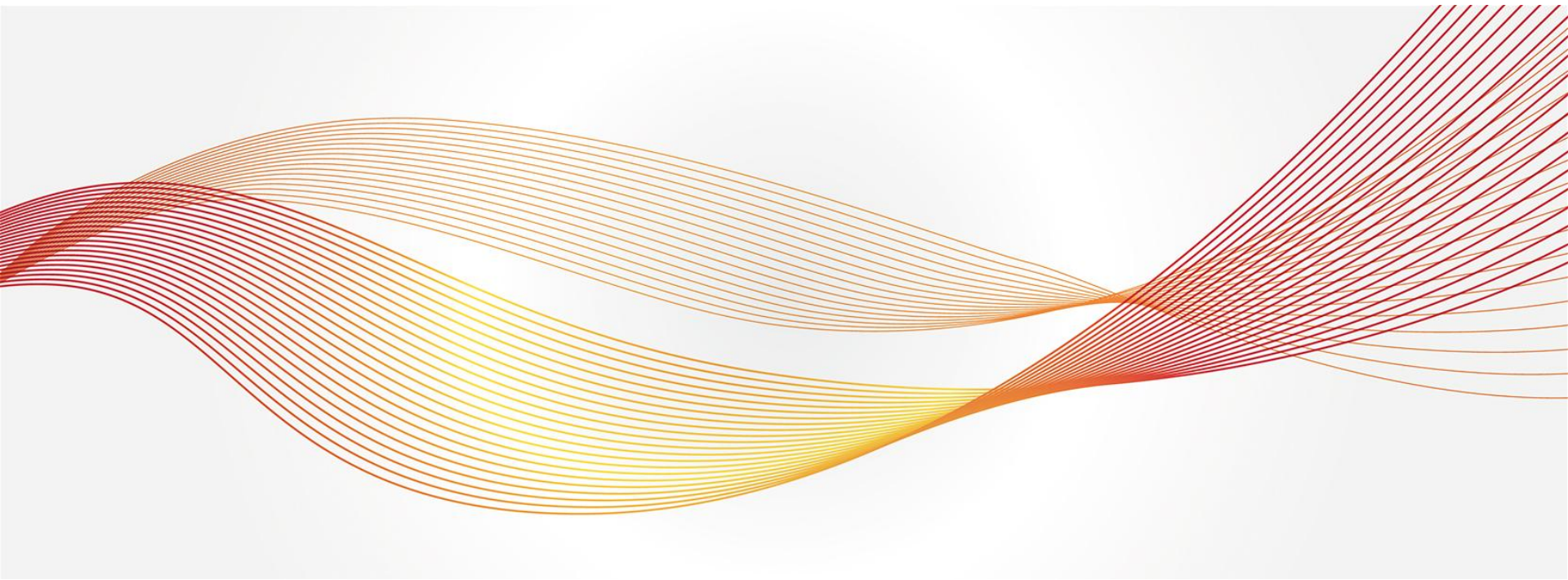


Technology Drives the Future of Automobile

Takao Asami

Alliance Global Vice President Research and Advanced Engineering

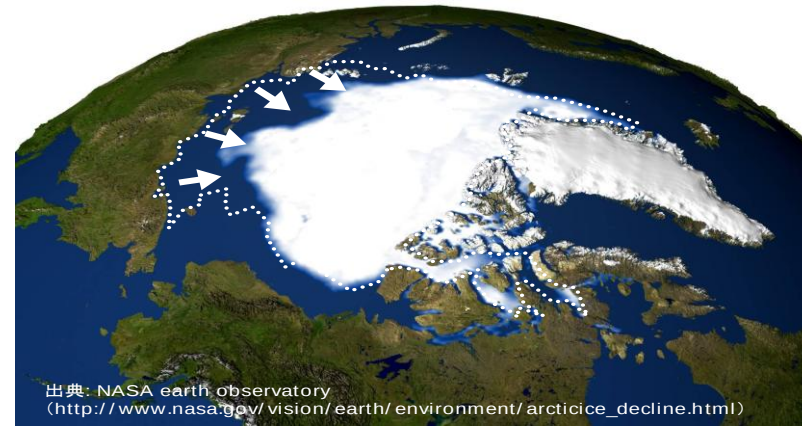


Issues for Sustainability

Energy



