Intelligent Powertrain for Next-gen e-POWER

NISSAN INTELLIGENT MOBILITY

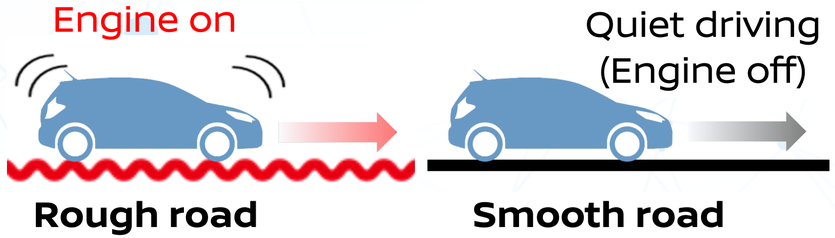
Next-gen e-POWER with Intelligence

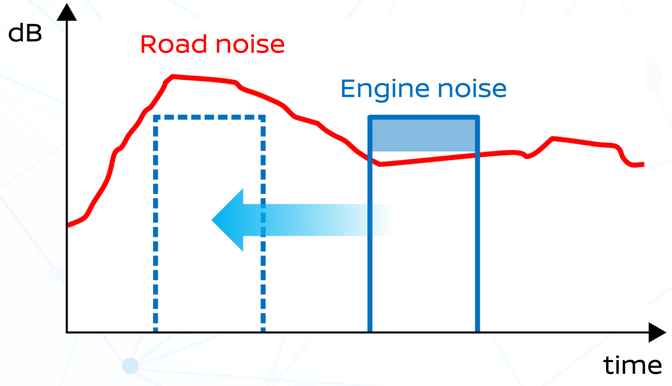
- Battery charging is optimized to individual's driving habits to improve real-world fuel efficiency and quietness
- e-POWER will gain wisdom by the day, using machine learning & deep learning to optimize performance according to driver behavior

Energy management by sensor

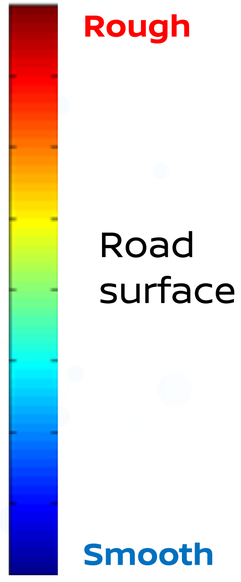
- Engine control uses latest sensing technologies to realize outstanding quietness and EV feel
  - Engine ON/OFF switching based on road surface detection
  - Engine ON/OFF scheduling based on road-surface database construction

