



## Requirements Document

Functional requirements describe something the system must do. They are measurable and should also be provable by means of an agreed set of tests.

Description	Requirement	Comments
System needs to operate with a level of autonomy.	Advised	Autonomy will provide higher marks.
System needs to provide status updates to the master system.	Advised	To be demonstrated.
System needs to have a manual override mode.	Advised	To be demonstrated.
System needs to be able to make use of visual markers to navigate through a narrow canyon.	Mandatory	To be demonstrated.
System needs to be able to manipulate a control panel.	Mandatory	To be demonstrated.
System needs to be able to navigate a narrow canyon and avoid all obstacles.	Mandatory	To be demonstrated.
System needs to avoid hazardous zones marked with a target.	Mandatory	To be demonstrated.
System needs to map the recorded data of the hazard areas and best route.	Optional	To be demonstrated.
System needs to be able to locate a black box using acoustic methods.	Mandatory	To be demonstrated.
System needs to pick up the black box.	Mandatory	To be demonstrated.
System needs to transport the black box to the pickup point.	Mandatory	To be demonstrated.
System needs to not tip the black box more than 20°.	Advised	To be demonstrated.
System vehicles need to be able to move in and out of an airlock.	Mandatory	To be demonstrated.
System needs to manipulate a valve to a +/-5bar tolerance.	Mandatory	To be demonstrated.
System needs to use a laser to map the area and locate the hazard areas.	Optional	To be demonstrated.
System needs to have robust communication.	Mandatory	To be demonstrated.
System needs to work above and below water.	Mandatory	For demonstration purposes we can assume it's not underwater.



Non-functional requirements describe how the system implements the solution designed by the respective design teams. In other words these requirements describe how the system should behave.

Description	Requirement	Comments
System shall be under 0.5m in width	Mandatory	
System shall be under 0.5 in length	Mandatory	
System shall be under 0.5 in height	Mandatory	
System shall be able to operate in low light conditions	Mandatory	
System shall be created within budget	Mandatory	
System shall be under allow base kit to be returned	Mandatory	
System shall have a clear and single UI	Mandatory	
System shall comprise of at least two vehicles.	Mandatory	

Operational requirements are to identify the essential capabilities.

Description	Requirement	Comments
System must avoid all hazardous obstacles.	Mandatory	
System must be able to operate a valve.	Mandatory	
System must retrieve black box.	Mandatory	
System must be able to deal with failure of communications	Mandatory	