Global Warming



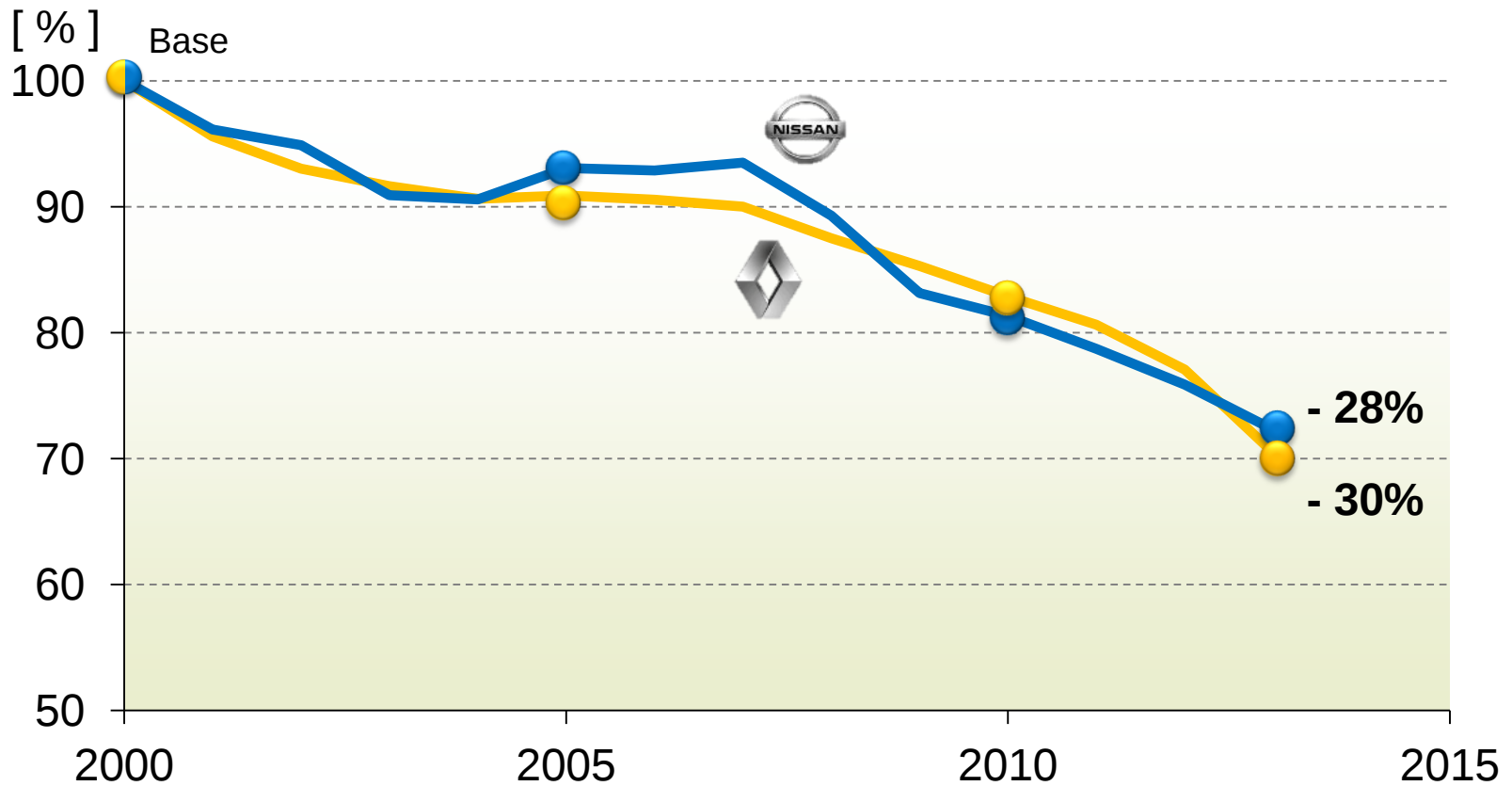
Congestion



Traffic Accidents

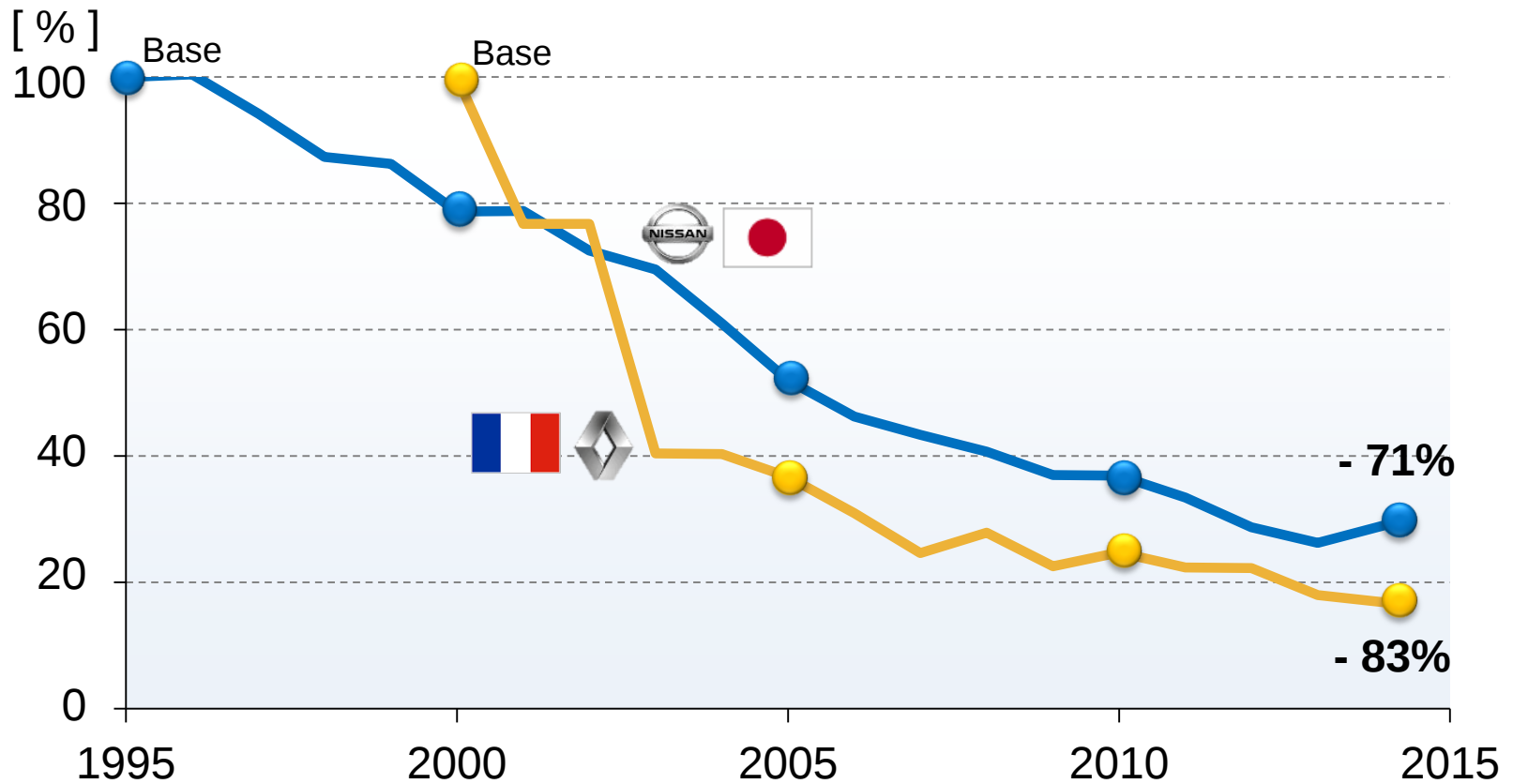
Environmental Progress

CO₂ emissions in Europe



Safety Progress

Fatalities ratio

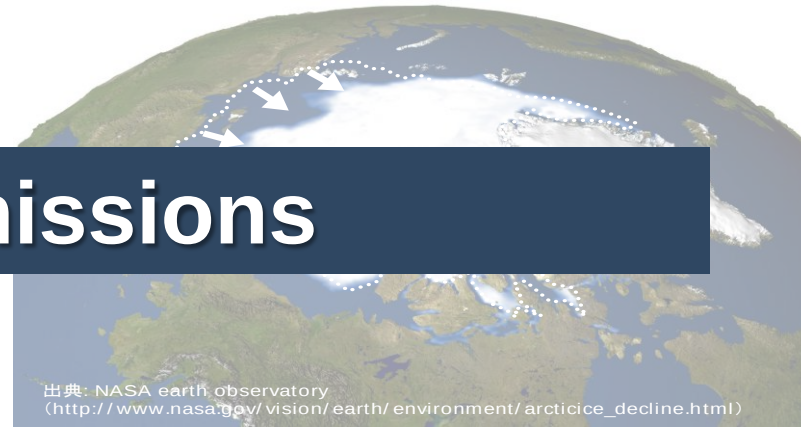


