Add DSRC.
Let Autonomous Cars Use our Roads

- V2X solves the coordination challenge between manned and Autonomous vehicles
- V2X enhances the perception of other sensors
- V2X can make Autonomous vehicles affordable

A global interdisciplinary effort is taking place to make autonomous driving a reality. The emergence of DSRC-based V2V and V2I communications significantly increases the vehicle’s situational awareness with a non-line-of-sight information layer. This is of utmost importance as society expects self-driving vehicles to be error-free and be involved in far less accidents than human drivers.

**DSRC-based V2X is essential for safe and efficient Autonomous Driving:**

**Accurate vehicle information:** Vehicle sensors are estimating vehicle data. Only DSRC can provide accurate speed, heading, status of brake pedal, and more.

**Sensing of obstructed objects:** V2X communication alerts the autonomous vehicle about objects it cannot directly see (non-line-of-sight), which is vital for safety and facilitates better decisions by the robot car.

**Works in any environmental conditions:** While fog and sun glare limit the performance of certain sensors, DSRC-based V2X is a highly reliable sensor in any weather or lighting conditions.

**Traffic light state and timing:** Traffic efficiency is enhanced using DSRC. Vehicles obtain the traffic light green signal cycle for optimizing their arrival, and traffic lights may even adjust based on arriving vehicles.
Different vehicles sharing the road
Autonomous Vehicle’s greatest barrier is predicting human behavior. Even humans find it hard to predict other humans on the road when decoding gestures and body language. As those aren’t decoded by a self-driving vehicle, DSRC remains the only way to convey intentions. Role reversal is even more complex. Human drivers might feel frustrated when not understanding the intentions of Autonomous Vehicles. DSRC can easily solve that challenge, by sharing intention among road users.

Affordable Automated Driving
Automated Vehicles cost is high. High number of sensors is required (multiple cameras, radars, and Lidars) accompanied with tremendous computing power. Even moderate Autonomy capability, like level 3, relies on those sensors. Automated vehicle shouldn’t be a luxury. DSRC can reduce the number of sensors and the needed computation power, at a lower cost.

Coordinated traffic
Improving mobility is a key goal for society. Expensive hours and fuel are wasted in traffic jams. DSRC can solve this by optimizing traffic flow and reducing congestion. Facilitating Cooperative Adaptive Cruise Control (CACC), where vehicles are optimizing their driving speeds to prevent a traffic jam from expanding, or Platooning, where vehicles are driving like a virtual train on the road.

Detection of motorcycles and bicycle
The number of motorcycle fatalities is steady around 5,000 people per year. Despite riding less than 1% of miles driven, they make up 15% of traffic deaths. 1/3 of motorcycle accidents occurred when the motorcycle was hidden. Those accidents can be solved only with DSRC. The motorcycle could have been observed in another 1/3 of all motorcycle accidents. But currently, sensor technology is unreliable when it comes to motorcycle detection, as they blend in background. DSRC can decrease a major portion of those accidents as well.