

Name:

Autonomous Navigation

Environment:

Hard access path (asphalt, loose chippings, concrete, gravel, grass path, trails)

Situation:

There is a delivery for a camp within approx 6 km.

Autonomously navigate a pre-designated route.

There will be dynamic objects and static obstacles on the route.

Objective:

Move your vehicle to the target location as fast as possible

Execution/Implementation:

The vehicle has to be unmanned.

Acquire own position (not known)

Approach given waypoints (UTM coordinates) on the way to destination.

Approach should be done with maximum autonomy or semi-autonomously

Acquire position of vehicle using UTM/GPS coordinates

Plot route in digital map

If possible, transmit live position and imagery to the control station

Timing:

Max: Duration approx. 60 min.

Constraints:

There will be NO inspection of the operational area permitted or possible! (Not as in 2006)

Only one person is allowed to control the vehicle.

There is only one control station allowed, either vehicle mounted or outside the vehicle

The troop receives a section of a map with UTM grid and measures

See Example.

Medium: Memory-Stick.

The operator can control the vehicle by remote control, teleoperation, semi-autonomous (waypoint) or autonomous or in any combination of these methods

There will be mobile obstacles, which continuously change the route

The scenario ends with reaching the target location.

An intervention of the troop during the scenario is not permitted.

If for any reason the troop fails they can use the next available (unallocated) start slot for a retry

Every participant can retry as often as there are empty start slots available

#! UTM (GRS80)

19 or 21 waypoints

32U 564462.74m E 5547263.27m N

32U 564376.77m E 5547294.88m N

32U 564418.15m E 5547357.05m N

32U 564482.46m E 5547333.97m N

32U 564462.74m E 5547263.27m N

32U 564376.77m E 5547294.88m N

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