

## EV-Smart Grid Demonstration Project

Starting operation of “M-tech Labo,” a smart grid demonstration system

Mitsubishi Corporation (“MC”), Mitsubishi Motors Corporation (“MMC”) and Mitsubishi Electric Corporation (“Mitsubishi Electric”) have completed the development and begun the operation of “M-tech Labo,” a smart grid demonstration system that utilizes rechargeable batteries in Electric Vehicles (“EVs”) for electric-demand leveling of factory facilities. Tokyo Institute of Technology is playing an advisory role for the project. This demonstration project is part of the KEIHANNA Eco-City Next-Generation Energy and Social Systems Demonstration Project, one of the four smart grid initiatives authorized by the Ministry of Economy, Trade and Industry.

\*1 The system consists of a 20kW photovoltaic system, 5 electrically-dischargeable EVs and 80kWh used rechargeable batteries collected from EVs.

Building



Charging & discharging stand



Used rechargeable battery



The purpose of this project is to demonstrate load shifting by charging at night when demand is low, storing power produced from renewable sources in rechargeable batteries, and supplying such power back to the grid when factory facilities and offices face peak demand. MC, MMC and Mitsubishi Electric also expect that utilizing EV batteries and used rechargeable batteries, instead of expensive, dedicated batteries, will lower costs while promoting the environmental-benefits of renewable energy and EVs.

Details about the demonstration project for this fiscal year are as follows:

- (1) Reduction of electricity fluctuation at the Administration Building of MMC’s Nagoya Plant by utilizing electricity from M-tech Labo at a maximum power of 50kW (Target: 33% reduction of the 180kW fluctuation range)
- (2) Validation of EIS (Electric vehicle Integration System) which aggregates data and information of available dischargeable capacity and hours of each EV while still allowing the EV to be used as a mean of transportation.

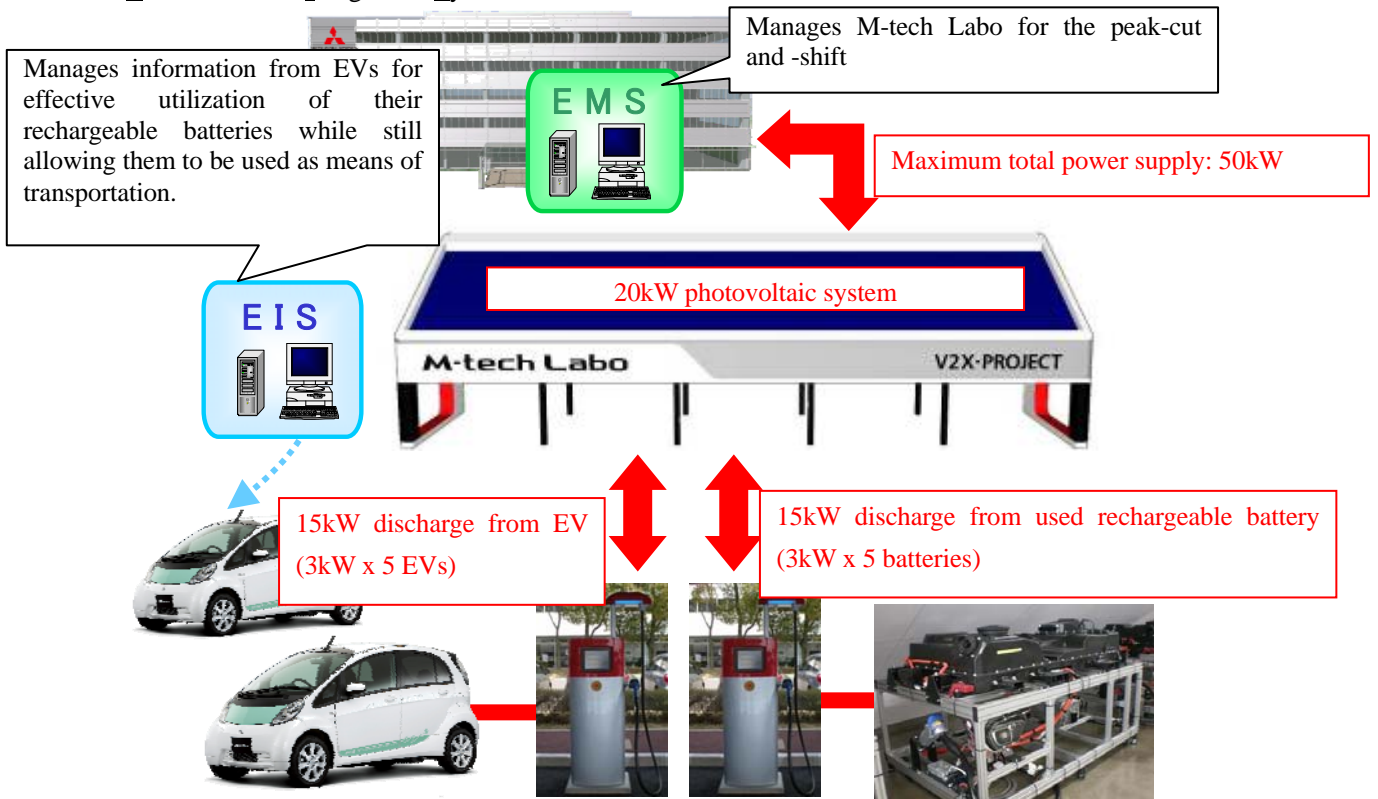
The three companies will collaborate in project implementation and application of knowledge obtained with the goal of contribution towards a more sustainable society. The primary roles of each company are:

- MC: Study of electricity-related business utilizing rechargeable EV batteries and used rechargeable batteries
- MMC: Research on the effect of discharging and charging on EVs, and on the necessary information and data from EVs
- Mitsubishi Electric: Validation of a system that can effectively utilize rechargeable EV batteries and used rechargeable batteries

**System Framework**

EMS: Energy Management System

EIS: Electric vehicle Integration System



**Image of System Operation**

