



# **SNS COLLEGE OF TECHNOLOGY**

**Coimbatore-35**  
**An Autonomous Institution**



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## **DEPARTMENT OF AUTOMOBILE ENGINEERING**

### **AUTOMOTIVE SAFETY & INFOTRONICS**

#### **UNIT IV - COLLISION WARNING AND AVOIDANCE**

##### **TOPIC 1 : COLLISION AVOIDING SYSTEM**



# PRESENTATION OUTLINE

- Passive Safety
- Active Safety
- Collision Avoiding System
- Working





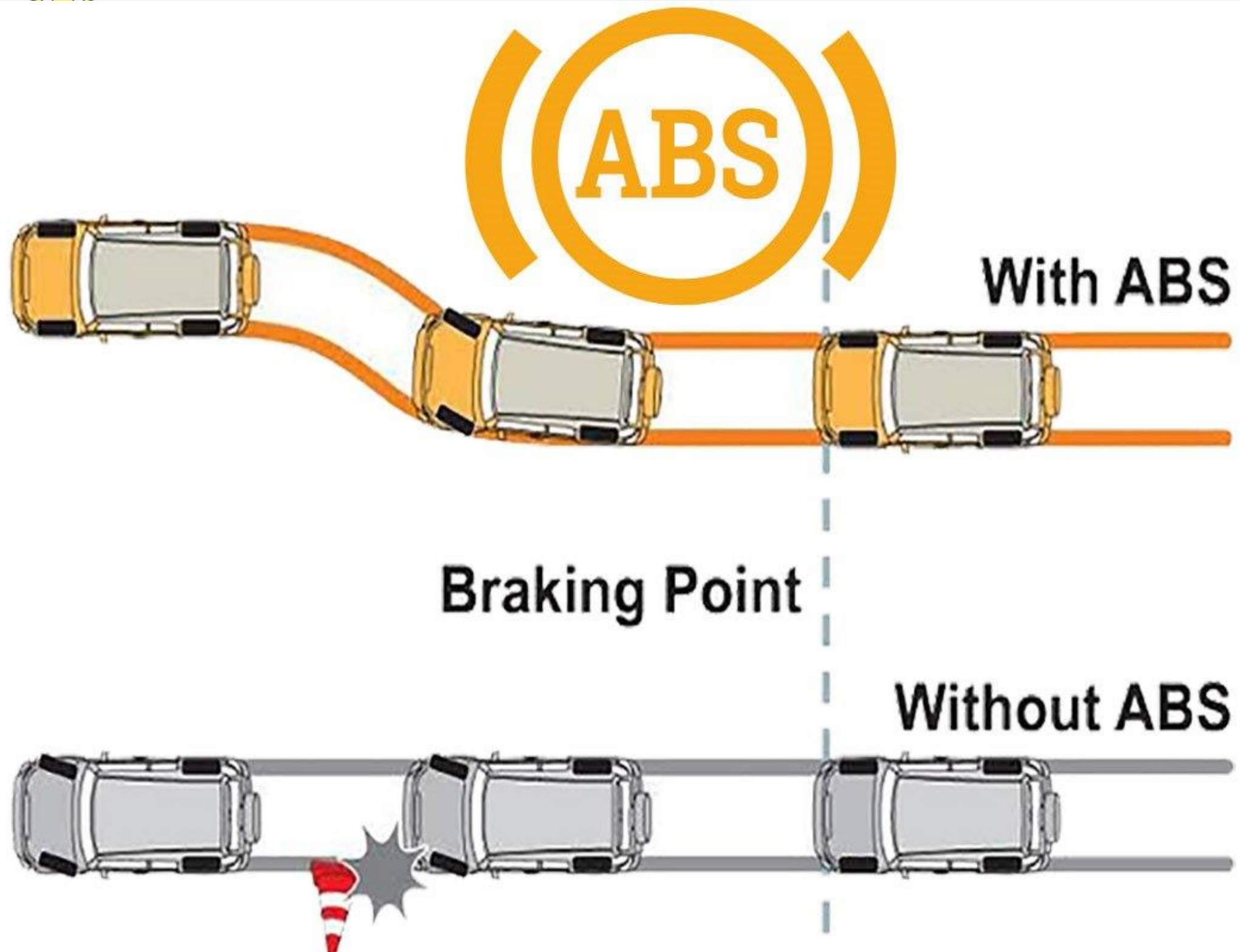
