Welcome

Poland - Japan Economic Committee

Warsaw 28th Nov 2013

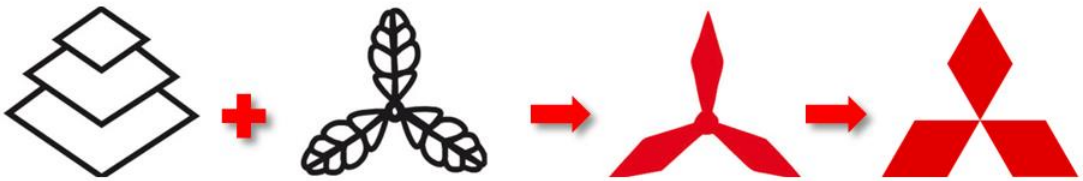
A symbol of trust

high-tech with tradition

In 1870, Yatoro Iwasaki founded his transport company with three rented steamships, which expanded to a fleet of 30 ships in just a few years. The success story continued with company acquisitions and newly formed companies in the sectors of mining, shipbuilding, banking, trading and real estate.

The strong cohesion of the independent companies still lives on today in Mitsubishi's company philosophy.

Iwasaki chose the diamonds symbolising tradition and trust for his company logo back in 1870. For over 140 years, three of the crystals have symbolised quality, reliability and service.



1921 – 2007 Highlights and innovations

1921 Founding of Mitsubishi Electric Corporation with a capital of 15 million euro

1923 Annual production of ca. 10,000 fans

1953 Introduction of the first TV set

1969 Development and manufacture of the first surveillance satellite for exploration of the ionosphere, Japan

1970 Introduction of the Lossnay heat exchange system

1993 Fastest passenger lift in the world (750 m / min), Landmark Tower Yokohama

2006 Development of the broadest Diamond Vision colour video display for the JRA Tokyo Racetrack

2007 Construction of the world's highest elevator testing tower measuring 173 m

Products & services

Building Systems

Factory Automation Systems

Information/
Communication Systems

Living Environment Systems
Air Conditioning Systems

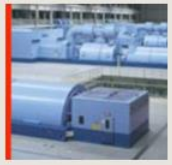
Semiconductors/Devices

Visual Information Systems

Space Systems

Transportation Systems

Public Systems



Energy Systems

Automotive Equipment

Home Products

Portfolio

Living Environment Systems

The atmosphere of a room influences our physical well-being and our mind's ability to focus.
A constant atmospheric environment, thanks to Mitsubishi Electric's solutions allows for maximum comfort in any application.
We are one of the market leaders of air conditioners in the private, commercial or industrial sector.

Packaged Air Conditioners

Restaurants, bars, office rooms and shopping malls benefit from the comfort of our room air conditioners

Also in private rooms.

Room Air Conditioners

Heat Pump (Air/Water)

With an outdoor-positioned heat pump unit heat is extracted from outdoor air and is supplied with a built-in plate heat exchanger to the water.

Total range: Living Environment Systems

Air conditioning, ventilation, heating

M-SERIES
Room air conditioners

ECODAN
Heat pumps

MR. SLIM
Split systems

JET TOWEL
Hand dryers

CITY MULTI
VRF systems

AMBIENT AIR
Dehumidifier

LOSSNAY
Ventilation systems

COMPRESSOR
Rotary and scroll

City Multi VRF

System solutions for complex and modern architecture

Fields of application

// Large complex buildings that require air conditioning, ventilation and heating, e. g. hotels, office blocks, hospitals, schools, public buildings, industry

Power range

// 11.2 kW – 156.5 kW

Series

// Y-Series (High COP and water cooled series)
// R2-Series (High COP and water cooled series)
// Replace series
// Zubadan series
// PFD series

