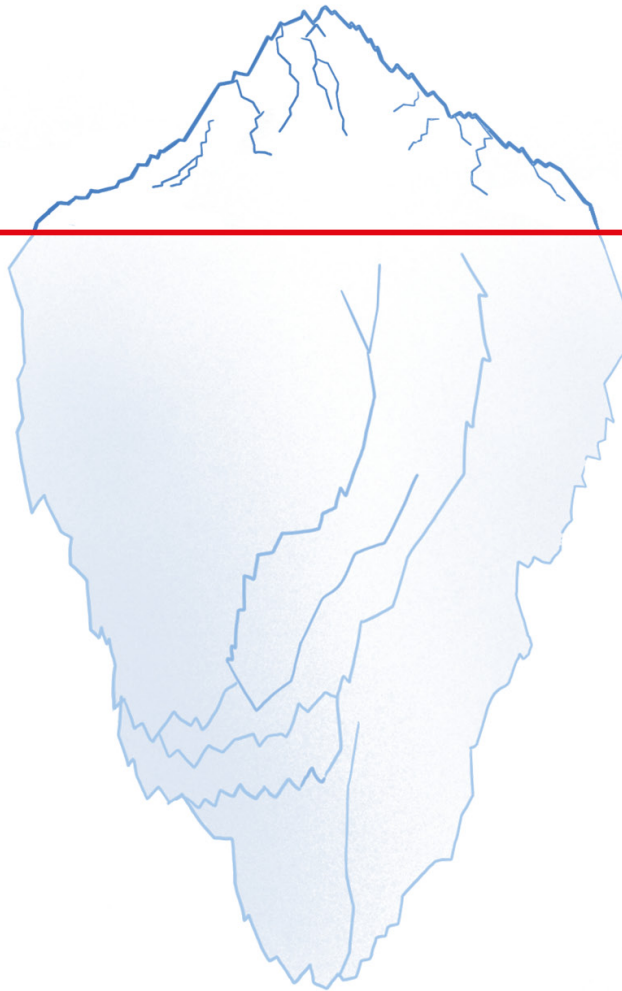




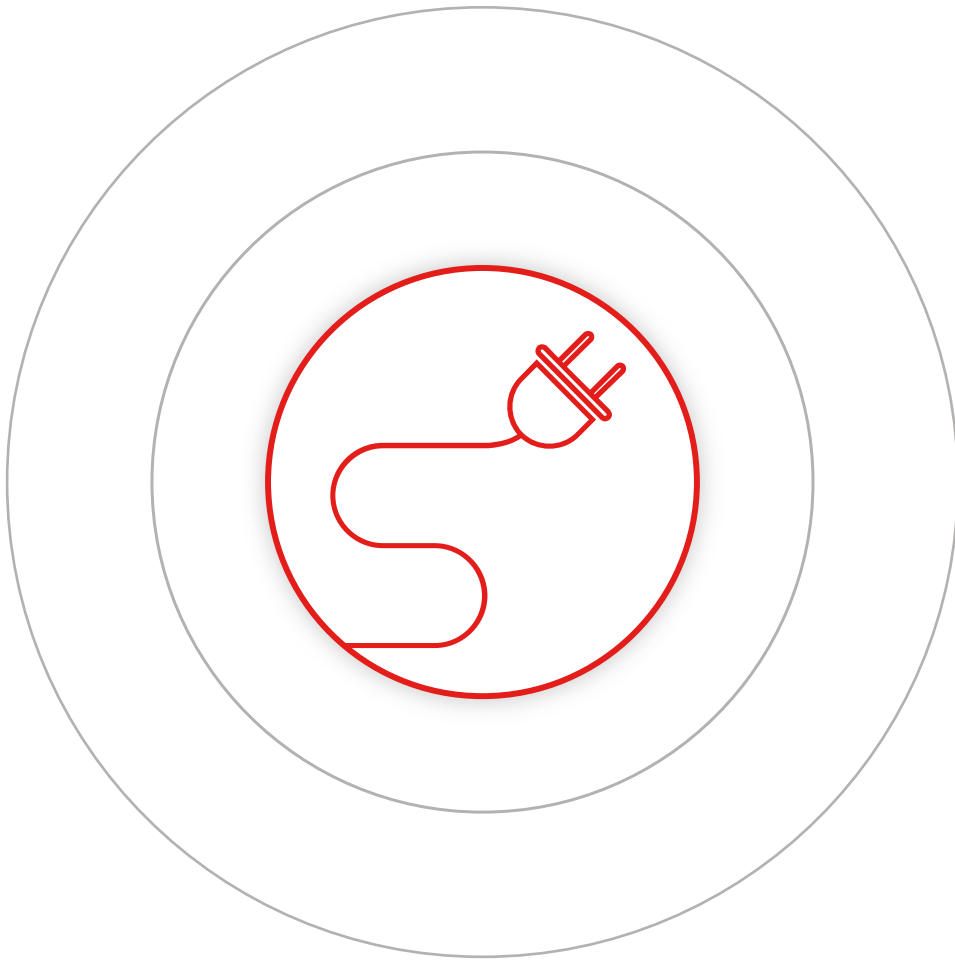
ELECTRO-MOBILITY @ MMC

BE PART of ENERGY

THE CARS







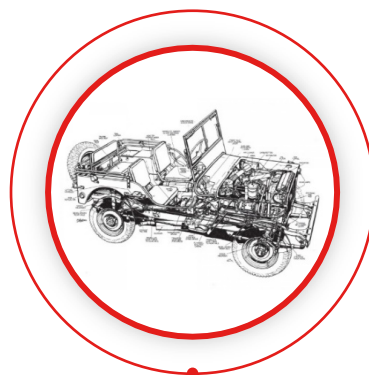
Authentic

Path to electrification

AUTHENTIC SUVs



FROM SUVs TO SUVs SINCE 1936



AUTHENTIC EVs



FROM EVs TO EVs SINCE 1966



LOGICAL (EV) PATH



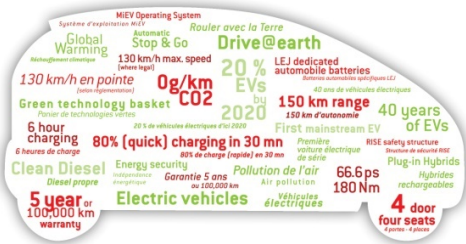
OUTLANDER
PHEV

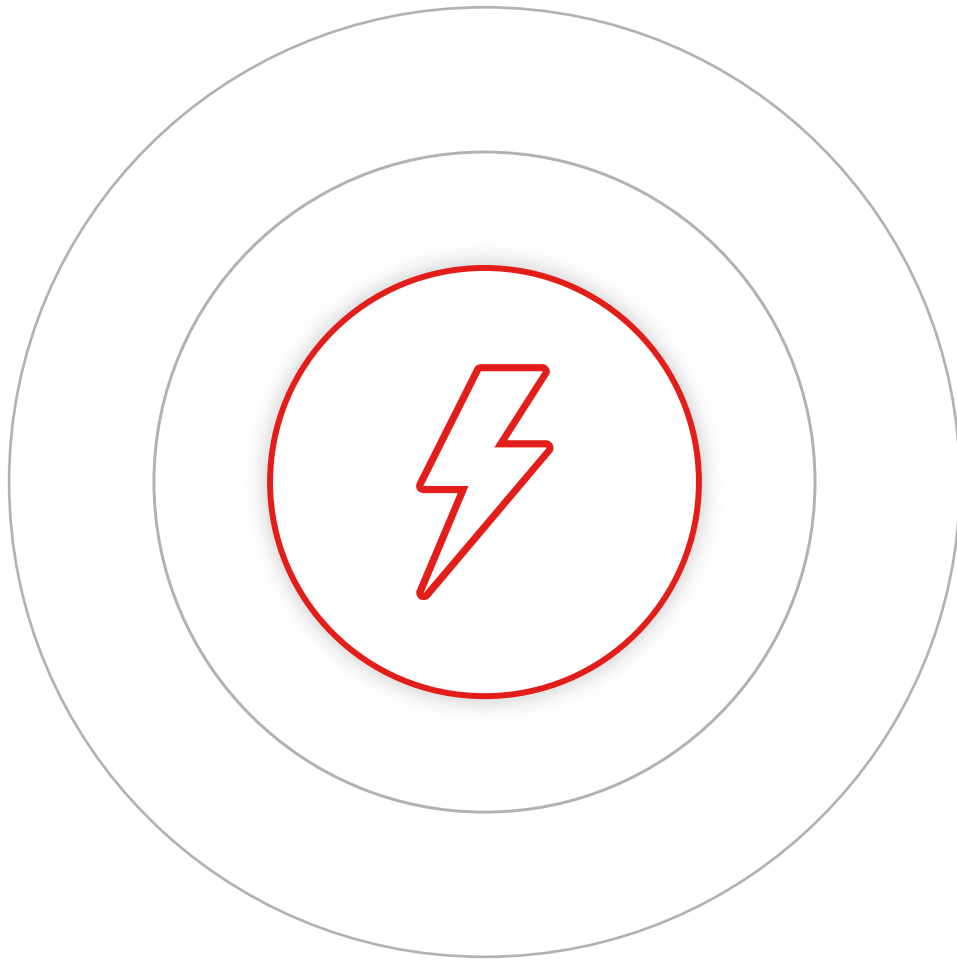
1966

2009

2012

2019





MMC PHEV

Electric Inside

EV



ARCHITECTURE



ELECTRIC INSIDE - CUSTOMER BENEFITS

- PHEV OS MAPPED FOR UP TO 89 DAYS OF PURE EV DRIVING
- 45 km (NON-SEQUENTIAL) EV DRIVING RANGE*
- COMBINED 46 g/km CO₂, EMISSIONS*
- MULTIPLE CHARGING OPTIONS
- 1,500W ON-BOARD SOCKETS FOR 230V EQUIPMENT
- V2X SMART GRID COMPATIBILITY
- STRONG CHARGING PATTERN (MME survey – The UK, The NL, Norway, Sweden, Spain)
 - 67% of sampled vehicle drive at least 50% in pure EV
 - No vehicle with 0 charge event – everyone charges
