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Mitsubishi Electric Installs Railcar Traction System with All-SiC Power Modules on Shinkansen Bullet Trains

First converter/inverter system with SiC modules installed to high-speed train reduces its size and weight

TOKYO, June 25 2015 -[Mitsubishi Electric Corporation](http://www.MitsubishiElectric.com) (TOKYO: 6503) announced today that it has completed the installation of, and begun testing, railcar traction converter/inverter systems with all-silicon carbide (SiC) power modules on N700 Shinkansen bullet trains for Central Japan Railway Company (JR-Central). These are the first 3.3kV, 1500A traction systems to be installed on a high-speed train line, according to the company's own research.

Mitsubishi Electric has been working to downsize its traction system for Shinkansen bullet trains. The use of SiC power modules reduces the size and weight of its new converter/inverter system by approximately 55% and 35%, respectively, compared to existing systems. The weight of the traction motor, including this system, is reduced by approximately 15%.

The power modules were developed with support from the New Energy and Industrial Technology Development Organization of Japan.

Specifications of Main Circuit

Input voltage:	2,500V AC
Main circuit system:	Large-capacity all-SiC power modules Three-level PWM inverter with regenerative brakes
Control system:	Four traction motors with 305kW, parallel control
Cooling system:	Self-cooling



JR-Central N700 Shinkansen bullet train



Traction system

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About Mitsubishi Electric Corporation

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 4,323.0 billion yen (US\$ 36.0 billion*) in the fiscal year ended March 31, 2015. For more information visit:

<http://www.MitsubishiElectric.com>

*At an exchange rate of 120 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2015