Features

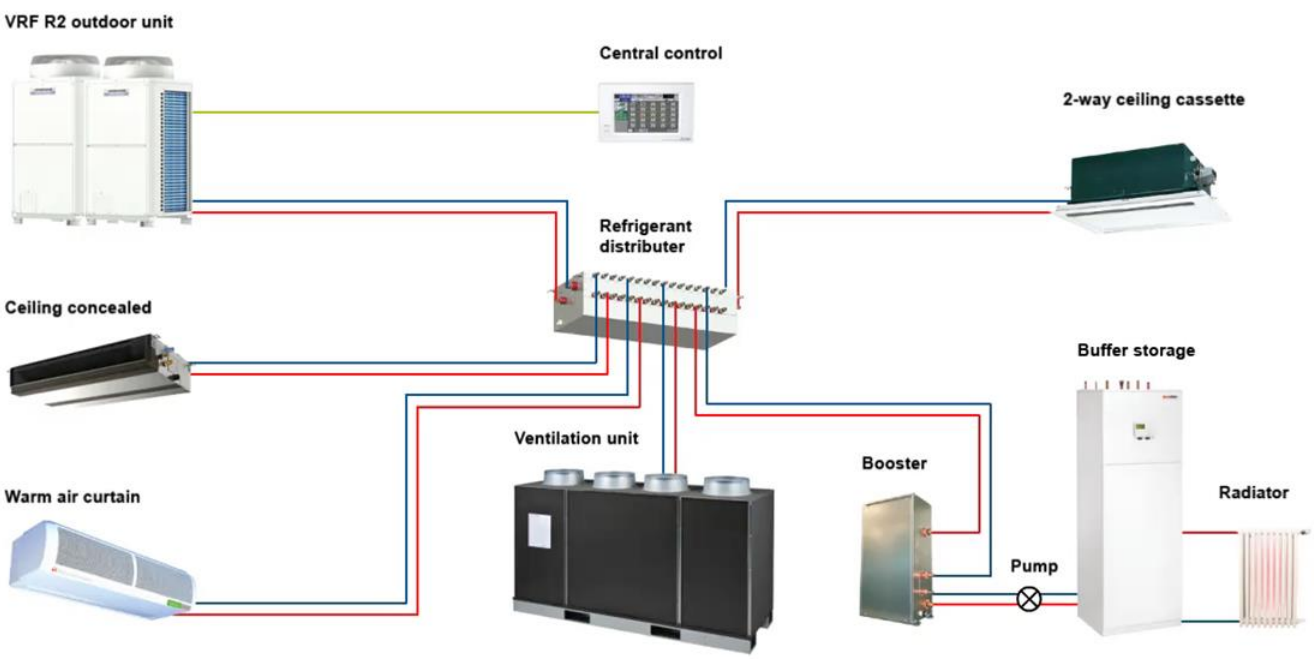
// Modular system: Large leeway for planning
// Up to 50 indoor units on one refrigeration cycle
// Connection to building management system
// Large variety of indoor units
// Highest efficiency
// Complete systems also with warm water

Cooling, heating, warm water and fresh air with heat recovery

The R2 Series

Developed to promote energy-saving & eco-friendly systems in modern buildings.

