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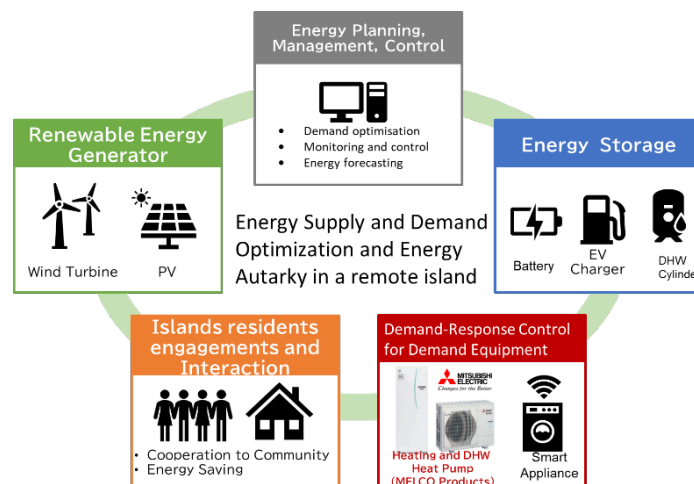
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## **Demand-response Demonstration Experiment with Heat Pumps Begins under EU "REACT" Project**

*Using renewable energy to verify energy supply and demand optimization on remote islands and their effect on independence*



REACT Project Overview

**TOKYO, May 31, 2023** – [Mitsubishi Electric Corporation](https://www.mitsubishi-electric.com) (TOKYO: 6503) announced today that its European subsidiary Mitsubishi Electric R&D Centre Europe B.V. started a demonstration experiment on May 25 in the Irish Aran Islands to evaluate the effectiveness of heat pump control\* for demand response\*\* as part of the REACT project to demonstrate energy independence for remote islands. The project, which is co-funded by the European Union Horizon 2020 programme, will use heat pump systems deployed at the Aran Islands in Ireland, and San Pietro Island in Italy.

Renewable energy sources, such as photovoltaic (PV) panels and wind turbines, are important technologies for tackling climate change because they do not emit CO<sub>2</sub> when generating electricity. Remote islands face geographical and structural challenges due to their high dependence on fossil fuels and energy supplies from the mainland. The REACT islands are expected to make maximum use of renewable energy to achieve an increased level of energy independence.

\* A device that transfers heat between the outside air and the inside to provide heating, cooling or heat water with high energy efficiency

\*\* A mechanism to control electricity demand and adjust the balance between supply and demand by saving electricity and adjusting the power consumption of demand equipment in response to fluctuations in the amount of electricity supplied

REACT is an Innovation Action project involving 22 partners including companies and academic institutions from 11 EU countries. The project will demonstrate a community-centric approach to energy management for remote islands using distributed renewable energy generation and storage technologies with demand-response to balance power supply and demand. The project aims to achieve energy savings of 10%, a 60% reduction in greenhouse gases, and a 50% increase in the use of renewable energy, compared to a baseline operation case before the application of the REACT solution.

