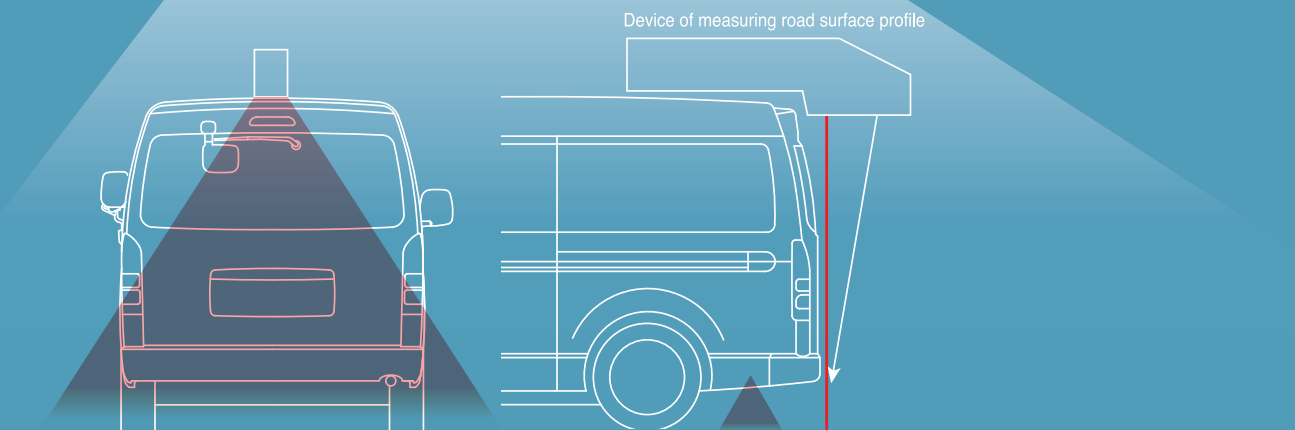


Proposal for road surface inspection using a compact car equipped with simple system device.

# Smart-EAGLE



Road Surface Inspection

Compact & Speedy  
Close inspection for daily  
changing road surface conditions.



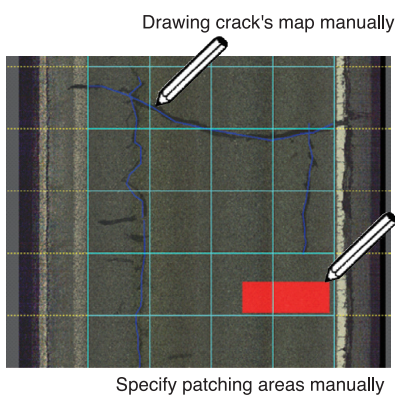
- Road surface conditions can be easily inspected by mounting the simple measurement device on a customer's compact car.
- Road surface conditions such as road profile, cracks, rutting and evenness can be **automatically analyzed with high-accuracy 3-D road profile measurements** using light section method.
- **Network level management can be conducted based on daily monitoring of road surface conditions** by applying these systems to road patrol cars.

# Comparison of current and proposed technologies

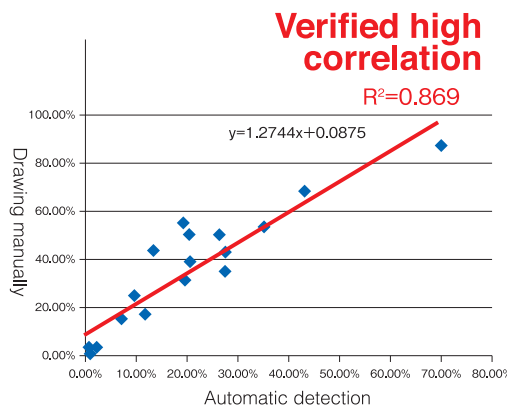
	Cracks	Rutting	Evenness	Local settlement	Mean Profile Depth (MPD)	Vertical Depth	Measurement frequency
<b>Current</b>	 Our vehicle (Eagle) Detect cracks through photographs, draw cracks, and calculate crack ratios	Detect rutting from cross section profile, and calculate rutting depths depending on test methods.	Calculate IRI based on road longitudinal profile.	Calculate the settlement based on road cross section profile	Calculate lanes based on road cross section profile	Calculate vertical depth based on road longitudinal profile.	Every three years (For expressways in Shikoku, Japan)
<b>Proposed technology</b>	Mount the devices on compact cars such as road patrol cars  Find out whether cracks exist or not, by the simplified method with road profiles.						Calculate the settlement from correlation of the simplified method.

