

**NISSAN MOTOR COMPANY**



# **Nissan Motor's Global Strategy & Two Vision ZERO**

**November 18, 2013**

**Toshiyuki Shiga**

**Representative Director & Vice Chairman**

**Nissan Motor Company Ltd.**



**NISSAN  
POWER  
88**

**POWER**

**Brand & sales power**

**8**

**Global market  
share by FY16 (%)**

**8**

**Sustainable COP (%)**

**FY13 Outlook**

**6.4%**

**5.4%**

# Global Strategy

## Offensive Strategy

Emerging  
markets



Entry  
markets

启辰  
VENUCIA

Premium market



INFINITI®

## Leadership Strategy



Zero Emission



Autonomous  
driving

## Partnership Strategy



DAIMLER



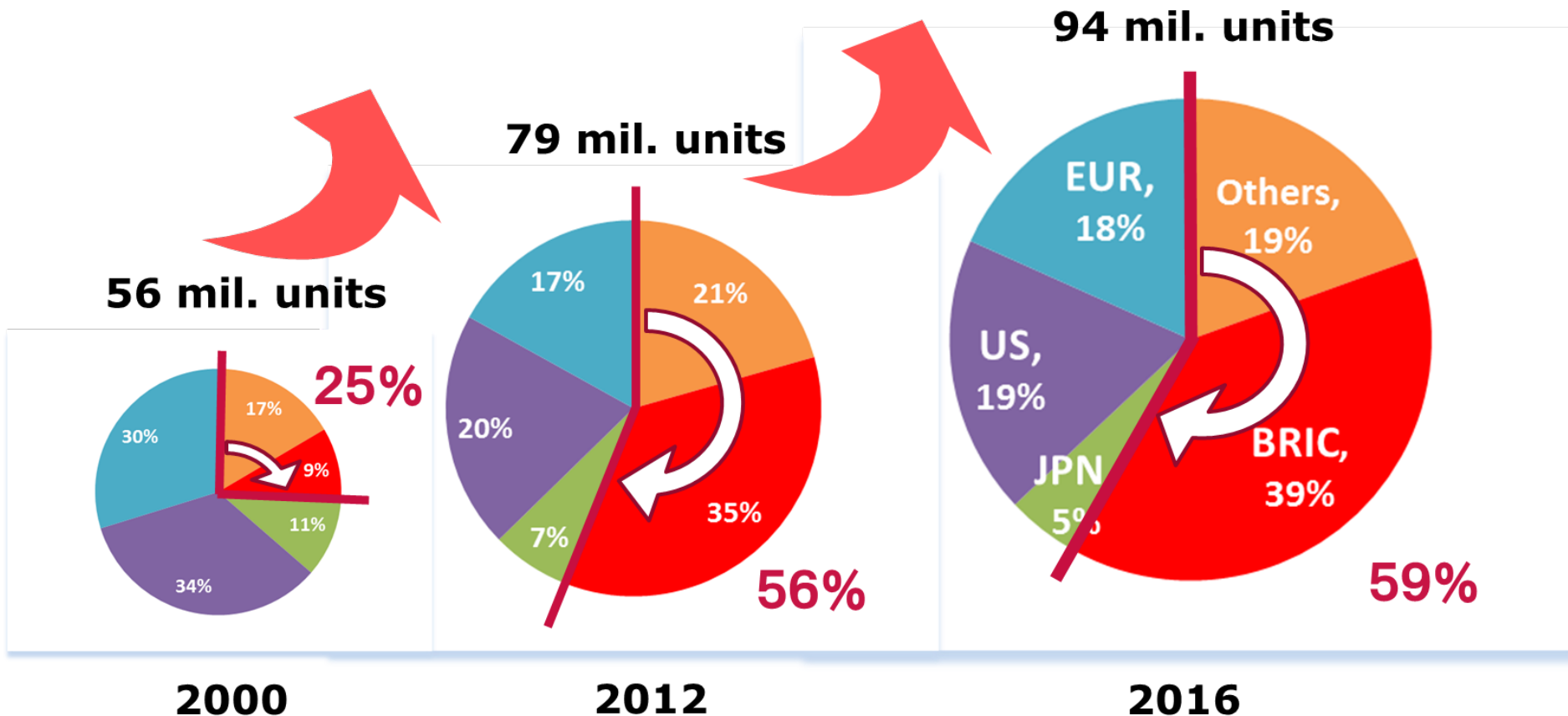
DONG FENG



ASHOK LEYLAND



# Emerging Countries Leading the Growth



Source: Nissan Motor

# New plant investments

FY13		FY14
Under construction	India new plant (Powertrain) (From Sept.)	
Under construction	Jatco Thailand new plant (From Sept.)	
Under construction	Mexico new plant (From Nov.)	
Under construction	Brazil new plant (Spring)	
Under construction	Thailand new plant	
Under construction	Indonesia new plant	
Under construction	Russia St. Petersburg plant expansion	
Under construction	China Dalian new plant	
Under construction	Jatco Mexico new plant	

# New Car Source of Sales (mature markets vs. growth markets)

## Structure of New Car Demand

### Mature Market



Replacement



### High Growth Market:



New



Require products / services that cater to the  
needs of first-time buyers

Typical scene in  
an emerging  
market

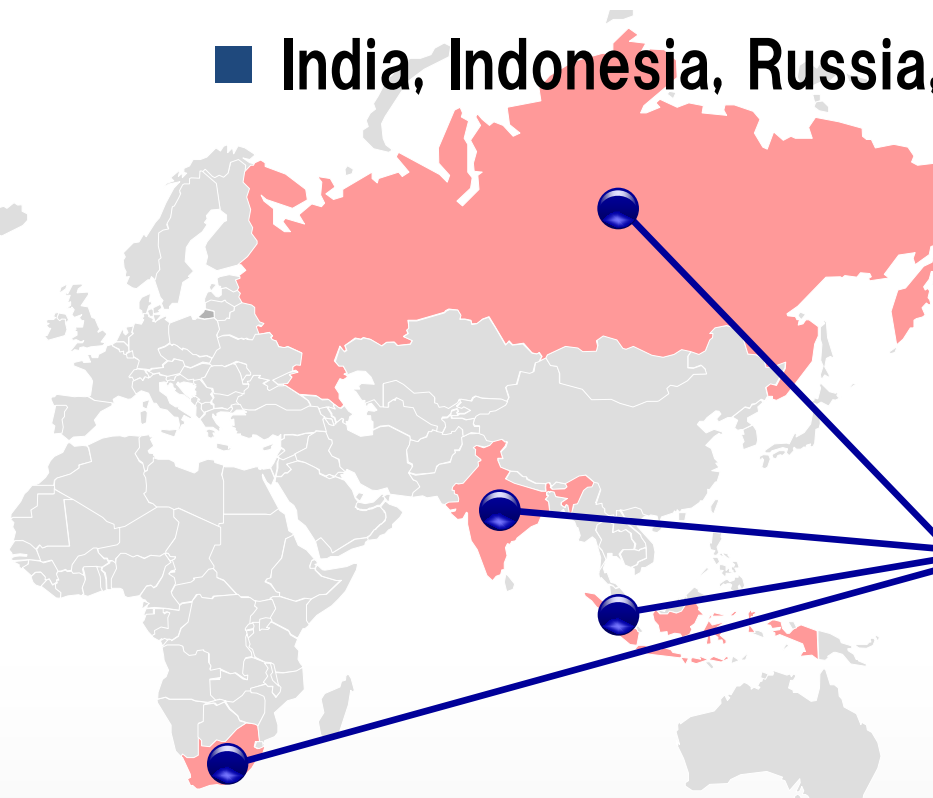


**Datsun brand offers new values**



# Introduction of Datsun

■ India, Indonesia, Russia, & South Africa in 2014

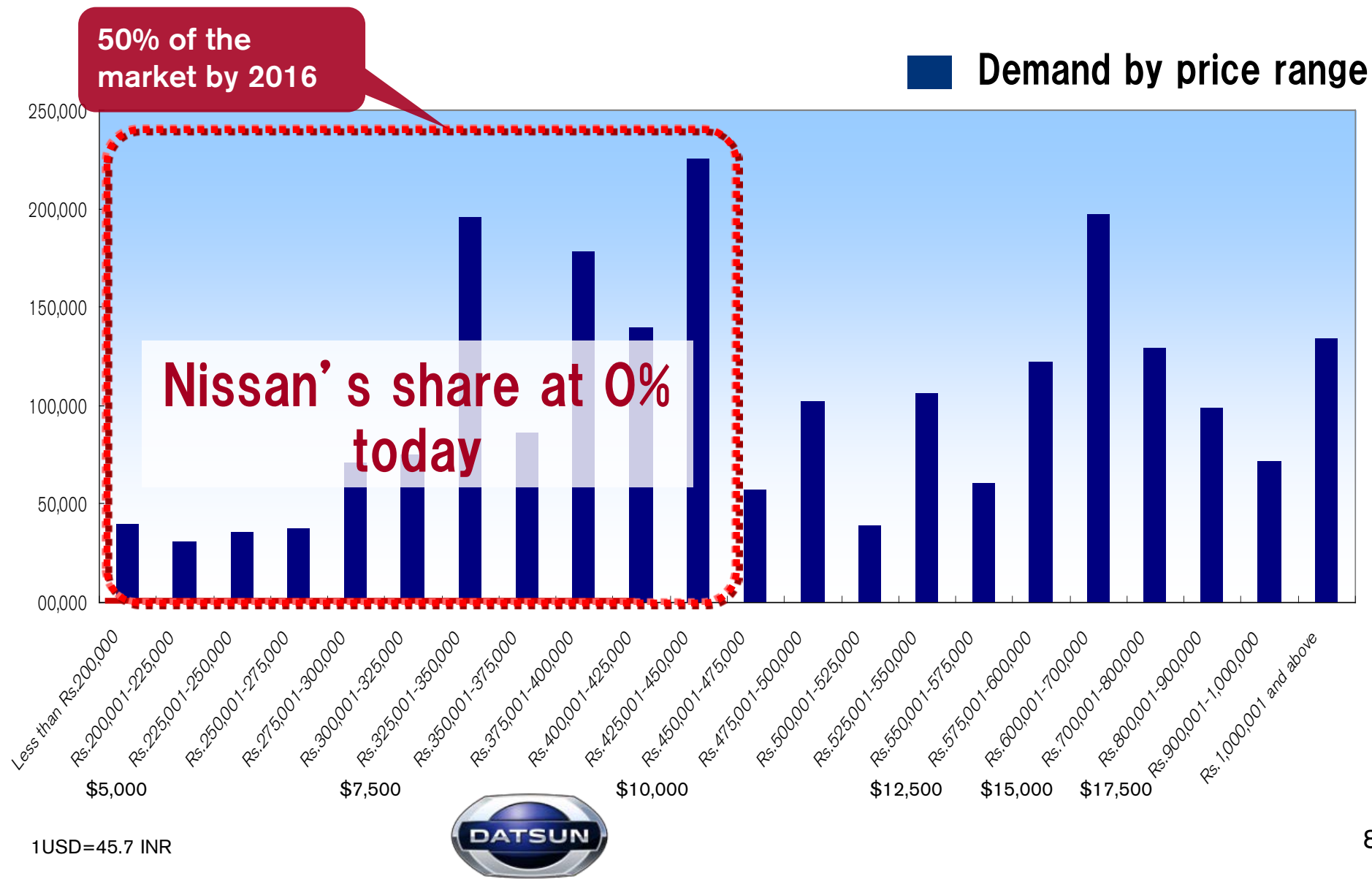


Datsun's target customers  
**Risers**



**Dream  
Access  
Trust**

# Market Needs & Opportunities in India





# Progress & Goal of Infiniti Business



## Premium Market Analysis

Premium brands account for 11% of total light-vehicle sales.

