Road Hazard Condition Monitoring System

Objective

We aim to perform maintenance and degradation prediction considering the current road situation by utilizing mass-produced vehicles to constantly monitor the road conditions. That will enable road management with lower costs and greater timeliness.

Technical Content

Detects and recognizes the road situation by utilizing mass-produced vehicle data: pothole detection, road surface degradation estimation and degradation prediction

Driving information
Moving information
Some of the vehicle conditions

•Location information
•Vehicle speed
•Left and right G
•Steering operation
•Turn signal, etc.

Communication → **Data**

Estimates the road surface conditions utilizing G sensors and other technologies

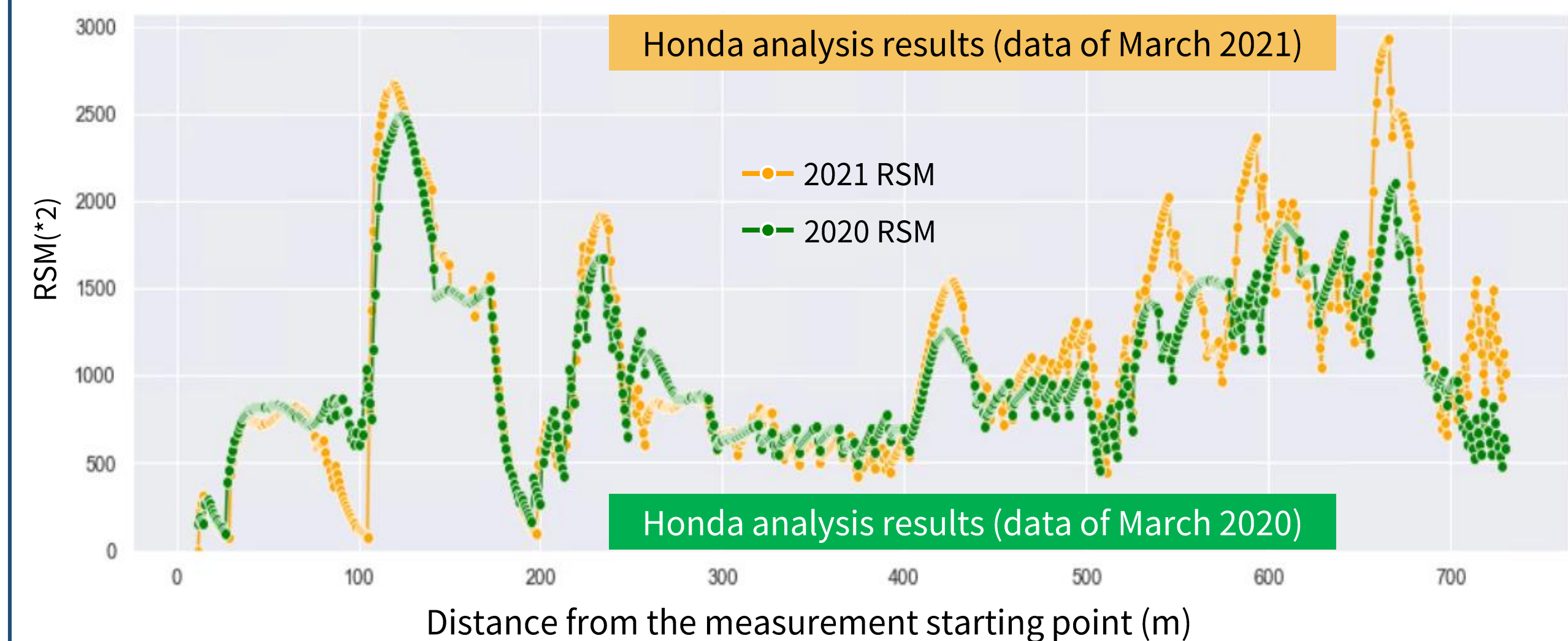| Single bump	Rough road
Sensor — Time (s)	Sensor — Time (s)
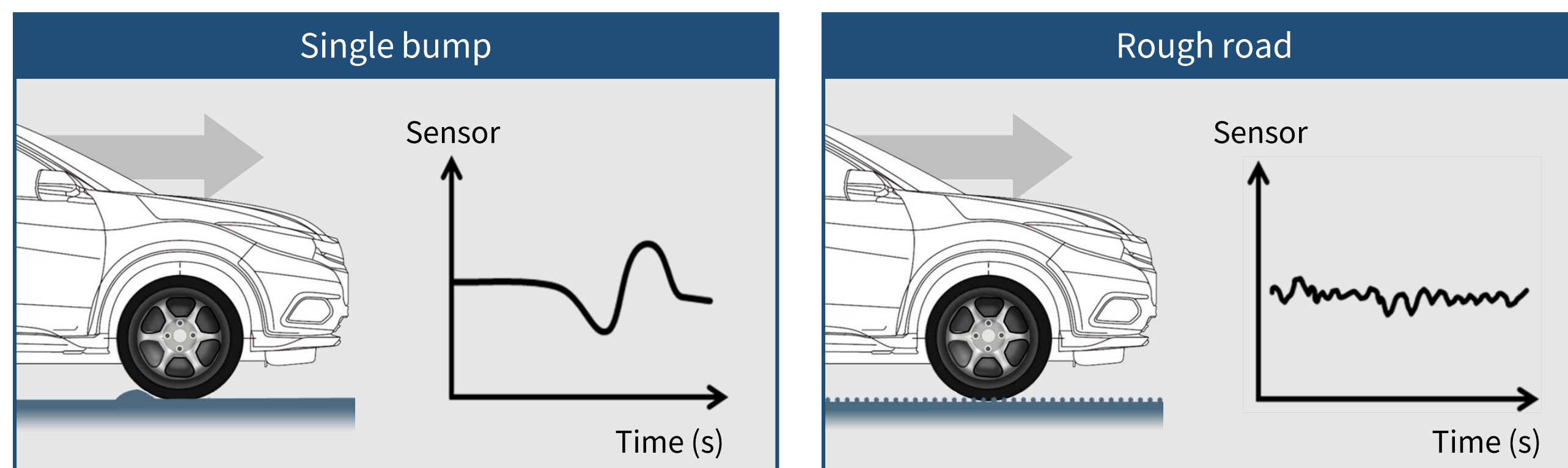
Technical features

The system is strongly related to the IRI[*1] international standard index for road management. The technology provides constant monitoring, so the following forms of analysis are possible.
• It is possible to detect potholes in real-time.
• It is possible to analyze degradation over time with high precision.

*1: International Roughness Index

Example of the Analysis of Degradation over Time Through a Comparison with Past Data

It is possible to visualize the state of progress of degradation over one year by comparing data of 2020 and 2021.

Honda analysis results (data of March 2021)

- - 2021 RSM
- - 2020 RSM

Honda analysis results (data of March 2020)

RSM(*2)

Distance from the measurement starting point (m)

*2: RSM value – Honda's own evaluation value
Value of the road surface data related to the flatness of the road calculated using the data from the on-board sensors

総務省 MIC Ministry of Internal Affairs and Communications

In collaboration with the Japan Ministry of Internal Affairs and Communications

HONDA