

# Google's self-driving robot car

Google researchers have road-tested a fleet of seven autonomous cars on the roads of California, covering 140,000 miles between them. The aim is to improve motoring efficiency – reducing emissions and doubling road capacity – and halve the world's 1.2 million road traffic deaths each year

## 1 GPS receiver

Matches position with detailed mapping stored at Google data centres

## 3 Video camera

Identifies other road users, lane markers and traffic signals

*Modified Toyota Prius*

## 2 Laser range finder

Rotating sensor scans 60m distance through 360° to generate 3D map of surroundings

## 4 Position estimator

Measures smallest movement of wheel to gauge position accurately

## 5 Radars

Three at front, one at rear, detect proximity of obstacles

## 6 Inertial motion sensor

Accelerometers and gyroscopes determine velocity and direction

**Artificial intelligence:** Driver can select either cautious or aggressive driving style from on-board computer

Sources: Google, WHO, DARPA

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