**11%**

But represent 50% of industry profits

**50%**

# Building Stronger Infiniti Business

Relocation of HQ to Hong Kong



*Grand opening ceremony  
held on May 2012*

Currently IML  
15 nationalities



# Active Recruitment of Dedicated Personnel

Develop Asia's first premium brand with a team of professionals and experts

■ Johan



SVP of NML in charge of global Infiniti since last July.  
Served as president of Audi's American operation

■ Michael



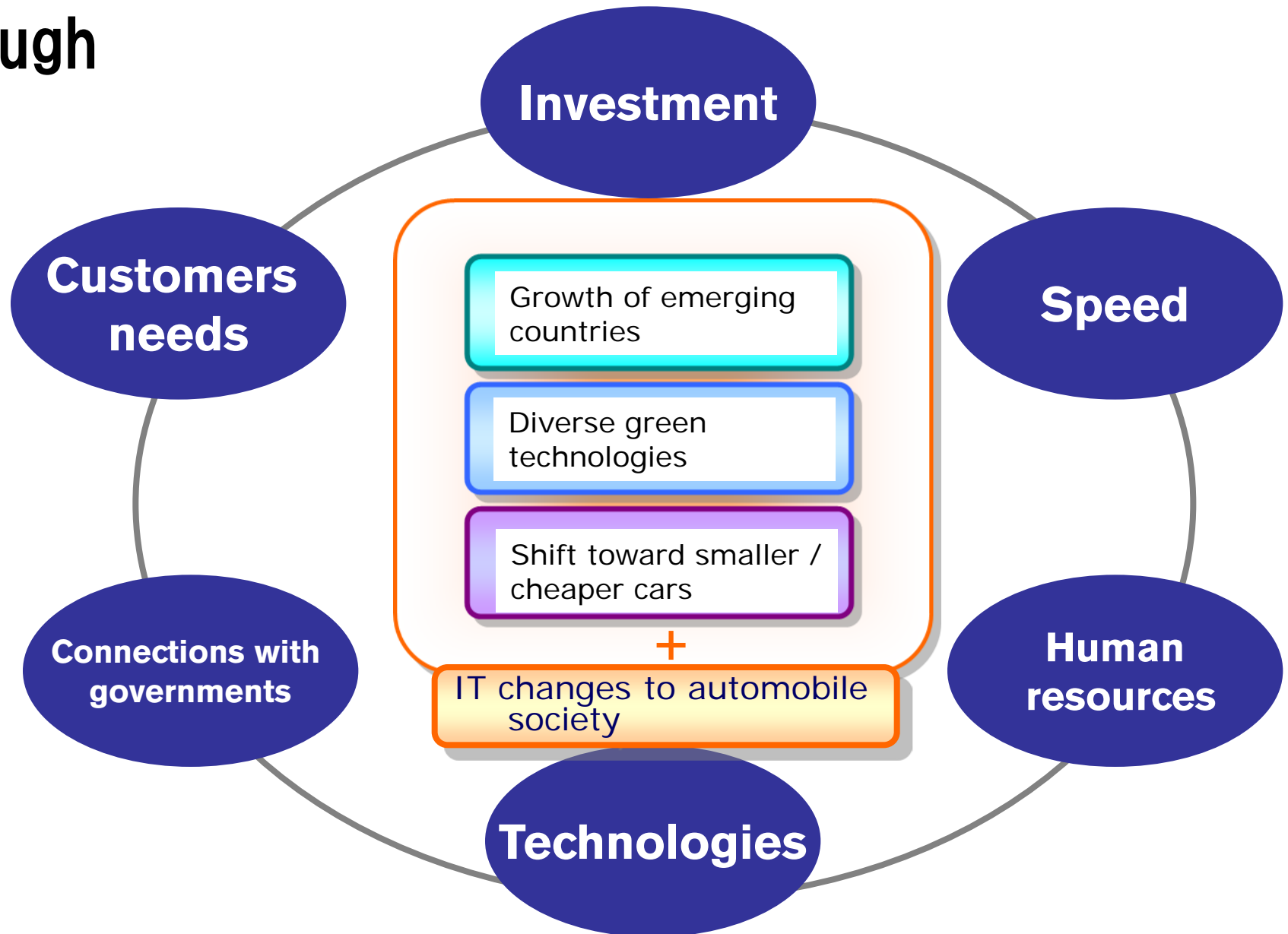
VP of Infiniti Americas since this September.  
Served as COO of Porsche Cars North America

■ Daniel



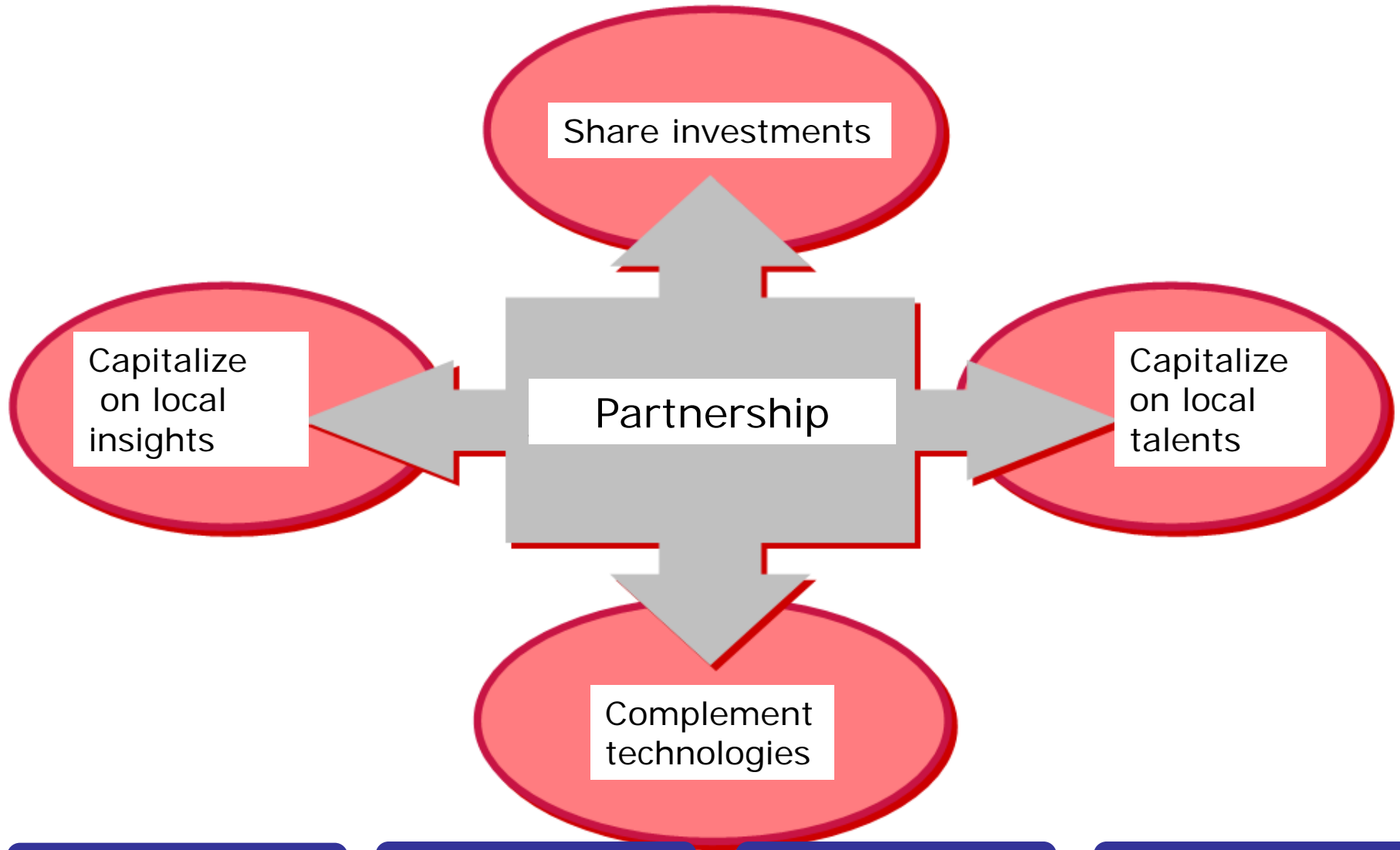
Managing Director of Infiniti China since this May  
Served as  
Previous vice president of BMW's joint venture in China  
Speaks fluent Chinese

# Adapting to the changing environment alone is tough





# Capitalize on partnerships and local resources



Complementarity

Synergy

Alternative

Offset

# Partnerships created so far



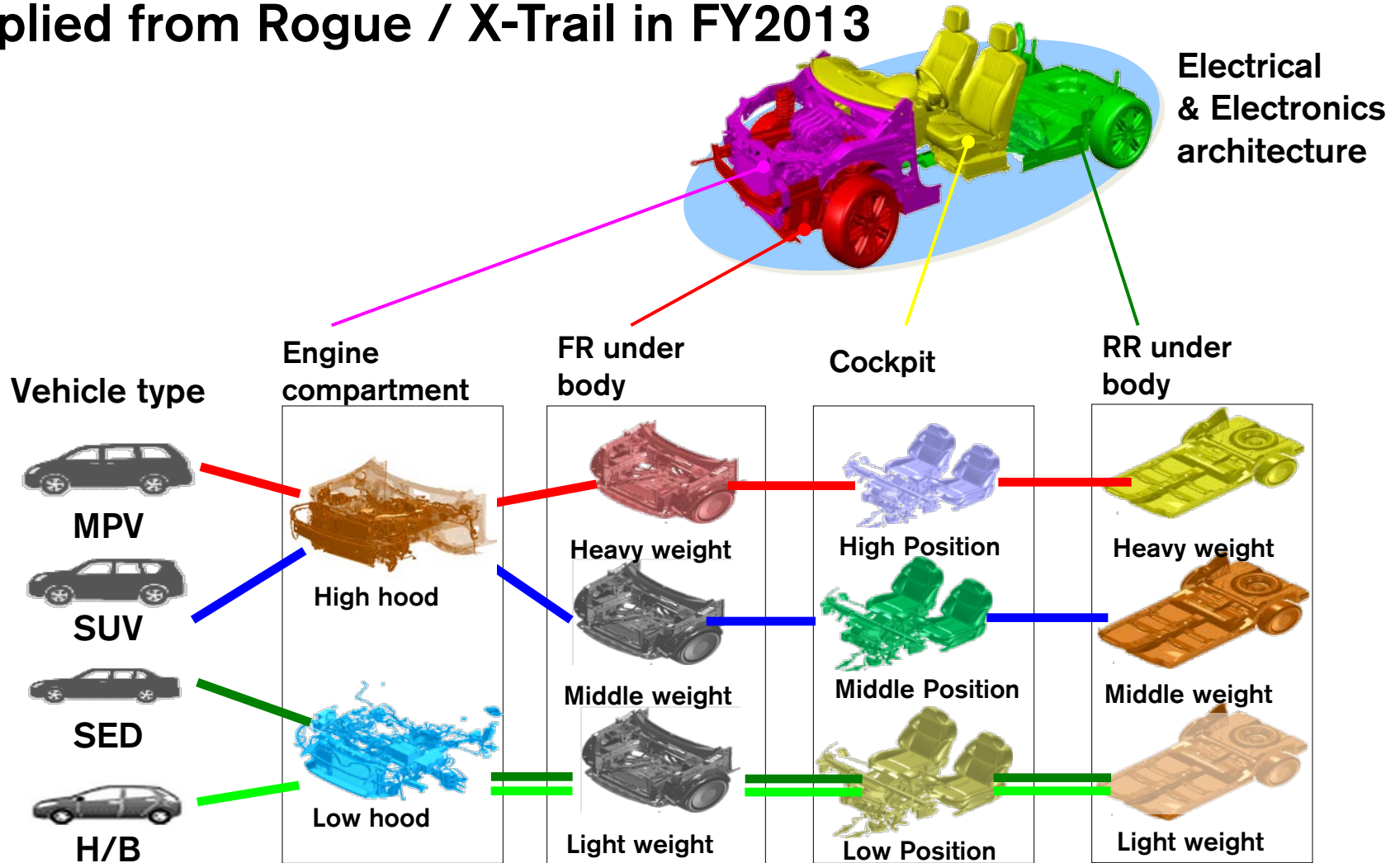
DAIMLER





# Case①: Renault Nissan Alliance Common Module Family

Applied from Rogue / X-Trail in FY2013



# Case②: Partnership Strategy with Daimler

- Infiniti Q50  
Diesel engine essential for Europe and downsizing turbo
- Joint production of 4-cylinder gasoline engine in Tennessee, U.S. starting from mid-2014. Applied to Mercedes Benz C Class & Infiniti models
- Infiniti Q30  
adopt some components of Daimler



# Leadership Strategy

Preparations to accomplish Nissan Power 88 hit the climax in FY2013, the end of the first half of the plan. Investments will bear fruits going forward.



At the same time, Nissan is pursuing sustainable mobility under the vision and leadership strategy.





# Challenges by Nissan



NISSAN MOTOR COMPANY



## EV普及へ正念場



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# Challenges by Nissan

## Nissan aims to produce self-driving cars by '20

IRVINE, Calif. (Bloomberg) — Nissan Motor Co., which grabbed a global lead in electric car sales with its Leaf hatchback, wants to do the same thing with self-driving vehicle technology and plans to offer such models by 2020.

"We will be able to bring multiple, affordable fully autonomous vehicles to the market by 2020," Andy Palmer, Nissan's executive vice president, told reporters Tuesday at a briefing in Irvine, Calif.

Such systems mean "integrating and unproductive operations could become a thing of the past," he said. Just as the Yokohama-based car maker set a goal of becoming the world's biggest seller of battery-powered autos, Nissan wants to be a leader in the move to make cars safer by adding electronic systems to prevent accidents and by reducing emissions, which can be cut by as much as 20 percent by reducing idling.

