



AUTOMOTIVE SWS

Endpoint AI-enabled Solution

The passive sound field provides information about the environment around a vehicle that can be invisible to traditional ADAS line-of-sight sensing solutions. Renesas Automotive Seeing with Sound (SWS) finds and locates these targets even at a distance or around corners.

The AI technology for Automotive SWS provides early warning of emergency sirens, oncoming vehicles and other sound sources to augment existing autonomous driving and ADAS systems. This endpoint AI-enabled solution combines machine learning and edge processing in the Renesas RH850 family of MCUs and R-Car SoCs, utilizing acoustic sensors to allow a vehicle to drive more safely.



Features/Benefits

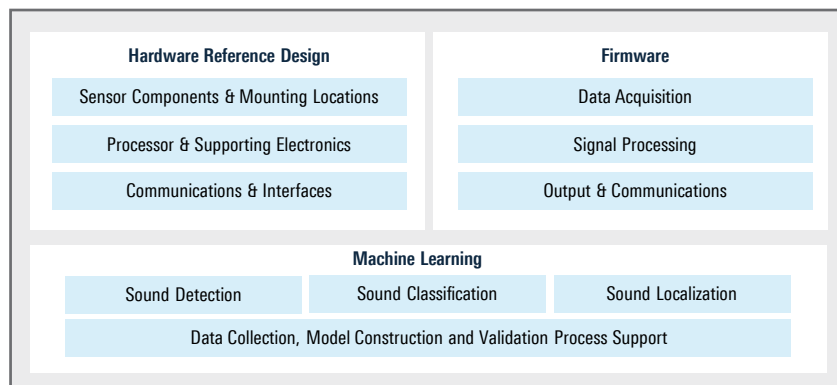
- Augments existing ADAS/AV systems with an additional sense modality
- Signal detection, classification, and tracking
 - Capable out to 1 kilometer
- Compile for Renesas MCU of choice
- Utilizes lowest processing footprint and memory in the industry

Target Applications

As vehicle systems advance, they bring with them the need for AI-enabled solutions to help bridge the gap from how we drive today to a totally autonomous environment.

- Automotive use cases
- Emergency vehicle detection
- Blind spot detection
- Autonomous emergency braking
 - Pedestrian / cyclist avoidance
- Cyclist dooring prevention
- Pavement conditions / terrain detection

Block Diagram



For more details, please visit: renesas.com/sws