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Mitsubishi Electric Develops "BLEnDer® ICE" Battery-powered Wireless Terminal to Collect Meter Data and Control Networked Sensors

Utilizes sensor data to improve the efficiency of gas and water utilities

TOKYO, March 16, 2020 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that it has developed the BLEnDer® ICE battery-powered wireless communication terminal for use in sensor networks to collect gas and water meter data and remotely control sensors in the networks. This terminal will enable meters to be automatically read and both monitored and controlled remotely to achieve greater efficiency in the maintenance operations of utilities and infrastructure operators. Various tests conducted so far have demonstrated that the terminal operates and communicates stably in the field.

BLEnDer (short for Bid Liaison and Energy Dispatcher) is a packaged software developed by Mitsubishi Electric in response to the changes in the power industry and support utilities to realize smarter and more efficient operations. The BLEnDer Intelligent Communication Edge (ICE) terminal will work together with the BLEnDer HE (Head End) software which manages and controls smart meters through various communication methods and the BLEnDer MESH software which utilizes wireless multi-hop communication to realize a wide range smart meter communication network at a low cost.

*Network enabling communication over wide area by using "bucket brigade" method to relay data between terminal (mainly in urban areas)

**Data-communication network services provided by mobile carriers, etc.(mainly in mountainous areas)
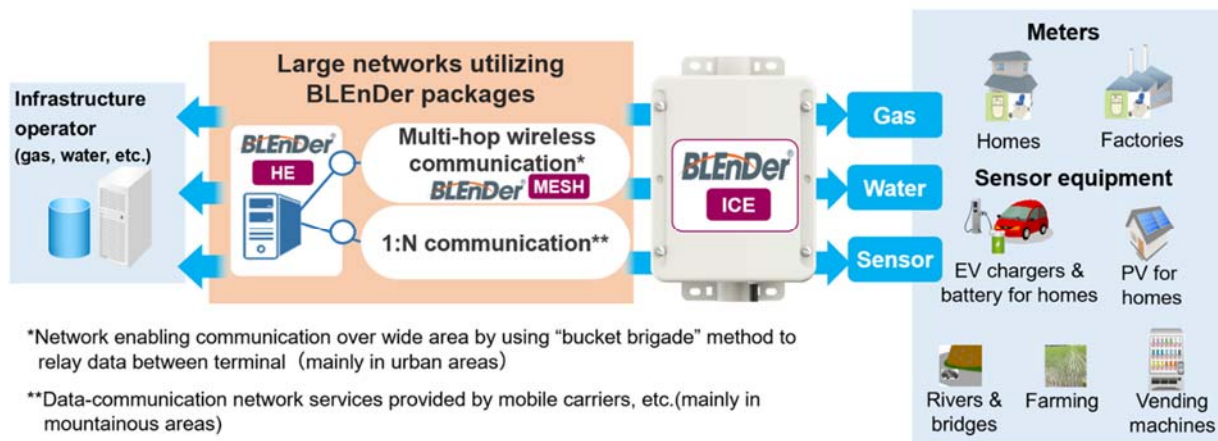
Service applications envisioned for BLEnDer ICE

Key Features

1) *Common interface enables connection with diverse meters and sensors*

The BLEnDer ICE terminal supports standard communication interfaces to ensure connectivity with not only gas and water meters but also various sensing equipment.

2) *Wide-area network connectivity for remote control, monitoring and metering*

By using low cost sub-GHz wireless communication which does not require a special license or a designated specialist to connect with, not only is the ICE terminal suited for smart-meter networks it is capable of expanding existing communication networks. This will enable new services such as automated meter reading and infrastructure equipment monitor and control through sensors at a low cost.

3) *Battery operation for unassisted operation up to 10 years*

Since no external power supply is required, the BLEnDer ICE battery-powered terminal can be installed anywhere, including meters in locations where power supply is difficult. Depending on usage conditions and the environment, it should be possible to use the device for up to 10 years, which is the lifespan of most meters.

Future Development

In view of expected increases in the use of renewable energy, virtual power plants (VPP) and micro-grids, supporting interfaces required for remote monitor and control of demand-side and distributed-energy resources is planned in the future.

Development Background

In recent years, due to labor shortages and the aging of equipment installed in large numbers during Japan's period of high economic growth decades ago, there has been a growing demand among utilities and public infrastructure operators for IoT solutions that help to realize more efficient operations while also ensuring stable services.

Since 2014, by using its BLEnDer package software, Mitsubishi Electric has been a major provider of utility-network solutions, including the deregulation of Japan's electric-power sector and other IoT public infrastructure.

Specifications

Item	Specifications
Operating temperature	-25℃ to 70℃; 95% or less humidity (without condensation)
Power source	battery pack (lithium battery)
Dimensions	110mm (W)×41mm (D)×133mm (H) (excluding protrusion)
Cooling method	Natural air cooling
RoHS	RoHS compliant

Contribution to the Environment

Using IoT solutions helps reduce CO_2 emissions and lower other environmental impacts in various areas of society.

BLEnDer is a registered trademark of Mitsubishi Electric Corporation.

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About Mitsubishi Electric Corporation

With nearly 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. 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 a revenue of 4,519.9 billion yen (US$ 40.7 billion*) in the fiscal year ended March 31, 2019. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 111 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2019