# PASSIVE SAFETY



Operates only when necessary



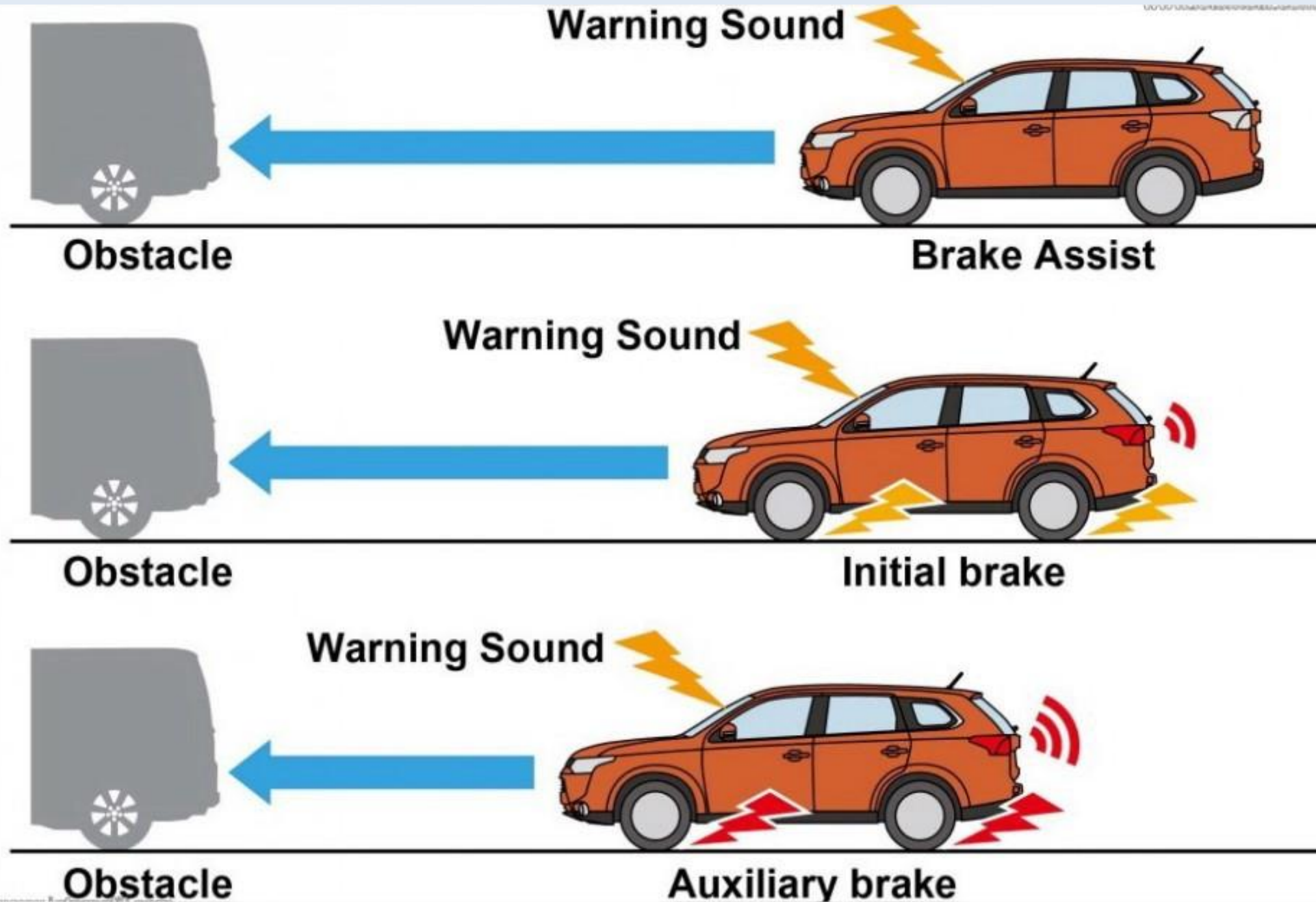
# ACTIVE SAFETY



- Alert all the time



# COLLISION AVOIDING SYSTEM



- Radar detectors
- Speed Sensors



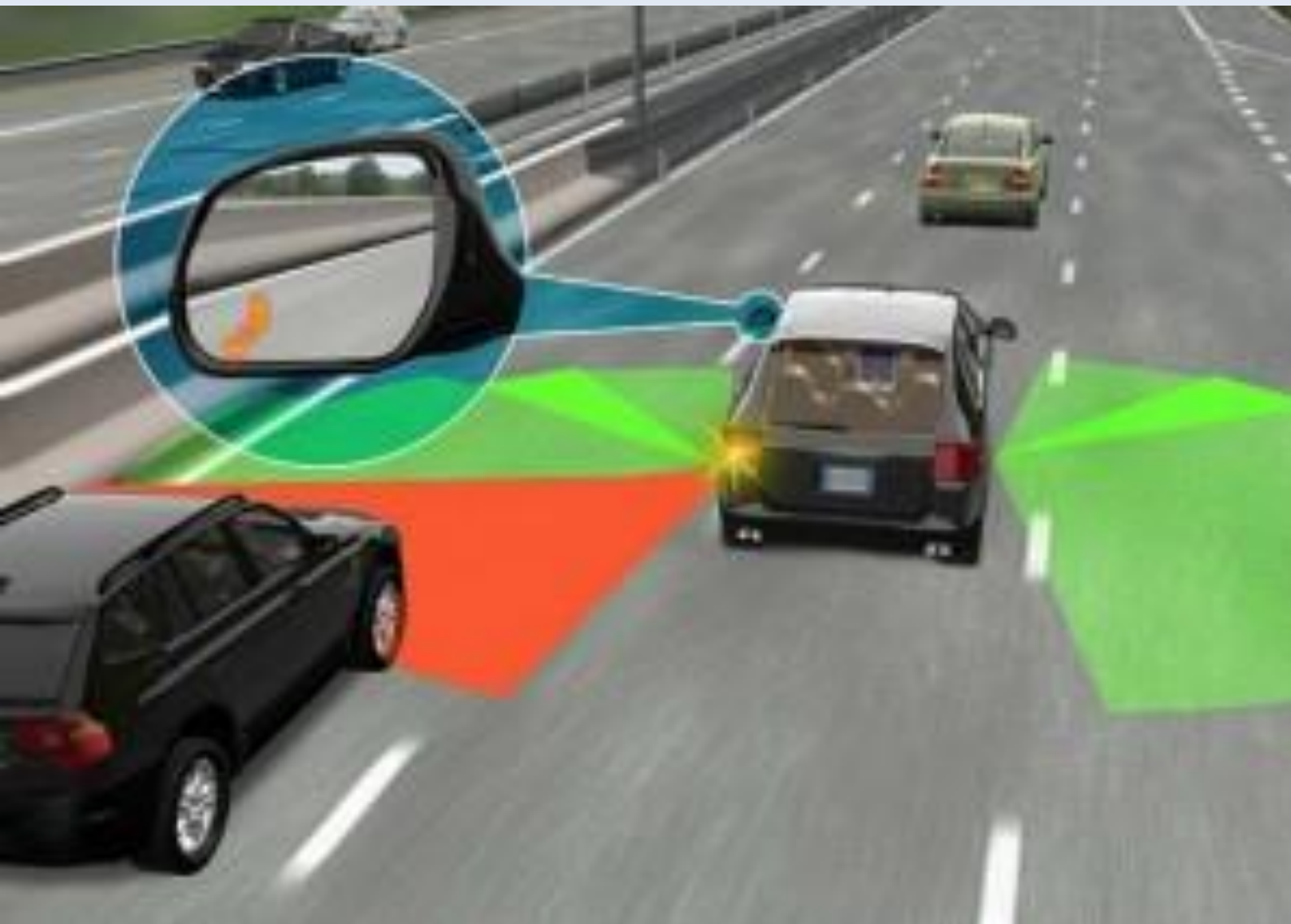
# COLLISION AVOIDANCE SYSTEM



- **Forward-collision Warning (FCW):** Visual and/or audible warning to alert driver of collision risk
- The IIHS (Insurance Institute for Highway Safety) has already observed a 27% reduction in front-to-rear crashes through this technology



# COLLISION AVOIDING SYSTEM



- **Blind-spot Warning (BSW):** Visual and/or audible notification that a vehicle is in the driver's blind spot in a neighboring lane; an additional warning may sound if a turn indicator is used when a vehicle is in the blind spot
- IIHS studies have shown a 14% reduction in lane-change crashes and a 23% reduction in lane-change crashes with injuries in vehicles with this capability



