

Welcome to the Nissan Intelligent Mobility Technology Tour

Nissan's Advanced Technology Development

A decorative graphic in the bottom half of the slide features a complex network of blue lines and circles of varying sizes, resembling a molecular or digital structure, set against a light blue background.

Nissan R&D facilities and accomplishments

Nissan Global R&D Network

- 22,000 R&D staff worldwide at 29 R&D centers in 14 countries
- Established 3 Alliance Innovation Labs (AIL)



Nissan Advanced Technology Center

- Established 2007; Employees (approx.): 2,000
- Recent activity

Opened Software Training Center in 2017 to enhance quality and accelerate service delivery

Accelerate advanced technology development
Create new values on future mobility



Quick
prototyping lab



Test ride area



Collaboration
Garage



Software training center



Testing lab



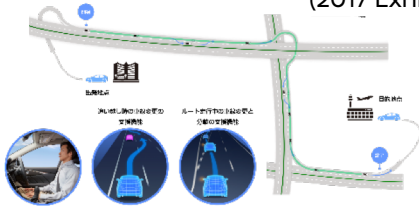
Nissan Advanced Technology Development

- Today's Nissan vehicles gain competitive advantage from the Advanced Technology developments introduced at past events

Intelligent Driving

ProPILOT 2.0

(2017 Exhibition)



Intelligent Power

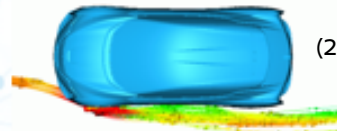
62kWh Battery

(2015 Exhibition)



Improved aerodynamics for EVs

(2015 Exhibition)



Intelligent Integration

NissanConnect service app



(2017 Exhibition)

V2B System

(2015 Exhibition)



Technologies underpinning Nissan Intelligent Mobility

Vehicle dynamics enhanced by CFRP construction



(2015 Exhibition)





Nissan Intelligent Mobility

NISSAN INTELLIGENT MOBILITY

Nissan Intelligent Mobility transforms your car into a more exciting partner by redefining how your car is driven, powered and integrated into society

**Intelligent
Driving**

**More
Confident**

**Intelligent
Power**

**More
Excited**

**Intelligent
Integration**

**More
Connected**

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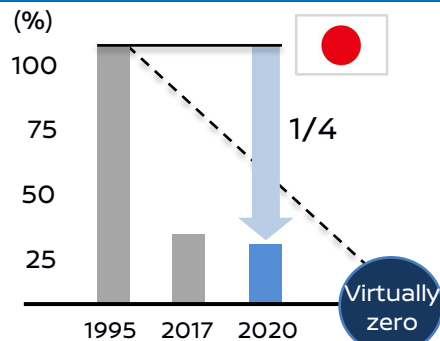
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Integration

More
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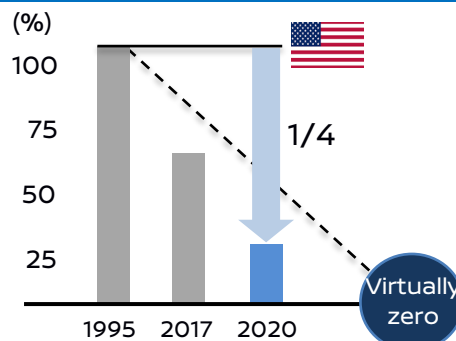
Activities for "Zero Fatality"

- Ultimate target (set in 2005) : Virtually zero fatalities involving Nissan vehicles
- Nissan's goal is to respond to real-world risk of all kinds

