Autonomous Vehicle

What are Autonomous Vehicles

What:

A system that utilizes cameras, sensors and navigation systems to operate the vehicle with minimal or no-driver participation

Why:

To improve passenger safety by providing warnings to potentially tired or distracted drivers.

Benefits:

Decrease in accidents / injuries / deaths caused by tired or distracted drivers

How:

Utilization of cameras, sensors, navigation and electronically controlled systems can interpret and react to changing conditions faster than a human driver in many situations reacts. System is “Active” and will operate vehicle with no or minimal drivers participation.

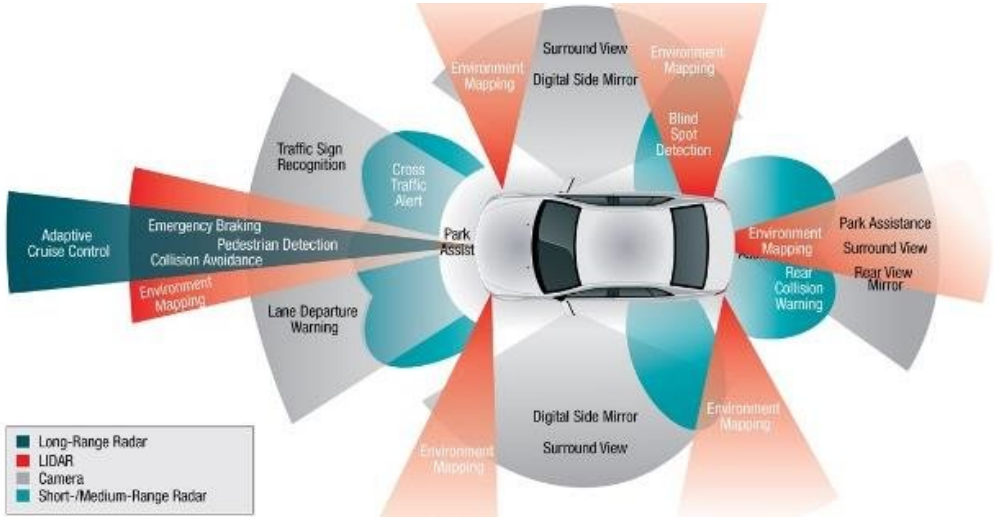
Autonomous Vehicle Operation

Cameras “See” signs, lines, objects, people

Sensors “See” objects, vehicles and people

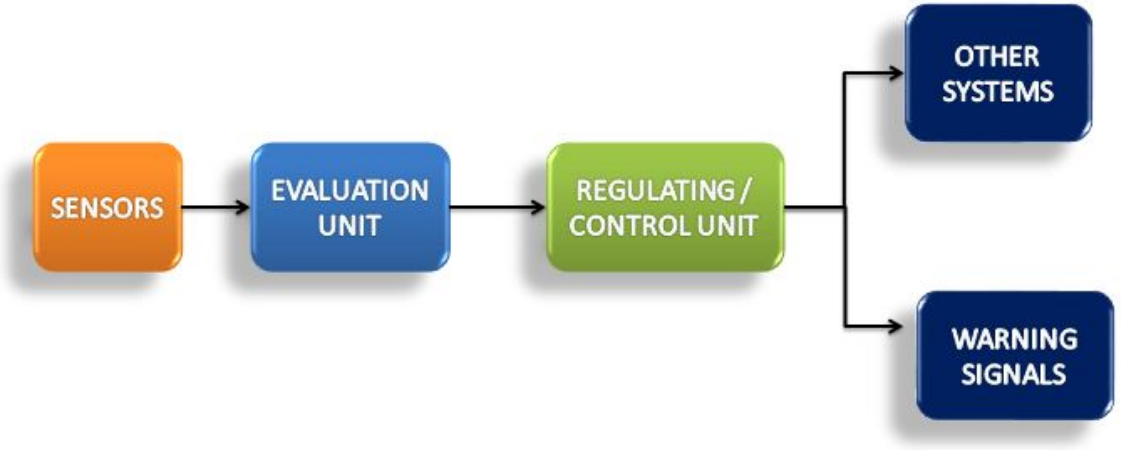
Utilizes Artificial Intelligence (AI) to interpret sensor data and make a control decision

Utilizes existing vehicles systems: Electric Steering, DSC brakes, engine management, etc. to control vehicle



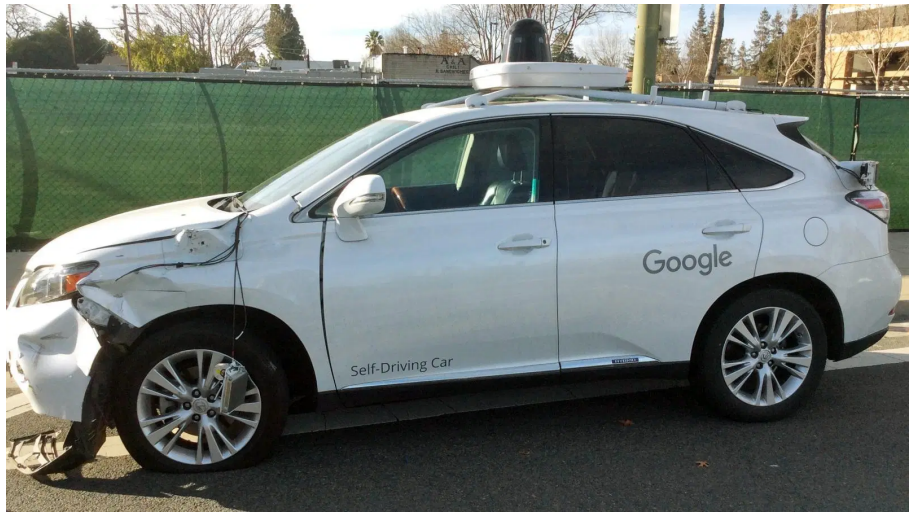
Autonomous Vehicles Components

Cameras
Sensors (Radar, LIDAR, Ultrasonic) as applicable
Various Modules
Engine Management
Transmission
Steering
Braking System
Control Switch
Navigation
Visual Indicators
- Display
- Instrument Cluster
- Heads up Display (HUD)



Autonomous Vehicle Diagnosis

- Visual inspection
  - Body
  - Glass
  - Collision Repairs
- Mechanical
  - Alignment
  - Collision Damage
- Fault codes
  - OEM
  - SAE
- Electrical testing
  - Power
  - Ground
  - Signals
  - BUS Communications
- External conditions
  - Weather
    - Heavy rain
    - Snow / Sleet / Hail
    - Fog
    - Smoke / Dust
  - Clarity of road signs
  - Cleanliness of windshield



Autonomous Vehicle Service / Calibration

- Mechanical
  - Targets
  - Some sensors hard mounted, some may be adjustable
  - Non-related repairs and services can require calibration
    - Alignment
    - Collision
- Self / Auto
  - Driving