Nissan has sold more than 75,000 Leaf electric vehicles worldwide since late 2010. Including alliance partner Renault SA of France, they have delivered about 100,000 electric cars.

The company showed off self-driving Leaf models at a former U.S. military base in Irvine on Tuesday with the robots cars ferrying passengers in simulated urban driving conditions.

maker, is developing the technology, though it is well known to companies, including Google, which has been working with Google for that matter. "I don't preclude the possibility of working with Google for that matter," Palmer said. Nissan has contact with various partners, he said. A difference in Nissan and Google does not exist.



近赤外線を使ったセンサー（タイヤ前の黒い長方形の部分）などで走行状況を見極める（27日、アーバイン）

## 首相、自動運転車に試乗「日本の技術は世界一」

2013年11月09日（最終更新 2013年11月09日 18時40分）



日産の自動運転車に試乗し、助手席から手を振る安倍首相。奥は国会＝9日午後、東京・永田町

### 先行グループが協調かぎに

【東京27日】日産自動車は27日、米カリフォルニア州アーバインで、道路情報や車載センサーで感知する自動走行車の試作車を公開し、2020年までに販売する予定と発表した。

試作車は、日産の電気自動車（EV）「リーフ」をベースに改造。搭載された5つのカメラで車線や標識、路面状況などを感知。レーザーではほかの車や障害物を避けながら、車の速度や道路を調整して走る。

今後は、14年度に近畿工業（神戸市）に自動走行車用のテストコースも設置し、安全性などについてさらに開発を進め、日産のカルロス・ゴーン社長は、日産の自動走行車の開発を進め、米インテルやGoogleも地産地消システムを活用した車載の公道実験を進めるなど、開発競争が加速している。（ワシントン 社内公開）

安倍晋三首相は9日、国産カメラにより周囲を確認する自動運転車の本格的な試乗による試乗は世界初といわれる。首相は試乗後、記者団に「日本の技術は世界一だ」と感想を述べた。

データ処理などITと融合カギに

## 自動走行車 20年まで

試作車公開 日産、各国で

## 日産、20年までに自動走行車開発

ゴーン社長「新ブレーキ技術に自信」



日産自動車は27日、米カリフォルニア州アーバインで、道路情報や車載センサーで感知する自動走行車の試作車を公開し、2020年までに販売する予定と発表した。

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## 日産、自動走行車20年発売



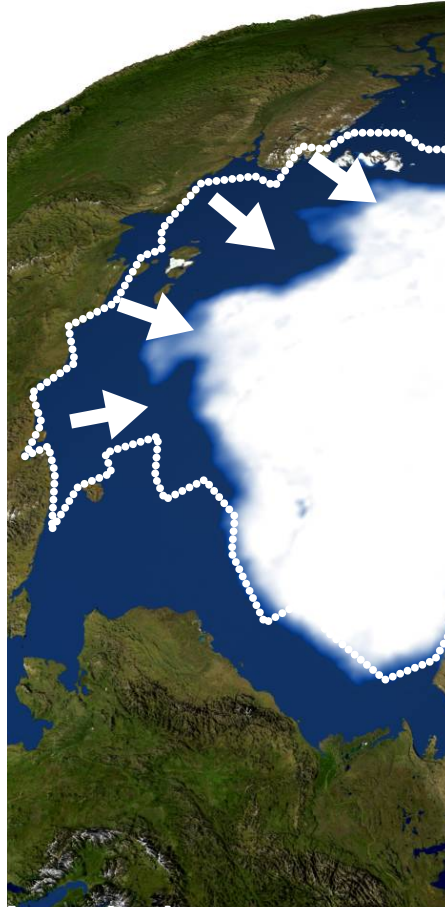
日産が開発した自動走行車「リーフ」の試作車（27日、カリフォルニア州アーバイン）