# COLLISION AVOIDANCE SYSTEM



- **Cross Traffic Warning:** A visual, audible, or haptic alert if an object is currently out of camera range, but appears to be moving into it
- Studies show a 22% reduction in reverse crashes





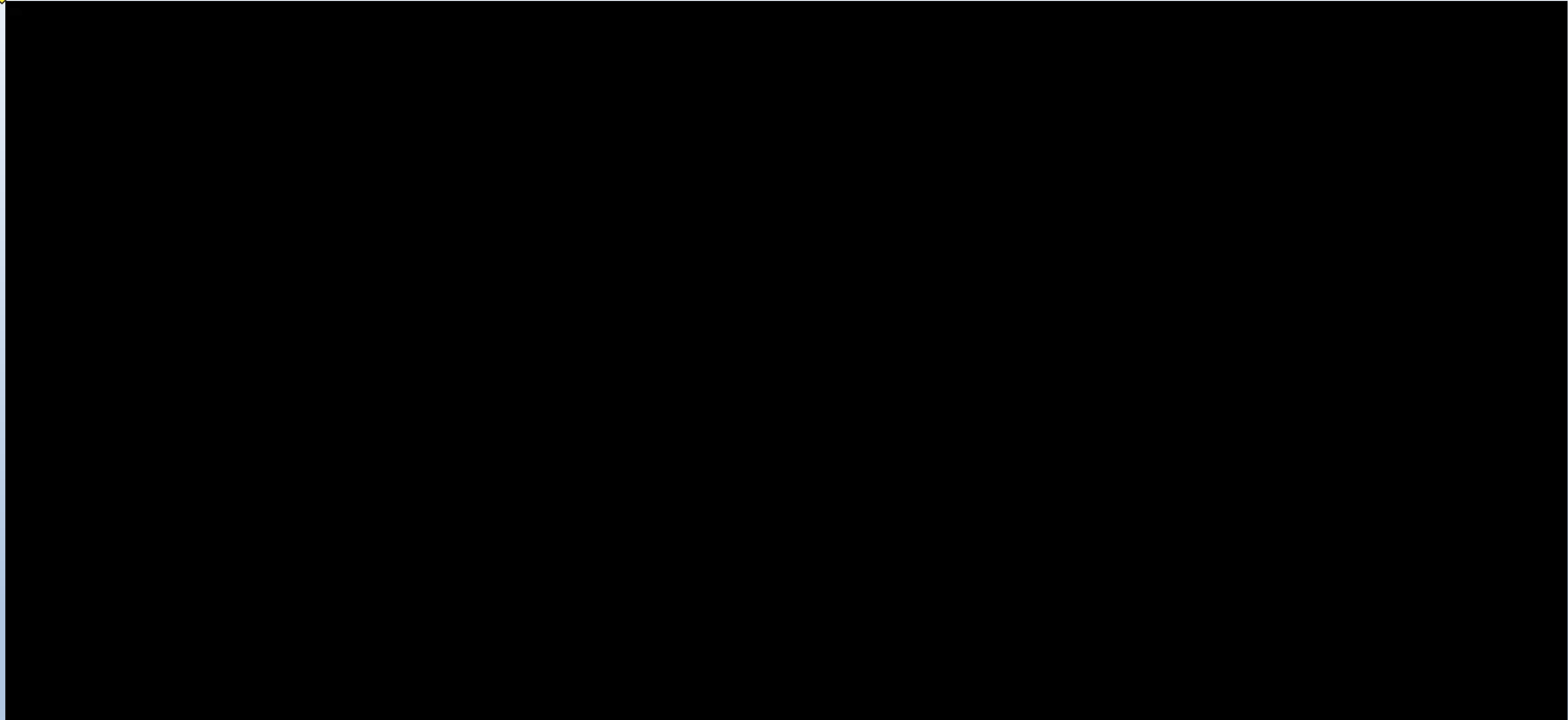
# COLLISION AVOIDING SYSTEM



- **Lane Departure Warning (LDW):** A visual, audible, or haptic alert that a driver is crossing lane markings
- This technology has provided a 11% drop in sideswipe and head-on crashes, with a 21% reduction of injuries in the crashes of those types that occur