 - Over 80% of drivers charge at least every 100km
- PERMANENT ELECTRIC TWIN MOTOR 4WD W/ SUPER-ALL WHEEL CONTROL
- NO COMPROMISE PACKAGING...

*WLTP

#1



GLOBAL'S BEST SELLING PLUG-IN HYBRID SUV



OUTLANDER PHEV
CUMMULATED SALES

239,896

Unit, MMC Data (As of August, 2019)

#1



GLOBAL'S BEST SELLING PLUG-IN HYBRID SUV



Unit, MMC Data (As of August, 2019)

#2



EUROPE'S BEST-SELLING PLUG-IN HYBRID VEHICLE

MME's BEST SELLER
3,000+ per MONTH

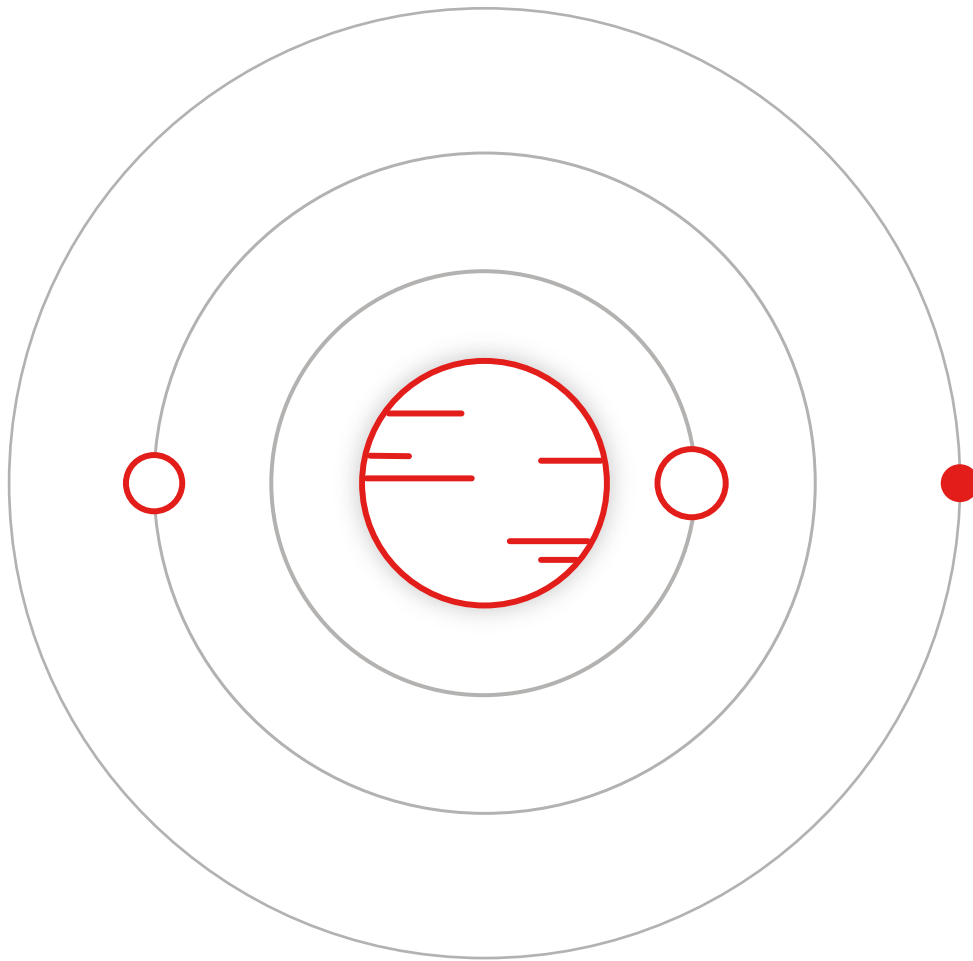


OUTLANDER PHEV
CUMMULATED SALES

166,128

Unit, MMC Data (As of August, 2019)

EUROPE'S BEST-SELLING PLUG-IN HYBRID VEHICLE

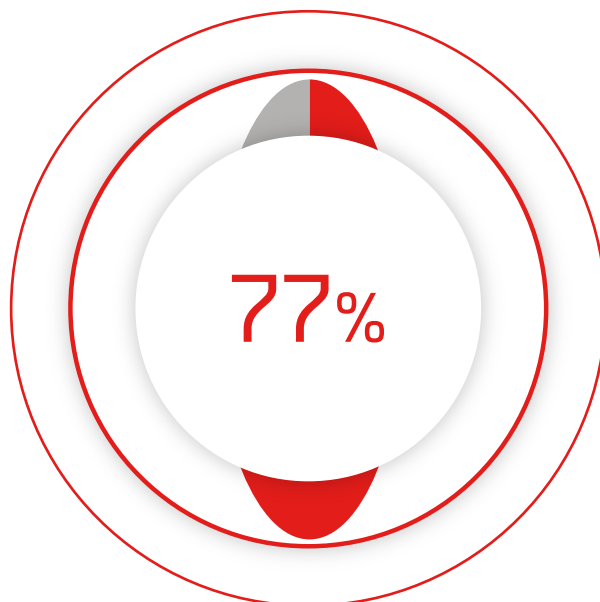


1 - Mitsubishi Outlander PHEV	22,657 units
2 - Mini Countryman	8,310 units
3 - BMW 2-Series Active Tourer	7,573 units
4 - BMW 5-Series	7,177 units
5 - Volvo XC 60	6,731 units
6 - Kia Niro	6,468 units
7 - Mercedes E-Class	4,610 units
8 - Volvo XC 90	4,210 units
9 - Range Rover Sport	4,105 units
10 - Hyundai Ioniq	3,443 units