# Challenges to Develop Sustainable Mobility

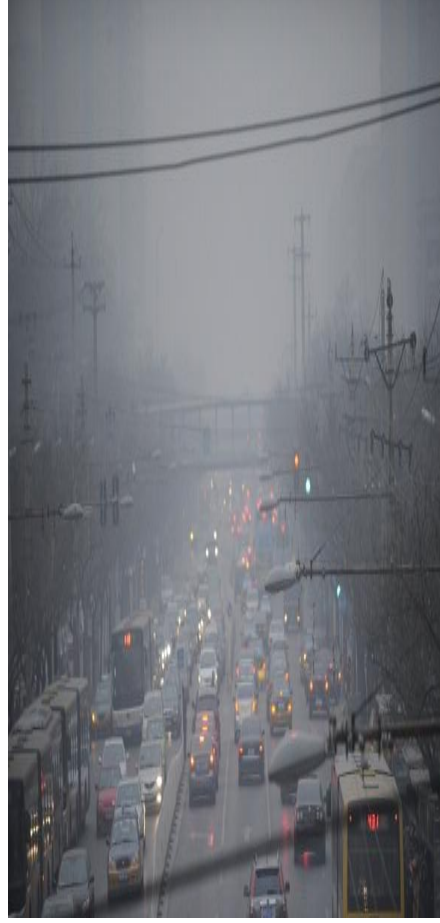
Energy



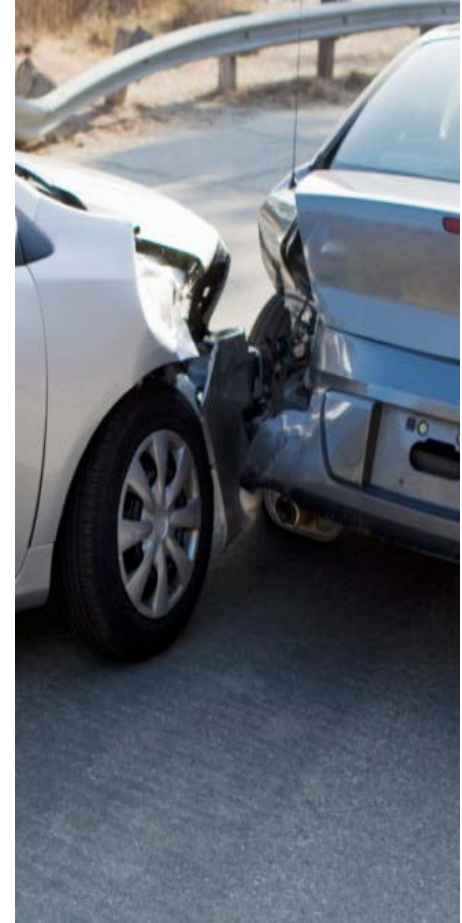
Global warming



Air pollution



Accidents



**Fossil fuels**

**Emission**

**Safety**



# Vision : 2 ZERO

Energy

Global warming

Air pollution

Accidents

**Zero emission**



**Zero fatality**

# 2 Approaches of Leadership Strategy

Energy

Global warming

Air pollution

Accidents

## Electrification



## Vehicle Intelligence

# Electrification for Zero emission

Energy



Global warming



Air pollution

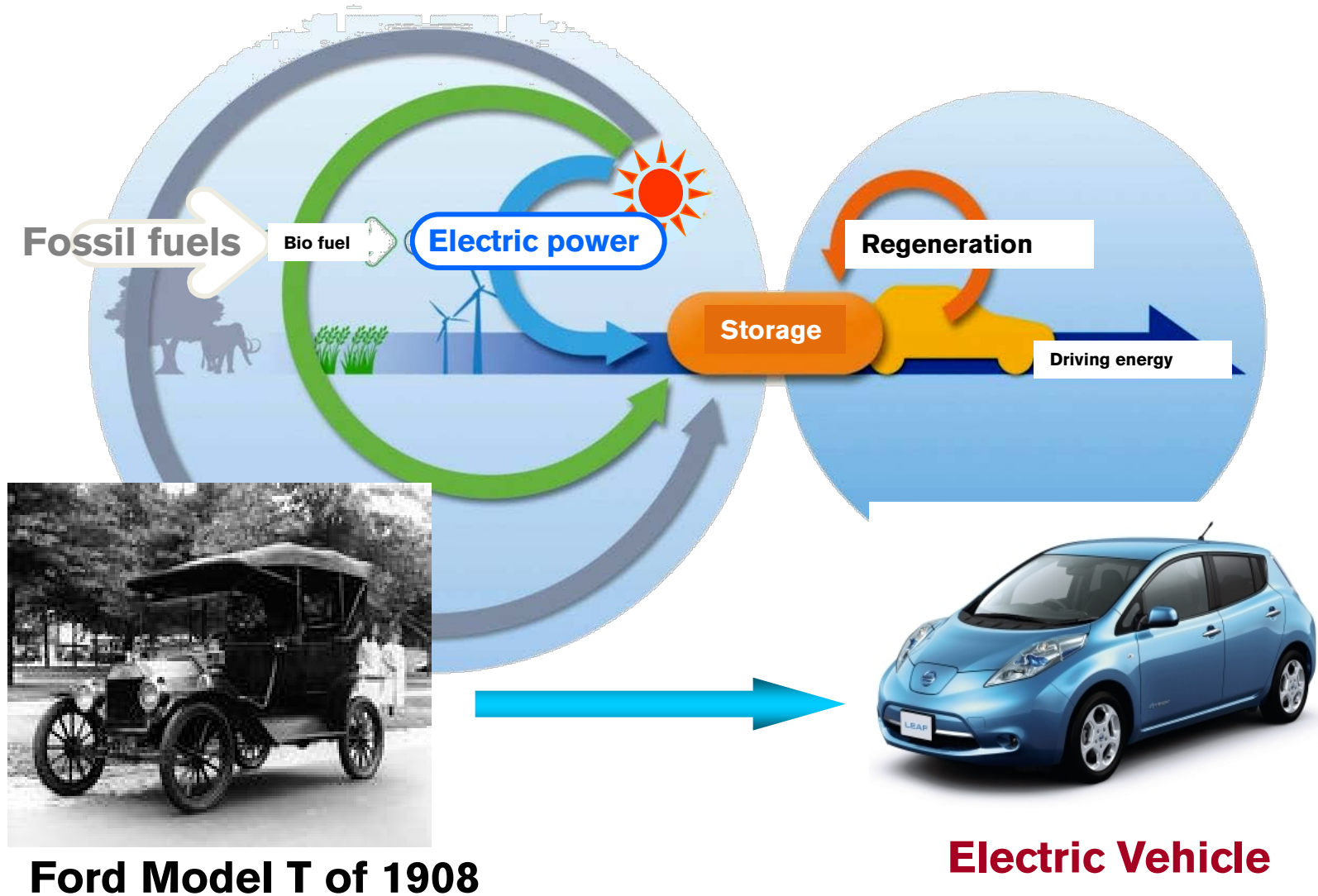


Accidents





# Shift from fossil fuel-powered cars to cars powered by renewable energy



# 100% EV Nissan LEAF

■ Launched in December 2010

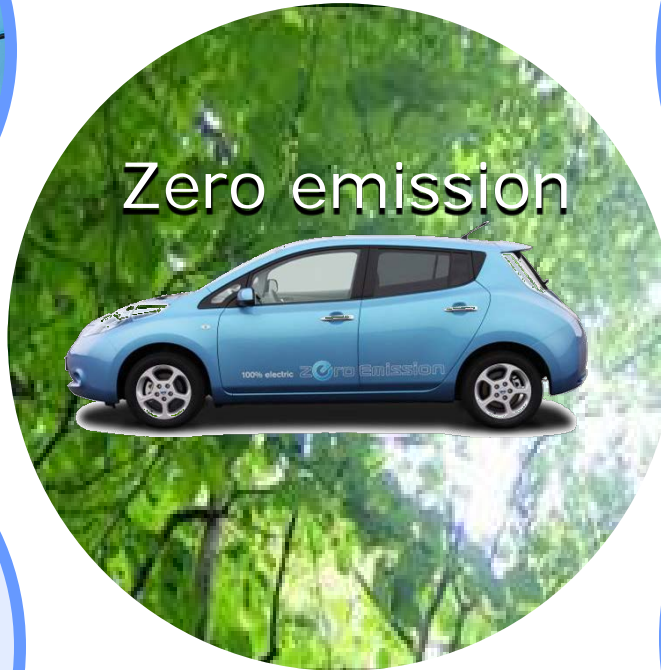


# Nissan LEAF Users' Voice

日産リーフ お客様の声



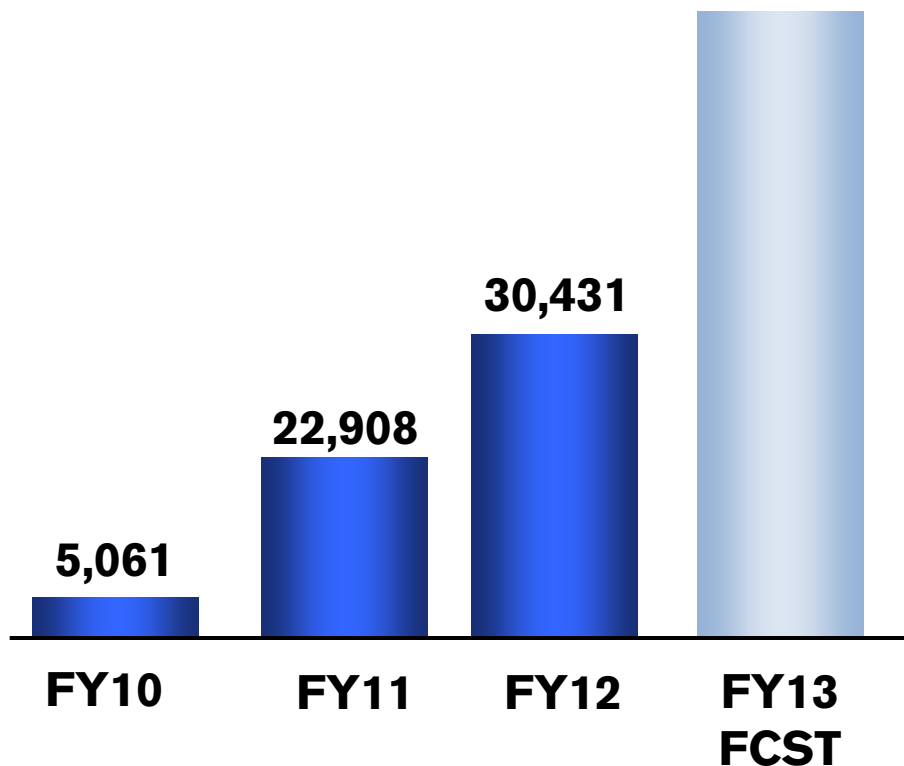
# Compelling Attributes of EV



# Aggregate Global Sales of Approx.87,000 units (as of October 2013)

## History of Nissan LEAF Sales Volume

More than 50,000 units



JPN

### Kanagawa Prefecture



US

### Nissan LEAF Owners' Event in San Francisco



EUR

### Switch EV Project in U.K.

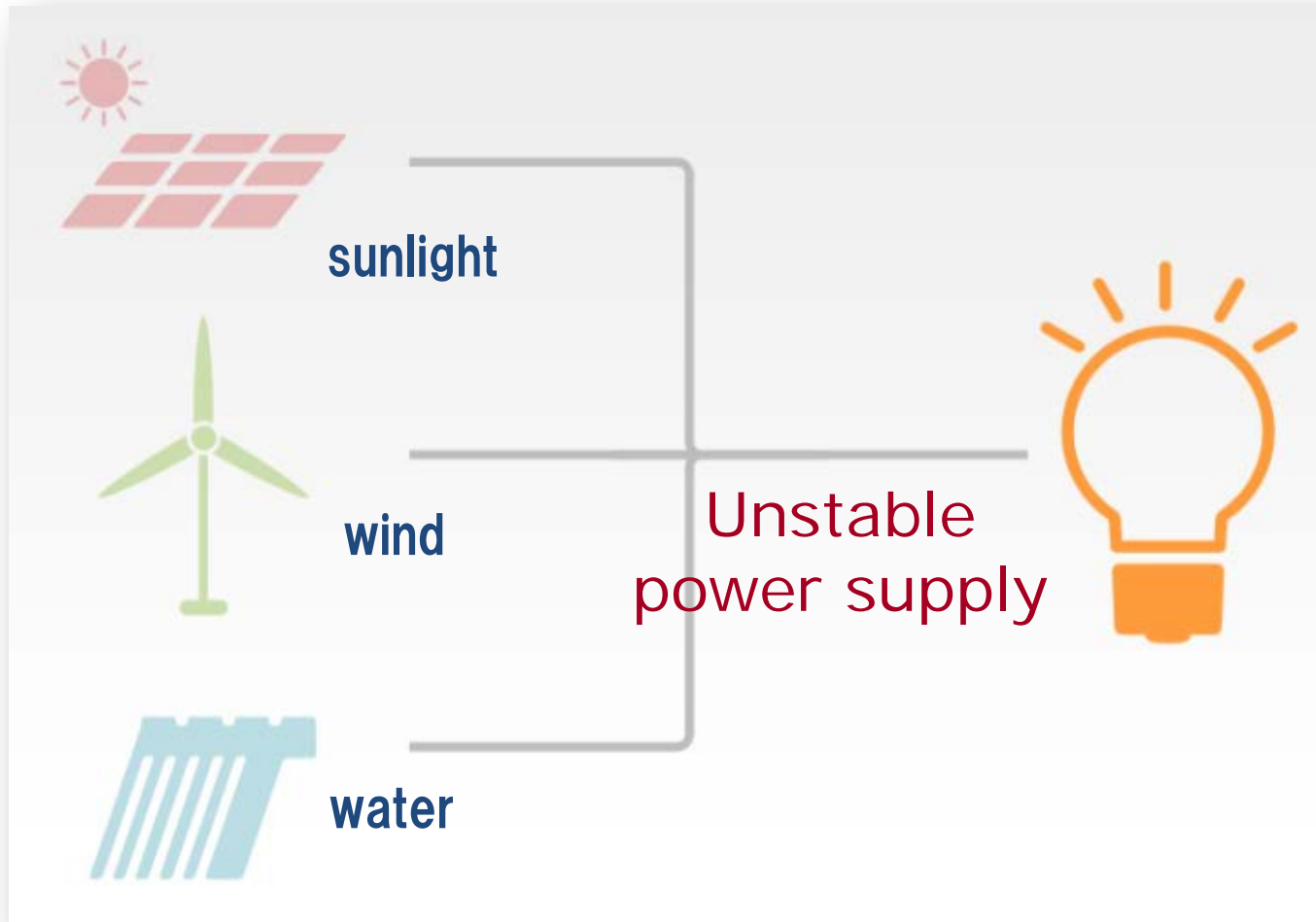


# FAQ

**No matter how much you boost the number of eco-friendly EV, wouldn't the issue remain unsolved as long as the power is generated by fossil fuels such as oil and coal?**

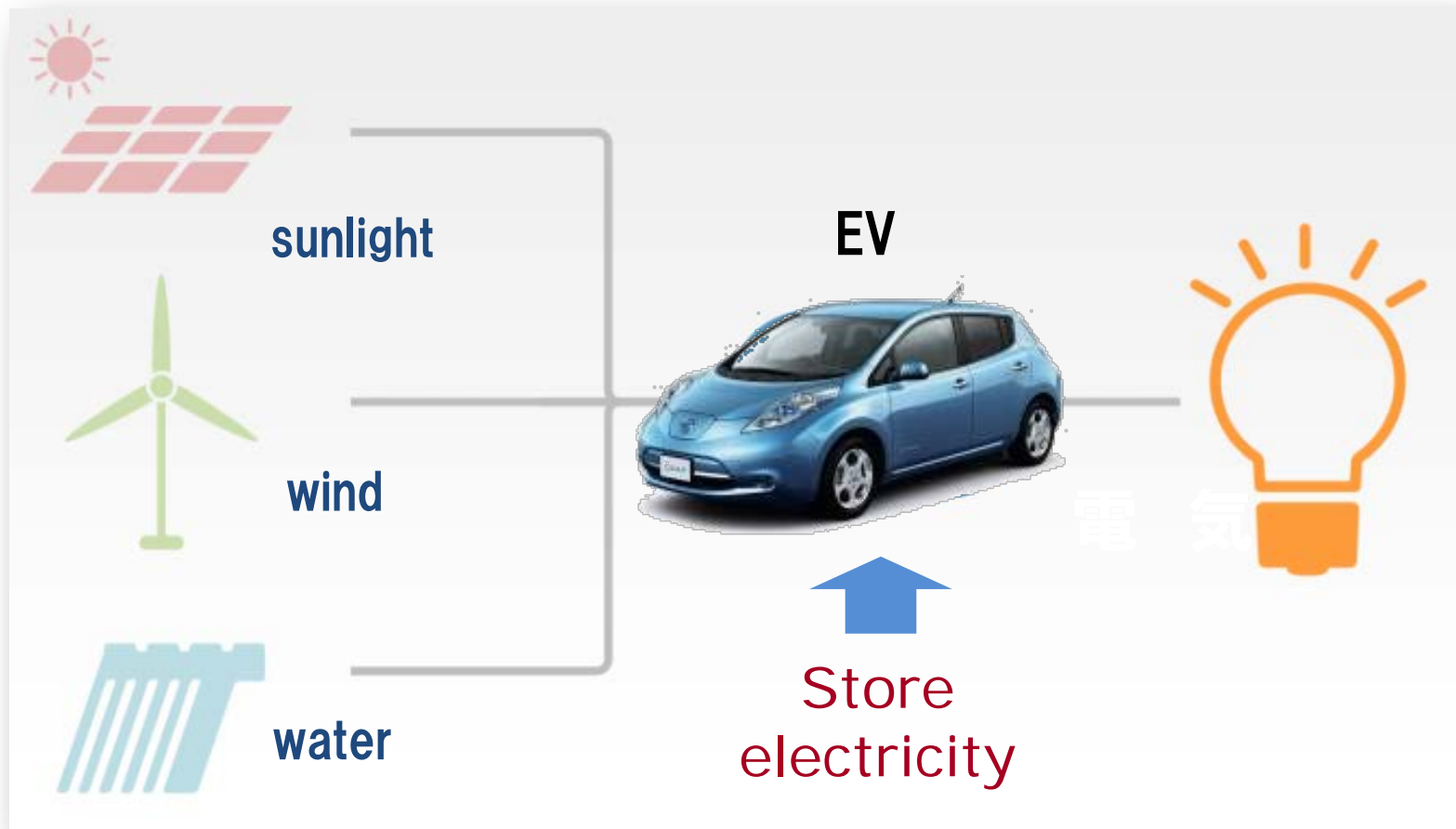
# Adoption of renewable energy is key

However, power generated by natural energy is unstable.  
It is a challenge to supply at need.



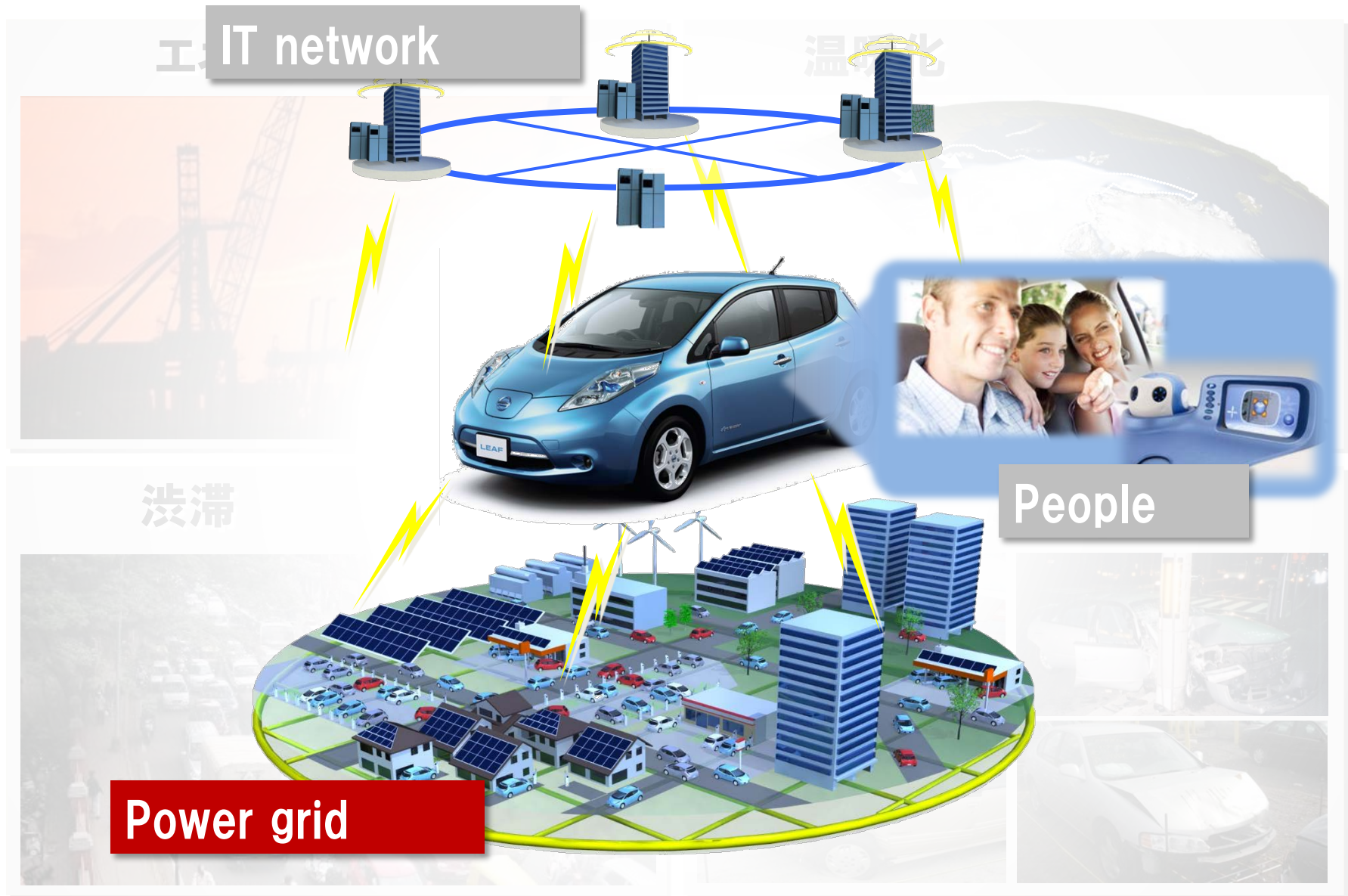
# EV for Energy Storage

Using EV as energy storage enables practical use of renewable energy.





