Autonomous Vehicles

History and Timeline

2014 NHTSA issues draft of proposed rule making for autonomous driving

2018-2019 Expected launch of first vehicles with vehicle-to-vehicle and vehicle-to-infrastructure communication

2012 Nevada offers licenses for autonomous cars

2010 Google Car debuts. It takes a blind man for tacos

2007 DARPA's third driverless-car competition, the DARPA Urban Challenge

2013 Mercedes "Bertha" AG takes itself on a road trip. Mercedes S-Class gets highway autonomy (but requires attentive driver as a backup)

2020 Limited self-driving expected to begin, starting with traffic-jam assist

1948 Modern cruise control invented

1966 Mechanical antilock braking installed in a standard production car, the British Jensen FF

1968 Electronic cruise control invented

1987 Electronic stability control invented by BMW, Bosch, and Mercedes

2030 Fully autonomous cars (with no driver backup)

2025 Fully autonomous cars (with driver backup) tested

1995 Mitsubishi Diamante introduces laser-based adaptive cruise control

2001 Nissan Cima introduces lane-departure warning system

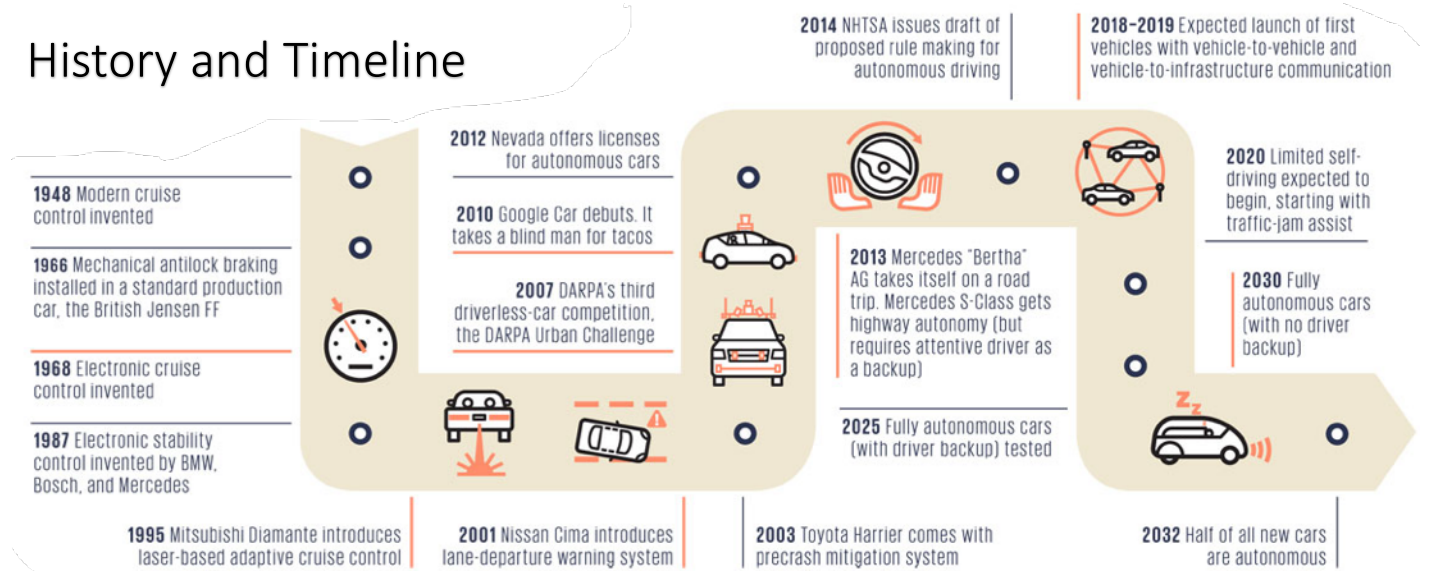**2003** Toyota Harrier comes with precrash mitigation system

2032 Half of all new cars are autonomous

Autonomous vehicles have been a significant challenge for engineers since 1950s. Many developments have been made since then. From cruise control to smart vehicles. This is the timeline of how much efforts have been put over the years.

Vehicle-to-Vehicle Communication

Vehicle-to-vehicle (V2V) communication enables vehicles to wirelessly exchange information about their speed, location, and heading. These V2V communication messages have a range of more than 300 meters and can detect dangers obscured by traffic, terrain, or weather. V2V communication extends and enhances currently available crash avoidance systems that use radars and cameras to detect collision threats.
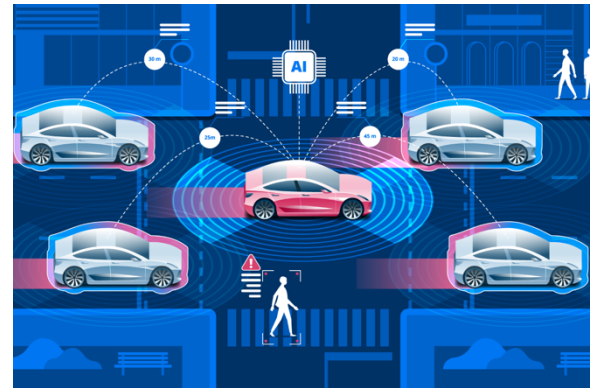
Technology in Autonomous Vehicles

The three primary autonomous vehicle sensors are camera, radar and lidar.

- Camera deals in visuals and look for the surroundings for different objects and obstacles.
- Radar is used for measuring distances and speed between different vehicles and objects.
- Lidar is used for making a 3D model of surrounding around the car as shown in the visual.