MITSUBISHI PARADIGM

Source: MME data – 9 months – CY19 excl. RU/UA, incl. L200

SHARE OF SUV's
vs PASSENGER CARS



within the MME model mix – 9 months CY19

SHARE OF ELECTRIC & PLUG-IN
HYBRID ELECTRIC VEHICLES



within the MME model mix – 9 months CY19



MMC

Electric road map

INTEGRATED ELECTRIC SOLUTION(S)



- DIVERSITY of POWERTRAINS – NO DEDICATED MODEL
- ELECTRIFICATION ACROSS CORE MODEL RANGE:
 - HEVs: POSSIBLE for SELECTED MARKETS
 - PHEV: LARGER VEHICLES
 - BEV: SMALL & COMPACT CARS
- FULL EV INTEGRATION IN VEHICLE ARCHITECTURES
- NEW MMC "SOFTWARE INNOVATION CENTER"
- POSSIBLE EXTENSION BEYOND CORE MODELS



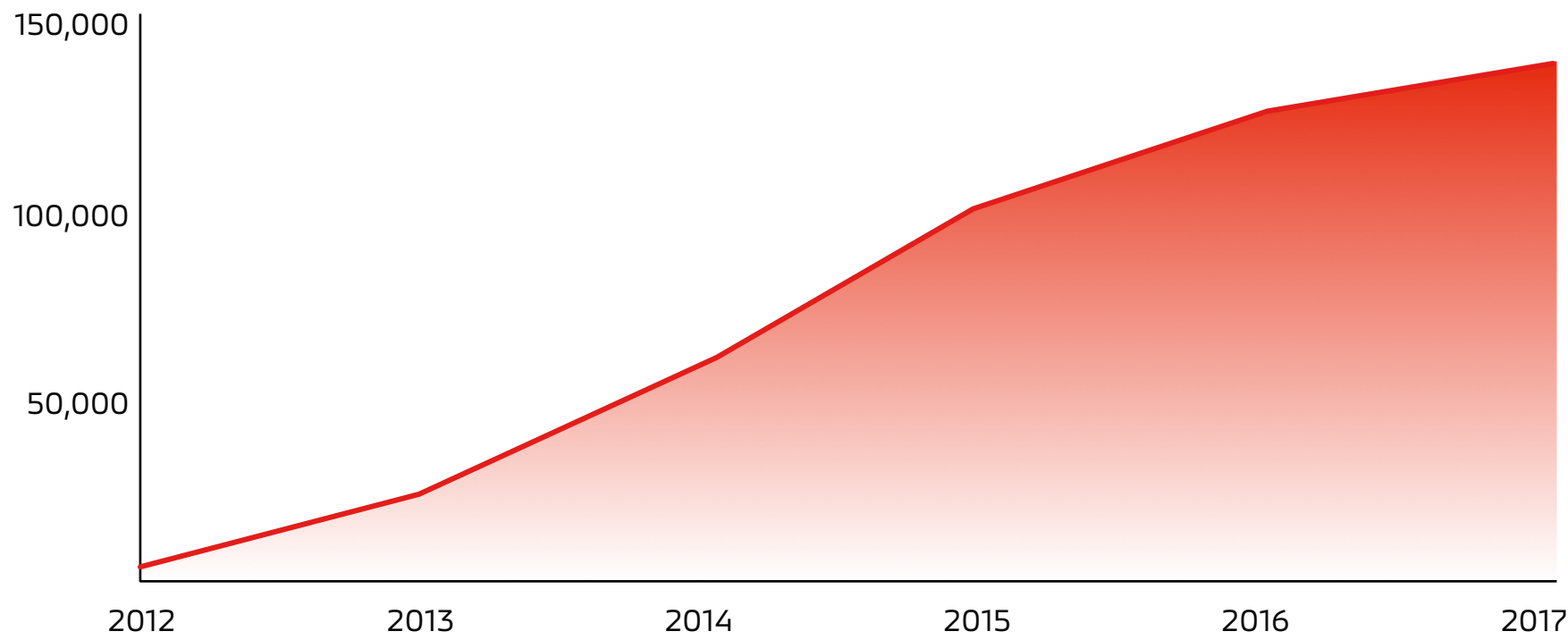
ELECTRIC CREDIBILITY



UNIQUE CUSTOMER BASE

OUTLANDER PHEV

Global UIO





THE ECO-SYSTEM

ELECTRO-MOBILITY @ MMC

Takashi HIROMATSU

ADGM, Product Strategy Div.
& GM, EV Solution Dept.

