

# News Release

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## Sumitomo Electric Launches Pedestrian Detector for Driving Safety Support Systems

Sumitomo Electric Industries, Ltd. has launched pedestrian detector for driving safety support systems (DSSS) to reduce traffic accidents. This detector has robustness against variable environmental conditions owing to the use of a 24 GHz-band millimeter-wave radar technology. In addition, it features high accuracy in pedestrian detection enabled by the Company's proprietary algorithm and a wide detection area.

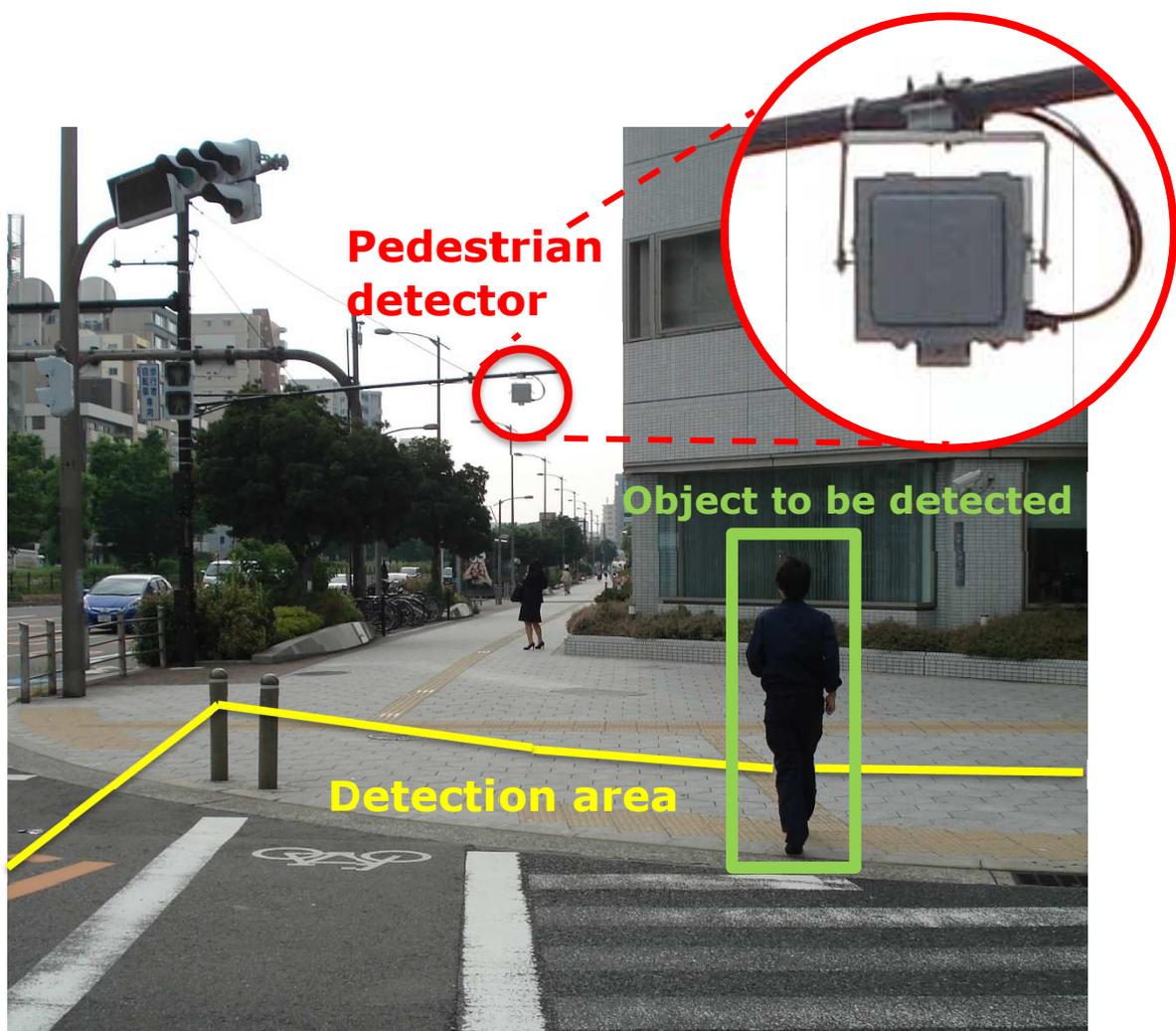


Fig. 1 Pedestrian detector (shipped to five prefectural police departments in Japan, including the Osaka Prefectural Police Department)

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The number of traffic fatalities has been decreasing in Japan year by year (3,694 in 2017). While elderly adults (65 and older) account for more than half of the death toll, drastic reduction has not been seen for this group. Early implementation of measures to address this is therefore a high priority.

For the purpose of contributing to reduce traffic accidents, Sumitomo Electric has continued efforts to develop DSSS based on vehicle-infrastructure integration. As one of the typical subsystems/services of DSSS, prefectural police departments and automakers have cooperatively operated Right-turn Collision Prevention System/Right-turn Crossing Recognition Enhancement System. This service is enabled by a wireless roadside unit that provides information on the presence of pedestrians on the crosswalk and oncoming vehicles detected by roadside sensors to alert the driver in a vehicle turning right at an intersection by a warning of display indication and sound. In addition to wireless roadside units and vehicle detectors already launched on the market, Sumitomo Electric has newly released a pedestrian detector and started shipping in March 2018. The detector has been delivered to five prefectural police departments in Japan, including the Osaka Prefectural Police Department.