# Connect with power grid





# Power Storage Capacity

## EV Battery Capacity



**24 kWh**

**400**



**Approx.10 MWh**

**22,000**



**Approx.530 MWh**

## Power Consumption



**Average Household  
10 kWh/day**



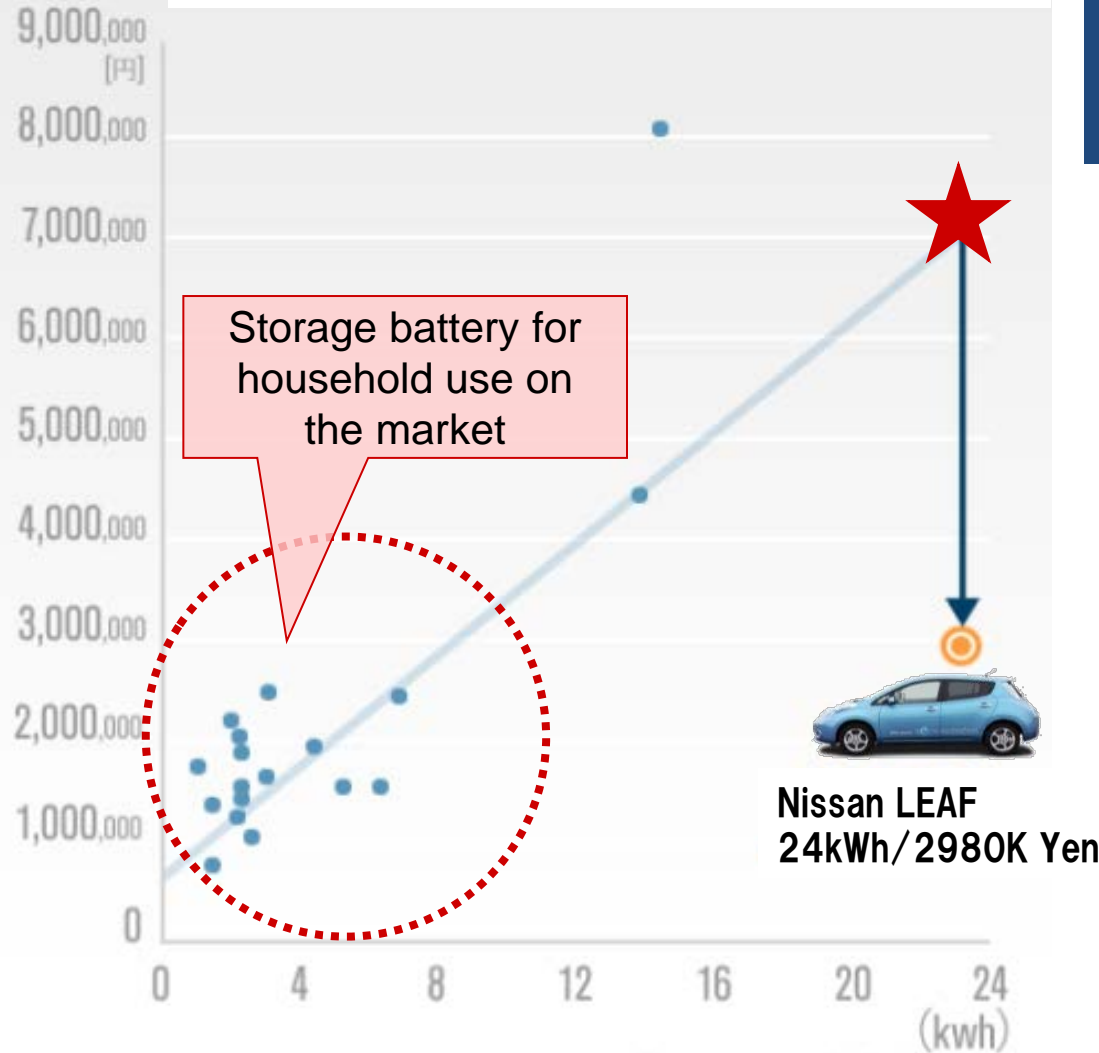
**Nissan GHQ  
10MWh/day**



**Nishi-ku, Yokohama  
(53,000 households)  
530MWh/day**

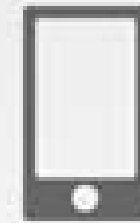
# Nissan LEAF's Value as Storage Battery

Storage battery  
capacity (kWh) / price (¥)



LEAF has ¥7 million value as storage battery (excluding vehicle value)

Power supply capacity of a  
LEAF (24KWh)



For about  
160 Days



For about  
29 Days



For about  
10 Days

# LEAF to HOME

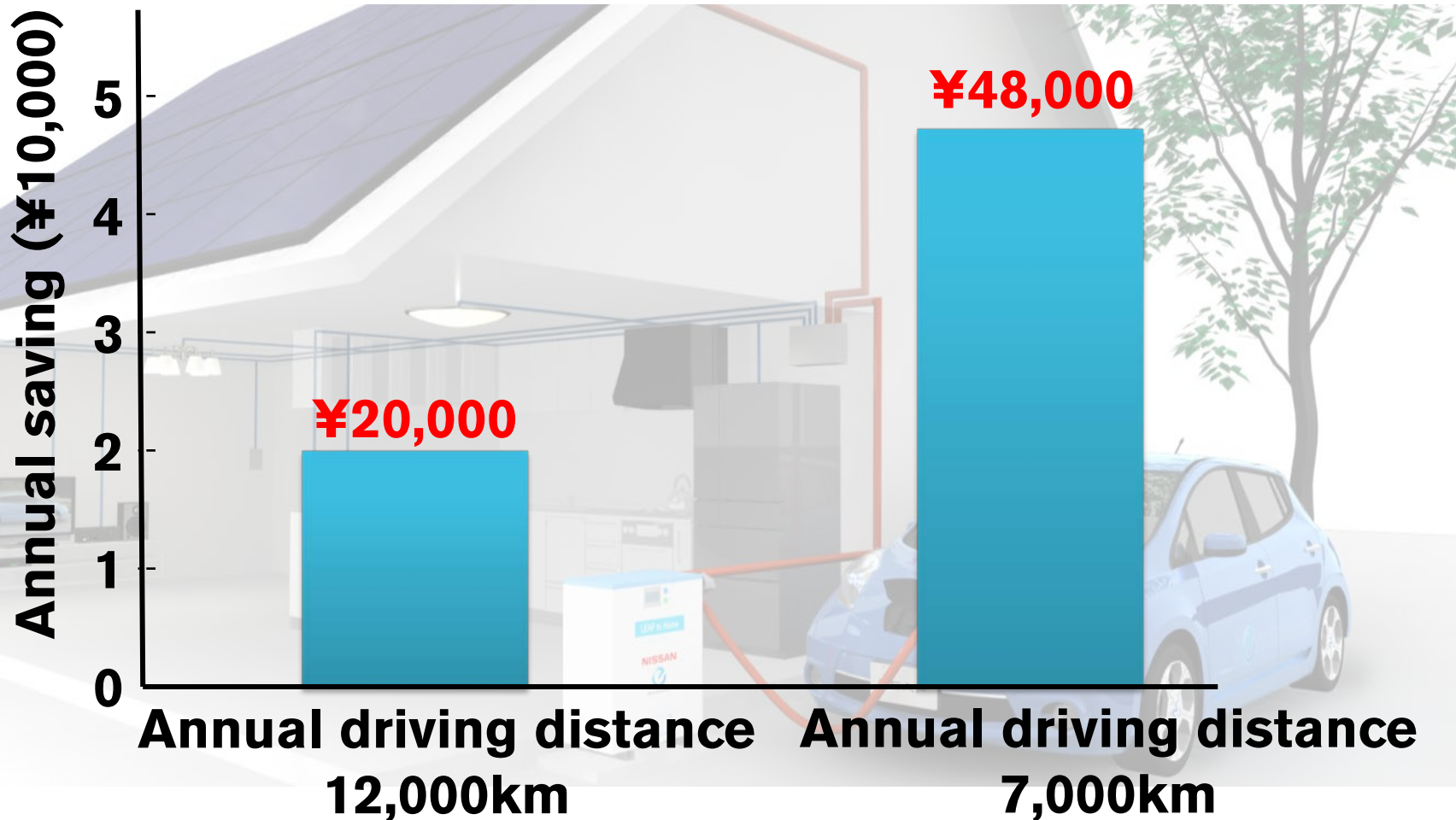
- 2-way energy management by PCS\*
- Sold about 2000 units (as of the end of October 2013)



**\*PCS : Power Control System**

# Power Saving Initiative with Nissan LEAF

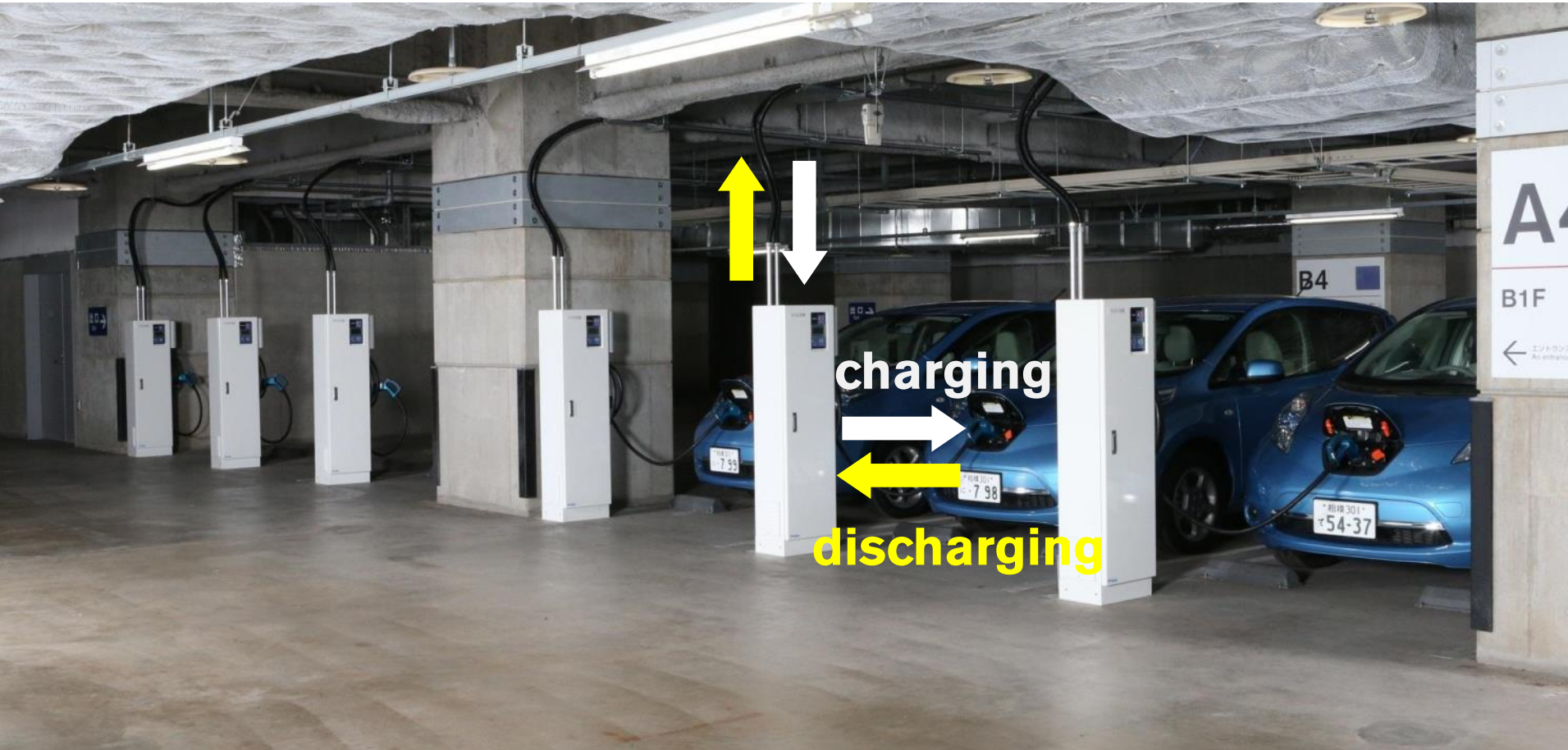
- A trial in Osaka Prefecture delivered expected results.