Alliance's Challenge

Energy



Global Warming



Zero Emissions



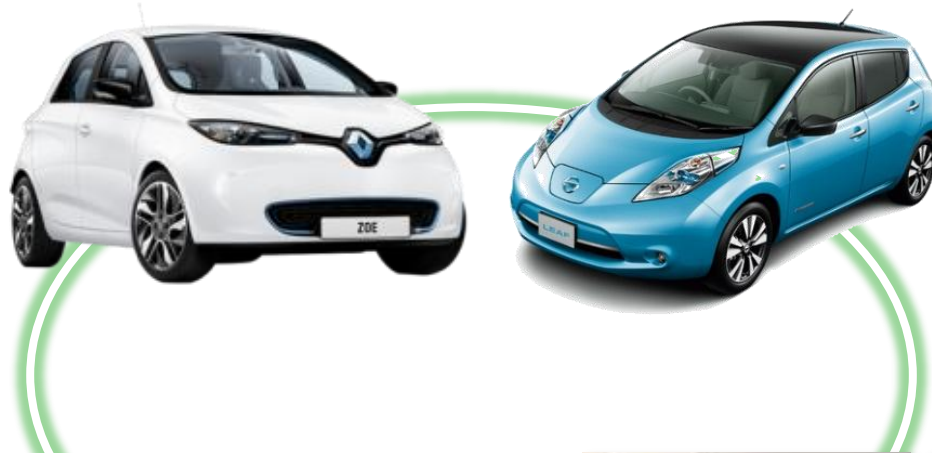
Zero Fatalities

Congestion

Traffic Accidents

Key Technologies

Electrification



Autonomous Drive

Connectivity