## Automatic analysis of crack ratio by the simplified method

### Conventional method Evaluation by manpower

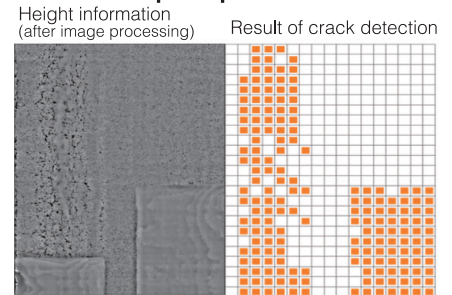


### Verification of crack percentage accuracy

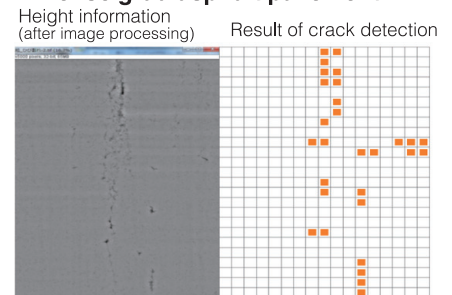


### Proposed technology Automatic crack detection by image analysis

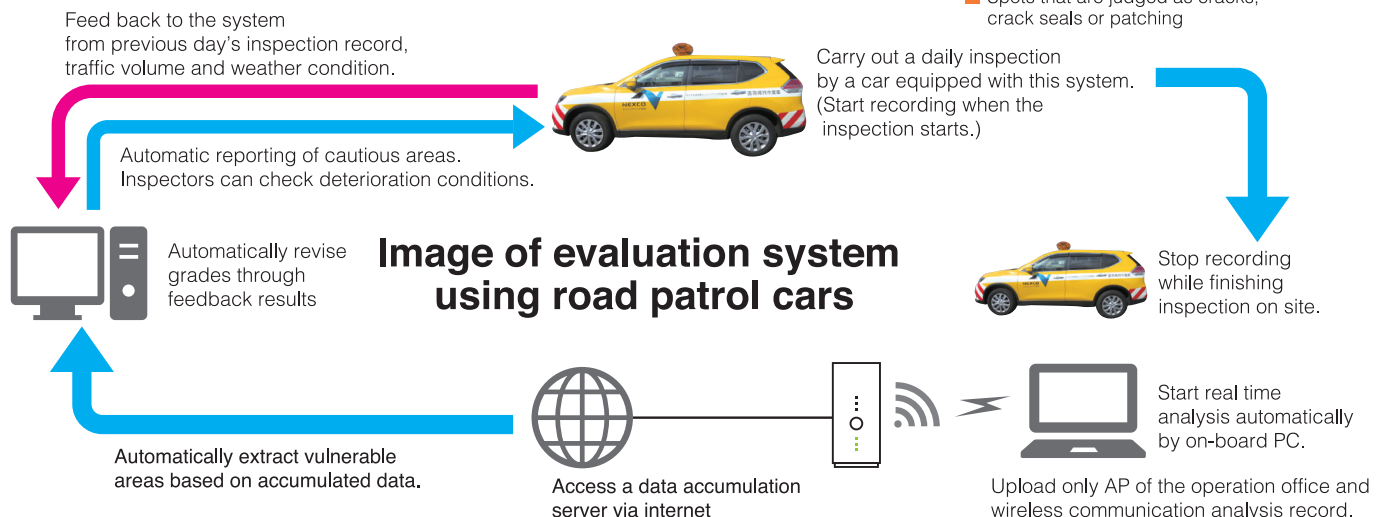
#### ▼ Porous asphalt pavement



#### ▼ Dense grad asphalt pavement



Spots that are judged as cracks, crack seals or patching



#### Agent and contact information

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