# Real-world Evaluation at NATC (Nissan Advanced Technical Center)

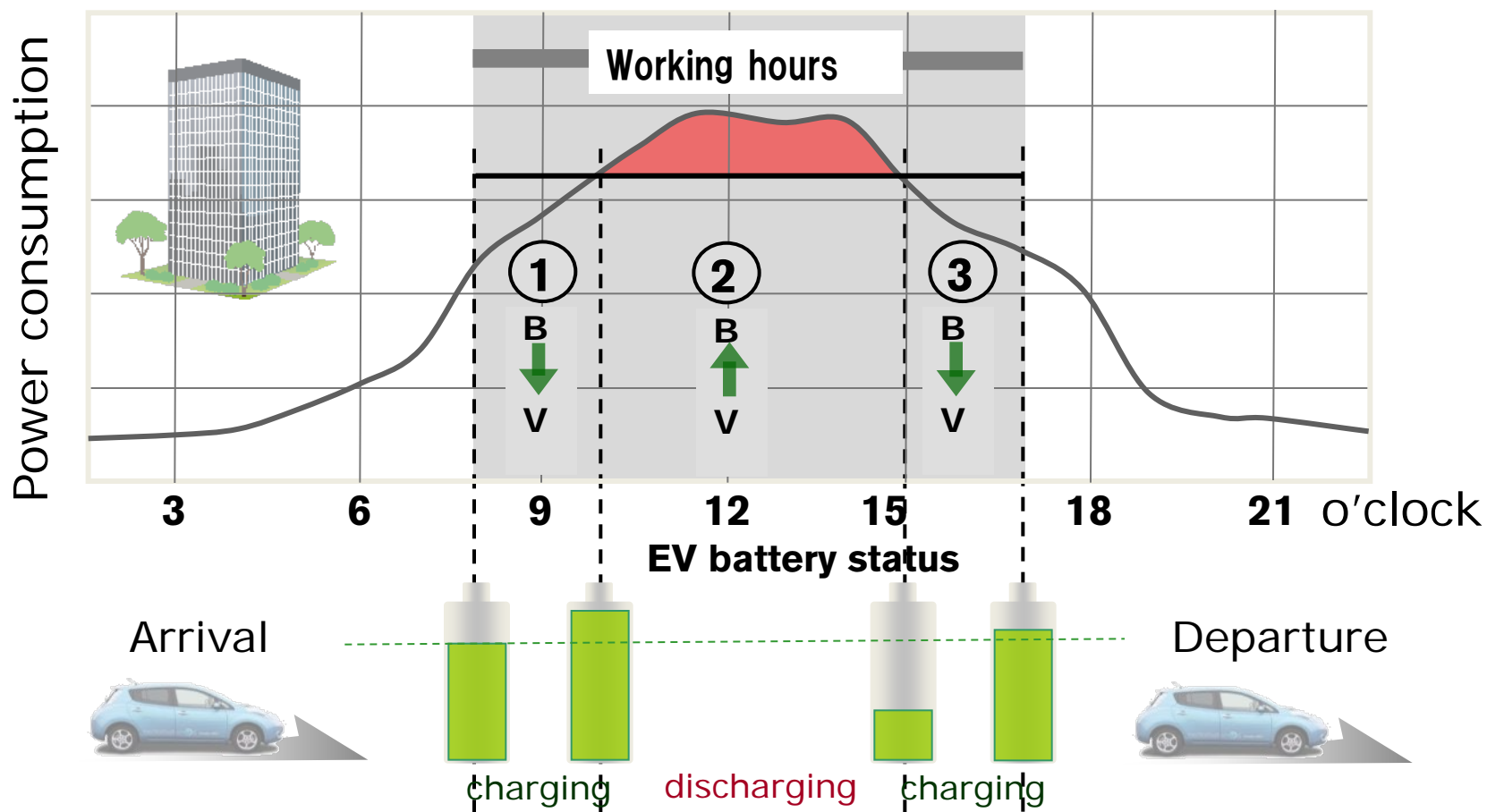
## ■ Peak shaving by EV commuters



# V2B (Vehicle to Building)

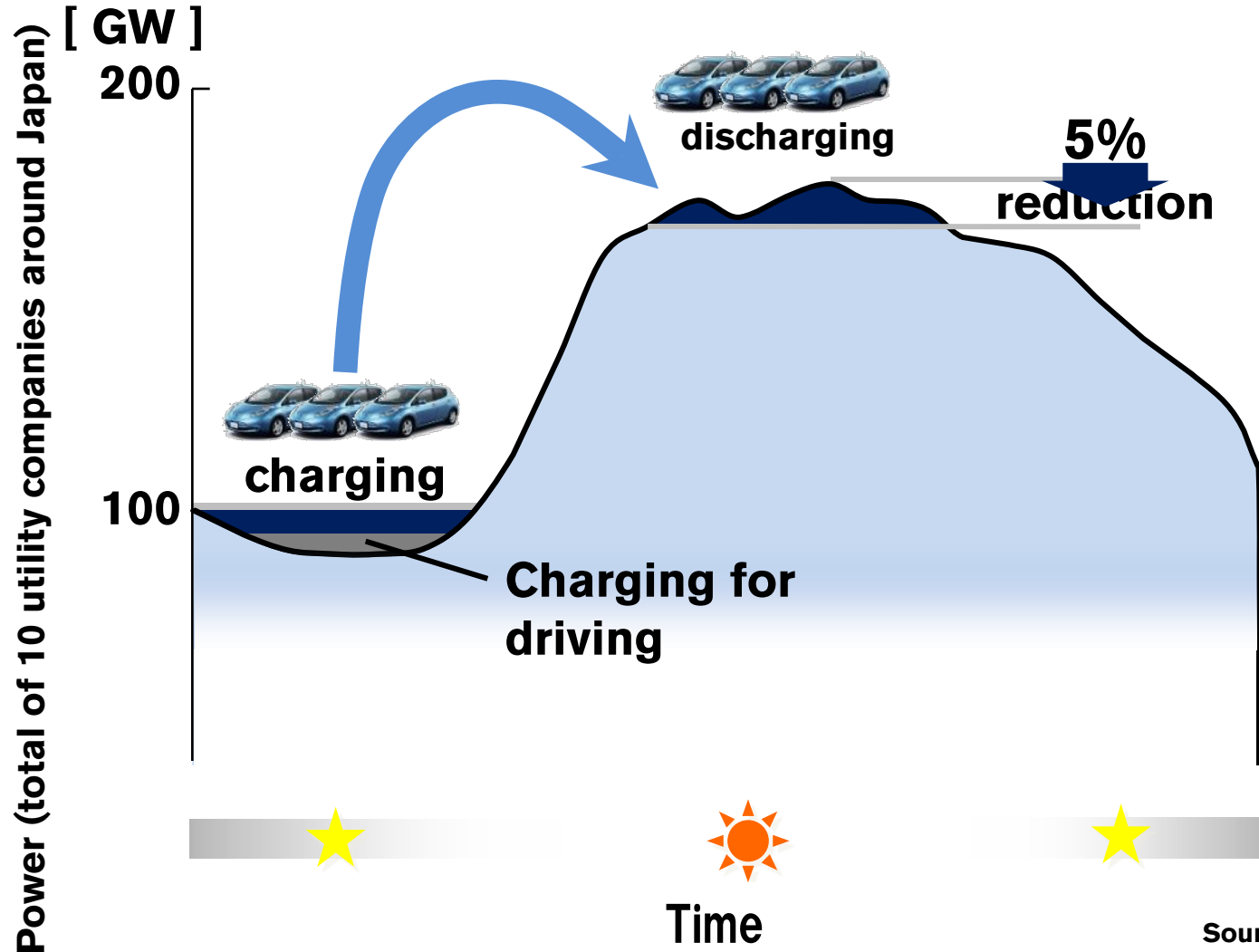
- EVs parked at the office supply electricity and contribute to peak shaving
- EVs are charged by the time when an employee leaves

Peak shaving scheme (office building)



# Leveling Power Consumption with EV

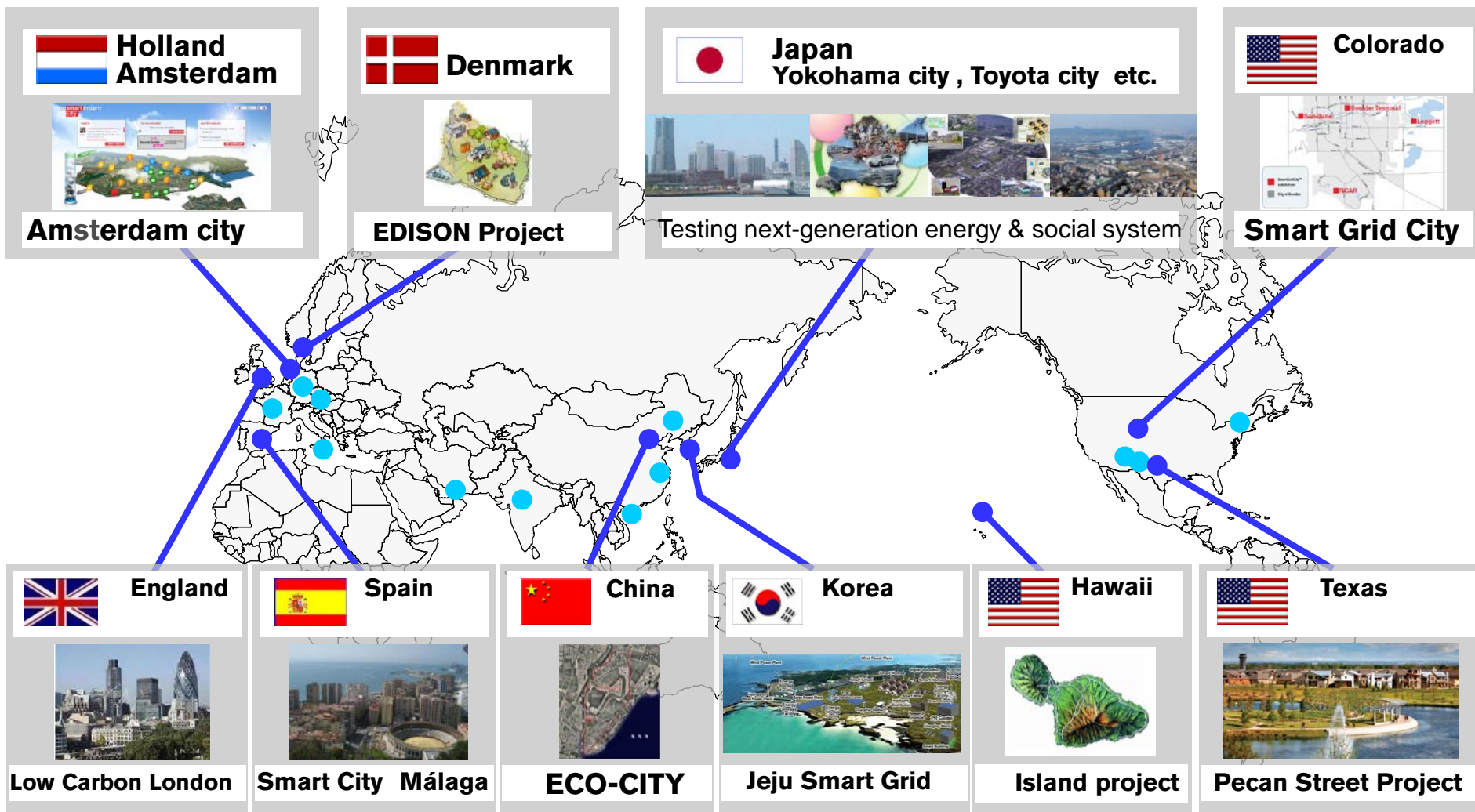
- If 10% of cars in Japan are replaced with EV, it results in 5% peak shaving



Source: Nissan Motor

# In Pursuit of Smart Community

- Big-scale real-world evaluation is underway around the world





# Proposal of New Mobility

ちょこっとカーシェア。  
さくっとリターン。



# チョイモビ

“Choimobi”  
Yokohama city



<b>OAL×OAW×OAH</b>	: 2340 × 1230 × 1450 (mm)
<b>Capacity</b>	: 2 persons (in the front & the rear)
<b>Max speed</b>	: approx. 80km/h
<b>Weight</b>	: 470kg(w/ doors) 500kg(w/out doors)
<b>Output</b>	: rated power 8kW, max.15kW
<b>Range</b>	: approx. 100km
<b>Charging method/time</b>	: standard 200V, approx.4 hrs