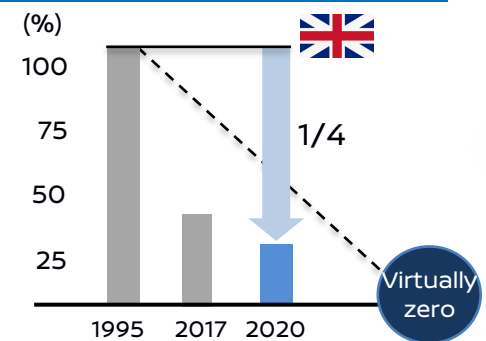
Fatalities per 10,000 Nissan vehicles



Source : Institute for Traffic Accident Research and Data Analysis



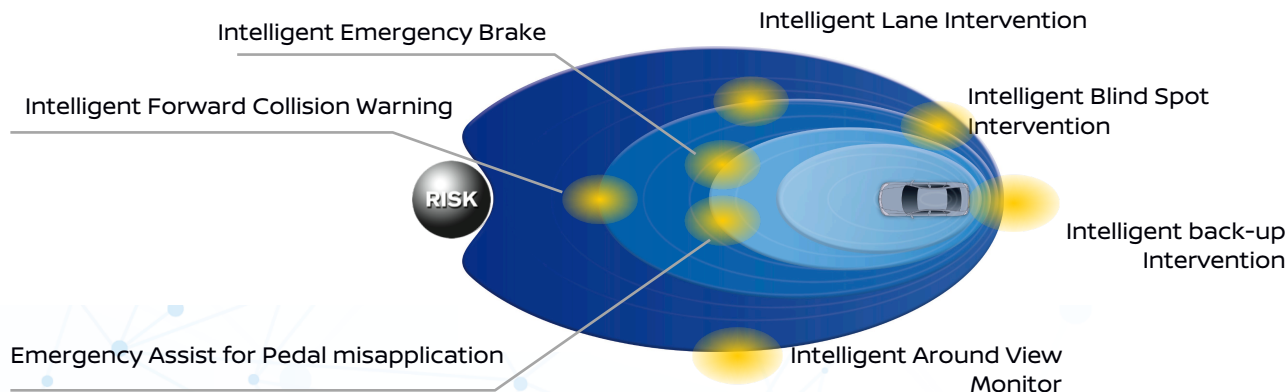
source : Fatality Analysis Reporting System



source : STATUS19 data, U.K. Department for Transport

"Safety Shield" Concept

Nissan keeps refining its 360-degree risk response capability while expanding the variety of vehicles equipped with these innovations.



The evolution of Nissan's driver assistance technology

- Nissan is a pioneer of driving assistance technology, leading technological innovation for over 20 years.
- ProPILOT integrates a wide range of driver assistance technologies

 =World-First

Assistance technology (forward detection)

1999



ICC



IBA



IDC



EAP



IEB



IFCW

2016



ProPILOT

2019



ProPILOT2.0

Assistance technology (side detection)



LKA



LDW



ILI



I-BSI

Assistance technology (parking)



AVM



I-AVM



I-BUI



IPA



RCTA



ProPILOT
Park

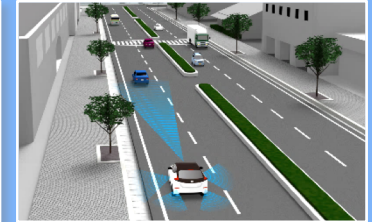
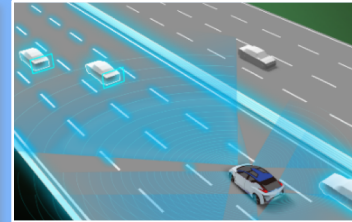
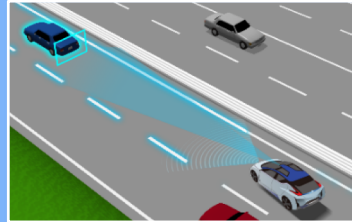


ProPILOT
Remote Park

ProPILOT development concept

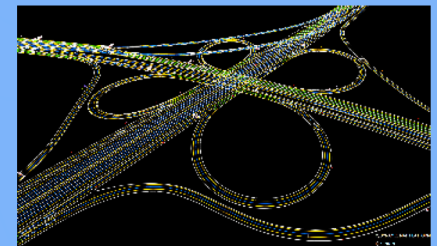
Wide range of scenes

Innovation-driven
expansion of scenes



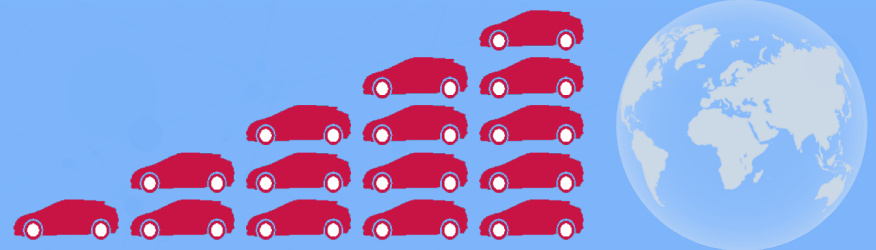
More Confident

Safe, secure stress-free driving



Reaching more users

Expansion into more regions
and models



ProPILOT 2.0

- World's first intelligent navigated highway driving system with hands-off single-lane driving
- 360-degree sensing and 3D high definition map data enable this with precise vehicle control
- Intelligent interface boosts trust