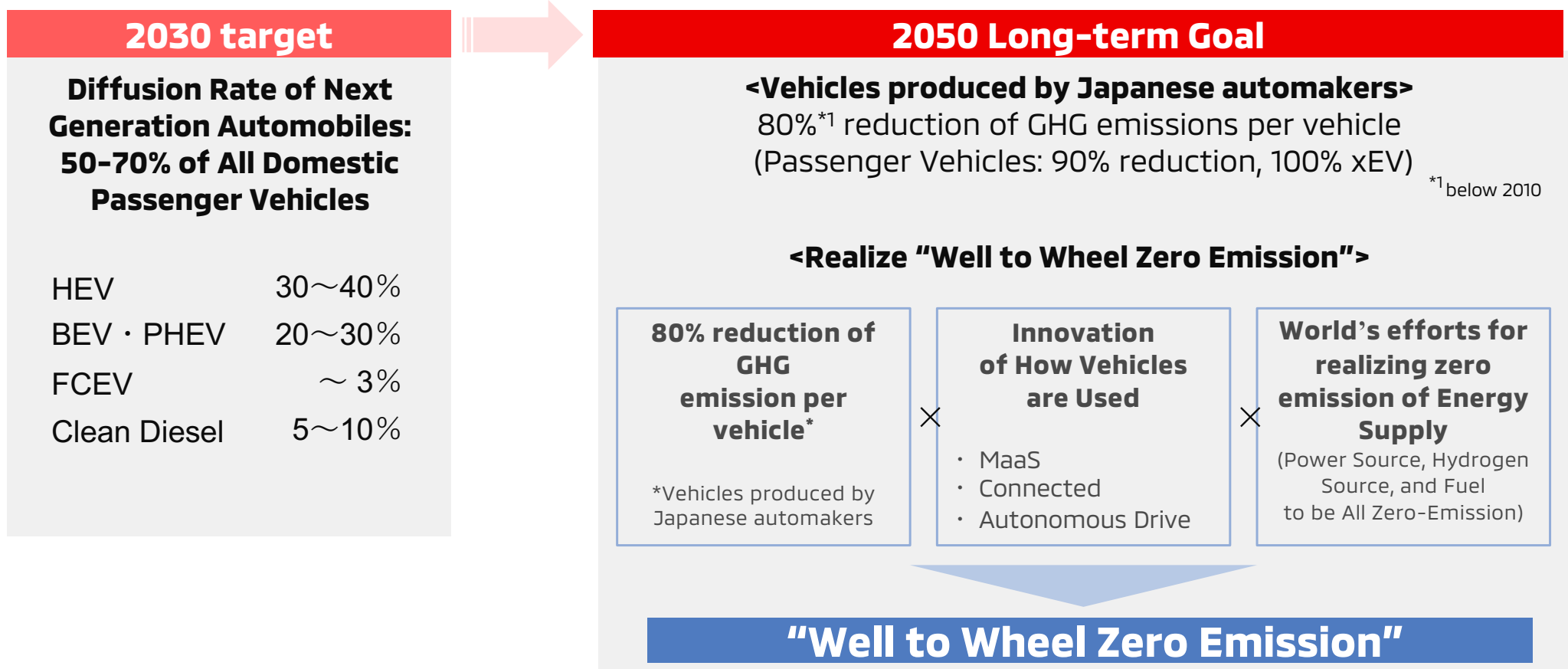
To begin with

*“Electrified Vehicle (xEV) Strategy
of Japanese Government”*

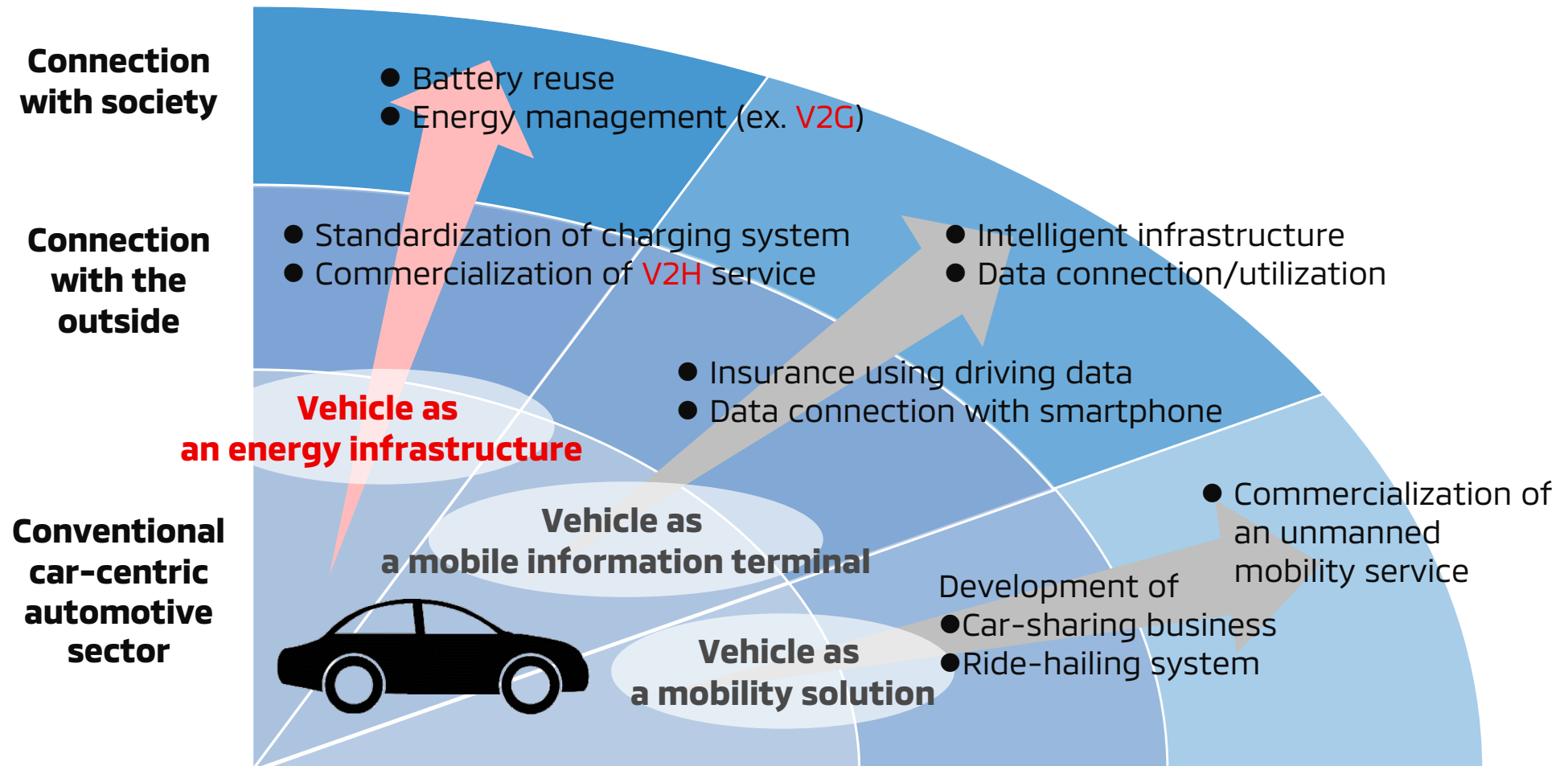


Japan's Electrified Vehicle (xEV) Strategy ahead of 2050

Japan's automotive industry plays key role in tackling global climate change.



Car social collaboration





Be Part of the Energy

MITSUBISHI UNIQUENESS - CHARGING & DISCHARGING

■ Charging and charging time

AC Normal charge
4.5hours



CHAdeMO

DC quick charge
25min(80%)



■ Discharging and discharging power

AC Power supply
1.5kW



CHAdeMO

DC Power supply
10kW



Discharging

▶ **VEHICLE to X**

MITSUBISHI UNIQUENESS - CHARGING & DISCHARGING

■ Charging and charging time

AC Normal charge
4.5hours



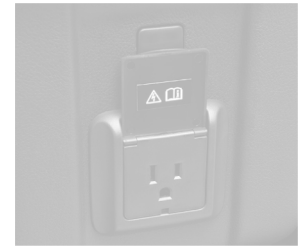
CHAdeMO

DC quick charge
25min(80%)



■ Discharging and discharging power

AC Power supply
1.5kW



CHAdeMO

DC Power supply
10kW



Discharging



► **VEHICLE to X**



VALUE OF DC QUICK CHARGING



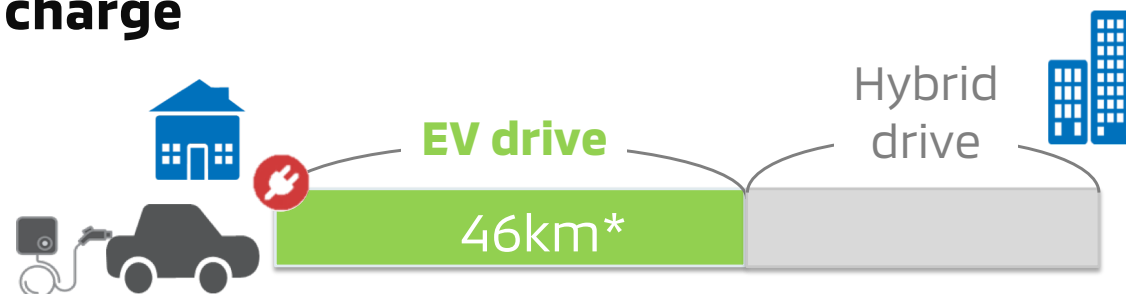
QC on the way enables long electric drive without gasoline and emission.