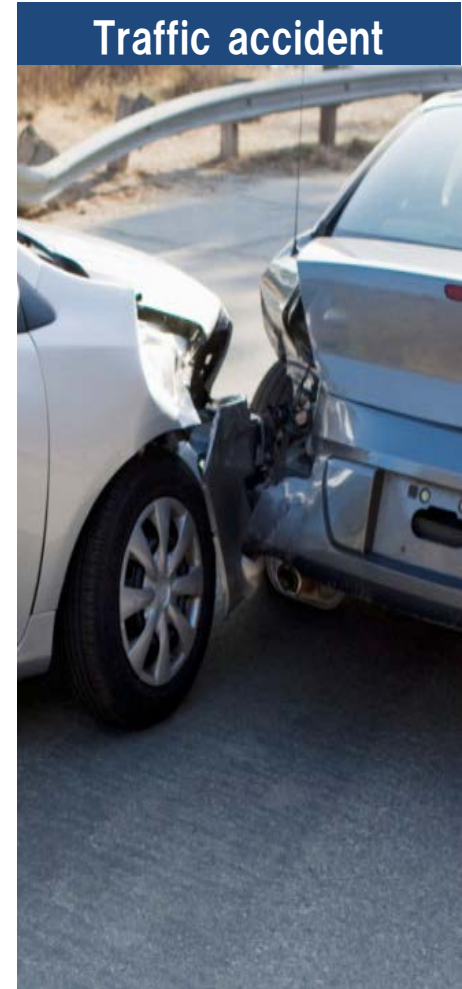
revolutionary

clean

safe

accessible

# Vehicle Intelligence for Zero Fatality



# Traffic Fatalities

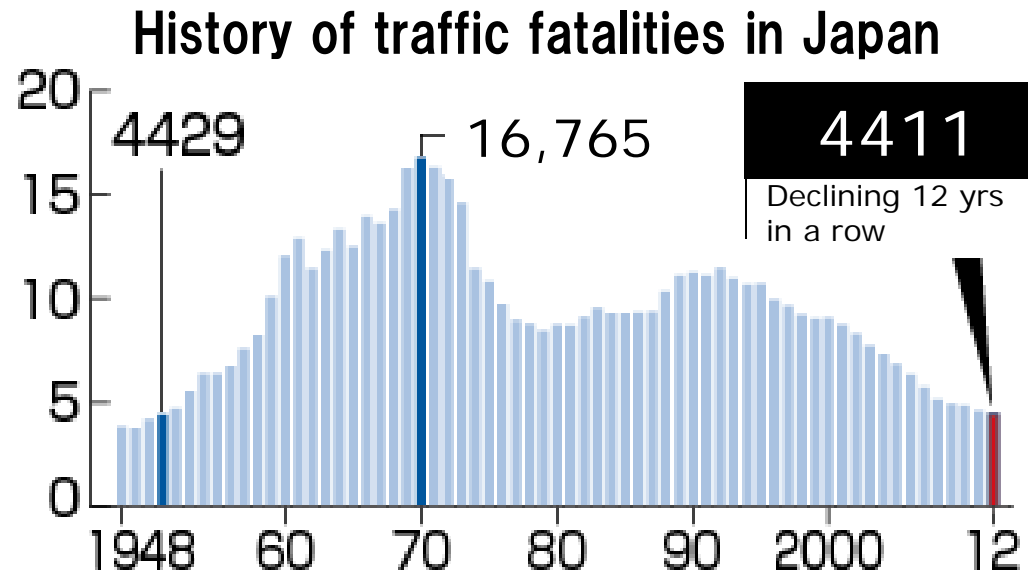
■ More than 1.2 million people die in traffic accidents around the world.

■ #of fatal accidents in Japan peaked in 1970 and is on the decline.

■ Yet over 4,000 people die every year.

	Rank	fatalities (1000 people)
1	India	<b>126</b>
2	China	<b>67</b>
3	US	<b>34</b>
4	Russia	26
5	S. Africa	13
:		
13	Japan	4

<2009 WHO >



# Economic loss inflicted by traffic accidents around the world

## Approx. ¥60 tril. / year



*※Estimated by Nissan Research Center*



# Economic costs of road traffic congestion



**Approx. 44  
tril. / year**

*※Estimated by Nissan Research Center*



# Economic opportunity of autonomous driving (per year)

**Accident loss   ¥60tril**

**Congestion loss ¥44tril**

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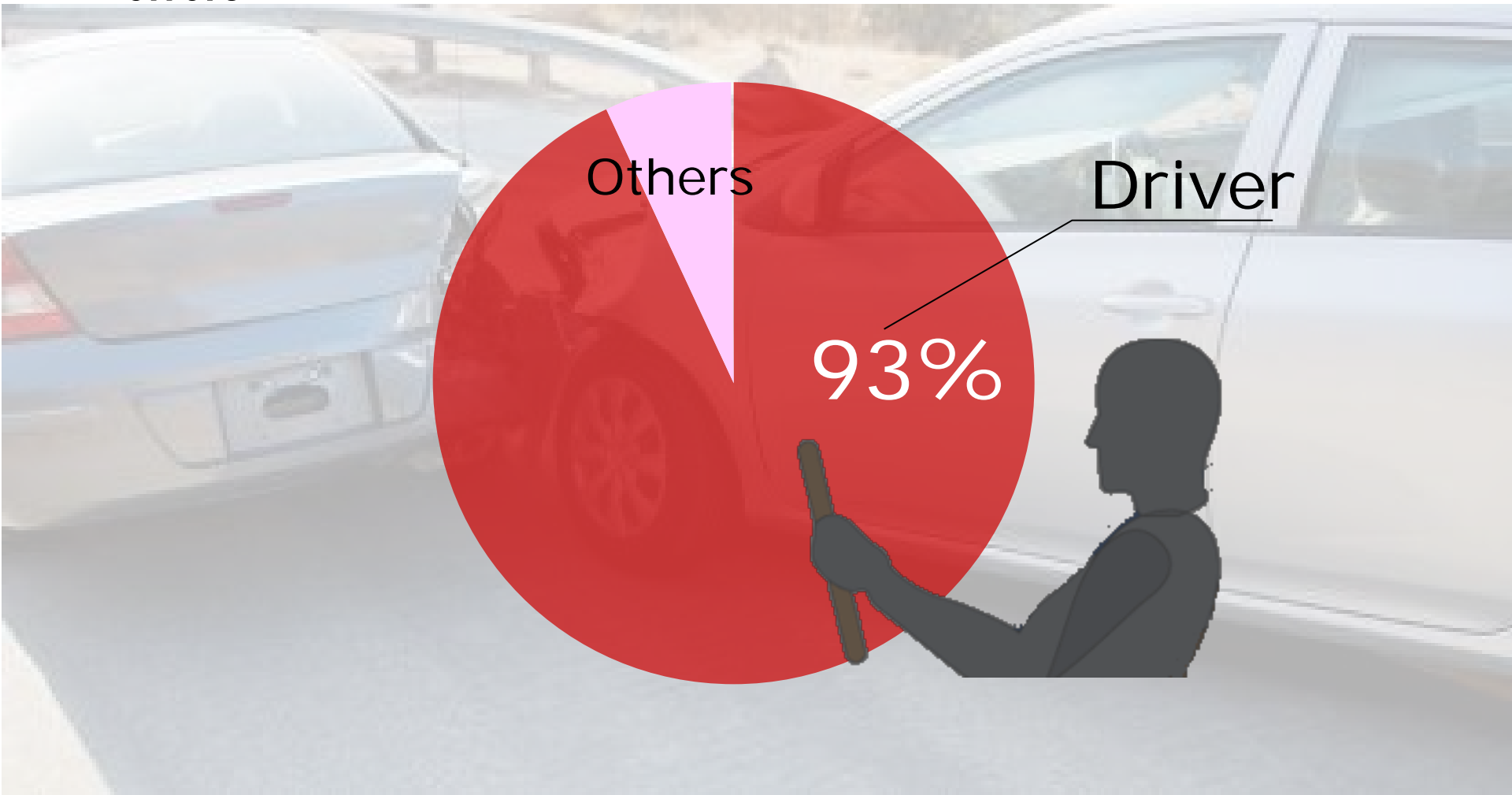
**¥104tril.\***

