

**Annex B To
AWS for the Land Domain**

AWS LEVELS OF AUTOMATION

This table is based on the levels of automation specified in SAE International’s J3016 Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems¹. It aims to separate the autonomy description from the methods used to achieve autonomy. It also specifies what that autonomy looks like against various functional areas, the breath of scenarios it is valid for and also quantifies the frequency of human supervisory involvement and its nature. It is likely that a single system may contain aspects of a variety of autonomy levels.

Lvl	Name	Narrative	Behaviours	Decisions	Targeting	Failure Recovery	Scenario	Supervisory oversight	Human interaction frequency
0	No Automation	Full time performance of human crew driving all aspects of the machine.	Human	Human	Human	Human	n/a	A machine function (crew position)	constant
1	Control Systems Only	Optionally Crewed and crew assistance automation (eg Tank Fire Control Systems)	System controls	Human	Human	Human	Some scenarios	1 machine	constant
2	Partial Automation	System takes over local navigation, senses the environment, human sequences techniques (GoTo) to achieve a task	System implements tactical techniques.	Human specifies tactical techniques	System acquires, Human approves, System engages	System basic recovery, Human fallback	Some scenarios	< 5 machines	minutes
3	Conditional Automation	System implements tactical techniques as specified by humans to meet mission.	System implements tactical tasks	Human specifies tactical tasks	System engagement conditional on predefined parameters	System more robust to failure, Human fallback	Some scenarios	machine team	tens of minutes
4	High Automation	System can sequence tactical tasks to meet the mision and respond to changes in situation	System sequences tactical tasks to achieve mission	Human specifies mission.	System engagement conditional on task	System automated recovery from failure	Some scenarios	teams of teams	hours
5	Full Automation	System can sequence tactical tasks to meet the mision and respond to changes in situation	System sequences tactical tasks to achieve mission	Human specifies mission.	System engagement conditional on mission	System automated recovery from failure	All scenarios	teams of teams	tens of hours

¹ “Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles J3016_201806.”