 Home charge (AC)  Quick charge (QC)

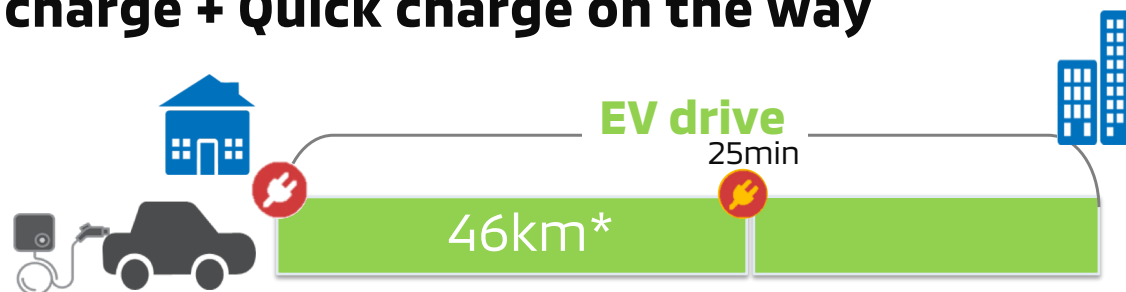


CHAdeMO

Home charge



Home charge + Quick charge on the way



*WLTP

DISCHARGING – KEY FOR THE SOLUTION

■ Charging and charging time

AC Normal charge
4.5hours




CHAdeMO

DC quick charge
25min(80%)



