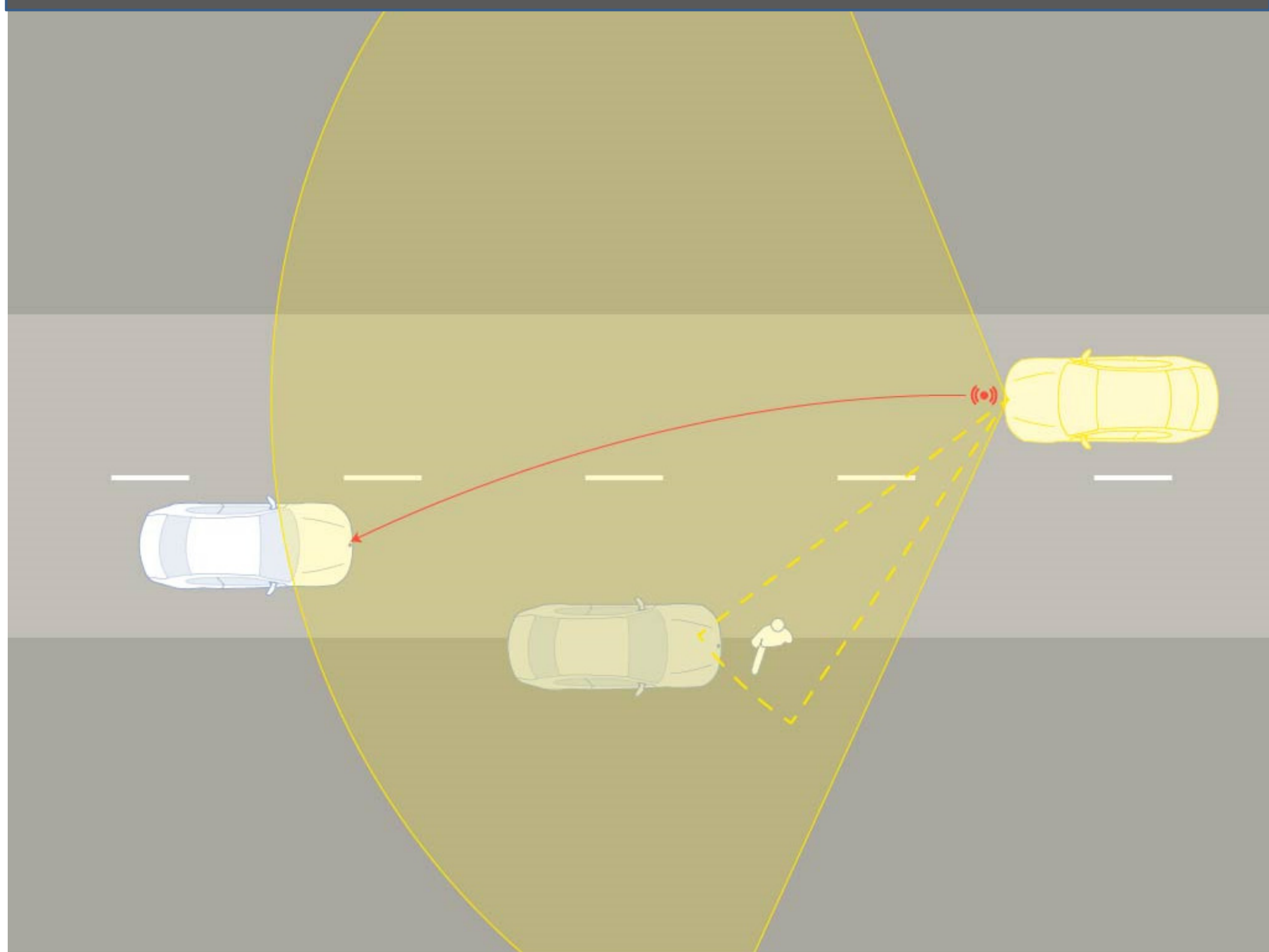


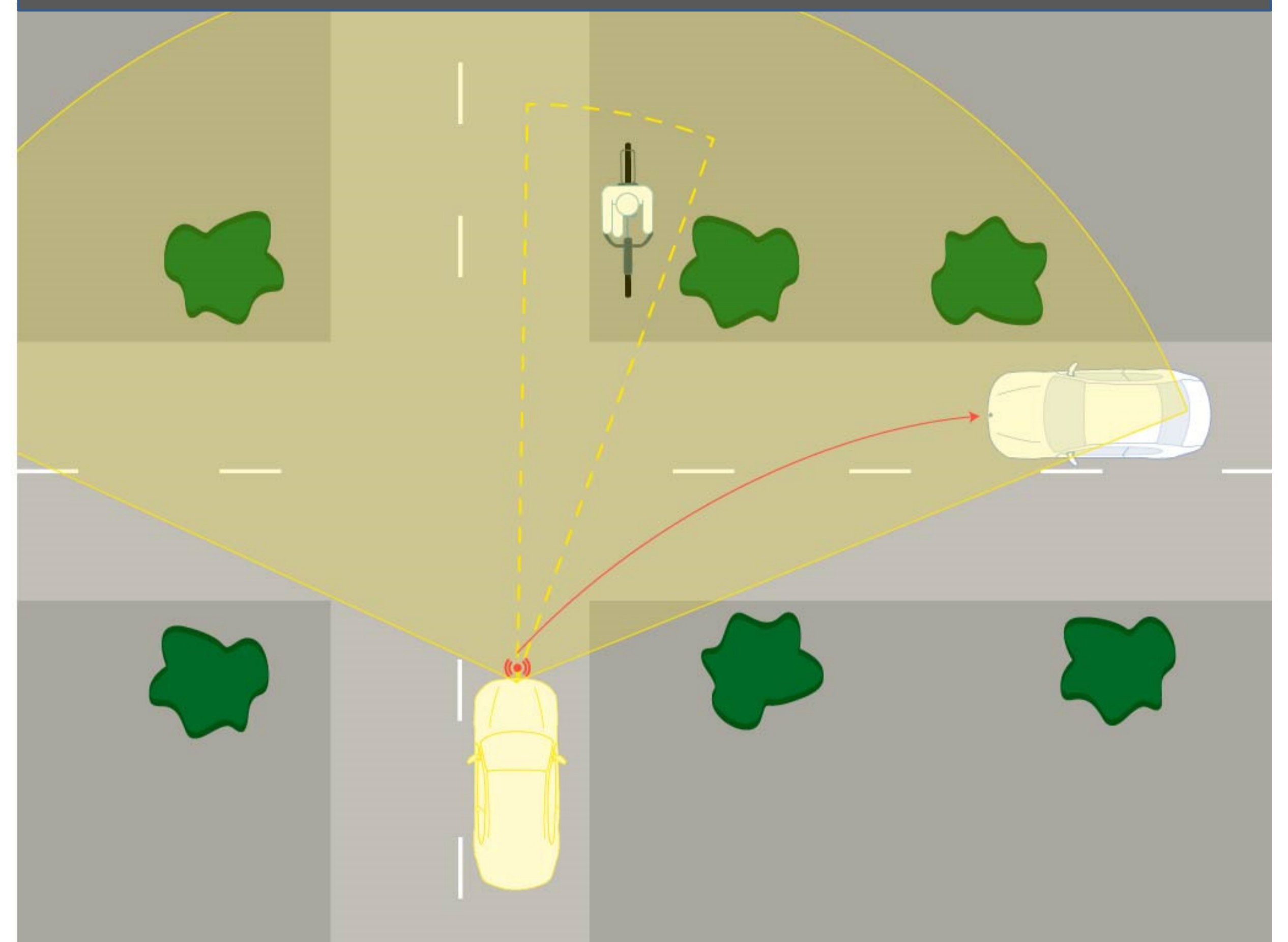


## Demo 1: Cooperative Localization



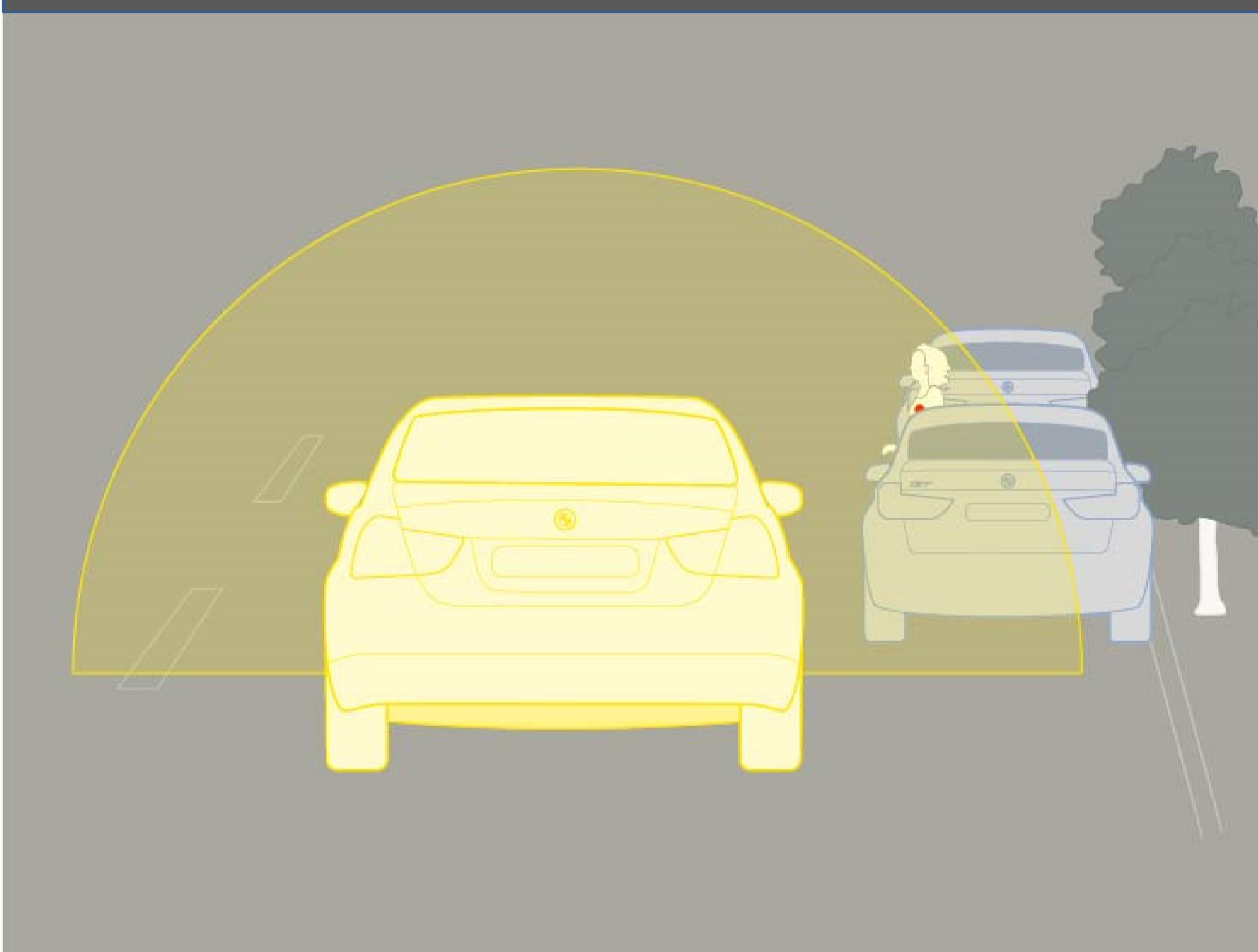
Cooperative distance and angle measurements allow for a precise localization of traffic participants in the vehicle's surrounding. In addition, the transponder transmits characteristic object properties to the vehicle, e.g. the classification as a vulnerable road user (VRU).