Hands-off single-lane driving



Navigated multi-lane highway driving



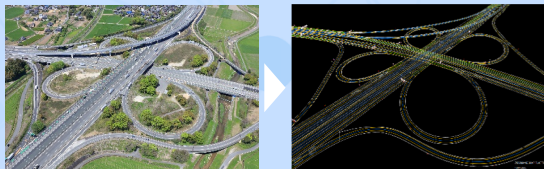
Assists with lane changes and highway exiting



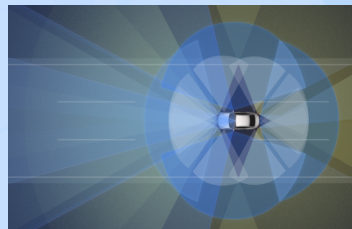
Assists with vehicle passing

Technology

3D high definition map data



360-degree sensing



Intelligent interface



Meter display



Driver monitoring system

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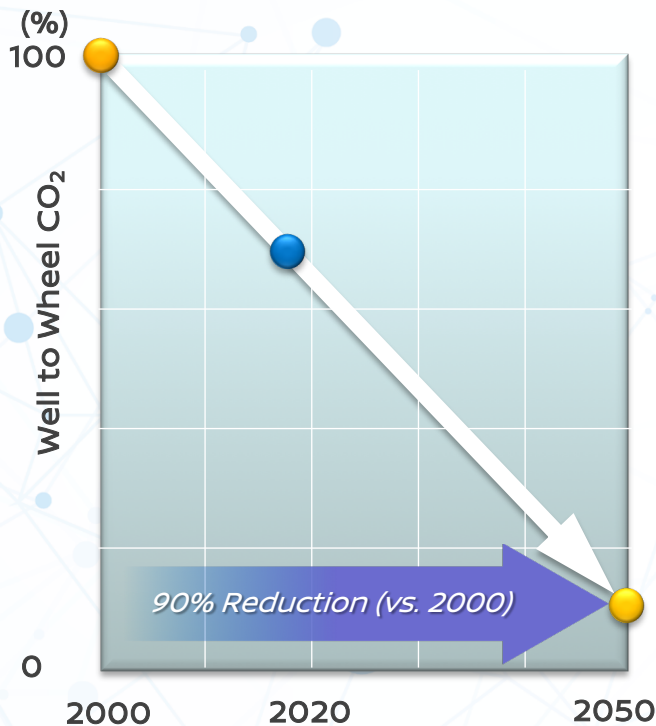
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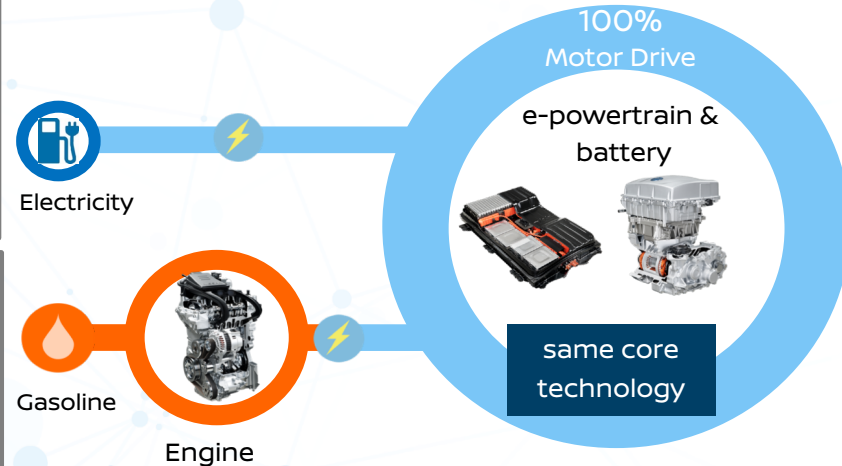
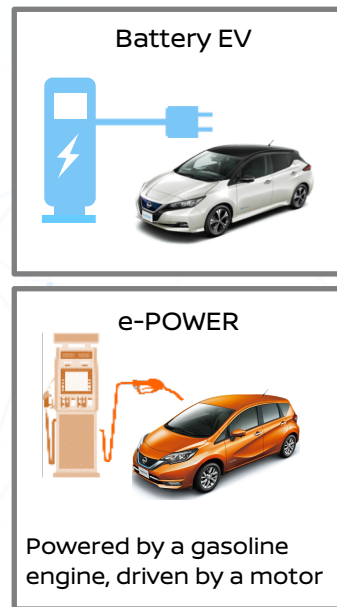
Nissan's electrification strategy