■ Discharging and discharging power

AC Power supply
1.5kW




CHAdeMO

DC Power supply
10kW

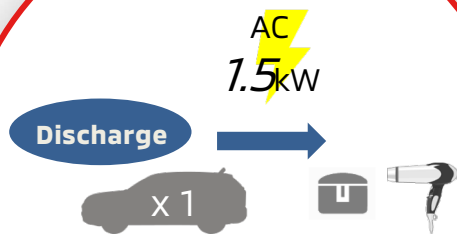


Discharging

▶ **VEHICLE to X**

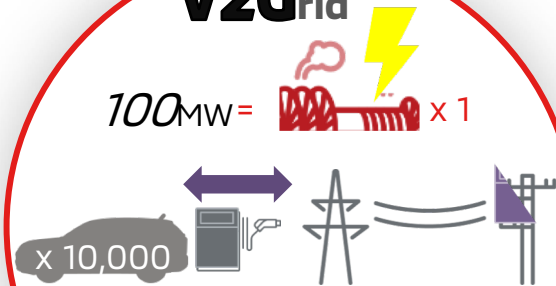
V2X | VARIATION

VtoLoad



- Emergency
- Outdoor

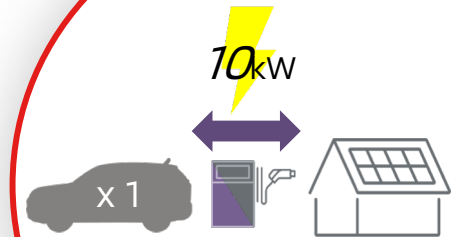
V2Grid



- Incentive



V2Home



- Lower electric bill



Bi-directional charger

Possible only with



CHAdeMO



*V as Vehicle

V2X | VARIATION

VtoLoad

Discharge

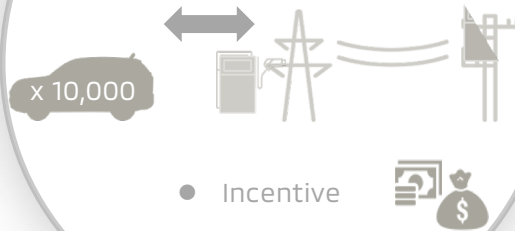
AC
1.5kW



- Emergency
- Outdoor

V2Grid

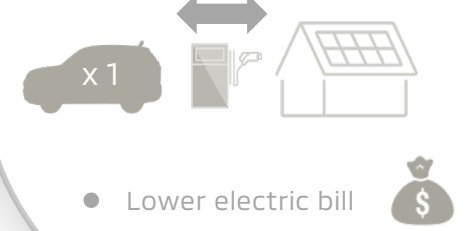
100MW =



• Incentive

V2Home

10kW



• Lower electric bill



Possible only
with



CHAdeMO

*V as Vehicle

AC POWER SUPPLY

Emergency
In case of blackout



Car cleaning



vacuum cleaner

Camping activity

Coffee
maker



Rice
cooker



Hair dryer

AC 1500W
power supply



Gardening & DIY



Electrical saw

Charging



E-scooter



MMC EV/PHEV FOR NATURAL DISASTERS

East & West Japan heavy rain damage



Photo : Kawata Masafumi

Source : Operation Blessing Japan
<https://vimeo.com/139756879>

IN NATURAL DISASTERS



100kWh+



Power supply

communicate between
evacuation centers



2018
torrential rain in West Japan



x10



x5

2018
Earthquake in Hokkaido



x16

2019
Chiba blackout due to Typhoon



x 12

2016
Earthquake in Kumamoto

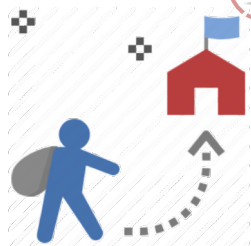


x30

Transport of
Medical personnel and materials



East & West Japan heavy rain damage



V2L(AC100V POWER SUPPLY) APPLICATION EXEMPLE



2018 Hokkaido Eastern Earthquake

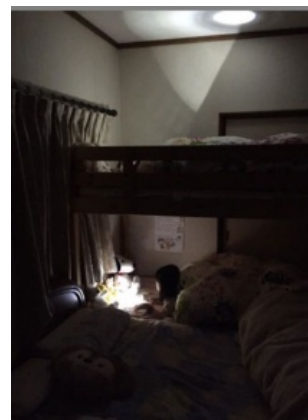


Outlander PHEV electricity from window to room

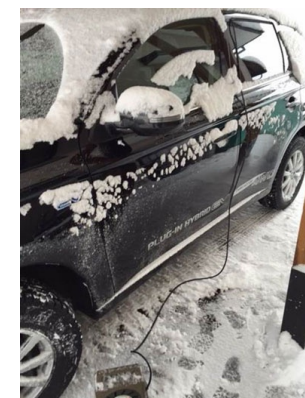


From Hokkaido Mitsubishi Motors Corporation HP

2014 Power outage due to heavy snow in Takayama, Gifu



Children watching DVD on bed



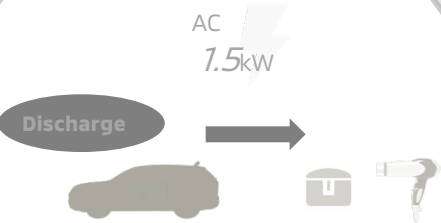
Supply power after a week of outage



Outside the house

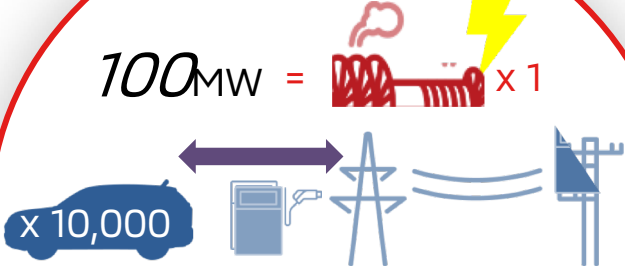
V2X | VARIATION

V_{to}L_{oad}



- Emergency
- Outdoor

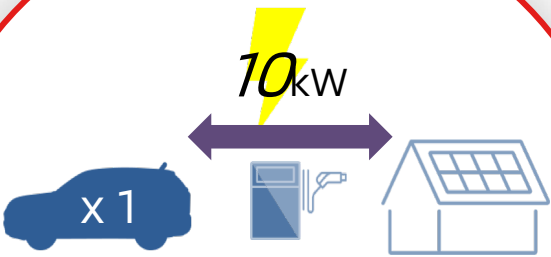
V2G_{rid}



- Incentive



V2H_{ome}



- Lower electric bill



Bi-directional charger

Possible only with



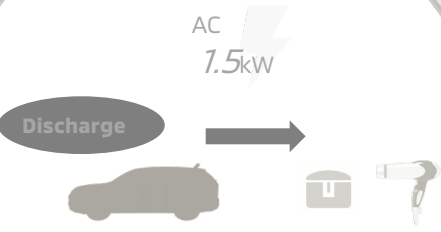
CHAdeMO



*V as Vehicle

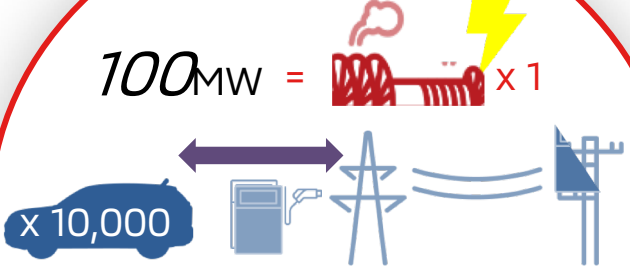
V2X | VARIATION

V_{to}Load



- Emergency
- Outdoor

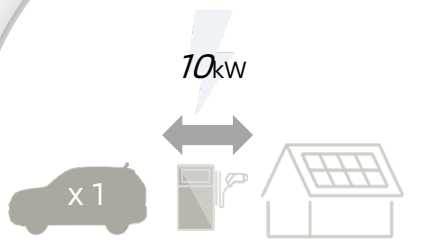
V2Grid



● Incentive



V2H_{ome}



- Lower electric bill



Bi-directional charger

Possible only with



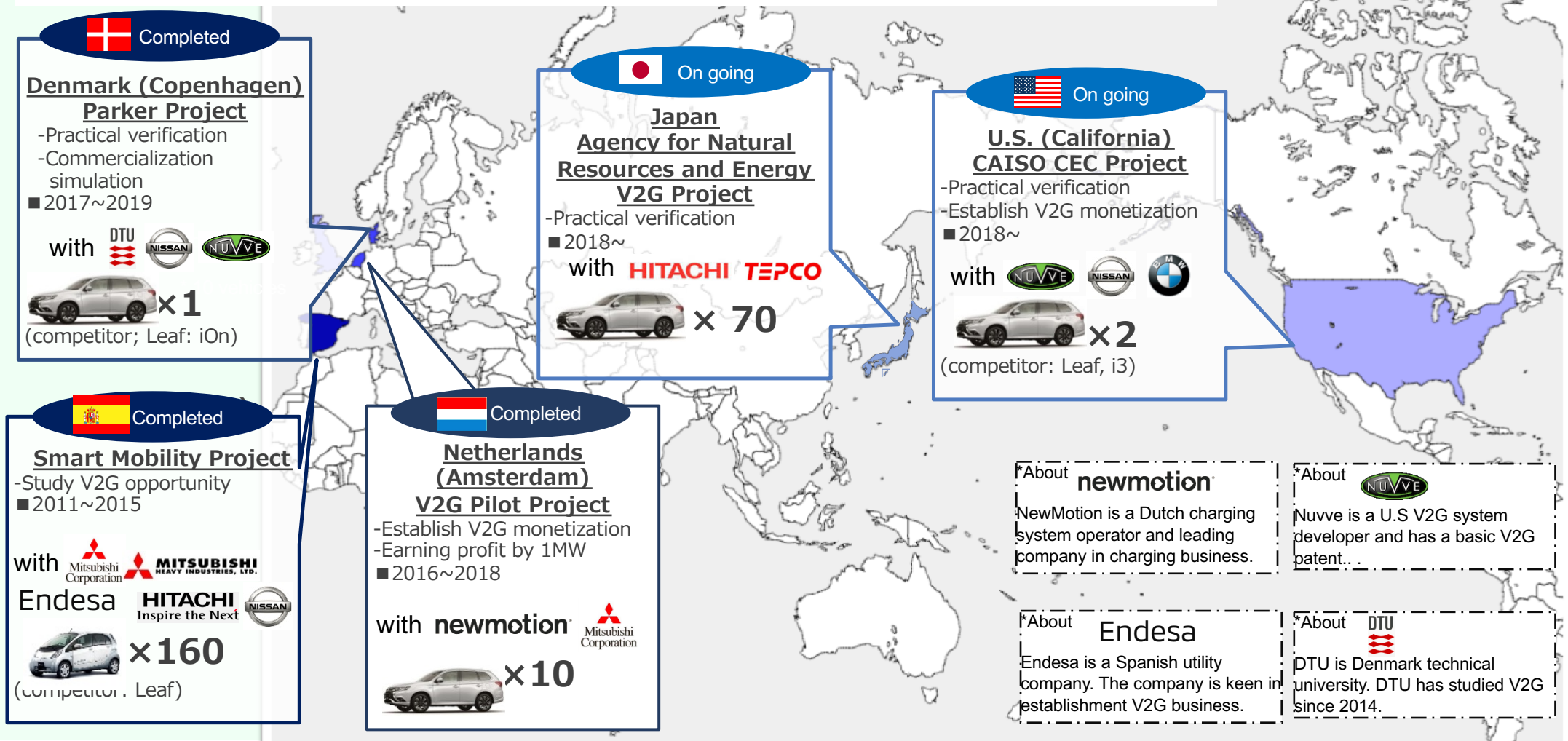
CHAdeMO



*V as Vehicle

MITSUBISHI V2G STUDY IN THE WORLD #1

V2G market development and implement project for promotion



MITSUBISHI V2G STUDY IN THE WORLD #2



Mitsubishi is the top class worldwide for the number of demonstration of V2G

**Through technical to business project, we have currently various demonstrations :
Validate user behavior, user benefits, vehicle responsiveness, vehicle durability...**

EXECUTIVE SUMMARY

THERE ARE 50 VEHICLE-TO-GRID PROJECTS GLOBALLY WITH PHYSICAL DEPLOYMENT OF CHARGERS, OF WHICH OVER HALF ARE IN EUROPE

As electric vehicle (EV) penetration increases, Distribution System Operators (DSOs) face new challenges in operating their networks. But with challenge comes opportunity. Vehicle-to-grid (V2G) technology enables bi-directional energy transfer from and to EVs, exploiting the storage potential of the batteries they contain. V2G promises to better integrate EVs whilst offering additional forms of flexibility at a local level.

Seeking to learn from wider experience on V2G, and maximise

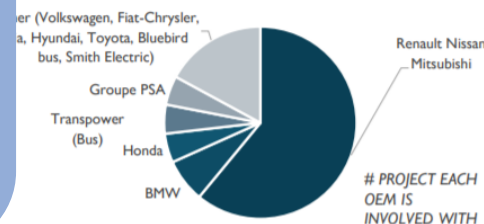
HALF OF PROJECTS ARE IN EUROPE



There are 50 V2G projects globally, of which 25 are in Europe, 18 in North America, and 7 in Asia. Asian participation has been more focused on vehicle-to-home and vehicle-to-building (V2H/B) services contributing as a manufacturing partner than deployment.

Almost all projects (27%) are testing 'pre-commercial' services.

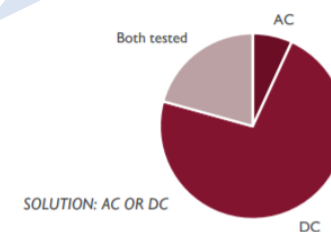
RENAULT NISSAN MITSUBISHI DOMINATE MARKET



Although 12 vehicle manufacturers (OEMs) have participated in V2G projects, Renault Nissan Mitsubishi clearly dominates. This arguably reflects the legacy of the Fukushima disaster, and the successful integration of V2G within the CHAdeMO protocol (see p10).