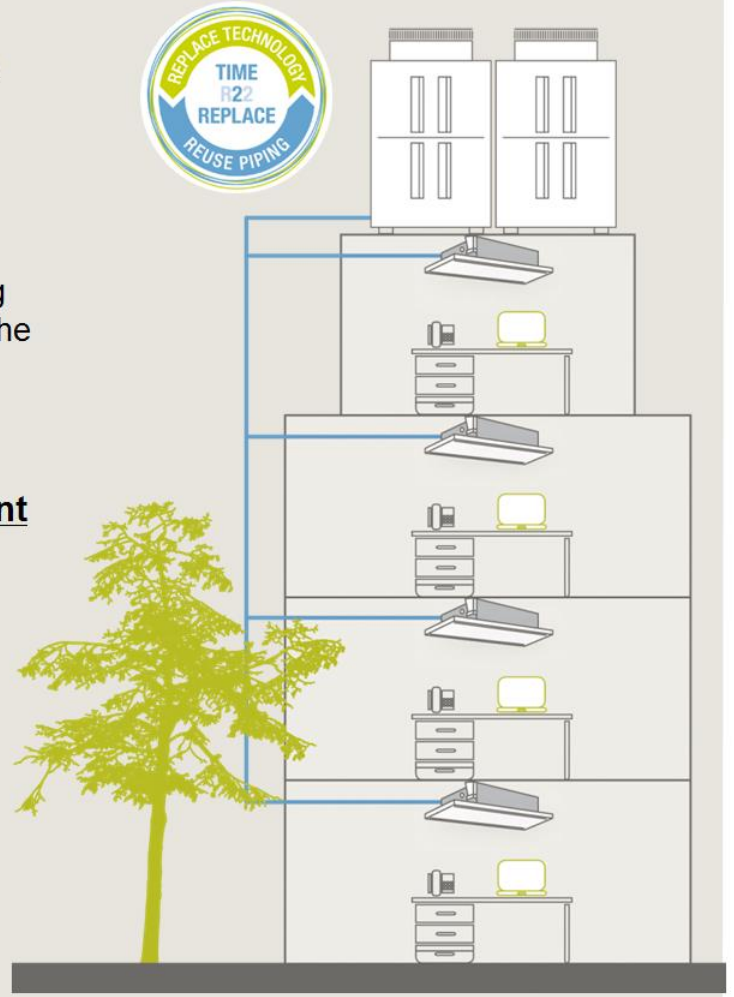
The refrigerant cycle in the R2 system



The R2 Series is the only heat recovery system in the world that enables cooling and heating in simultaneous operation with only two conduits.

Replace Technology

City Multi VRF



Since 01.01.2010, the production and storage of R22 fresh refrigerant has been prohibited by law.

Mitsubishi Electric has developed a process with which VRF systems, as well as other manufacturers, can be easily and quickly exchanged for modern R410A air conditioning systems.
With our patented Replace Technology, a company, office or hotel building can have a high-efficient air conditioning system, whilst continuing to use the existing pipes. Only the indoor and outdoor units must be exchanged.

// **Fast and neat installation**

// **High saving potential**

// **Minimal installation efforts**
The existing pipeline system is reused, including all safety mechanisms, communication and remote control lines

// **No additional costs**
for drywall construction, painting works, wall and ceiling feed-throughs or fire protection measures

// **Maximum climate comfort**

// **Real benefit for the environment**

// **Reduction of investment costs**
by up to 30 %

// **Reduction of running costs**
by up to 50 %

// **Efficient air conditioning system**
for cooling and heating

References

Solutions for a variety of applications

Ertl shopping centre
Mr. Slim / City Multi VRF

Dänisches Bettenlager [JYSK]
M-Series / Mr. Slim / Lossnay

Volksbank
Mr. Slim / City Multi VRF

Hotel Eburon
City Multi VRF

Alemannia Aachen
M-Series / Mr. Slim /City Multi VRF

Maxtorhof
City Multi VRF

Terrace house
Air to water heat pumps

Art Nouveau Villa
Air to water heat pumps

BUILDING CERTIFICATION PROGRAMS

DGNB®
Deutsche Gesellschaft für Nachhaltiges Bauen e.V.
German Sustainable Building Council

U.S. GREEN BUILDING COUNCIL MEMBER

BREEAM®

LEED certified

Enermodal Engineering – Canada

- WON CANADIAN CONSULTING ENGINEERING AWARD 2011
- City Multi VRF System PQRY in combination with PEFY-P system
- Air ventilation system
- 82 % energy savings in comparison with a conventional system for heating and cooling
- Intelligent water system for sanitary use with up to 89 % savings in water consumption

CASE STUDY

Enermodal Engineering is one of Canada's largest green building consulting firms, helping with over 85% of LEED certified projects in Ontario alone. As their green business rapidly grows, so does their need for office space. Enermodal designed and built their new 22,000 sq. ft. headquarters in Kitchener, Ontario, **achieving 3 LEED Platinum certifications**. One of their biggest challenges was to ensure they could meet heating loads under Canada's cold climate. They chose the performance and quality of the **City Multi VRF** system as an HVAC solution to provide precise climate control in every office area while achieving high energy efficiencies. A Grander View is designed to consume about **82% less energy** than a typical Canadian office building.

