

**MITSUBISHI ELECTRIC CORPORATION**  
**PUBLIC RELATIONS DIVISION**  
7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8310 Japan

**FOR IMMEDIATE RELEASE**

**No. 3161**

*Customer Inquiries*

*Media Inquiries*

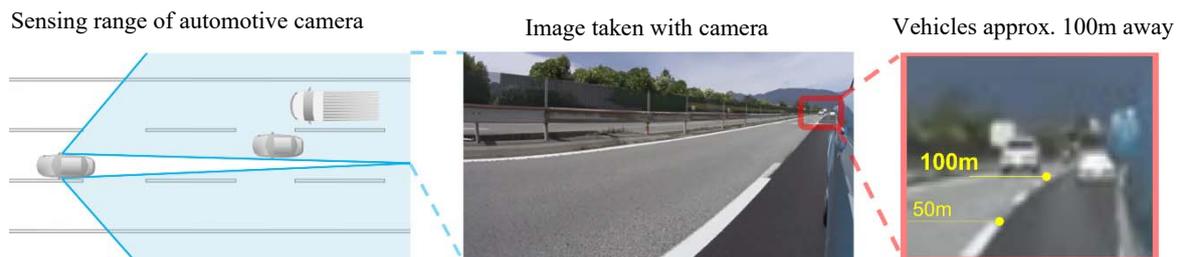
Information Technology R&D Center  
Mitsubishi Electric Corporation  
<https://www.MitsubishiElectric.com/ssl/contact/company/rd/form.html>  
<http://www.MitsubishiElectric.com/company/rd/>

Public Relations Division  
Mitsubishi Electric Corporation  
[prd.gnews@nk.MitsubishiElectric.co.jp](mailto:prd.gnews@nk.MitsubishiElectric.co.jp)  
<http://www.MitsubishiElectric.com/news/>

## **Mitsubishi Electric Develops Object-recognition Camera Technology Using Proprietary AI for Coming Mirrorless Cars**

*Instant recognition of distant objects will enhance driving safety*

**TOKYO, January 17, 2018** – [Mitsubishi Electric Corporation](#) (TOKYO: 6503) announced today that it has developed what is believed to be the industry’s highest performing automotive camera technology that detects various object types at distances of up to about 100 meters, which will enable drivers to receive advanced warning for enhanced driving safety in coming mirrorless cars. The solution, which is based on Mitsubishi Electric’s proprietary Maisart-brand artificial intelligence (AI) technology, is expected to help prevent accidents, especially when drivers change lanes. Mirrorless cars that replace rearview and side mirrors with camera-monitoring systems were approved for use in Europe and Japan in 2016, and the first commercial mirrorless cars are expected to be launched in Japan as early as next year.



Camera-monitoring system for mirrorless car

### **Key Features**

#### **1) *Instantly detects distant objects up to about 100 meters away***

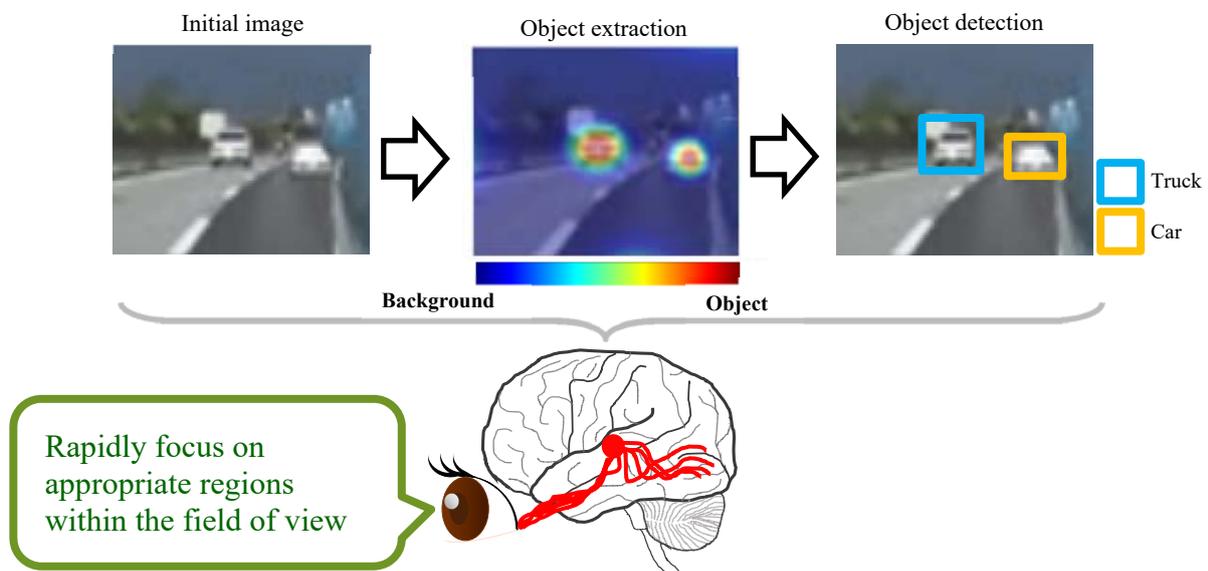
- Mitsubishi Electric’s proposed technology employs a new computational visual-cognition model that mimics human visual behavior to rapidly focus on appropriate regions within the field of view.
- Compared to conventional camera-based systems, the proposed technology, which is believed to achieve the industry’s highest performance, can significantly extend the maximum distance of object detection from about 30 meters to 100 meters, and can also improve object detection accuracy from 14 percent to 81 percent.

## 2) *Real-time object recognition using Mitsubishi Electric's proprietary Maisart AI technology*

- The computational visual-cognition model's relatively simple algorithms free system resources for real-time performance, even in on-board systems.
- Mitsubishi Electric's Maisart AI technology, which realizes compact AI for low-cost devices, can distinguish between object types such as pedestrians, cars and motorcycles.

### Future Development

- More robust performance for driving in bad weather, at night and on winding roads.
- Increased recognition accuracy by using time-series information.



Object-recognition using computational visual-cognition model

### Background

Mirrorless cars that replace rearview and side mirrors with camera-monitoring systems were approved for use in Europe and Japan in 2016. The first commercial mirrorless cars are expected to be launched in Japan next year. Object-recognition systems will alert drivers to dangerous situations by detecting and identifying objects in live video captured with on-board cameras.

### About Maisart

Maisart encompasses Mitsubishi Electric's proprietary artificial intelligence (AI) technology, including its compact AI, automated design deep-learning algorithm and extra-efficient smart-learning AI. Maisart is an abbreviation for "Mitsubishi Electric's AI creates the State-of-the-ART in technology." Under the corporate axiom "Original AI technology makes everything smart," the company is leveraging original AI technology and edge computing to make devices smarter and life more secure, intuitive and convenient.

*Maisart is a trademark of Mitsubishi Electric Corporation.*

## **Patents**

Patents for the technology announced in this news release number four in Japan and four outside Japan.

###

### **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