ELROB 2016

20 - 24 June 2016
Eggendorf, Austria

www.elrob.org

REAL TASKS, IN A REAL WORLD SCENARIO

<u>Search and retrieval of human casualties in outdoor environments</u>

The rescue of wounded persons is an important yet often difficult task in civil catastrophes as well as in military scenarios. During military operations the retrieval of casualties usually takes place in hostile environments, thus leading to severe dangers for the involved soldiers. The use of robotic vehicles, first, to find injured persons and, second, to autonomously pick them up and transport them back to safe areas would obviously be a great improvement.

<u>Environment:</u>

Non-urban terrain, lawn, grassland, some bushes and trees, sand, water, stones; small roads and paths, ditches and trenches; fences and other obstacles.

<u>Situation:</u>

There are wounded persons lying at two roughly known positions (P1 and P2) in distances of 50-75m. A vehicle should first approach P1, search and locate the body, and then transport it back to the starting point. Afterwards, the same should be done for the search area around P2. All this should be conducted with highest possible autonomy.

There will be dynamic and static obstacles on the route. Dead ends, sharp turns, blockings and narrow passages might occur. Fences, barriers or any kind of blockades and "negative" obstacles e.g. trenches can be expected.

<u>Objective:</u>

The team will receive a section of a digital map with two UTM coordinates for P1 and P2; see example in the rules. In the vicinity of these points a dummy soldier has to be found. Expect an artificial object of 170cm length and a weight between 10kg and 70kg, depending on the transport capability of the robot (team's choice). Additionally, the dummy will have a pull strap or loop for easier transportation.

First, approach P1. Then, find the imitated body and move it back to the starting point in any way, e.g. by dragging it at the special strap, by pushing it, or by completely lifting it. Place the dummy as near to the starting point as possible. Afterwards, repeat the same procedure with P2.

!!! This document is subject to change and refinement !!!

ELROB 2016

20 - 24 June 2016
Eggendorf, Austria

Acquire imagery and exact GPS position of both bodies. Report gathered data to the control station, online or offline after having returned to the starting point. If possible, also transmit live position and video imagery throughout the mission.

Remarks:

- Be prepared to deliver additional data in ROS bag format; exact specification and data types will follow.

Timing:

Duration approx. 30 min. The scenario ends when transported both imitated bodies back to the starting point or with reaching the time limit, whatever occurs first, and must include the transmission of the acquired data.

!!! This document is subject to change and refinement !!!

ELROB 2016

20 - 24 June 2016
Eggendorf, Austria

www.elrob.org

!!! This document is subject to change and refinement !!!