City Multi® helps ENERMODAL ENGINEERING achieve LEED Certification

Enermodal Engineering Corporate Office in Kitchener, ON - **LEED Platinum**

BREEAM certified

St Paul's Square – Liverpool/UK

- BREEAM EXCELLENT certification
- 33.000 sqm office building
- City Multi VRF System, R2 (PURY)
- Air ventilation system
- BMS system
- Solar power supply
- Intelligent energy saving light system

DGNB certified

New town hall in Raunheim/Germany

- Application for DGNB **GOLD** certification
- City Multi VRF R2-system, high COP
- Indoor ceiling cassettes and duct units for offices and meeting rooms, wall mounted units for server room cooling
- PWFY Booster unit for hot water supply
- Heating only with CM R2-system since no other heating sources are intended
- Air ventilation system connected
- Alternative for a R2-system would have been geothermal energy; cost advantage R2-system approx. EUR 250K

Total range:

Thanks to Mitsubishi Electric Industrial Automation, production lines work faster, are more cost-effective and are of higher quality.

For 75 years manufacturers have relied on the high quality of our products.

MELFA Roboter

Servo & Motion

Power Switch/Gear

Compact SPS
FX3G-Serie

Modular SPS
MELSEC System Q

Frequency Inverter
Intelligent solutions for each impulse task

HMI
HMI & visualization systems

Compact Drives

MELSOFT-Software
High-capacity program tools

Industry Modems
+ corresponding software
=intelligent telemetry solutions

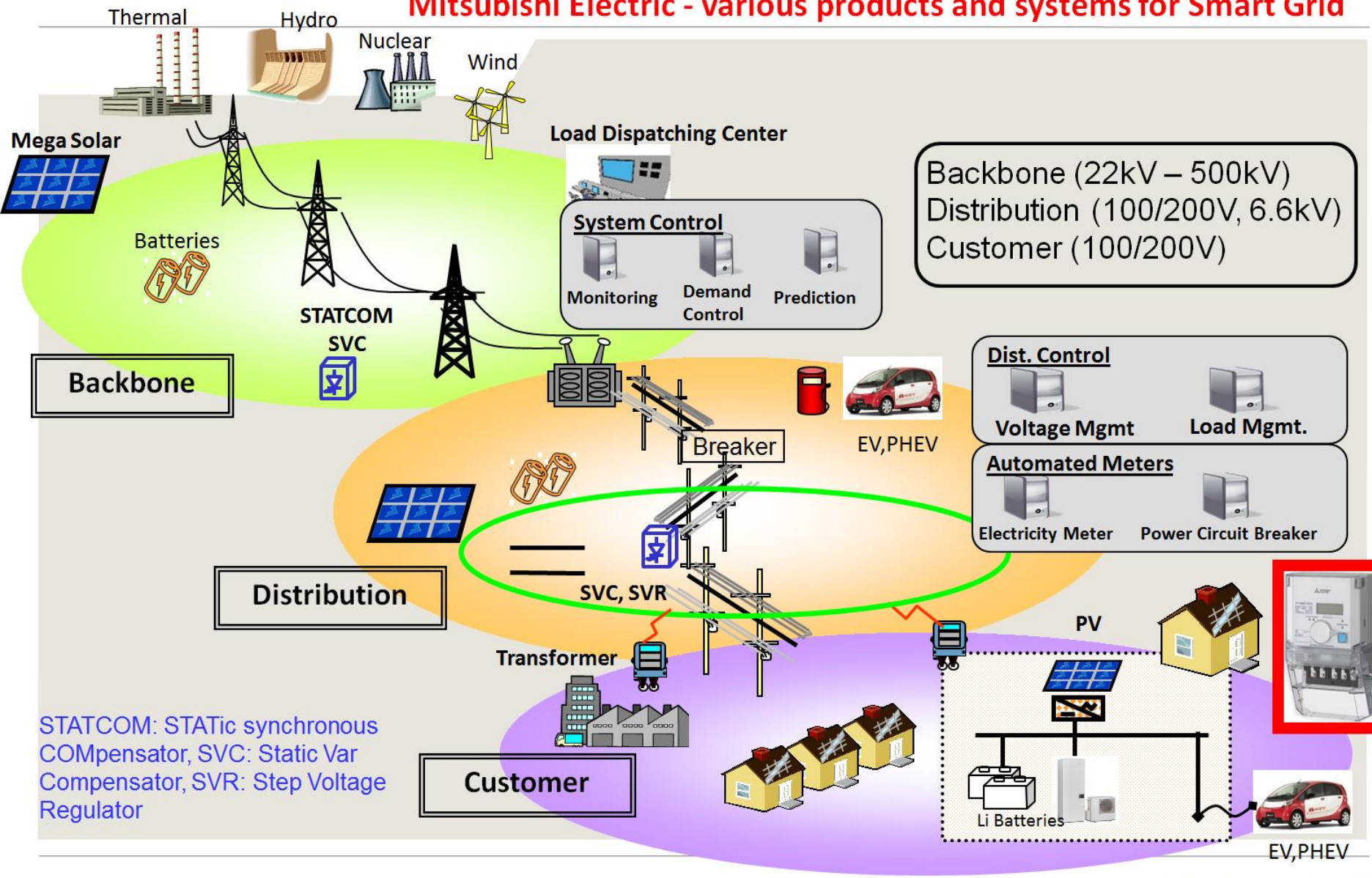
iQ Platform

YouTube

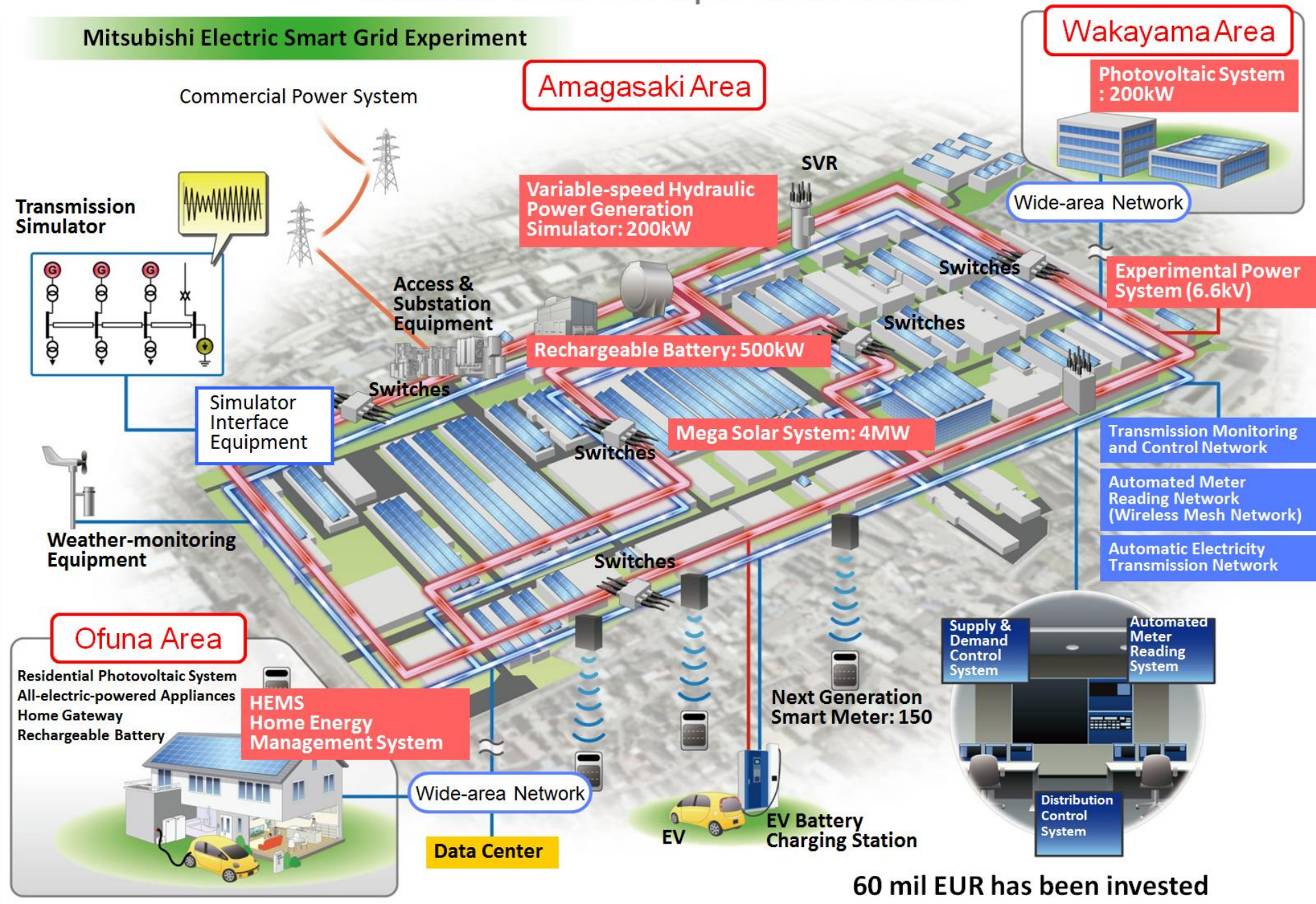
Hardware for our e-F@ctory concept for maximum ROI

