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# Mitsubishi Electric Launches Mobile Mapping System for Overseas Market

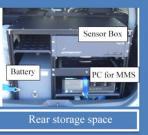
Integrated, easily mountable and detachable type for creation of accurate 3D maps

TOKYO, September 28, 2016 - Mitsubishi Electric Corporation (TOKYO: 6503) announced today that the company will launch a new model of its Mitsubishi Mobile Mapping System, the MMS-G220, a highly accurate measuring system using car-mounted GPS antennas, laser scanners and cameras. The system gathers 3D positioning data of road surfaces and roadside features to an absolute accuracy of 10 centimeters, allowing the creation of comprehensive 3D maps to the level of accuracy needed to support autonomous driving. The new model will initially be offered in overseas markets from October. Offering an integrated, easily mountable, and detachable solution, thus enabling compatibility with numerous car types, the new model is expected to be deployable in a wide range of applications, such as autonomous driving systems and the precise surveying of infrastructure. The company intends to develop business overseas and also expects to release this system in Japan by the year 2017.





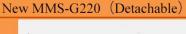








Integration of various equipment realizes smaller, lighter system with lower power consumption











(Detacheble)

The detachable roof-mounted main unit is smaller and lighter than existing models while maintaining the same level of accuracy, allowing broader usage and mounting on a variety of car types. Its improved portability will also facilitate periodic maintenance and inspection.

The previous model required various equipment to be set up inside the vehicle. Integrating this equipment results in a reduction in power consumption, increased operability and more efficient collection of data. Improvement in operability and easier data portability are achieved through the combination of monitors and keyboards with a high performance laptop and the utilization of high-speed USB connectivity.

Additional software reduces the number of on-roof equipment, while retaining similar capabilities to those of the current model but with lower power consumption, making it possible to power the system from the in-car cigarette lighter socket. The integration of in-vehicle equipment enables simplified wiring, leading to easier installation and more convenient operation.

One market where the company expects to introduce the new system is Korea, where, similarly to Japan, autonomous driving projects are currently under development, resulting in increased demand for the MMS technology that creates the high precision 3D maps needed to support autonomous driving. The system will also make use of Japan's Quasi-Zenith Satellite System (QZSS), which will commence full service in 2018. The QZSS will be formed from a constellation of Japan's positioning satellites, developed by Mitsubishi Electric, which will be in geosynchronous orbit with an inclination of 45 degrees in order to pass near their zenith over Japan and also pass above the Asia-Oceania region, thus providing seamless service regardless of geography. They will significantly improve the accuracy of positioning in areas where signals from GPS satellites cannot be clearly received due to skyscrapers or natural terrain.

With the launch of the new system, Mitsubishi Electric also aims to expand its business in Asia and Australia, where demand for the efficient and precise surveying and management of infrastructure is expected.

The current Mitsubishi Mobile Mapping System has various component parts individually mounted onto the car. Therefore the rigid unit has to be brought to the factory mounted on the car for periodic maintenance. The new system offers a flexible and versatile solution that can be easily mounted to and detached from the car by drivers themselves, a feature in strong demand in overseas markets.

The new system additionally offers lower overall power consumption, while maintaining equivalent functionality, performance and accuracy to the current model. The composition of the new model is simpler while optimizing the sensor quantity and types, most suitable for high precision mapping.

# **The New Roof-mounted Unit**

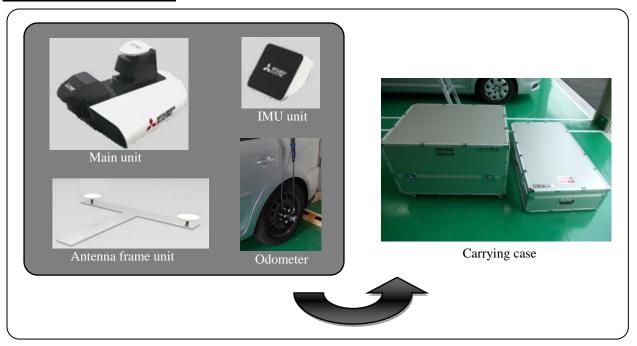
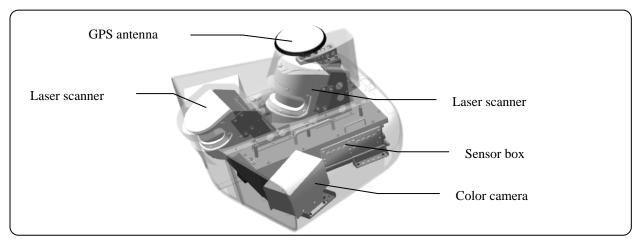


Image of MMS-G220 after removal, disassembly and transport

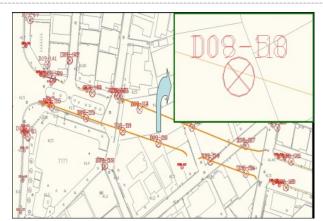


Composition of MMS-G220 main unit

## **Areas of Application**

| Surveying         | Efficient surveying and creation of road inventory charts  |
|-------------------|--|
| Infrastructure    | Managing the maintenance of roads and tunnels              |
| Management        | Managing the maintenance of roads and tunners              |
| Automated Driving | Creation of basic 3D maps (core usage)                     |
| Disaster Control  | Highlighting the condition of and damage to disaster areas |

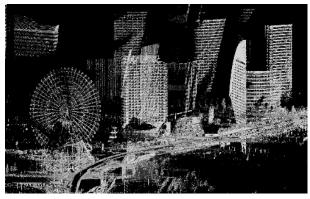
## **Examples of MMS Utilization**



Example 1: Enhancement of map precision by superimposing positioning data of road features onto digital maps



Example 2: Measurement of 3D junction with standard laser scanner superimposed with color camera images



Example 3: Measurement of distant city landscape with optional long range laser scanner



Example 4: Detailed measurement of the building appearance with optional long range or high density laser scanner

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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 4,394.3 billion yen (US\$ 38.8 billion\*) in the fiscal year ended March 31, 2016. For more information visit: www.MitsubishiElectric.com

<sup>\*</sup>At an exchange rate of 113 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2016