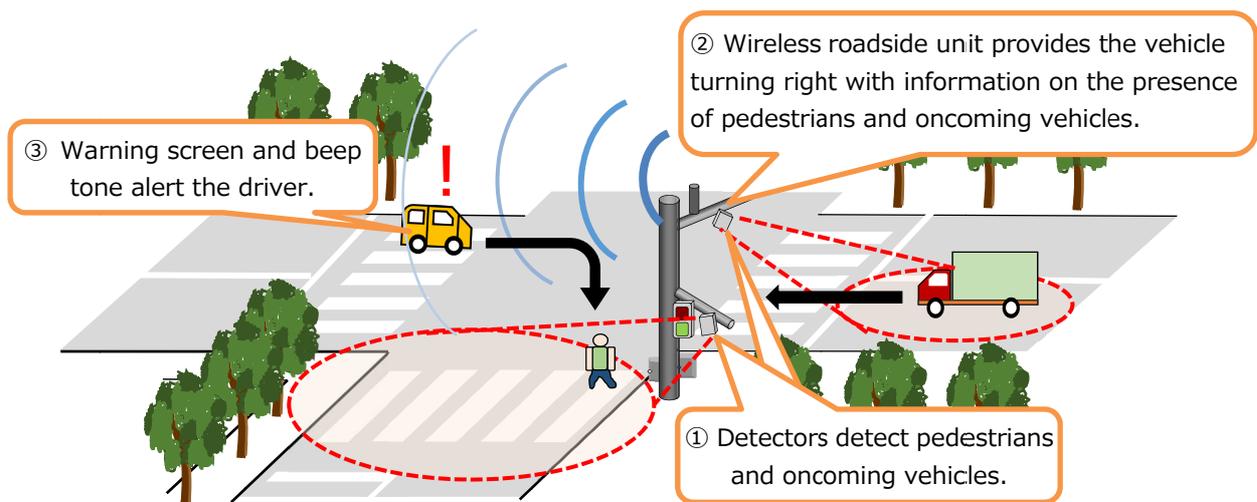


Fig. 2 Rendered image of a DSSS

## Main features of the product

- ① Robustness against variable environmental conditions  
The pedestrian detector uses a 24 GHz-band millimeter-wave radar, which is robust against variable environmental conditions such as sunshine in the day and night, as well as clear, rain and other weather conditions.
- ② High detection performance  
The millimeter-wave radar transmits a radio wave and

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receives its reflection from an object to measure the distance between itself and the object. The algorithm incorporated into the product tracks and predicts the movement of pedestrians by analyzing characteristic information conveyed by the reflected wave. This technique enables the products to detect pedestrians behind passing vehicles.

### ③ Wide detection area

One difficult challenge for a millimeter-wave radar was to achieve incompatible tasks of covering a wide range in close proximity and extending the detectable distance. However, we have developed multiple-channel antennas and a signal processing technique that uses them, enabling a wide detection area for the detector installed on a pedestrian signal pole near the crosswalk. Thus the product detects pedestrians both in the waiting area in close proximity and those on the crosswalk, whether the crosswalk is small or large, as shown in Fig. 3. Owing to this feature, the detector can be installed in a greater variety of locations.

By offering this product, Sumitomo Electric will continue to contribute to reduced traffic accidents and strive for a safer traffic environment.

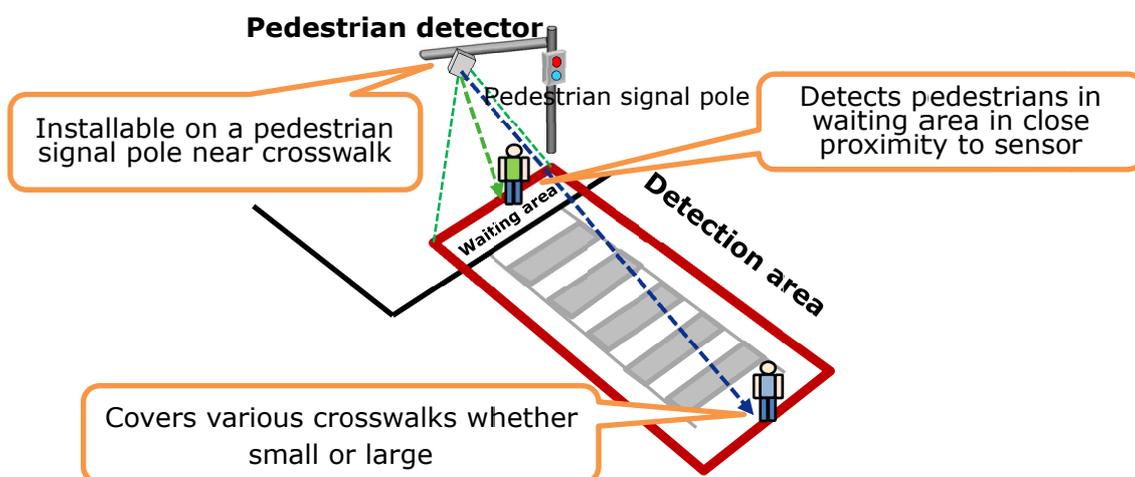


Fig. 3 Rendered image of installed detector