Electric Vehicles

Benefits of Electric Vehicle



Dynamic performance



Quietness



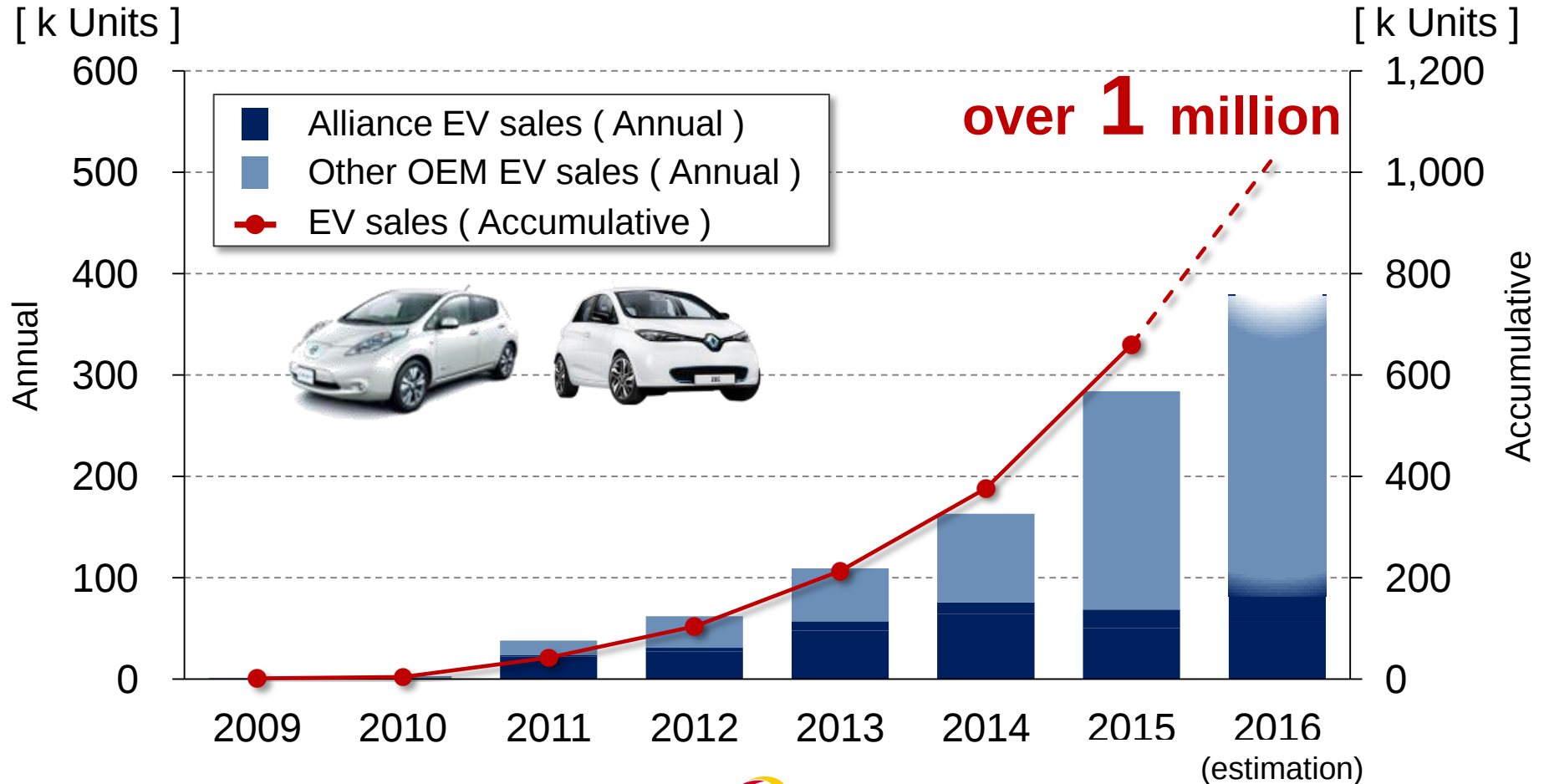
Running cost



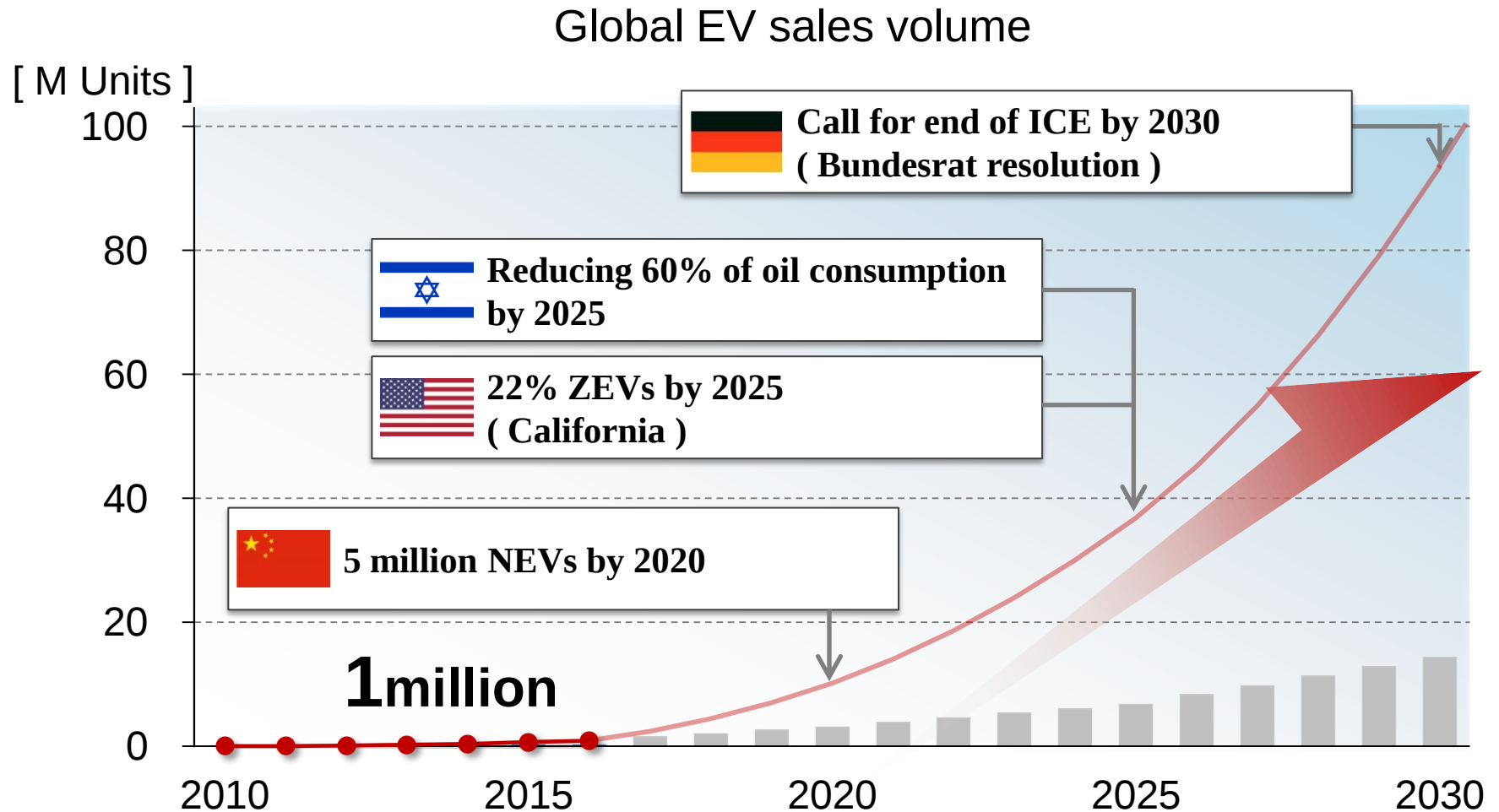
Charging at home

Global EV Sales

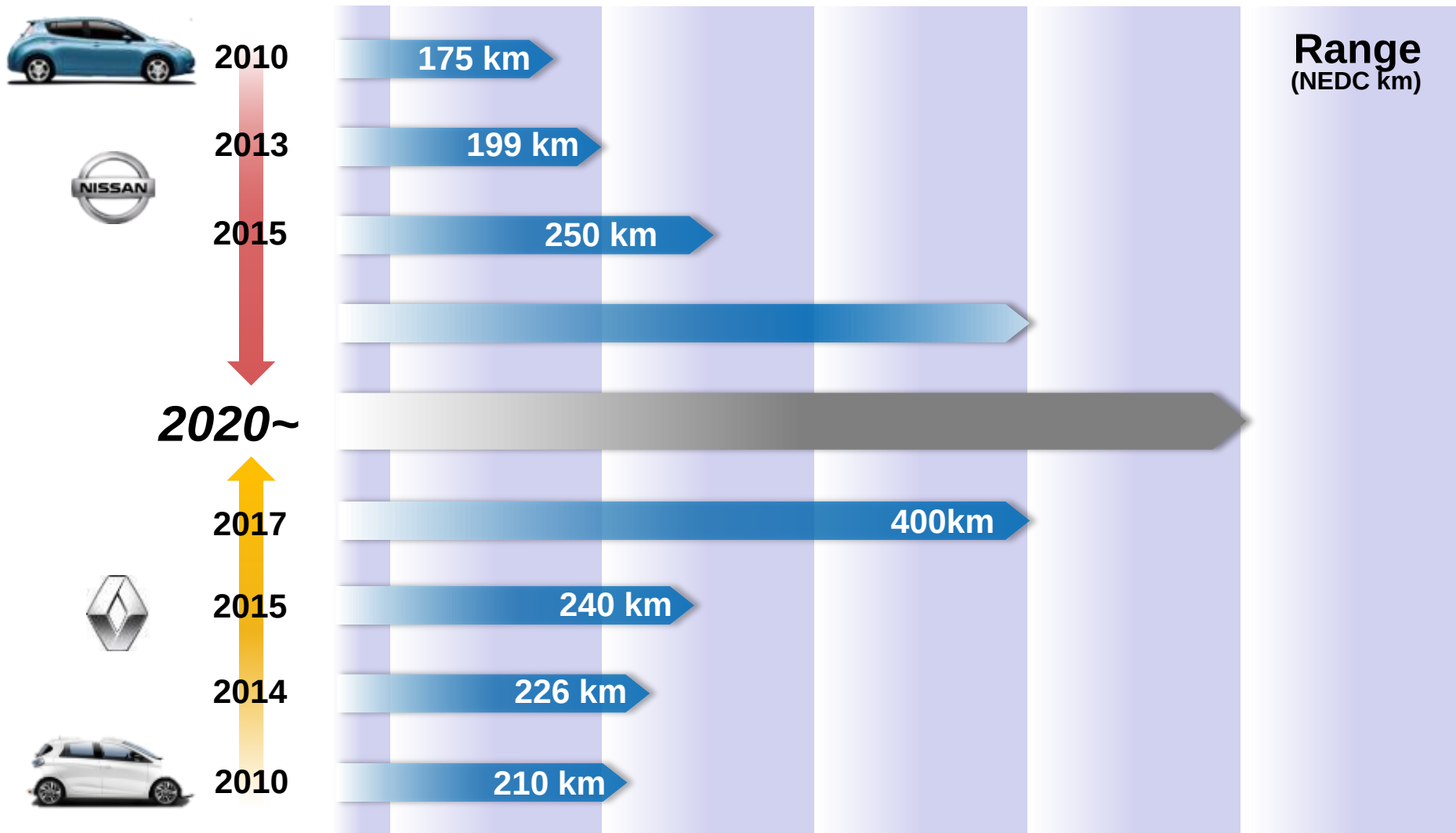
Global EV sales volume



Potential Growth of EV Market



Expanding EV Range



Additional Benefit of EV

Utilized EV battery for energy management

Effective use of PV / Wind and power back-up are possible



Vehicle-to-Home (2012 Jun. ~)