- Long-term vision: Reducing CO₂ emissions by 90% compared to 2000 levels by 2050 – target set in 2007
- Reduce CO₂ emissions by BEV and e-POWER sharing the same core technologies

Long-term CO₂ reduction Vision



Electrification is key



Key achievement of Electrification

- BEV market expansion continues with extended range and expanded charging infrastructure
- e-POWER has won high praise from customers in Japan

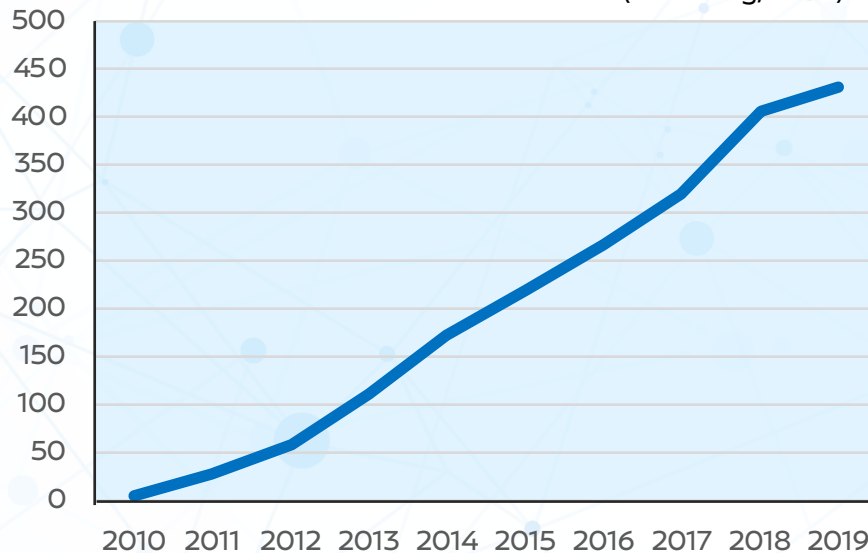
Nissan LEAF global sales performance



Marketed in 51 countries worldwide

430 thousand
(as of Aug, 2019)

[thousand unit]



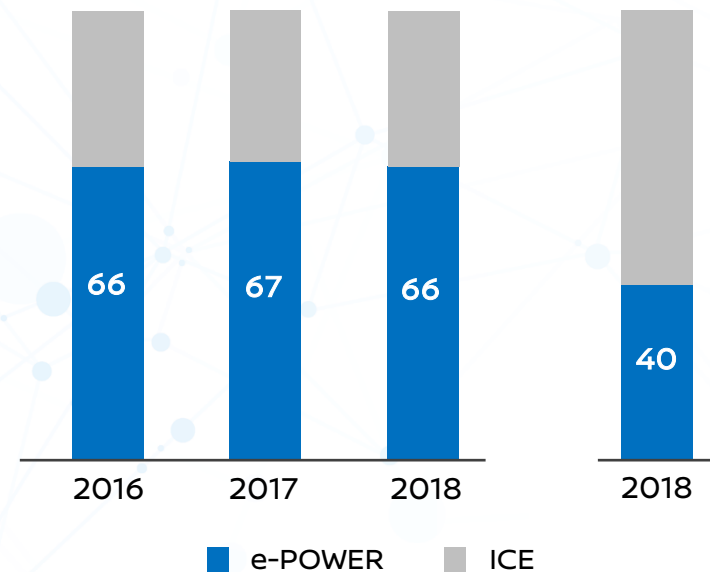
e-POWER adoption rate (Japan)



