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## **Mitsubishi Electric Introduces EMIRAI 2 EV Concept Car**

*Synthesis of advanced automotive technologies to be exhibited at Tokyo Motor Show 2013*

**TOKYO, November 21, 2013** – [Mitsubishi Electric Corporation](#) (TOKYO: 6503) announced today it has developed a new concept car, the EMIRAI 2, featuring an electric vehicle (EV) powertrain and driving-assistance system for safe, comfortable, eco-friendly driving experiences in the future. Two versions of the EMIRAI 2 will be exhibited during the 43rd Tokyo Motor Show 2013 at the Tokyo Big Sight exhibition complex in Tokyo, Japan from November 23 to December 1.



EMIRAI 2 "xEV"



EMIRAI 2 "xDAS"

At the previous Tokyo Motor Show, Mitsubishi Electric exhibited its EMIRAI EV concept car, which was developed under the Intelligent Connect concept of linking cars and diverse information for greater convenience, eco-friendliness and safety. Building on the EMIRAI, Mitsubishi Electric has now developed the EMIRAI 2, which comes in two versions: the EMIRAI 2 xEV features an EV powertrain for improved maneuverability and safety, and the EMIRAI 2 xDAS is equipped with a driving-assistance system for greater driving safety and comfort.

### **EMIRAI 2 xEV: Powertrain Concept Car**

The EMIRAI 2 xEV is a four-wheel-drive EV with a maximum output of 125kW. It is equipped with three motors, one to drive the front wheels and two to drive the left and right rear wheels independently. Built with

Mitsubishi Electric’s proprietary original motor control technology, the vehicle promises a high-quality EV driving experience on any road condition.

**High-precision Traction Control**

Traction control is important for safe driving on snowy roads, where tires can easily lose traction. The EMIRAI 2 xEV identifies tire slippage by controlling motor torque every 1msec (1/1000th of a second). If slippage is detected, motor output is precisely lowered to match the degree of slippage. The driver is informed when traction control is activated via an icon on the Intelligent Information Panel.

**Smooth-G Control for enhanced acceleration and deceleration**

The EMIRAI 2 xEV’s Smooth-G Control enhances acceleration both from a full stop and when under way to provide smooth acceleration without unexpected jolts. If vibration caused by increased motor torque is detected, torque is controlled to eliminate unpleasant sensations. Smooth-G Control also enhances the pleasurable sensation of acceleration by smoothly controlling torque startup with respect to the car’s structural characteristics.

**Low-speed Level Control**

The EMIRAI 2 xEV’s Low-speed Level Control enables the driver to maintain constant low speed on uneven roads, which is not possible with internal-combustion vehicles. For example, when driving over speed bumps or on graded roads, motor output torque is instantly controlled in response to differences in road level to eliminate unnecessary acceleration or braking, making it easy to maintain the car’s desired position.

**EMIRAI 2 xEV Specifications**

Dimensions	3160mm (L) × 1786mm (W) × 1320mm (H)			
Occupancy	2 people			
Motors	Type		Max. output	Max. torque
	Front	Water cooled	65kW (6500rpm)	130Nm (0-4000rpm)
	Rear	Air cooled (built-in inverter)	30kW (6000rpm)*	45Nm (0-6000rpm)

\*Output per motor

**EMIRAI 2 xDAS: Driving Assistance Concept Car**

The EMIRAI 2 xDAS EV concept car combines an interior design, information systems and advanced operation harmonized to the driver under the concept of a highly driver-oriented car. It incorporates Mitsubishi Electric’s advanced technologies for video display, image sensor processing and human-machine interface to assist the driver in achieving exceptionally safe and comfortable driving.



Intelligent Information Panel



Integrated Image Sensing

### **Driver-oriented interior**

The EMIRAI 2 xDAS is equipped with the Intelligent Information Panel, a next-generation display that seamlessly changes its appearance and content in response to driver preferences and driving conditions, ensuring that the driver always has the desired and required information in an easy-to-understand fashion.

#### (1) Situational display

Appearance and content are available in three variations on the windshield head-up display (HUD) in response to driving conditions. When the car is parked, information includes content such as navigation, music and social networking services (SNS). When the car is running, only information needed for driving is provided to ensure safety.

#### (2) User-selected interface

Contents on the panel display can be changed in response to user preferences. Cloud content synchronization and selectable panel layouts enable the driver to create a highly personalized interior.

### **Driver-oriented information**

The Intelligent Information Panel presents information about potential driving dangers and other essential information that the driver requires.

#### (1) Integrated Image Sensing

Impending dangers are detected by cameras and displayed on the windshield HUD. A visual sensor analyzes the driver's awareness for selective notification of high risks.

#### (2) "What's that?" Search

This voice-activated feature provides the driver with pinpoint information using visual sensors and high-precision vehicle positioning. Identification is implemented both via the windshield HUD and audibly. Drivers can keep their eyes on the road ahead while obtaining information easily and safely, simply by voicing "What's that?" as if speaking to a passenger.

### **Driver-oriented operation**

The EMIRAI 2 xDAS's Natural User Interface anticipates driver actions for simple, safe and intuitive operations in response to audio and handwritten prompts.

(1) Smart menu

Based both on operational history and driving conditions (time of day, road conditions, etc.), the three most necessary operations are displayed on the Intelligent Information Panel. Screens for each of these three operations can be accessed simply by pressing the corresponding button on the steering wheel, contributing to simpler and safer operation.

(2) Smart Steering Wheel

The steering wheel is equipped with a device that incorporates a touchscreen featuring ergonomic surfaces. Intuitive functionality is achieved via either cursor operation or handwritten entries.

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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 3,567.1 billion yen (US\$ 37.9 billion\*) in the fiscal year ended March 31, 2013. For more information visit <http://www.MitsubishiElectric.com>

\*At an exchange rate of 94 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2013