



Advertise on NYTimes.com

Published: October 26, 2012

FACEBOOK

TWITTER

GOOGLE+

E-MAIL

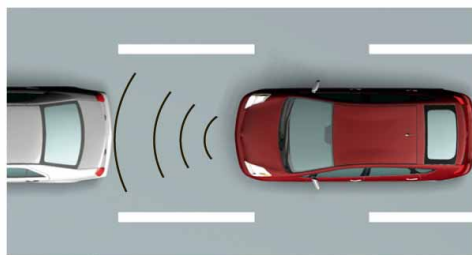
SHARE

# How an Autonomous Car Gets Around

Self-driving cars that are under development will rely on a number of sensors and other digital devices, many of which are already being used for safety and convenience features. [Related Article »](#)

### Radar

Used for adaptive cruise control. Reflected microwaves can identify location and speed — but not always type — of nearby vehicles.



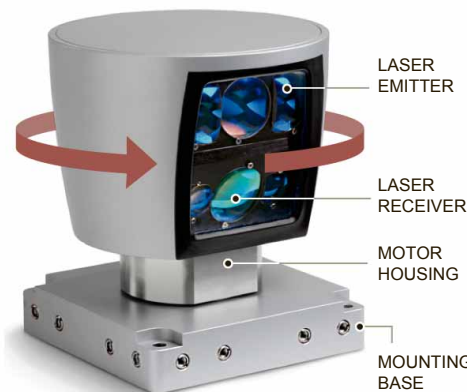
### Ultrasound

Used for assisted parking. Reflected sound waves detect distance to nearby objects. Some cars use short-range radar instead.

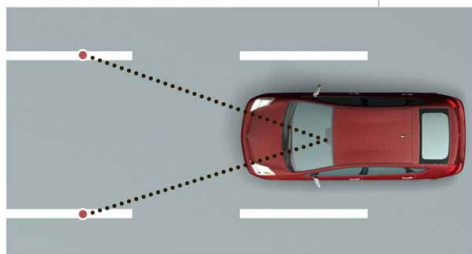
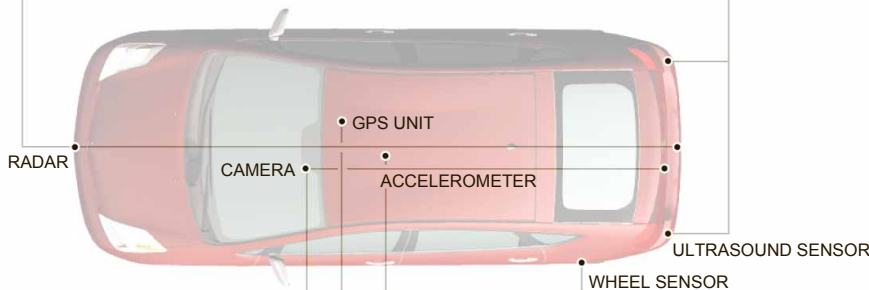
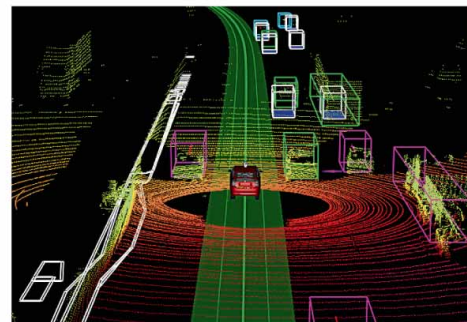


### LIDAR

Google's autonomous vehicle project uses a spinning range-finding unit, called lidar, on top of the car. It has 64 lasers and receivers.

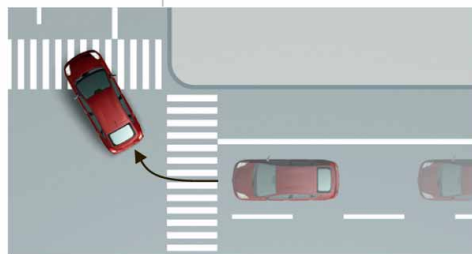


The device creates a detailed map of the car's surroundings as it moves. Software adds information from other sensors and compares the map with existing maps, alerting the system to any differences.



### Cameras

Used for lane-keeping and back-up assistance. Image-processing software can detect lane stripes, signs, stop lights, road signs and other objects.



### Navigation Aids

Global positioning system unit determines car's position. Accelerometers and wheel sensors help with navigation when satellite signals are blocked.

[Send Feedback](#)

Sources: Velodyne Lidar; Volkswagen of America; Google

© 2012 The New York Times Company | [Site Map](#) | [Privacy](#) | [Your Ad Choices](#) | [Advertise](#) | [Terms of Sale](#) | [Terms of Service](#) | [Work With Us](#) | [RSS](#) | [Help](#) | [Contact Us](#)  
[Site Feedback](#)