

Autonomous vehicle technology has the potential to:

- facilitate and accelerate traveling.
- reduce vehicular collisions and congestion.
- maximize the user's time.
- improve land use.
- increase fuel efficiency.
- increase mobility for the disabled and elderly.
- **ultimately preserve lives.**



Under the bonnet

How a self-driving car works

Signals from **GPS (global positioning system)** satellites are combined with readings from tachometers, altimeters and gyroscopes to provide more accurate positioning than is possible with GPS alone

Radar sensor

Ultrasonic sensors may be used to measure the position of objects very close to the vehicle, such as curbs and other vehicles when parking

The information from all of the sensors is analysed by a **central computer** that manipulates the steering, accelerator and brakes. Its software must understand the rules of the road, both formal and informal

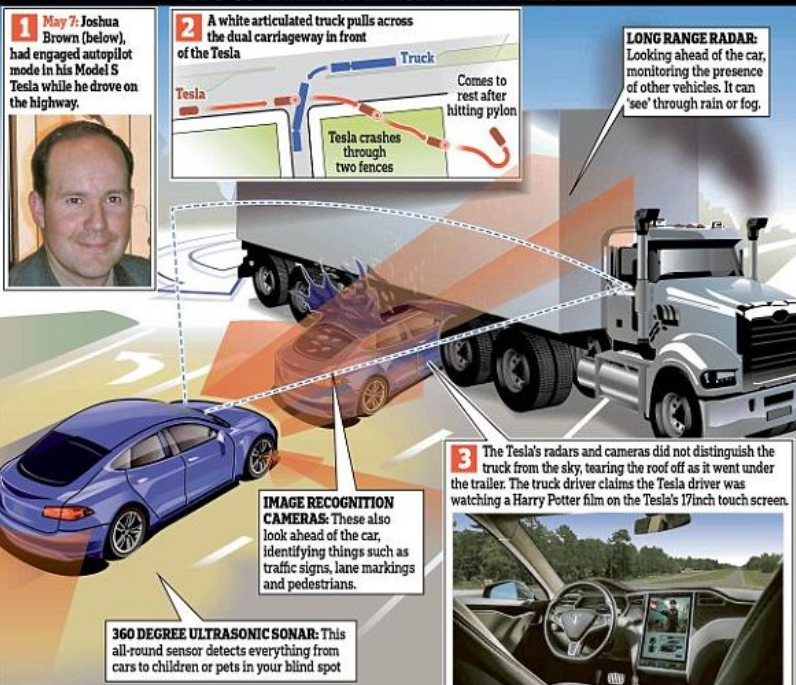
Lidar (light detection and ranging) sensors bounce pulses of light off the surroundings. These are analysed to identify lane markings and the edges of roads

Video cameras detect traffic lights, read road signs, keep track of the position of other vehicles and look out for pedestrians and obstacles on the road

Radar sensors monitor the position of other vehicles nearby. Such sensors are already used in adaptive cruise-control systems

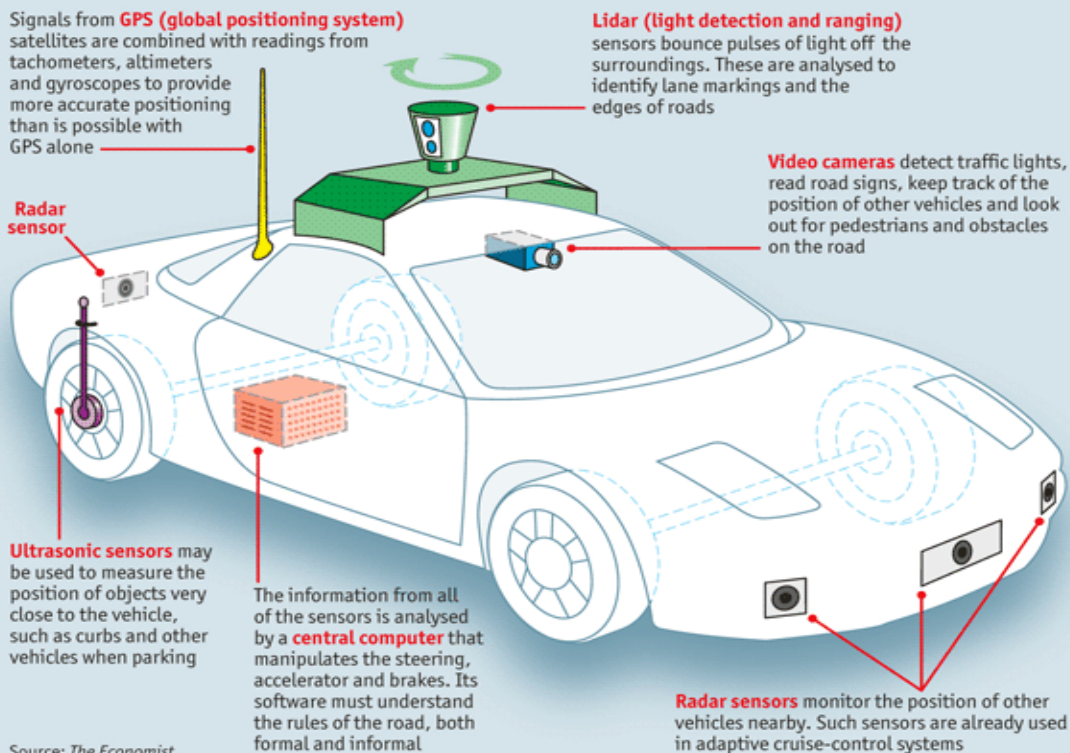


HOW THE SMASH HAPPENED



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However, it is possible that autonomous vehicle technology may diminish public transit, crash repair, and automobile insurance companies as the need for their services would be obsolete.

In addition, the innovation still harbors flaws (e.g., inability to function in fog, the absence of Lidar data, or a non-sunny day, mixed signals, passivity, etc.) and necessitates further enhancement and correction.