REAL TASKS, IN A REAL WORLD SCENARIO

Reconnaissance and surveillance in urban structures (USAR)

Urban Search And Rescue (USAR) is a key emergency service task. It can be divided into two scenarios. First, the search of the area of interest and, second, the rescue of the designated target.

Environment:
Mainly urban structures; stairs, low and no light, curtains, closed doors, sand, water, stones, rubble and debris.

The urban structure (a dilapidated building) that has to be entered is approx. 50m long and 25m wide. The building has two levels (ground and basement).
Situation:
An area of interest located in up to 10m distance has to be approached.
After the structure has been reached, perform a search and rescue mission inside
the structure.
There will be static and dynamic obstacles on the route.
Dead ends, sharp turns, road blockings, stairs and narrow passages can occur.

Objective:
Approach the area of interest with highest autonomy possible.
Enter structure and search for Objects of Potential Interest (OPI), i.e. particular
markers with special characteristics as defined in the rules with highest autonomy
possible. Build a geometric representation of the structure and its environment with
references to the detected OPI.
Whenever an OPI is found, acquire imagery and reference the position of marker in
the geometric representation.
Report gathered data to the control station. If possible, transmit live position and
imagery to the control station.

Timing:
Duration approx. 45-60 min.
The scenario ends with reaching the time limit and must include the transmission of
the acquired data.