

Levels of Driving Automation

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Level 0
No automation

Level 1
Automation of specific, individual functions

- Autobreaking
- Acceleration

Level 2
Partial driving automation
-- corporation of multiple functions

- Adaptive Cruise Control
- Auto Lane-centering

Level 3
Conditional driving automation
-- driver can shift "safety-critical functions" to the vehicle, but human intervention is still required

- Current stage of automation
- incident of Tesla vehicle

Level 4
High driving automation
-- designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip

- No need to have manual controlling components e.g. breaks and steering wheel
- limited to the "operational design domain (ODD)" of the vehicle
-- meaning it does not cover every driving scenario.
- Driving culture matters

Level 5
Full driving automation
-- refers to a fully-autonomous system that expects the vehicle's performance to equal that of a human driver, in every driving scenario

- including extreme environments like dirt roads that are unlikely to be navigated by driverless vehicles in the near future.