Engine ON/OFF Switching





Road surface database construction



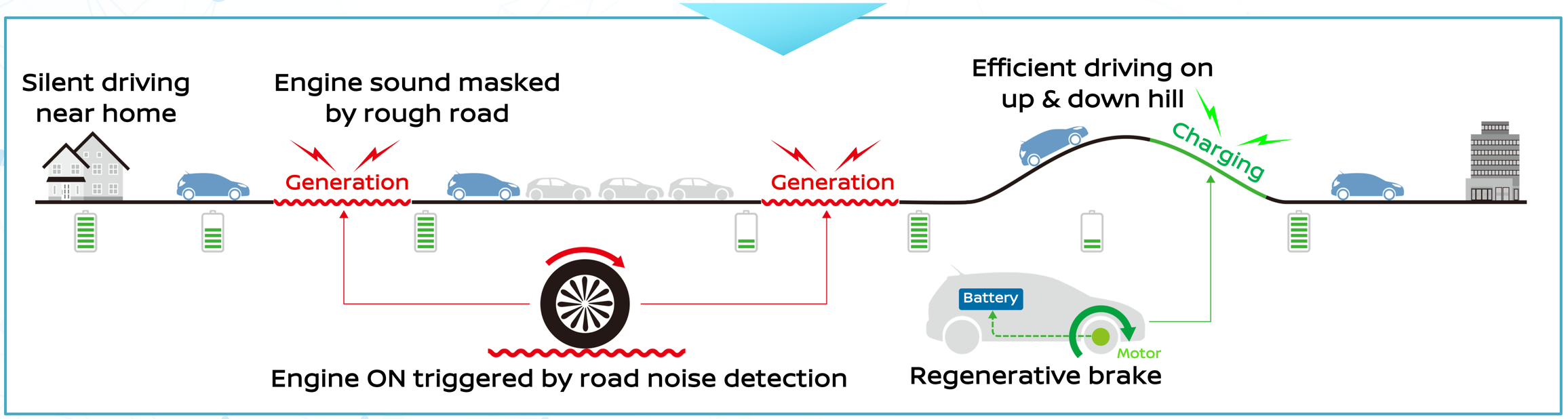
Predictive energy management

- Real-world fuel efficiency improved by predictive charging schedule incorporating up-to-the-minute forecasts of traffic and environmental conditions
  - Control engine by prediction of energy needs based on external information such as navigation, and 3D HD map

