

A disaster relief exercise

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The Remotely Piloted Aircraft Systems (RPAS) is an effective tool for military applications, both for properly military operations, such as research missions and road surveillance, and for civilian support after natural disasters, like landslides, floods, and earthquakes, when reaching victims is often hard or it would take too much time for their survival.

Information are needed without hazarding the life of the military troops. When roads, bridges and other communication ways are usually not available, the unmanned platform is the only easy and fast way to contact people. It can be launched directly from the operation site and it could take crucial information or carry medication, necessities and everything that could help rescue teams.

The unmanned platform can also be used for the first aid in an emergency situation when the use of a helicopter is too dangerous and other troops could be involved in heavy fighting.

The RPAS has some advantages. First is the reduced cost, compared to traditional aircraft, that could enable the user to have several operating units. Secondly, pilots are not on board and therefore, if needed, the crew' rotation and rest do not imply the need to stop operations. The third fact is that, depending on the type of delivery that is used, the operations may take place on a twenty-four hours' base. The main benefit achieved with these three facts is that continuous operation may take place and eventually make up the capacity difference.

To sum up, the main motivation behind this employment of UAS is to replace human lives on the cockpits and to assure the execution of Dangerous, Dull and Dirty missions.

In May 2015, the ERIDANO Exercise was performed in Moncalieri city, near Turin (Italy) and it was a joint exercise between the Italian Army, National Emergency Service and Politecnico of Turin. The aim was the control and management of emergency situations due to natural disasters. In particular, a flood was simulated.

A multicopter was used to monitor the river looking for survivors and to supervise the building of a modular and prefabricated bridge. It was linked with the operating room sending real and immediate images. Actually, the payload was only a camera but, eventually, also a thermal camera could be carried, according to the scenario and the kind of search and rescue mission.

The operating teams could see the damages due to the disaster without being on site and they could organize better the future operations. There also were some rubbles of houses and the unmanned platform could reconnoiter the area looking for victims without risks for human life.

Each flight was 25 minutes long and after the batteries' substitution, it could take-off again, ensuring three hours of operations.

The RPAS is an excellent support tool for troops in different and hazardous operational environments where intervenes safely, quickly and efficiently. Actually, the unmanned configuration does not risk soldiers and it is "man-portable" or rather, it is easily transportable and ready-to-use.