

# SMART RAISED PAVEMENT MARKERS ENABLE SAFER ROADWAYS

## OVERVIEW

On roadways across the world, there are few items more pervasive than the ordinary raised pavement marker (RPM). Consider the possibilities when this simple passive safety device is transformed into a smart IoT active safety device with the following capabilities:

- Multi-axis vibration sensor
- Microphone
- Ultra low-power ML-capable microcontroller
- Adaptive high power RGB LED
- Wireless connectivity
- Solar charging and battery charging circuitry
- AI pattern recognition algorithm powered by SensiML

SensiML has prototyped a smart edge sensing road safety IoT device SmartRPM that combines the above hardware capabilities with SensiML's cutting-edge, machine learning sensor algorithms. SmartRPM promises to offer active roadway safety far surpassing existing high-cost systems.

## SensiML SOLUTION

### SensiML Analytics Toolkit

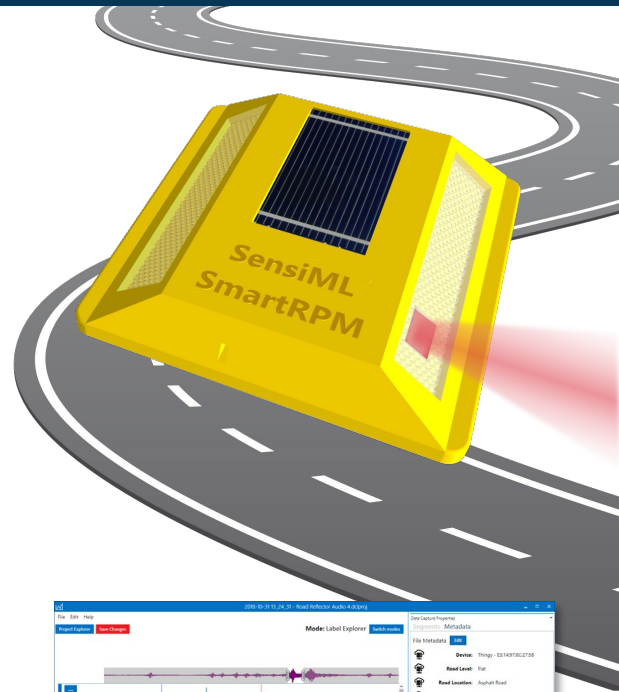
- Most comprehensive AI tool available for IoT edge devices
- No AI expertise required to use
- Binary, library, and source code AI algorithm output options
- Data Capture Lab: Easy, automated data collection & labeling
- Analytics Studio: Auto firmware creation from labeled data
- TestApp: AI model validation testing on target hardware

### SensiML Knowledge Pack

- Toolkit created algorithm for traffic analysis and classification
- Extremely compact: Memory footprint in kB not MB
- Local processing works anywhere, no cloud connectivity or network server infrastructure needed
- Support for Arm Cortex-M/A, x86, ARC architectures

### SensiML Datasets and Custom Engineering Support

- Existing datasets and models in for vehicular traffic sensing
- Fast time-to-market from expertise and prior projects
- Knowledgeable embedded IoT data science team



*SensiML Data Capture Lab makes simple work of annotating traffic sensor data labels as necessary to train the AI model to recognize future events.*

## SMART RPM CLASSIFICATION MODELS



<https://sensiml.com/solutions/commercial/>