NOTE



SERENA



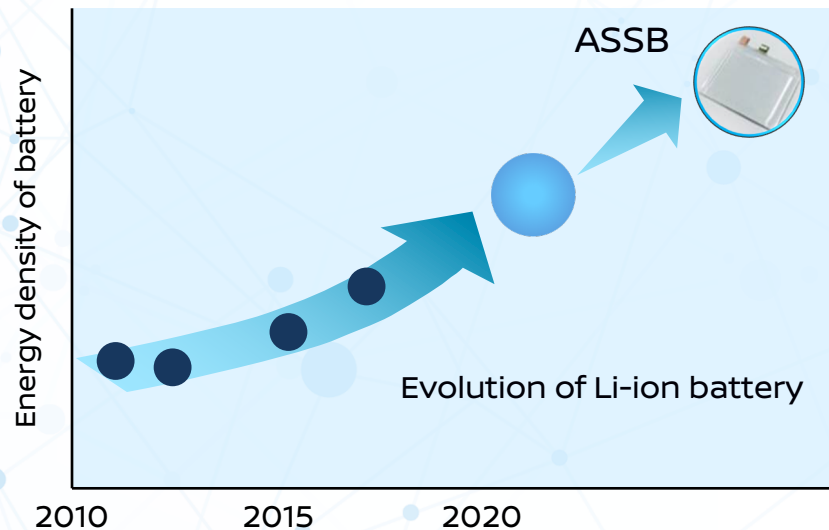
Evolution of electrification technology

- Build on our lithium-ion battery marketing experience and accelerate development of all solid-state batteries
- Improve thermal efficiency to 50% by applying advanced technology to the e-POWER engine used as a generator