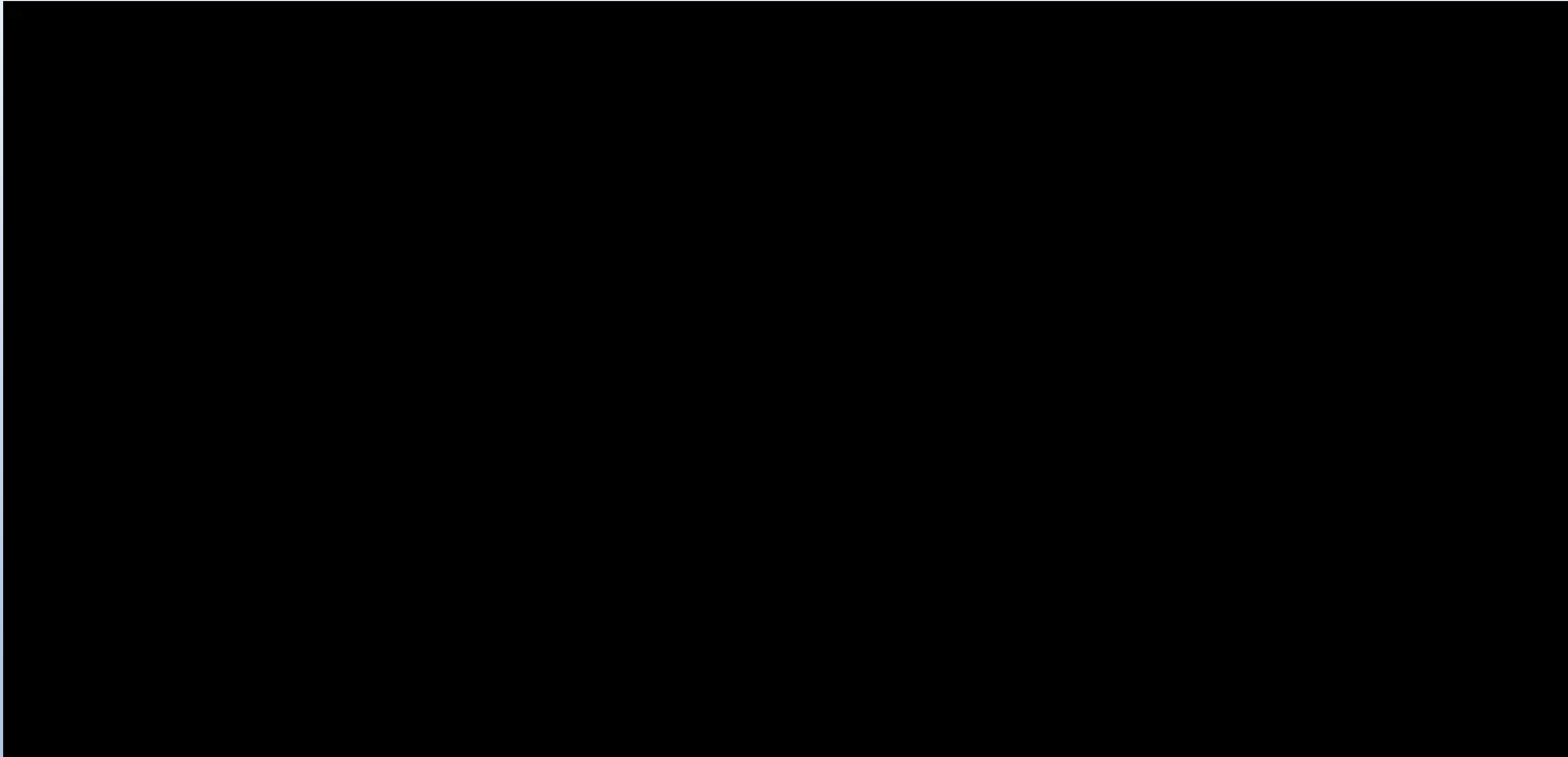


# COLLISION AVOIDING SYSTEM





# COLLISION AVOIDING SYSTEM





# REFERENCES



- [en.wikipedia.org › wiki › Collision\\_avoidance\\_system](https://en.wikipedia.org/wiki/Collision_avoidance_system)
- <https://blog.roboauto.cz/how-it-works-collision-avoidance-system-d05bd9807f1a?gi=906b648cde80>

*Thank you*