Top class on the 50 projects of V2G worldwide

DC SOLUTIONS DOMINATE



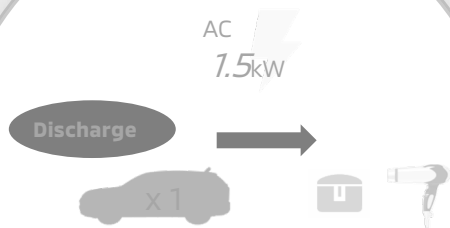
DC solutions have dominated to date with DC chargers featured in 93% of projects. However there remains significant interest in AC with more AC compatible vehicles expected over the coming years.

It's been an ambitious exploration, made possible only through the support of contributors on the way – for which we are very grateful. Here's what we found.

V2X | VARIATION

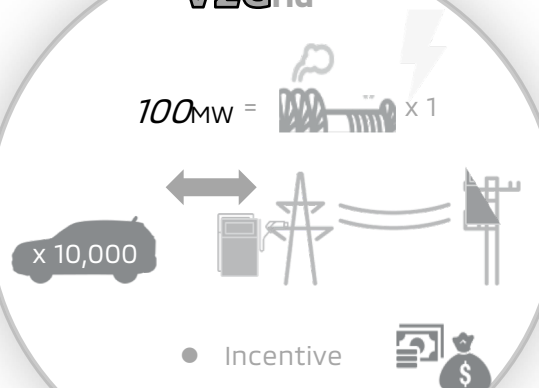


V_{to}L_{oad}

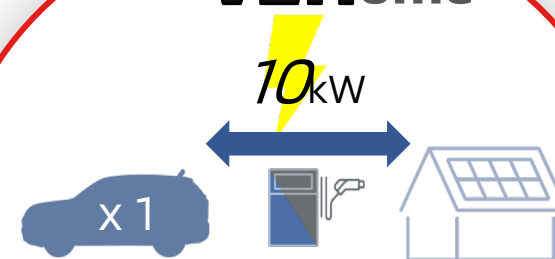


- Emergency
- Outdoor

V2G_{rid}



V2H_{ome}



- Lower electric bill



Bi-directional charger

Possible only with



CHAdeMO



*V as Vehicle

MITSUBISHI MOTORS PROPOSITION



DENDO

= 電 動

= Electrified

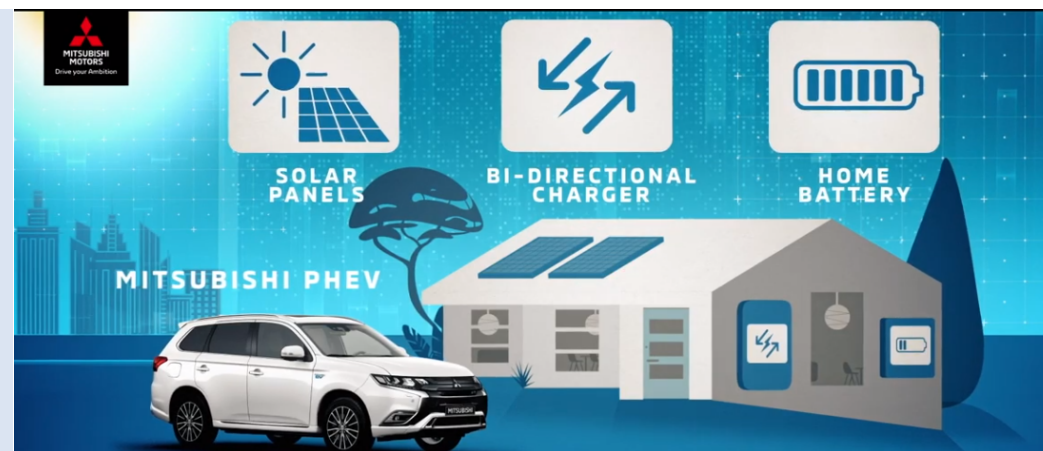


THE SOLUTION | DENDO DRIVE HOUSE



All-in-one package

Equipped with everything customer needs to generate, store and share.



Quotation of Components

Sales

Installation

Maintenance

Call center



One-stop service

Sales & installation of DDH devices by MMC dealerships.

DENDO DRIVE HOUSE 4E VALUE



All-in-one Package Solution

All devices and associated services as a package customized for each users



One Stop Service

Find the solution in a single place
At your Mitsubishi Motors dealers



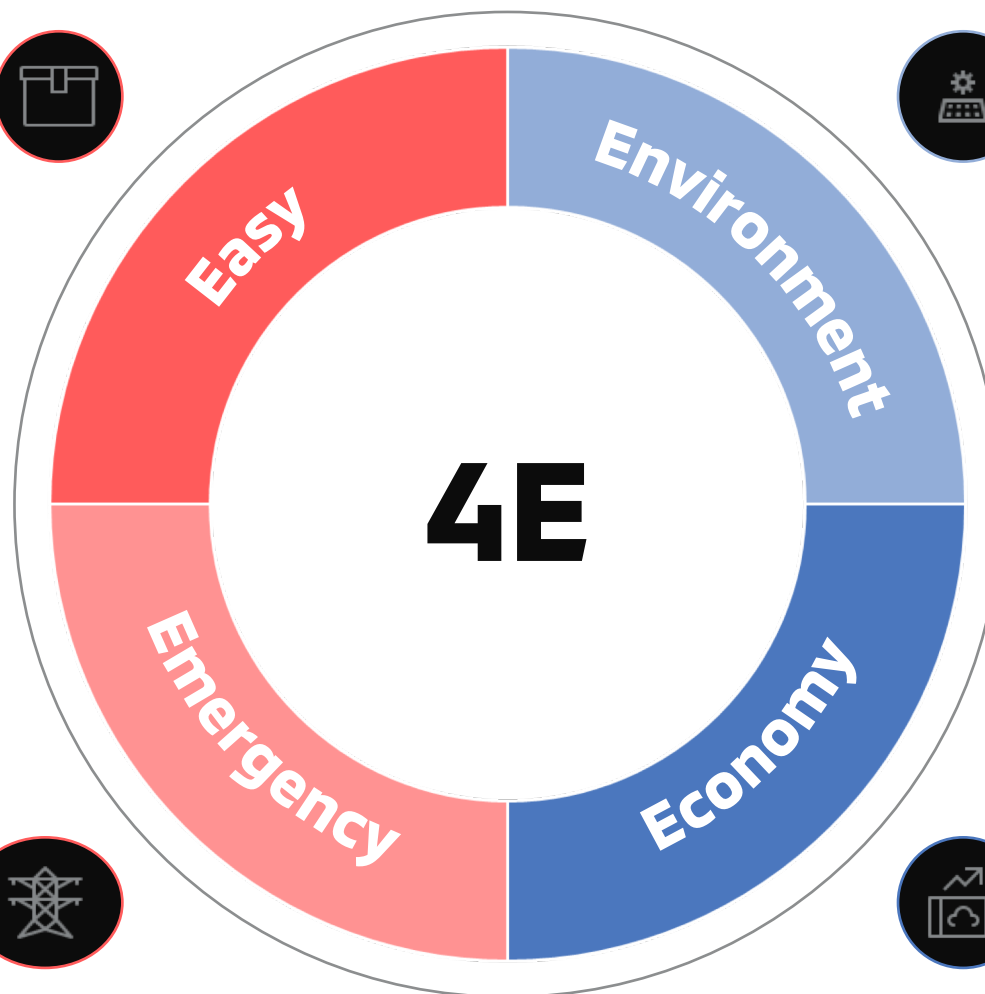
Backup Energy

No stress in case of power outages.
Utilize storage electricity to power
your home up to xx days



(TBD) Independency

Be more independent from the grid



Renewable Energy

Produce your own electricity with solar panels and cut your CO2 emission up to xx%