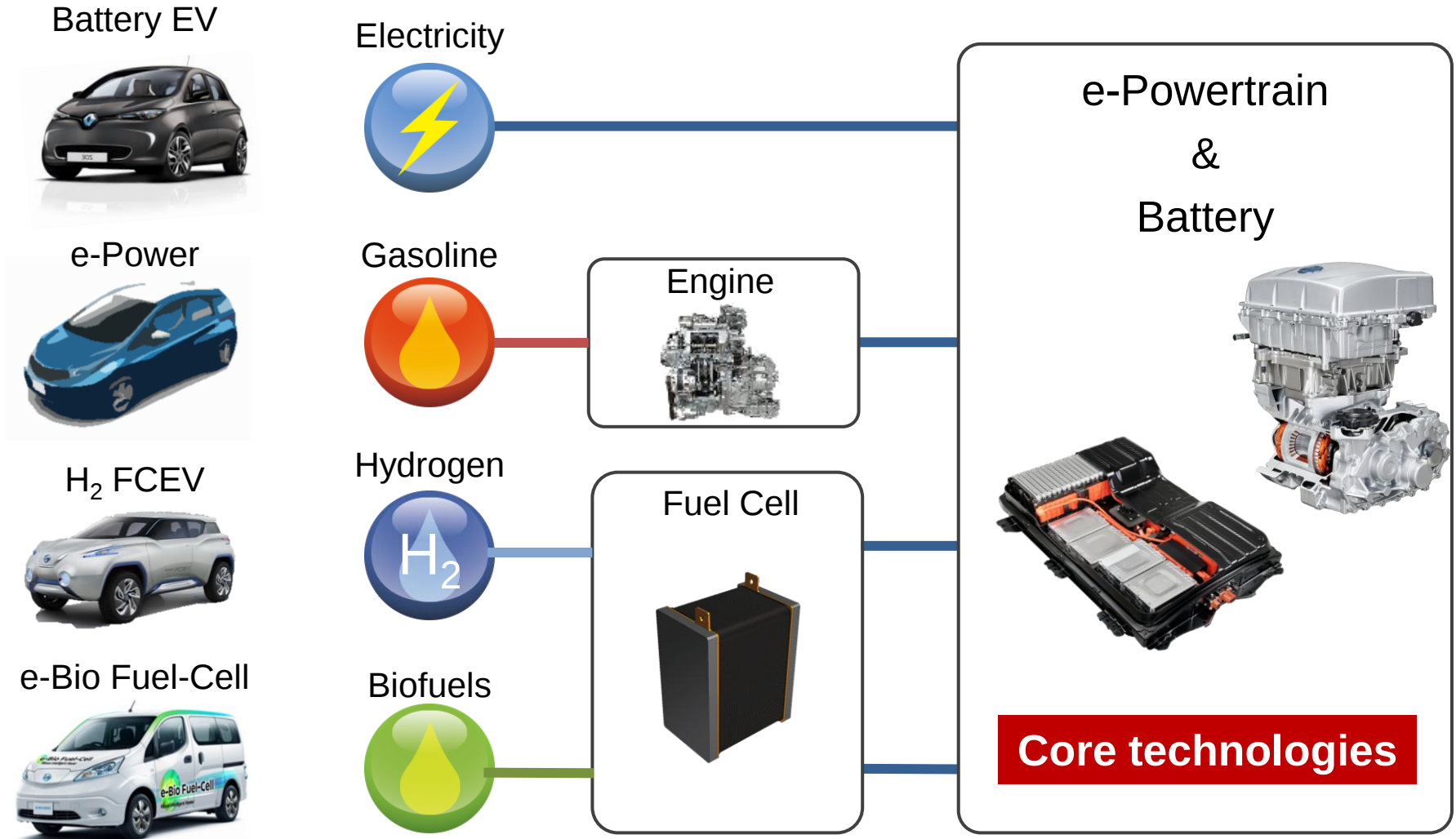


Vehicle-to-Building (2013 Jul. ~)



Vehicle-to-Community (2016 ~)

