



Mar 18<sup>th</sup>, 2019

Marubeni Corporation

4R Energy Corporation

### Development of the Mass Productional Multi Super-fast EV Charger with Large Refurbished Batteries

Marubeni Corporation (hereinafter, “Marubeni”) and 4R Energy Corporation (hereinafter, “4RE”), along with SIGNET EV Inc. (hereinafter, “SIGNET”), using 4RE’s large refurbished batteries<sup>(\*)</sup>, have executed the Proof of Concept (hereinafter, “The PoC”) for the development of the world’s first<sup>(2)</sup> mass productional multi super-fast EV charger (hereinafter, “the charger”); development on the charger has also been completed.

The PoC started in October 2018 as a part of Smart Community Project, which is led by Namie-machi, Fukushima-Prefecture, using “Agency for Natural Resources and Energy Subsidy”. The goal of this PoC was to reduce the initial cost for cubicle<sup>(3)</sup> installation, which is capable of outputting more than 50kW, as well as the running cost caused by the high voltage electricity contract.

As development on the charger has been completed, Marubeni has installed one at the sports center in Namie-machi; public use of this charger commenced today.

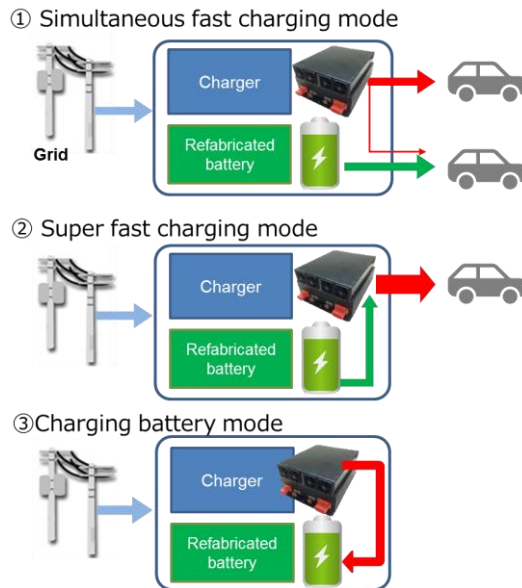
The super-fast charger enables an output of roughly 90kW. Furthermore, by combining the grid power and approximately 62kWh of refurbished batteries, 2 EVs are able to use the charger at the same time with 2 cables. Both the initial cost of cubicle installation and the running cost of the high voltage electricity contract are expected to be reduced as the grid input power is under 50kW and therefore in the proper range for a low voltage electricity contract.

An increase in demand for super-fast chargers that can shorten charging time is projected to follow the increase in capacity size for EV batteries. Marubeni aims to start general sales of the charger beginning in June 2019. The development of the charger will facilitate the spread of EVs in the market, as well as the structuring of the EV lifecycle through the reuse of EVs as mobility and also as a source of refurbished batteries. Moreover, Marubeni will contribute to the effective utilization of scarce resources, such as lithium, and towards the realization of a low carbon society.

(\*1) Refurbished Batteries are old batteries that are reused by reassembling the contents in battery packs after use in EVs.

- (\*2) According to a survey conducted by 4RE.
- (\*3) The equipment which enables stores or factories to receive high voltage electricity. The electricity is usually received from the grid at 6,600V and then supplied after it has been converted to 100~200V inside of cubicles.

**【Reference : Images of fast charging】**



**【Marubeni Company Profile】**

Company name : Marubeni Corporation  
Headquarters : Tokyo, Japan  
Established : December 1949  
Representative : Fumiya Kokubu  
Capital : JPY 262,686 million  
Activities : Importing and Exporting (including third country trading) as well as domestic business, encompassing a diverse range of business activities across wide-ranging fields including food, consumer products, chemical & forest products, energy & metals, power & plants projects, and transportation & industrial machinery. Additionally, the Marubeni Group offers a variety of services, makes internal and external investments, and is involved in resource development throughout all of the above industries.

HP : <https://www.marubeni.com/jp/>

## 【4RE Company Profile】

Company name : 4R Energy Corporation  
Headquarters : Kanagawa, Japan  
Established : September 2010  
Representative : Eiji Makino  
Capital : JPY 766 million  
Activities : Development and sales of re-used technology of on-board lithium ion batteries  
HP : <https://www.4r-energy.com/>

## 【SINGET Company Profile】

Company name : SIGNET EV Inc.  
Headquarters : Jeollanam-do, South Korea  
Established : December 2016  
Representative : Hochul Hwang  
Capital : KRW 50,000 million  
Activities : Development and manufacturing of EV chargers  
HP : <http://www.signetev.com/en/>

## 【The charger installed at the sports center in Namie-machi】