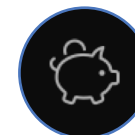
Energy Efficiency

Produce and Storage Electricity and maximize
Your consumption efficiency



Cost Savings

Produce your own electricity and
saving both electricity and fuel bills



Return on Investment

Get your investment return for all
devices and services with accessible plans



DDH | Economy (REFERENC JP CASE)



Investments



¥0

No initial cost for devices and installation and services



10yrs

Leasing agreement throughout the charger life cycle

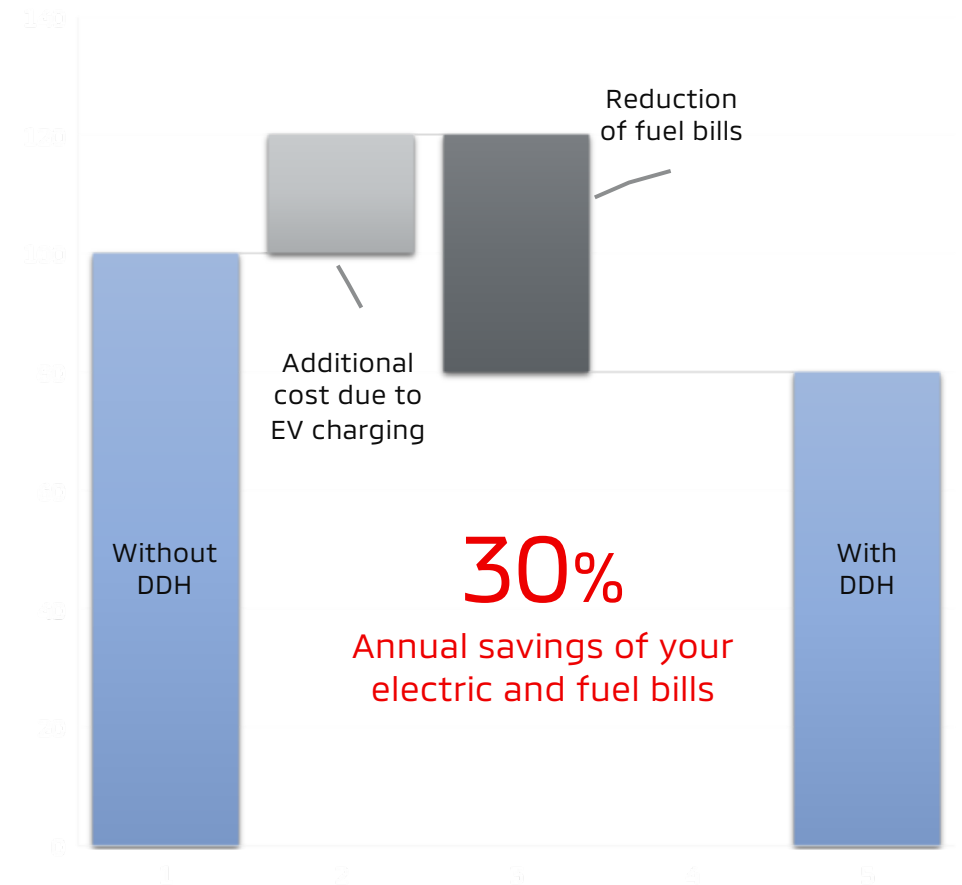


15%

Exclusive Electricity plan with a discount up to 15%

Available in Japanese market

Bill Savings



Your life with



LAUNCH | DENDO DRIVE HOUSE



FY18

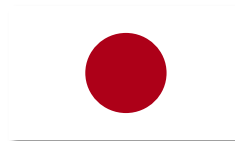
FY19

FY20

Feasibility Study

Initial Stage

Spread to Global



DENDO DRIVE STATION in JAPAN

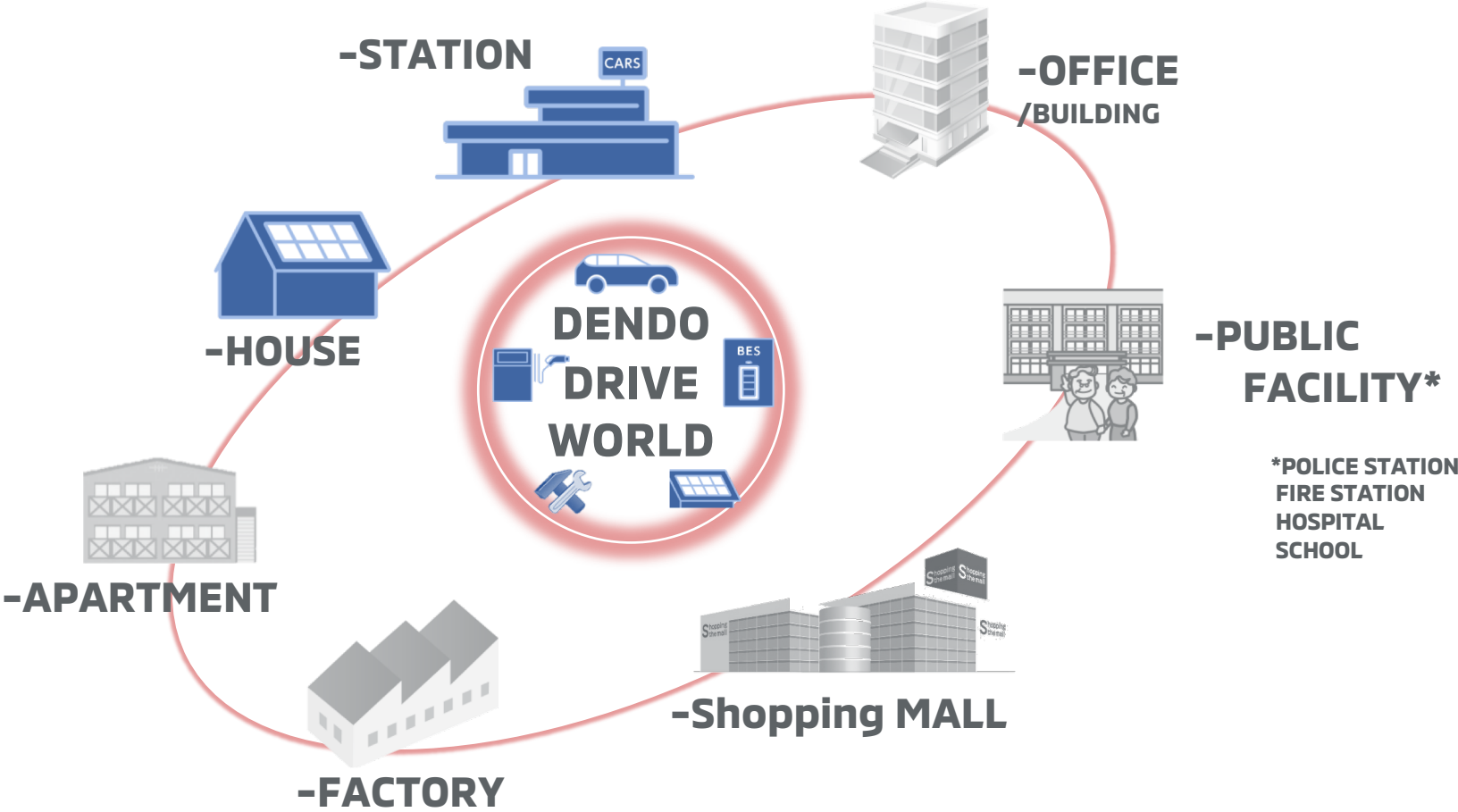


MMC launched DENDO DRIVE STATION in 2016

Now 65 stores >>>> 200 stores in 2021



DENDO DRIVE WORLD | BE PART OF THE ENERGY



Mitsubishi Electric's Smart house : Mitsubishi ENEDIA House





**MITSUBISHI
MOTORS**

Drive your Ambition