Predictive charging scheduling

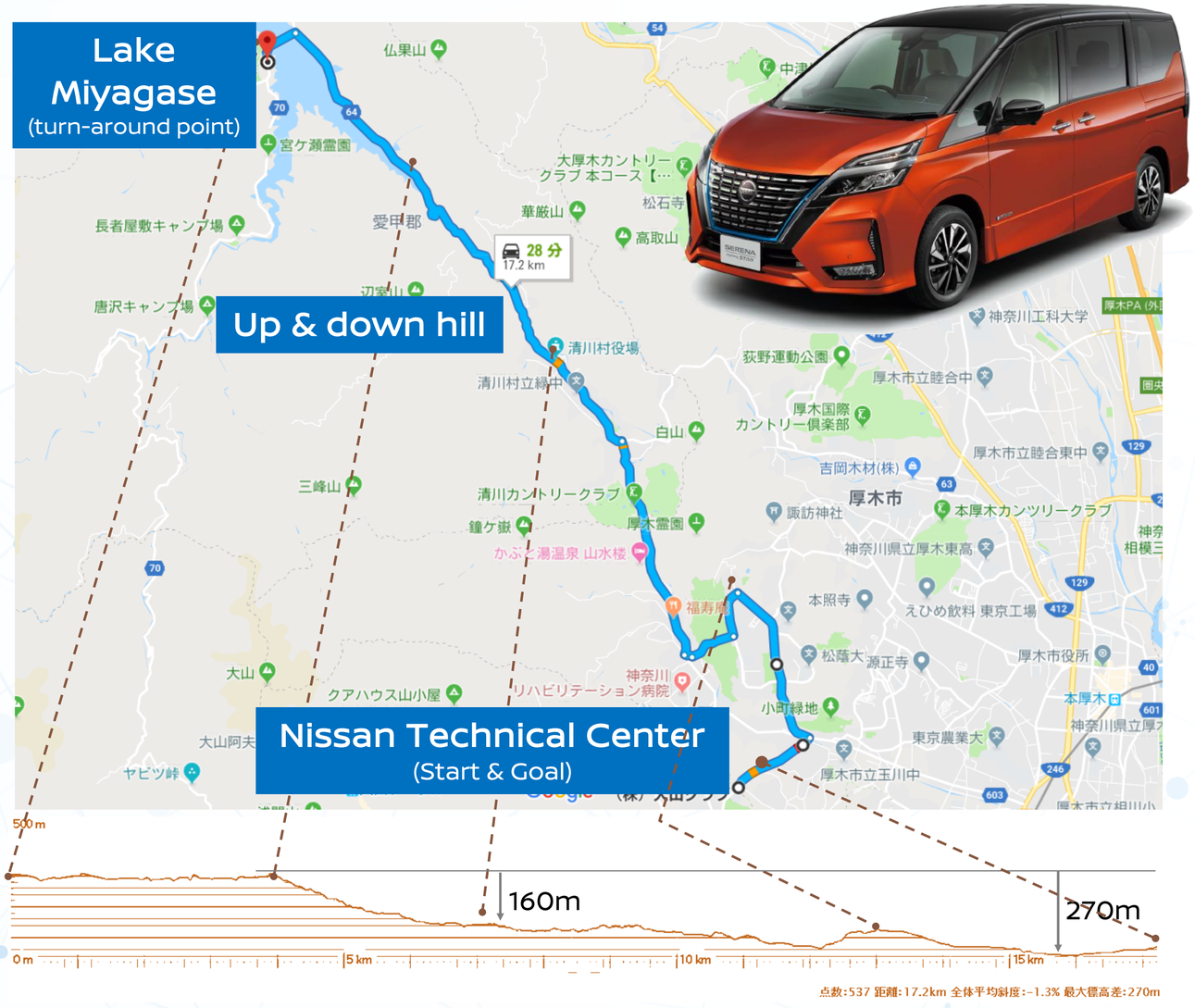
Navigation

Road/environment information via connected



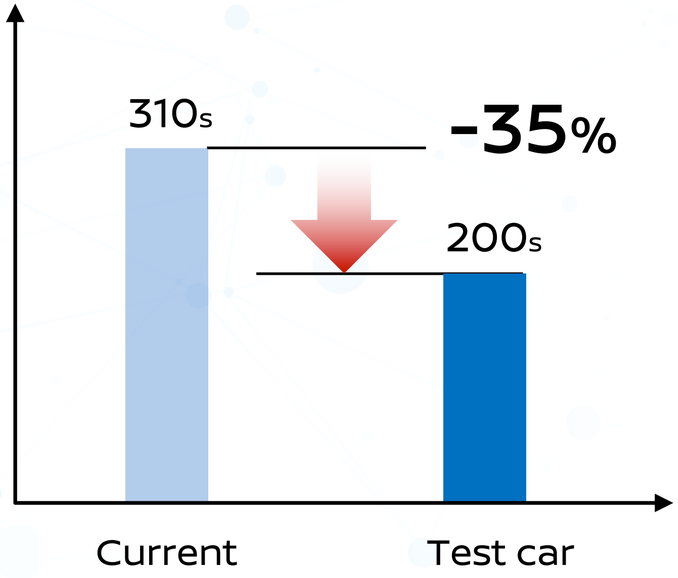
Test result of energy management

- Test condition：Suburban route with up and down hill
- CO_2 improvement : approx. 5%, time of engine noise awareness：-35%



- Travel distance (round trip) : 37km
- Difference in level：270m
- Travel time : 3700s
- Average speed : 35km/h

Period when driver can hear engine noise

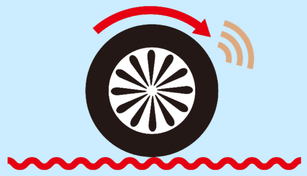


e-POWER with more intelligence

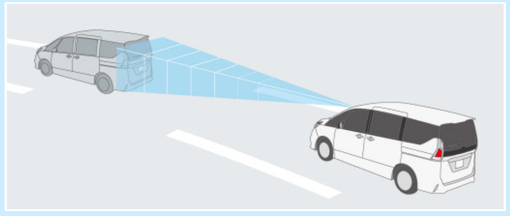
- e-POWER will gain wisdom by the day, using additional outside information for machine learning & deep learning to optimize performance according to driver behavior

Step1

Sensing road noise



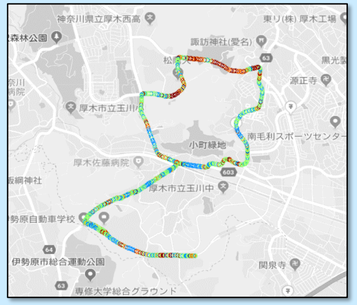
Sensing car in front



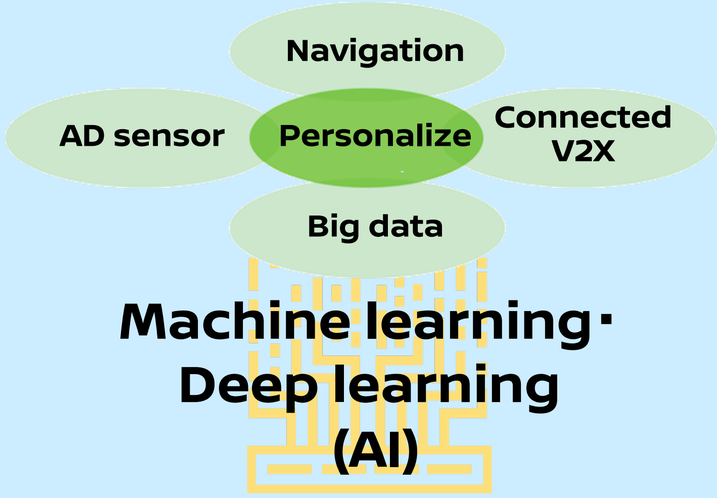
Step2

Navigation

Road/environment information via connected



Future



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