System Composition of Smart Grid in Japan

Mitsubishi Electric - various products and systems for Smart Grid



Mitsubishi Smart Grid experimental facilities

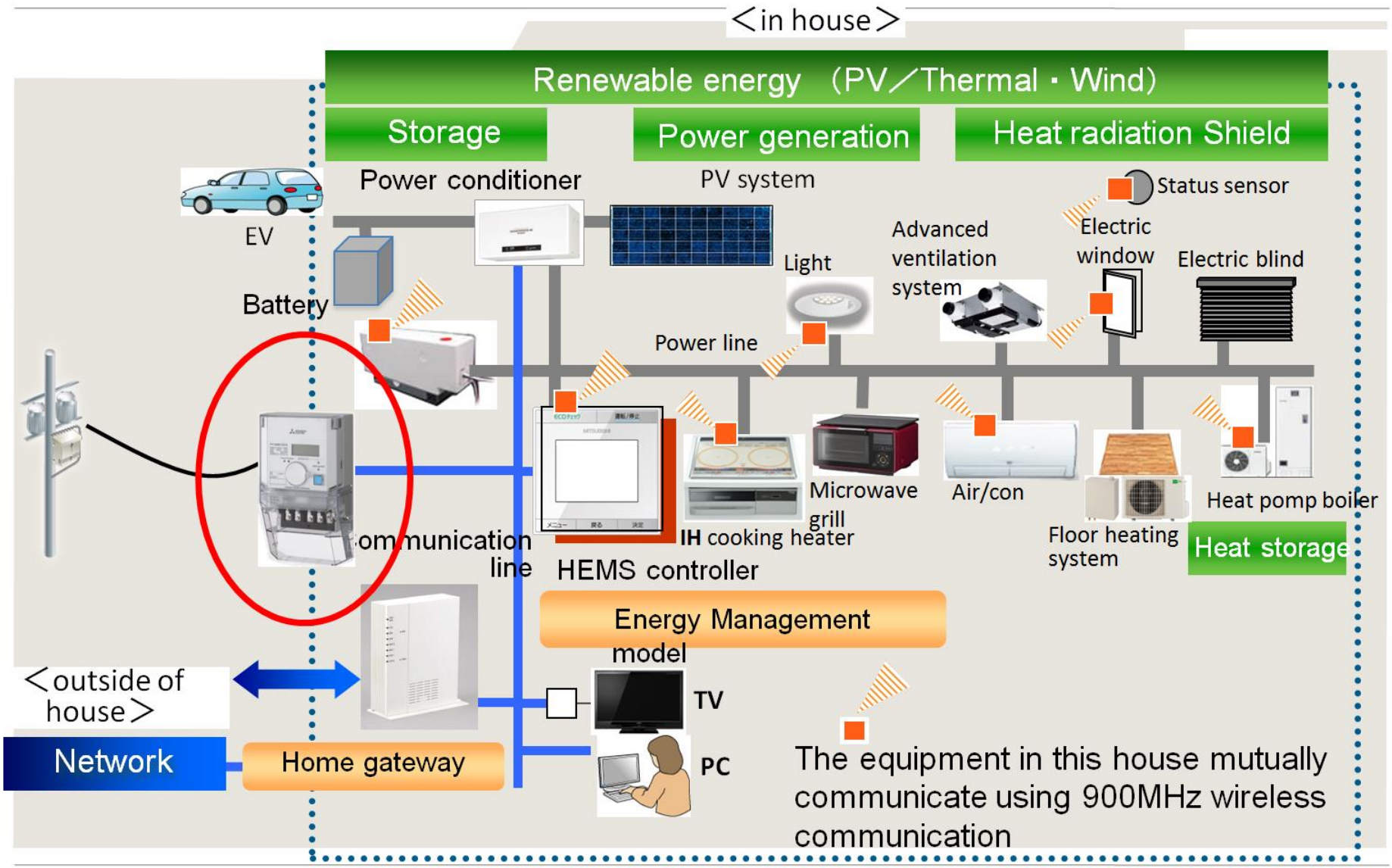


Overview of Smart House in Ofuna city

Up to 5 days without power supply

- ☐Mitsubishi Electric constructed the Smart House, and installed the HEMS (Home Energy Management System) in the house
- ☐Mitsubishi Electric are evaluating the effect of energy saving and safety, etc