## Demo 2: Cyclist Safety



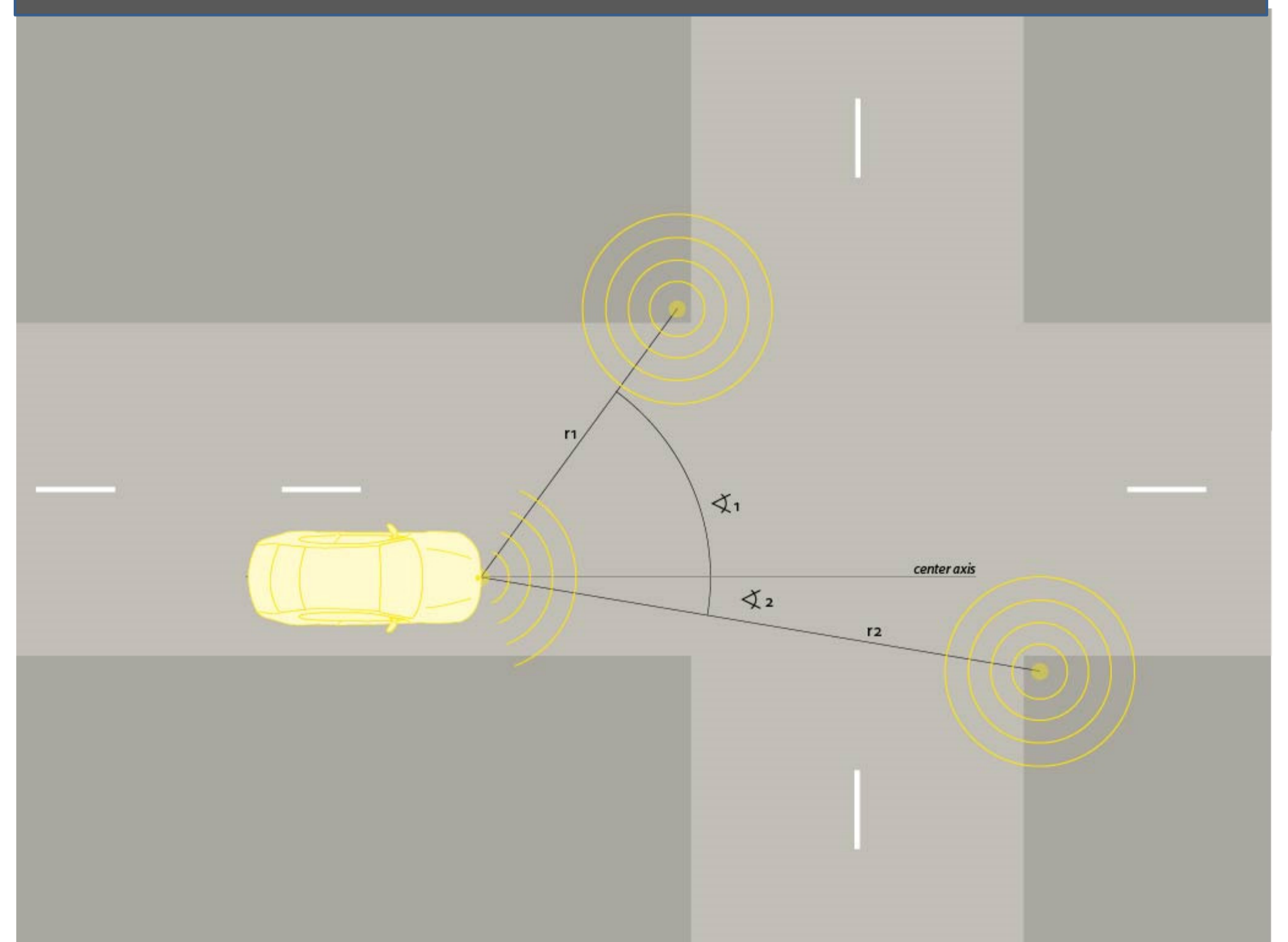
Tracking algorithms are used to determine the accurate object position, velocity, and orientation. Based on inertial sensors, the transponder characterizes the current movement state that is used to adapt the safety algorithms, e.g. by using specific bicycle models.

## Demo 3: Pedestrian Safety



Due to diffraction and transmission, cooperative sensors may localize occluded objects. In combination with the current movement state, the system enables the early detection of critical situations, such as pedestrians crossing the street from a parking lot.

## Vehicle Self-Localization



Using distance and angle measurements to infrastructure transponders, cooperative sensors may provide a GPS-independent solution for vehicle self-localization. The highly accurate position and orientation information is a basis for other cooperative safety applications.