**Equivalent to 2% of global GDP**

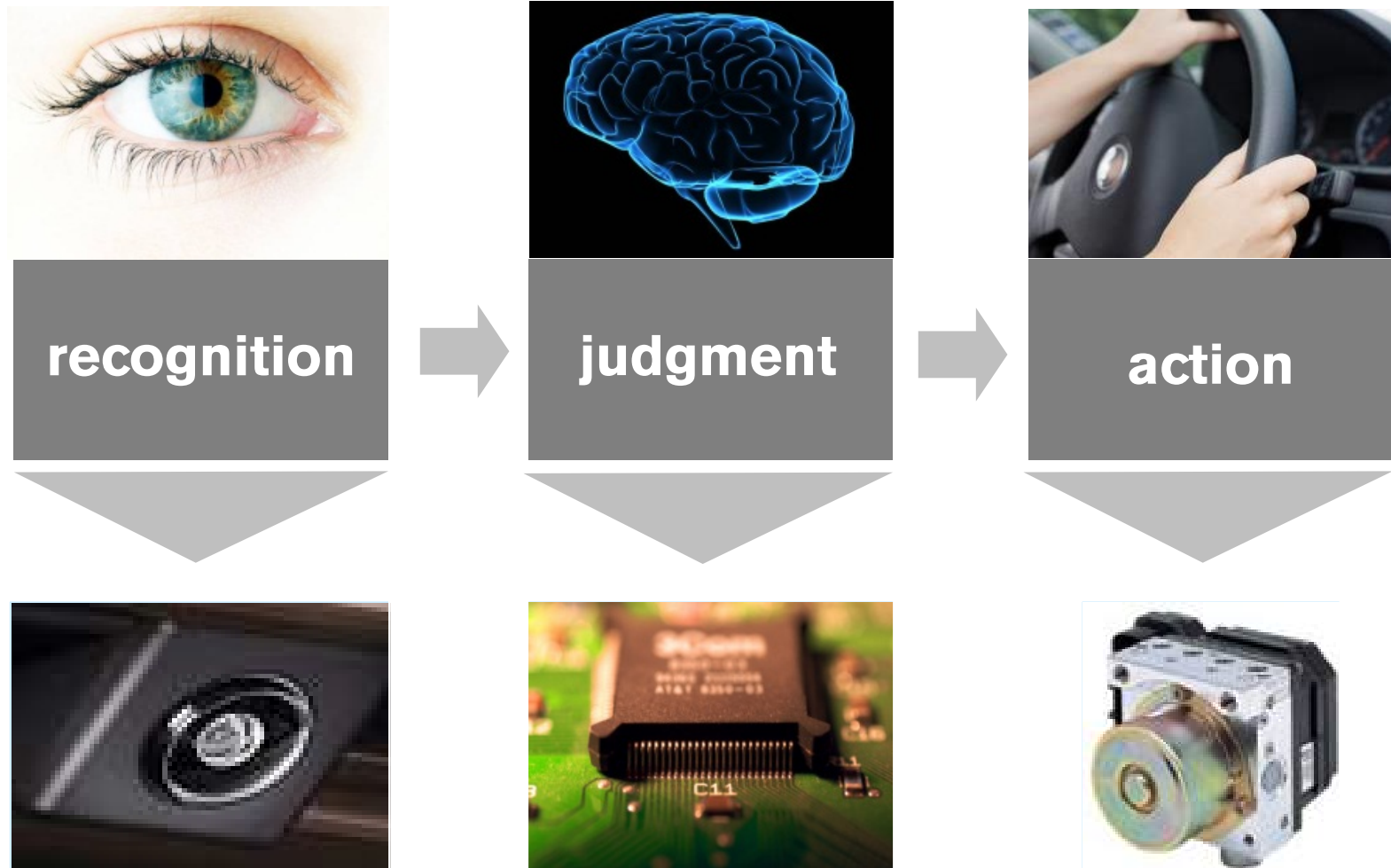
**(equivalent to GDP of South Korea)**

# Impediment to safety

- More than 90% of traffic accidents are caused by human errors



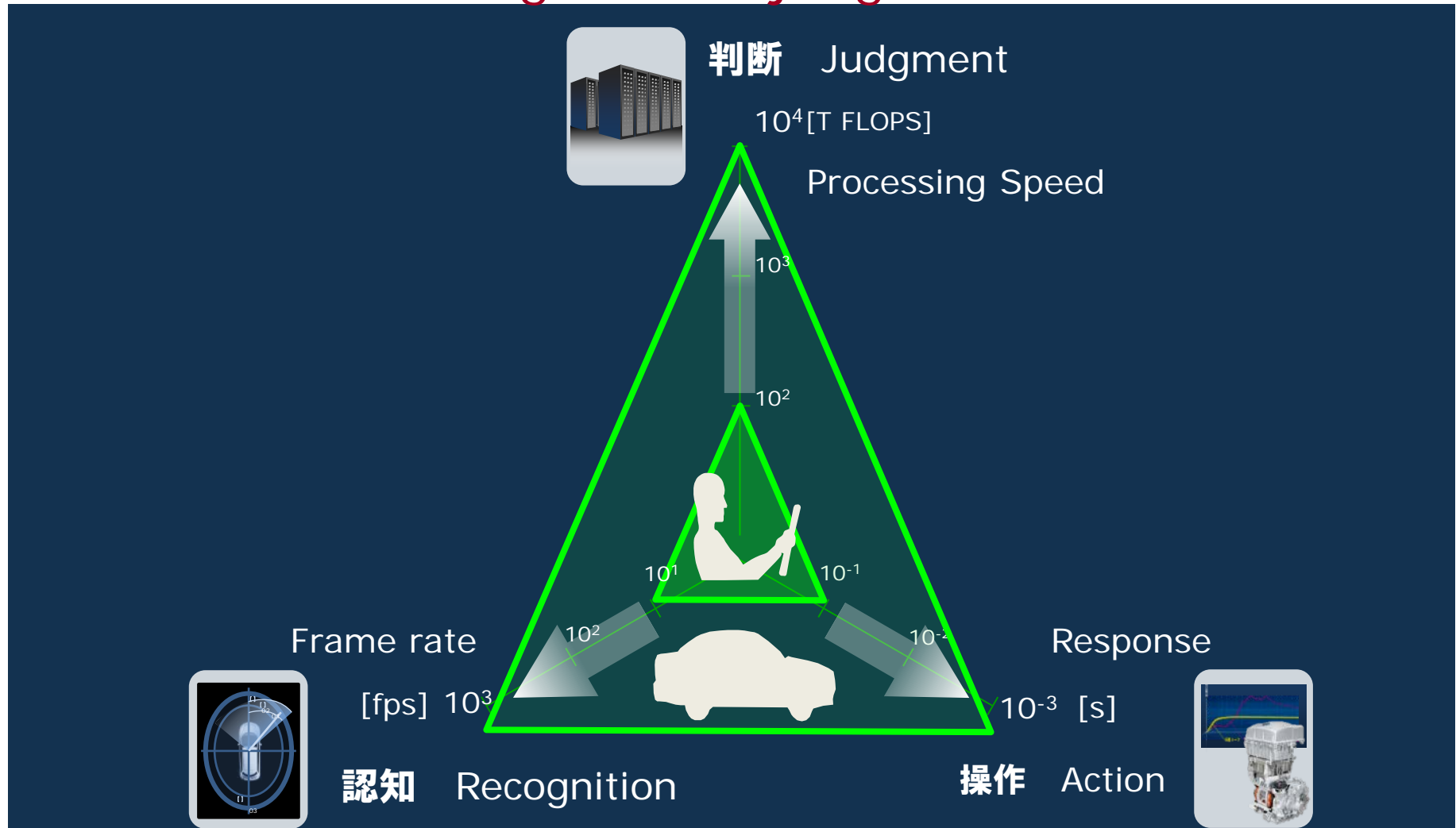
# 3 Factors of Vehicle Intelligence



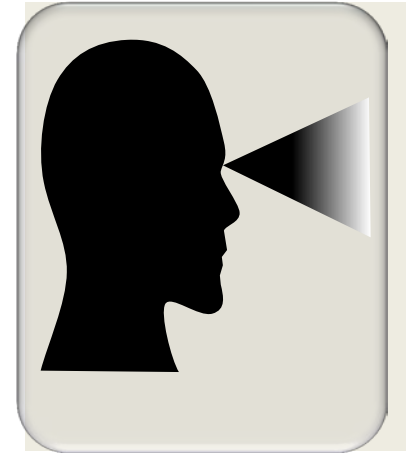


# Application of State-of-the-art Technologies

- 100 times more capable than a human being in terms of "recognition," "judgment," and "action"



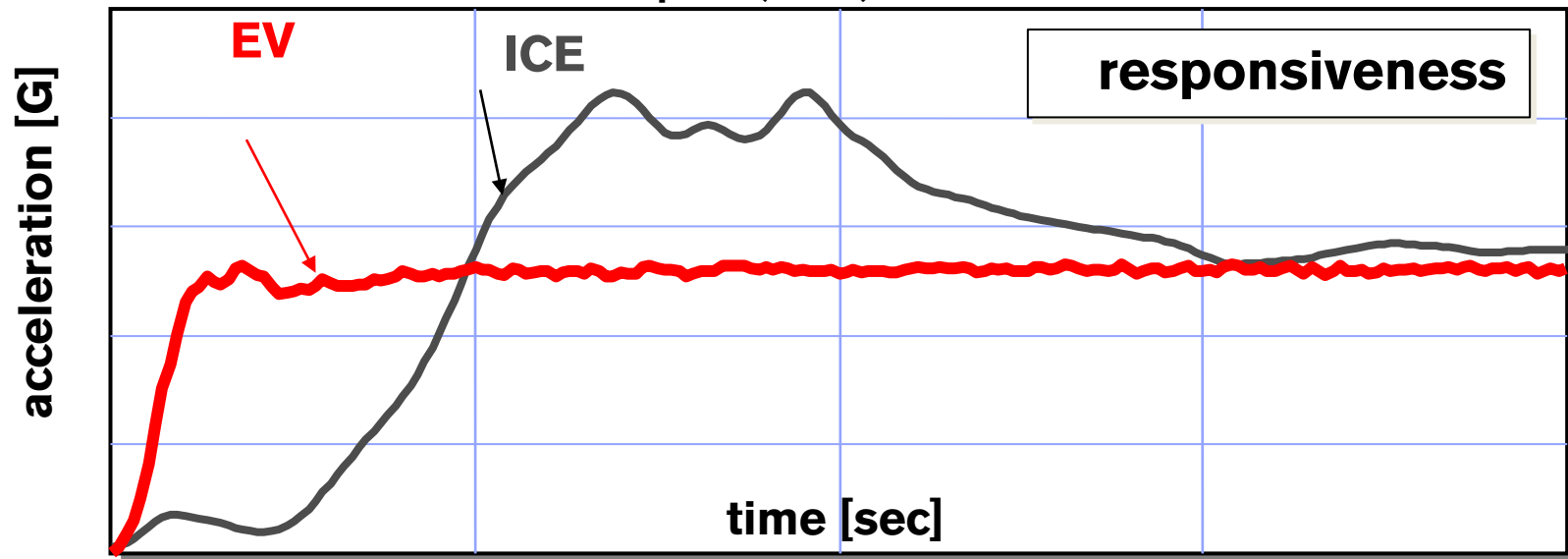
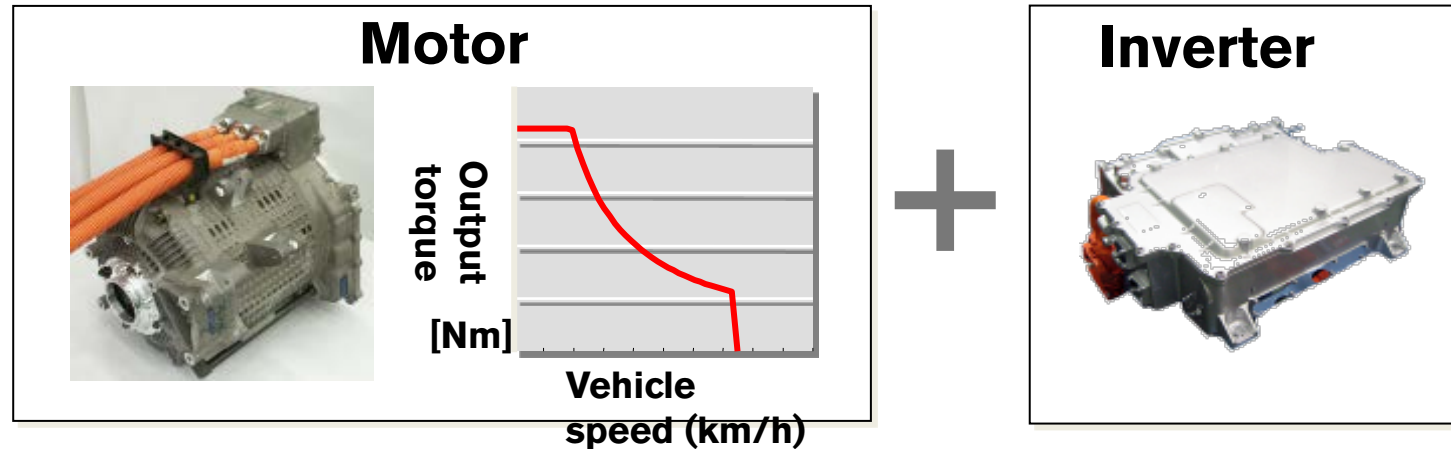
# Better Recognition



High speed  
camera  
recognizes  
images in slow  
motion

# Affinity between EV and autonomous driving

- Motor generates maximum torque in low-speed revolution zone.
- Inverter control ensures quick acceleration and sharp response in whole speed range.



# Value of Vehicle Intelligence(VTR)

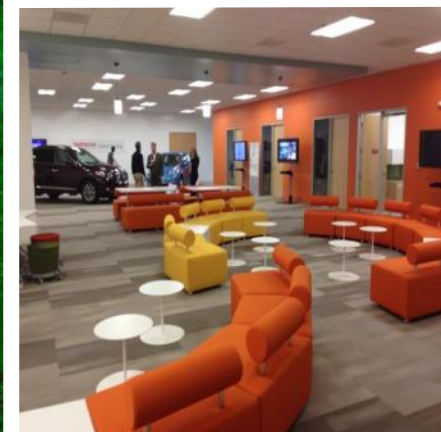
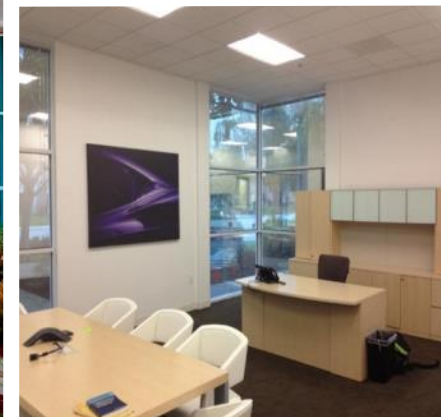
- Safe mobility for everyone through autonomous driving

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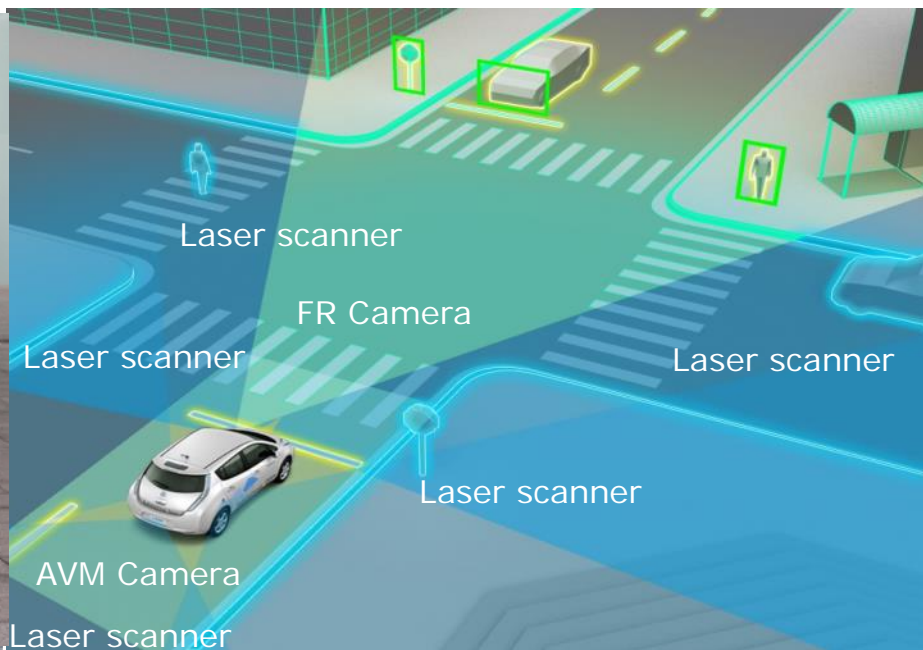


# Silicon Valley Office, Nissan Research Center opened in 2013





Autonomous driving technologies will be applied to multiple models by 2020  
The first proving ground specifically designed for autonomous driving vehicle is under construction in Japan.





# Car becomes your partner



Source : Wikimedia Commons

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