Battery EV



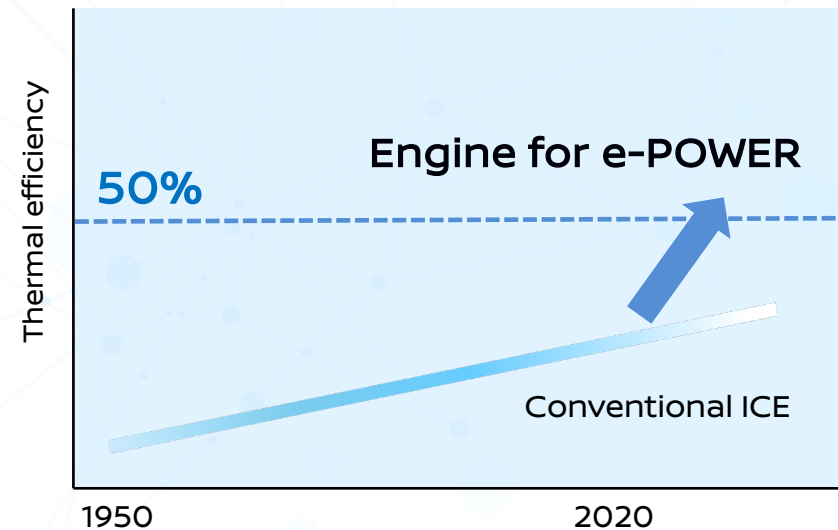
Battery technology roadmap



e-POWER

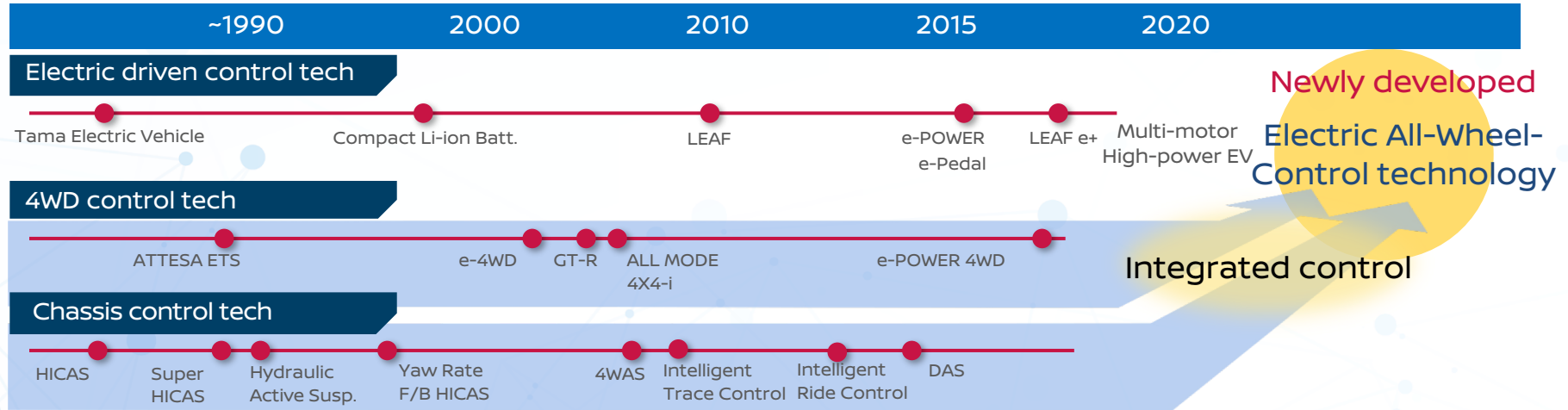


Potential for ICE thermal efficiency



Newly developed Electric All-Wheel-Control technology

- More exhilarating performance results from integration of Nissan's technologies for Electric motor control, 4WD control, and Chassis control



Electric All-Wheel-Control technology test car



example : Trace intended line without going off course even on slippery road surfaces



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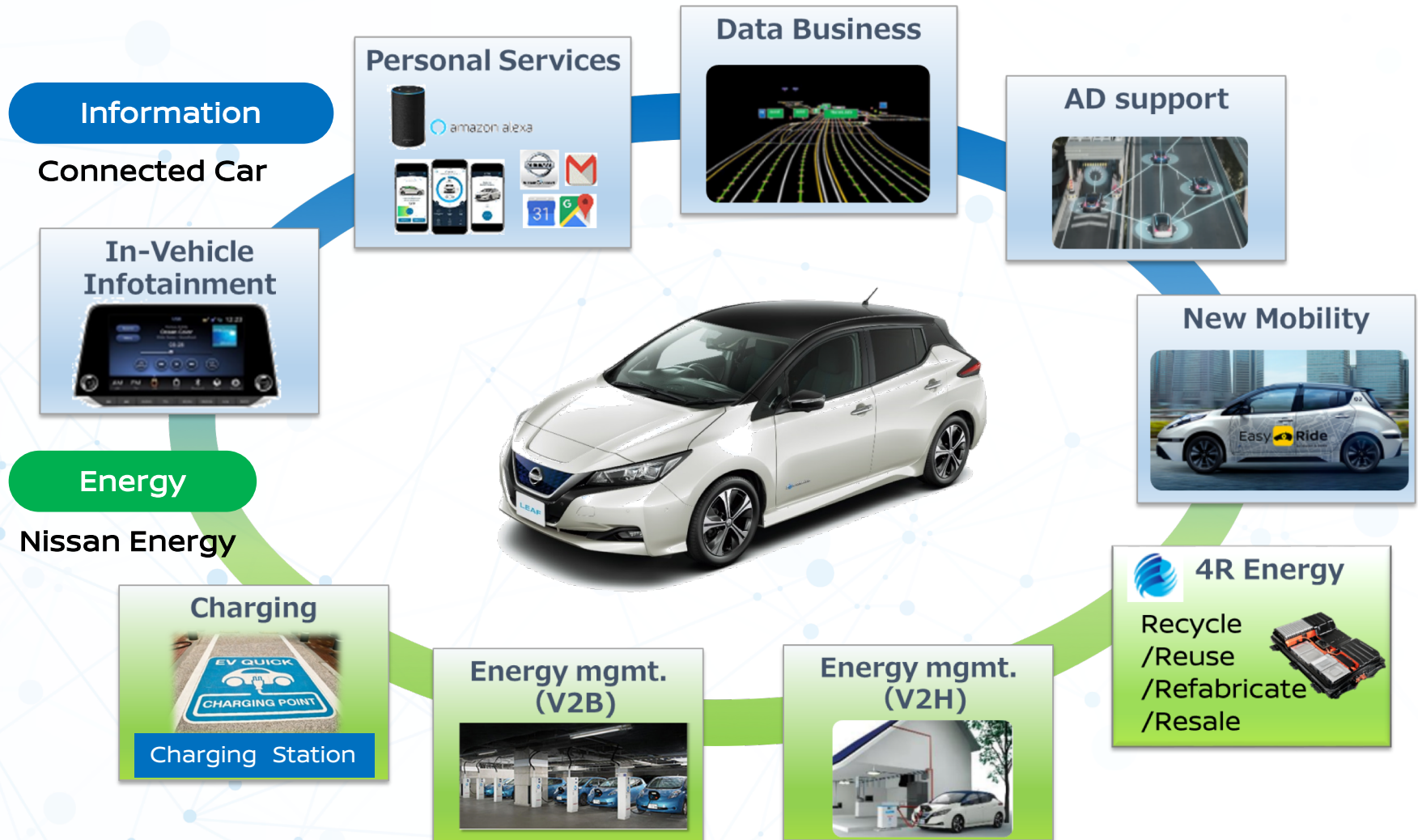
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Scope of Intelligent Integration