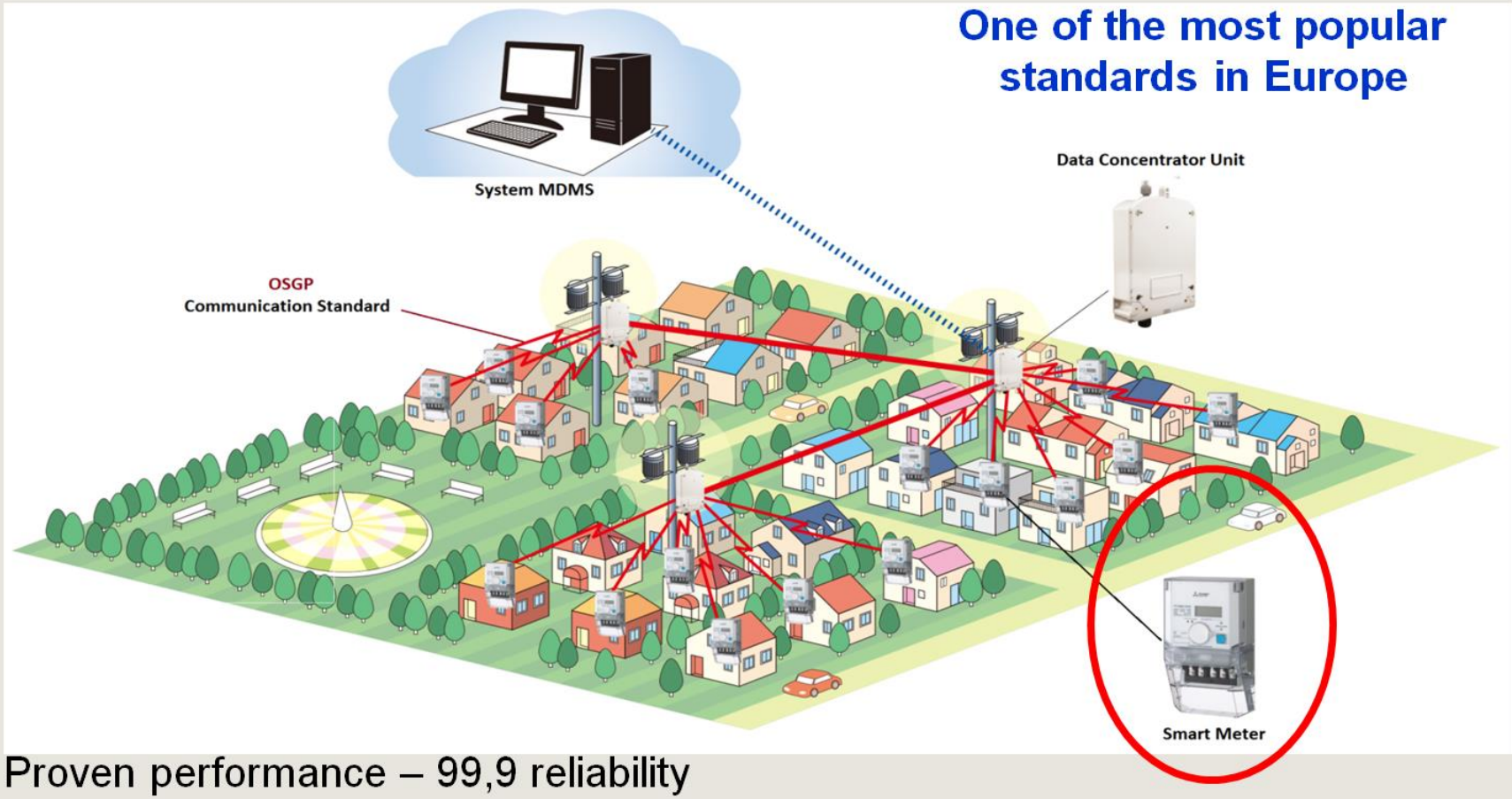
Composition of Home Energy Management System



AMI System

OSGP Standard

(Open Smart Grid Protocol)



- Proven performance – 99,9 reliability
- Interoperability
- 25 years experience

Environmental Vision 2021

Environmental protection for the world in which we live

The Environmental Vision 2021 is a long-term environmental initiative of Mitsubishi Electric to reduce CO_2 emissions by 30 %, starting with the production of all products, right up to product use and recycling.

// Sustainable production

// Recyclable materials

// Highest energy efficiency

The company is committed to long-term climate protection, in keeping with tradition since the founding of Mitsubishi Electric Corporation in 1921.

Our Vision

Environmental Vision 2021 is the long-term environmental management vision of the Mitsubishi Electric Group. It establishes a framework for realizing a sustainable planet, and defines long-term initiatives to prevent global warming and to create a recycling-based society.

Our Plan

6th Environmental Plan

Our 6th Environmental Plan which focuses on the achievement of Environmental Vision 2021 and includes targets and measures for preventing global warming, creating a recycling-based society, expanding environment-related businesses, fostering environmental awareness and more.

Our Goal

1.3 trillion yen sales in environment-related businesses

Mitsubishi Electric is expanding its photovoltaic power generation systems, heat pump related and power device businesses, along with increasing highly efficient power generation equipment and clean energy generation facilities in our power generation business.

Thank you for your attention

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