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## Mitsubishi Electric Field Testing xAUTO Autonomous-driving Test Vehicle

*Autonomous driving offering high safety and convenience*

**TOKYO, October 17, 2017** – [Mitsubishi Electric Corporation](http://www.mitsubishi-electric.com) (TOKYO: 6503) announced today that it has been conducting expressway-based field testing of its xAUTO vehicle and related autonomous-driving technologies for self-sensing and network-based driving, since May 2016. The xAUTO will be exhibited during 45th Tokyo Motor Show 2017 at the Tokyo Big Sight exhibition complex in Tokyo, Japan from October 27 to November 5.



xAuto autonomous-driving vehicle

Mitsubishi Electric named its autonomous driving technologies, Diamond Safety, which have been developed under the concept of "Thinking of people at any time". Mitsubishi Electric's self-sensing driving technology combines various peripheral-sensing technologies, including a forward-monitoring millimeter-wave radar with wide viewing angle, a forward-monitoring camera and a backward side-monitoring millimeter-wave radar. Its infrastructural driving technology uses high-accuracy 3D mapping in combination with a centimeter-level augmentation service (CLAS) broadcast from the Quasi-Zenith Satellite System (QZSS). Together, Mitsubishi Electric's self-sensing and network-based driving technologies enable autonomous driving with high levels of safety and convenience.

## **Overview of Field Tests**

### ***1) Autonomous driving tests on expressway***

Field tests of the xAUTO and its autonomous driving technologies were carried out on two Japanese expressway — the Sanyo Expressway (Kobe junction to Ako interchange) and the Douo Expressway (Shibetsu Kenbuchi interchange to Fukagawa interchange) for more than 300 hours\*. The tests confirmed that Mitsubishi Electric's autonomous driving technologies operate practically under various road conditions, including bad visibility during dense fog and snow.

\* Using simulated signals because CLAS from the Quasi-Zenith Satellite System were not yet available.

### ***2) Utilization of CLAS from Quasi-Zenith Satellite System***

In the world's first field test of CLAS-based autonomous driving on expressway, which took place on September 19, it was confirmed that this technology has advanced to the practical level. In tunnels and other locations where CLAS reception is difficult, autonomous driving was achieved with high-definition location technology to determine the vehicle's exact position in real time combined with various sensors that monitored the vehicle's motion, and a forward-monitoring camera.

## **Future Development**

### ***1) Globalization of advanced driving-assistance system and autonomous-driving technologies***

To enable positioning augmentation when CLAS is not available, Mitsubishi Electric plans to build a worldwide wireless network for centimeter-level positioning compatible with CLAS. Mitsubishi Electric is collaborating in this field with Sapcorda, a German joint-venture formed by Mitsubishi Electric and other companies. Mitsubishi Electric is also collaborating with Dynamic-Map Platform Co., LTD. and Here Technologies to develop high-accuracy 3D mapping for an envisioned global system. Verification tests are planned in Europe and North America.

### ***2) Further improvement of self-sensing driving technology***

Mitsubishi Electric will continue developing its original self-sensing driving technology using millimeter-wave radar and forward-monitoring cameras, focusing on collision avoidance at crosswalks on public roads and safe, convenient autonomous driving on highways and expressways. Efforts will also target vision-based forward-monitoring camera technology in collaboration with Mobileye.

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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 4,238.6 billion yen (US\$ 37.8 billion\*) in the fiscal year ended March 31, 2017. For more information visit:

[www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*At an exchange rate of 112 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2017

*xAUTO and Diamond Safety are registered trademarks of Mitsubishi Electric Corporation.*