Diverse Applications of EV Technologies



Autonomous Drive

Benefits of Autonomous Drive

Autonomous Drive Mode



Manual Drive Mode

Safety



Driving pleasure

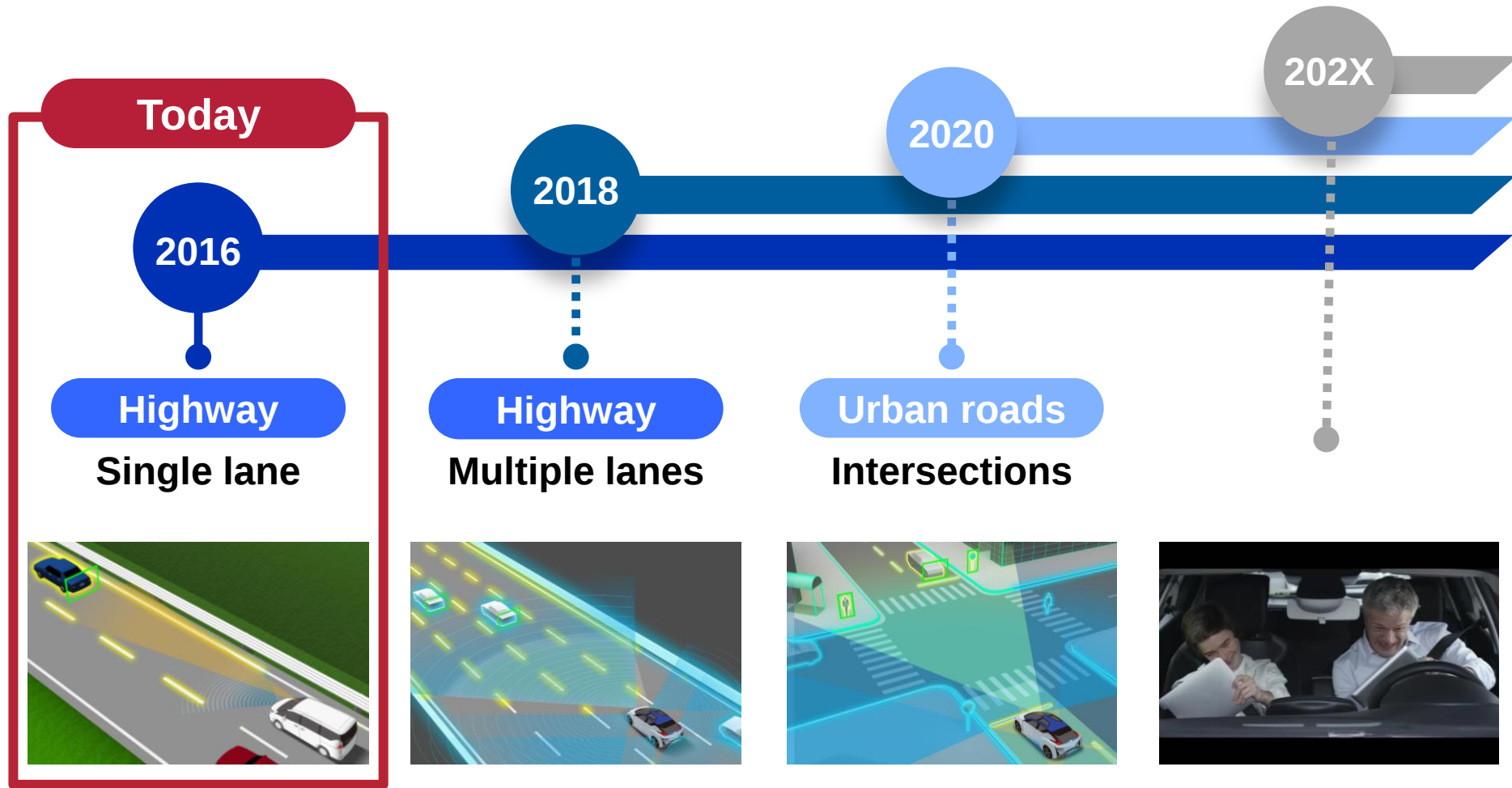
Stress-free



Free time



Autonomous Drive Technology Introduction Plan



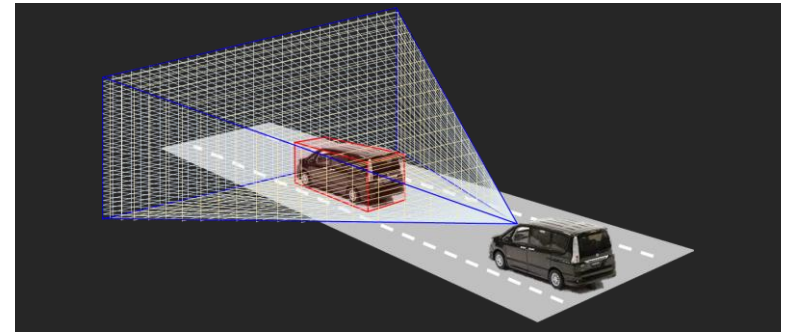
ProPILOT

Launched in August 2016, expanding to global models

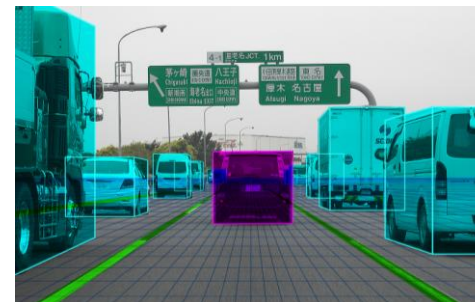
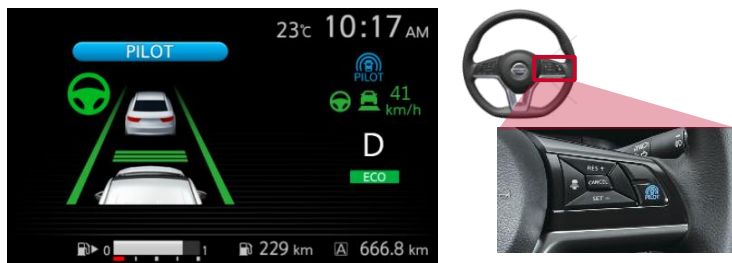
Single lane autonomous drive



3D image processing



Intuitive HMI



Front Camera
(Mobileye)

City Driving Development in Progress



Connected Car

Benefits of Connected Car

In-Car Experience



Improved Customer Experience



Autonomous Drive Support



Big Data Utilization



History of Alliance Connectivity



GROUPE RENAULT

Multimedia



R-LINK series



R-LINK 2(2015)