- Full connectivity of vehicle information and energy maximizes the benefits to customers while contributing to society



Connected Car

- Advanced services and HMI, along with vehicle innovations, create a compelling user experience

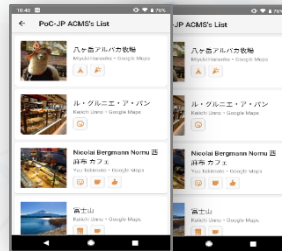
Service Customer-centric services captivate the user

NissanConnect

- Seamless information connectivity in the cabin



Third-party services



Smartphone app



In-Vehicle Infotainment

HMI Integrated information and intuitive operation for a safe and simple HMI

- Seamless consolidate Display



- Semi mixed-reality display



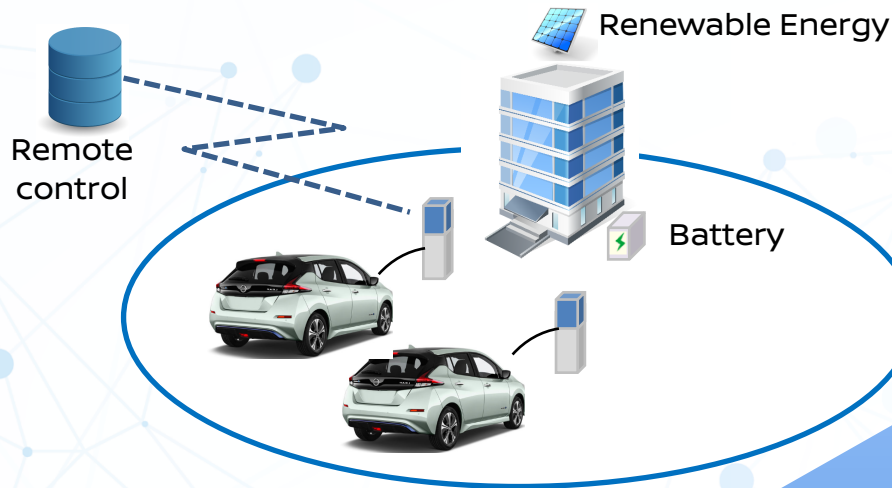
- Invisible-to-Visible



Nissan Energy Share

- Electricity stored in EV batteries can help supply power to homes, buildings and the grid
- Nissan is conducting a V2B demo test (Dec. 2018 to March 2020) aiming for the world's first market launch as the next step following V2H

V2B demo test



V2H: Vehicle to Home
V2B: Vehicle to Building
V2G: Vehicle to Grid

Homes

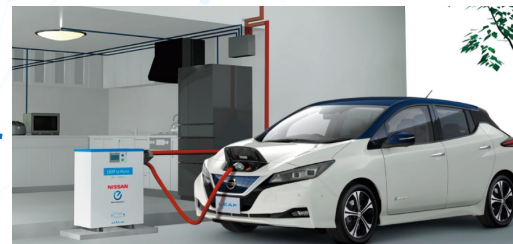
Buildings

Power grids

V2G



V2H market launch



The logo features the word "NISSAN" in a bold, black, sans-serif font. To its right is a small icon consisting of three blue curved lines above a solid black square. This is followed by the word "INTELLIGENT" in a bold, black, sans-serif font, and finally the word "MOBILITY" in a bold, black, sans-serif font where the letter "M" is significantly larger and more prominent than the other letters.

NISSAN  INTELLIGENT **M**OBILITY