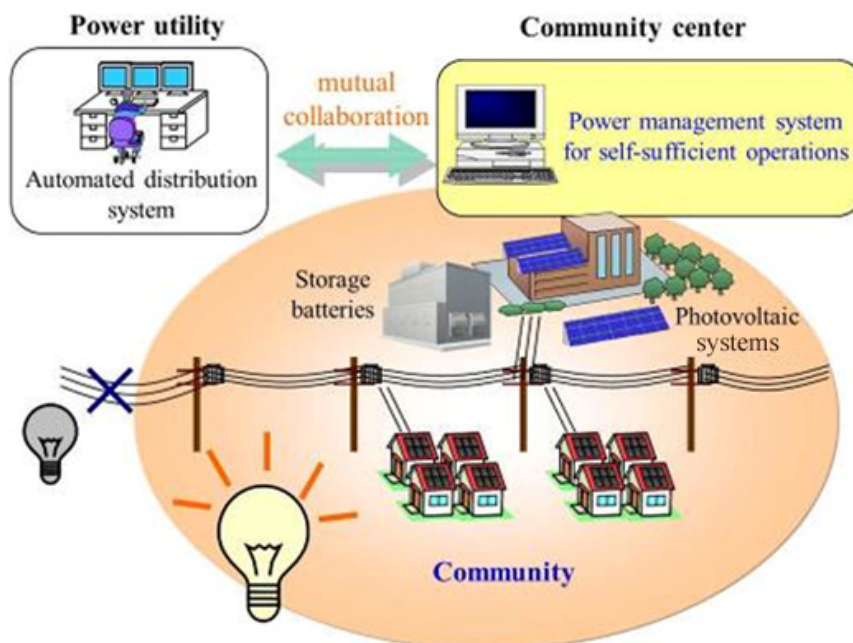
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## **Mitsubishi Electric Develops Electric Power Management System for Self-sustained Operation in Communities**

*Enables self-sufficient power supply for more than one week*

**TOKYO, February 14, 2013** – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has developed a prototype electric power management system that combines an ideal mix of storage batteries and photovoltaic power generation for self-sustained operation in communities during extended blackouts. The technology was achieved through the company's Smart Grid and Smart Community initiative.



Electric Power Management System for Self-sufficient Operation

Until now, self-sufficient power management at the community level has been impossible due to difficulties in securing safe power distribution and switching over from the power-supply systems of power utilities. In light of increasing demand for power and needs for more flexible power systems to mitigate extended blackouts caused by natural disasters such as earthquakes and typhoons, Mitsubishi Electric has developed this technology to enable self-sufficient power management based on the coordination of systems operated by communities and electric power companies, thereby maximizing the use of existing power distribution networks. The technology can reduce the impact of power outages, improve the reliability of power supply and help communities to realize more safe and secure living environments.

### **Key technologies**

#### ***1) Ensuring safe, self-sufficient operations during blackouts***

Distribution lines and substation facilities in communities are normally managed by electric power companies, so communities that are shifting to self-sufficient power management must cooperate with the electric power companies. When switching from a conventional to self-sufficient network, the safe transfer of energy to a community is determined by the electric power company.

#### ***2) Automatic transition to self-sufficient power within 20 minutes***

Communities can begin using self-contained electricity after kick-starting storage batteries, gradually raising the voltage of their electrical networks to a pre-determined level and stabilizing frequency to 50/60Hz. The time required for stabilizing voltage and frequency varies depending on the scale of the system, but automatic transition to self-sufficient energy generally is possible in less than 20 minutes following a blackout.

#### ***3) Controlling supply and demand to avoid power shortage***

When communities engage in self-sufficient power supply, the power is supplied to consumers via both storage batteries and photovoltaic generation. Surplus power generated by photovoltaic systems is used to charge the storage batteries. The system automatically adjusts power usage by suppressing photovoltaic generation and shutting down nonessential equipment to prevent the overcharging of storage batteries. Self-sufficient operations can be maintained for more than one week.

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**Mitsubishi Electric’s newly developed technology vs. conventional energy self-sufficiency systems**

	Function	Performance
Newly Developed	Through coordination with automated distribution systems of electric power companies, self-sufficient power can be supplied on the scale of tens to hundreds of houses.	Power can be supplied continuously for more than one week, including by adjusting power consumption in the community, if necessary.
Conventional	The conventional distribution lines of electric power companies cannot be used.	Adjustment is possible only on the power-generation side, so self-sustained supply is limited to the short term, unless a large generation plant is installed.

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**About Mitsubishi Electric**

With over 90 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 3,639.4 billion yen (US\$ 44.4 billion\*) in the fiscal year ended March 31, 2012. For more information visit <http://www.MitsubishiElectric.com>

\*At an exchange rate of 82 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2012