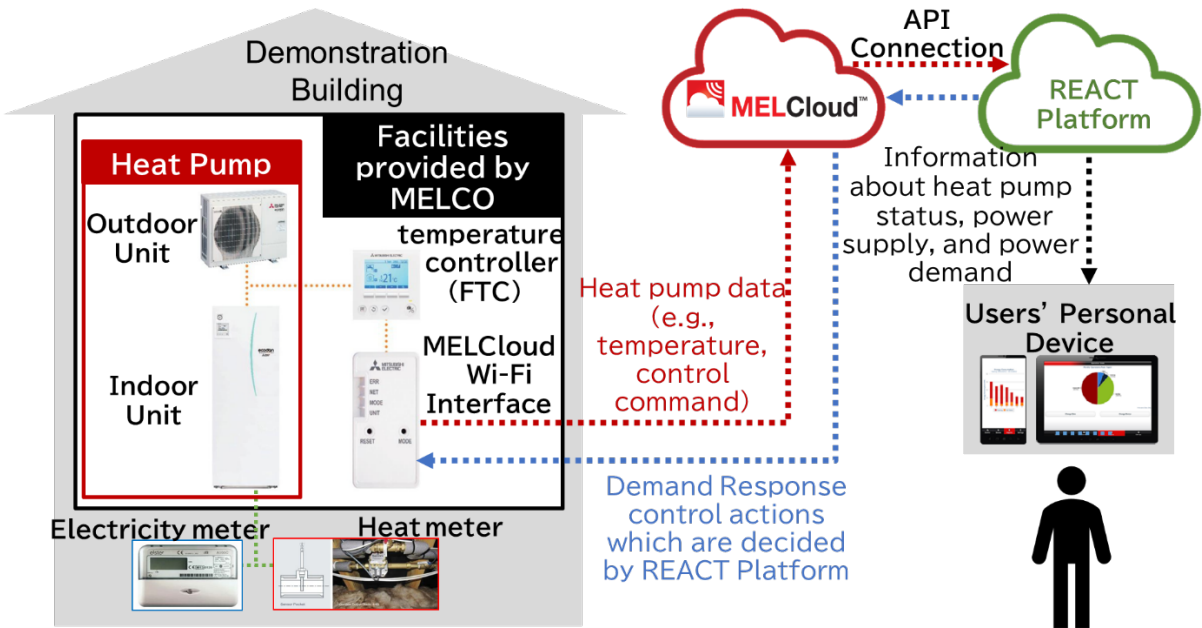
The company will contribute to achieving carbon neutrality by participating in the project and using the results obtained from it.

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No. 824395.

**Features of REACT Project**

**1) Utilizing the cloud to achieve demand-response control of heat pumps**

- The Mitsubishi Electric heat pump systems installed at the demonstration sites will be linked with the REACT demand-response platform via the company's “MELCloud” service for HVAC systems in Europe.
- Through the MELCloud link, each heat pump will send operating status information such as temperatures and energy consumption. Based on this information, the REACT platform will decide optimal demand-response control actions automatically, and each heat pump will receive and execute these actions via MELCloud.
- Based on the information sent from the heat pumps and other smart devices, the system notifies each user via smartphone or tablet with information about home energy usage, electricity price, renewable energy availability, etc., and provides recommended manual actions to improve energy efficiency and save money.



An example of a demonstration heat pump system using MELCloud

## 2) *Demonstration in various buildings including houses and public facilities*

- At the Irish Aran Islands site, a total of 6 heat pumps for domestic hot water and space heating are installed in 3 residential buildings and 2 public facilities including a childcare facility and a local community office space.
- At the Italian San Pietro Island site, a total of 17 heat pumps for air conditioning and 1 heat pump for domestic hot water heating are installed in 6 residential buildings and 2 public facilities including a public library and a sports facility.
- Through these demonstrations in various types of buildings, Mitsubishi Electric will analyze data from the heat pumps and other equipment to verify the effectiveness of the demand-response control.



Participating buildings

### **Future Plans and Future Prospects**

From now until the project ends in June 2023, Mitsubishi Electric will conduct demonstration experiments to collect data and verify the effectiveness of demand-response. After the completion of the demonstration project, the company will also use the key exploitable results obtained to promote research and development that will contribute to the realization of carbon neutrality, such as energy-saving air conditioning and water heating equipment through cloud solutions.

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### **About Mitsubishi Electric Corporation**

With more than 100 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. Mitsubishi Electric enriches society with technology in the spirit of its “Changes for the Better.” The company recorded a revenue of 5,003.6 billion yen (U.S.\$ 37.3 billion\*) in the fiscal year ended March 31, 2023. For more information, please visit [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*U.S. dollar amounts are translated from yen at the rate of ¥134=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2023