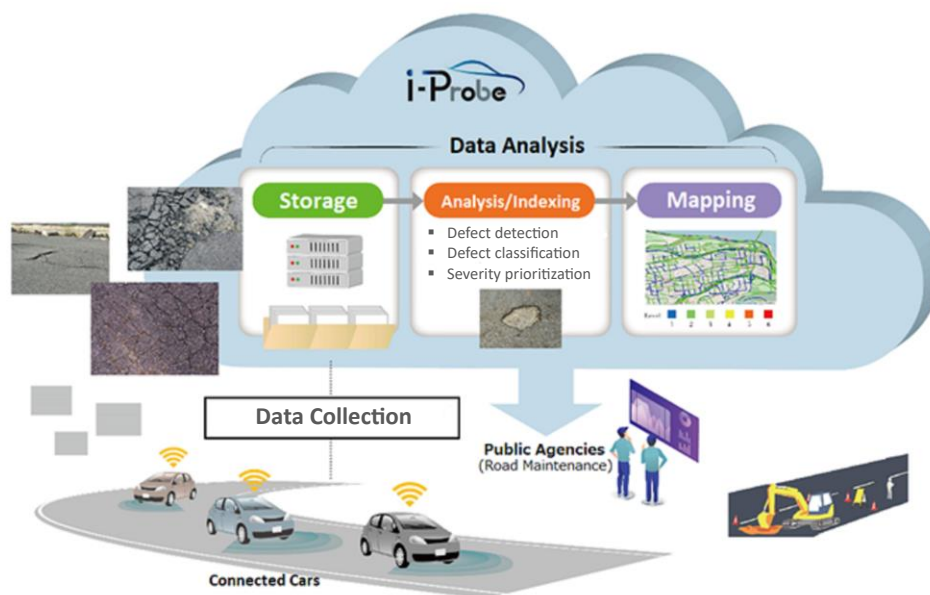# Cutting Edge Road Sensor Technology to Make Your Roads Safe and Sound

What is i-Probe?

Using a system of car-mounted sensors transmitting data in real-time, i-Probe offers road condition mapping and deterioration analysis at a **fraction of the time and cost** as traditional methods. Road deformities such as potholes are identified by an array of **pre-installed sensors integrated with video systems** which then **transmit data to a cloud in real-time** allowing users to quickly gain insight into their road conditions. The result is saving time and resources while optimizing efficiencies in road maintenance and safety. With the ability to track conditions along a road network rapidly over time to **forecast deterioration patterns**, i-Probe enables a more *predictive* approach to road maintenance.

Where Technological Development meets Consulting – a Partnership for Success

The concept of i-Probe was conceived with support by the government of Japan and has evolved into an exemplary collaboration between Japan and the United States—a technological venture referenced in a summit level "US-Japan Joint Leaders' Statement" (2021). Today, i-Probe Inc. leverages the combined virtues of transportation consulting firms (Pacific Consultants, Oriental Consultants Global), ICT specialists (SoftBank), construction experts (Kajima Corporation), and automobile leaders (Honda Motor Corporation). i-Probe enjoys partnerships with various state-level departments of transportation, universities, and private entities across the United States and Japan.

Data Analysis for Accuracy in Predictive Road Maintenance

SCAN ME

STEP 1 — **RAW ROAD CONDITION DATA COLLECTION**

Custom Inspection Vehicle captures and transmits road condition raw data and video imagery in real-time.

STEP 2 — **RAW DATA STORAGE**

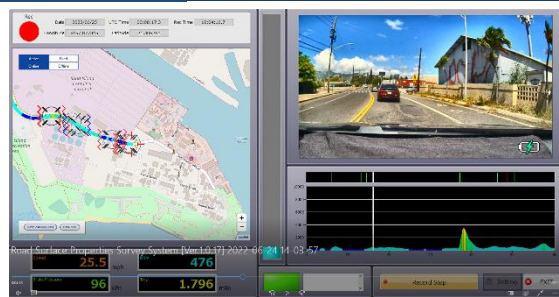Raw data is processed, filtered, and securely stored within i-Probe's data repository.

STEP 3 — **RAW DATA PROCESSING, ANALYSIS, VERIFICATION – ROAD DETERIORATION MAPPING**

Unique algorithm is applied to discern pavement distress types and severity. Identified distresses are verified with video records and mapped out. Results are checked and assigned an error probability.

Description	Definition	Example
Pothole:	Potholes found on the wheel path	
Unsound Patch	Patches with cracking of the patching material	
Uneven Patch:	Patched materials are still working but causing uneven surface (bump)	
Soon to be a	Alligator cracks that are likely to generate a	

STEP 4 — **REPORTING**

i-Probe transport consultants summarize key findings in report, customized to client's needs including deterioration mapping and predictive inferences.

STEP 5 — **INFORMED ACTION**

Client reviews report findings. Armed with historical and inferential road deterioration data, Client can take informed action.

1 2 3 4 5 6