NISSAN MOTOR CORPORATION



CARWINGS

Since 1997

■ Operator service

■ Information Channels

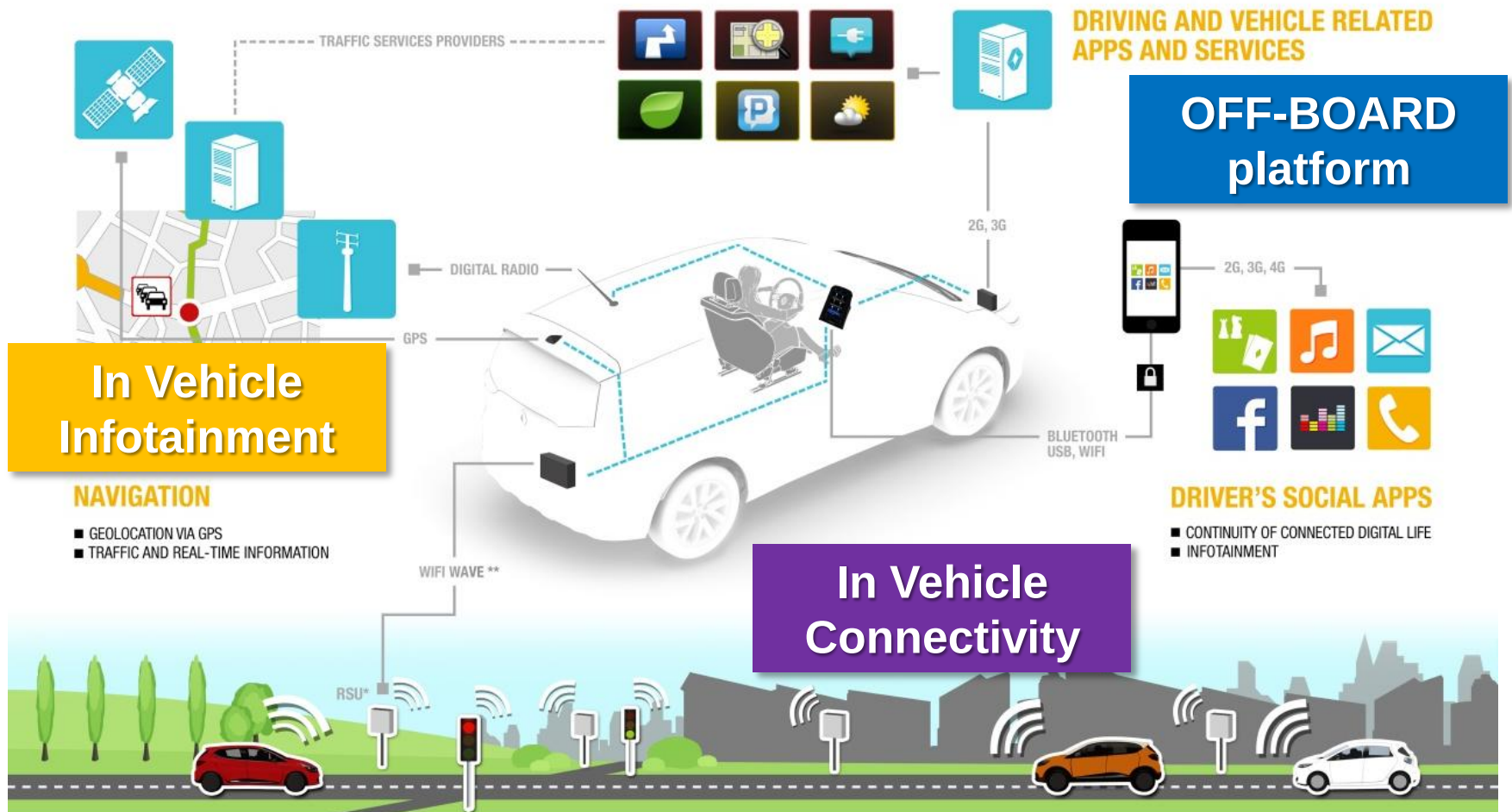


NissanConnect

Infiniti InTouch



Alliance Connectivity Platform



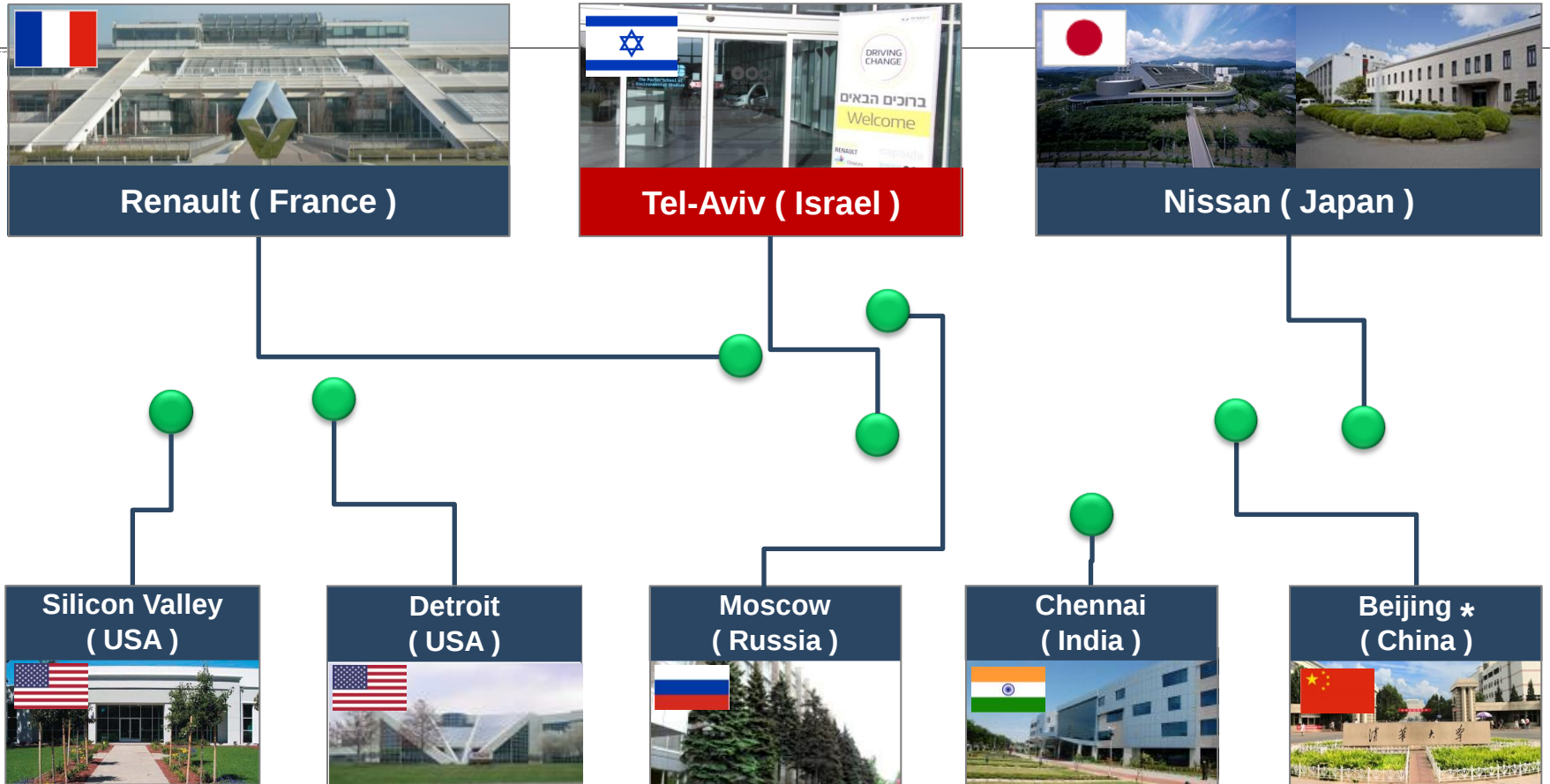
*RSU: ROAD SIDE UNIT

** WAVE : WIRELESS ACCESS IN VEHICULAR ENVIRONMENTS:
WIFI WITH IMPROVED RANGE (1KM), ADAPTED TO FAST MOVING VEHICLES



Alliance Global Research Network

Create open innovation with the world's intellectuals



(*) Joint research center with TSINGHUA Univ

Vision for Future Mobility

Zero emissions, Zero fatalities



Thank you for your attention!

