

Bando Grandi Progetti

Progetto Luc Me (2017-2021)



The project, in collaboration with DESA and Parthenope University, has the purpose of transforming an ultralight helicopter into an OPV (Optionally Piloted Vehicles) system. The design path required to modify the aircraft goes through the specification and application of a precise context where the new technologies involved cover the coming years requirements on Communications, Automation and Safety.

The modified aircraft will represent the proof of concept of specific innovative solutions applicable in a strategic technical context that further satisfies the different industrial interest of the two individual project partners i.e. UAV Maintenance and rotorcrafts.

Moreover, the proposed system has been accurately specified to facilitate the development of solutions that meets in the meantime the existing aeronautical legislation for UAVs. The presence of the pilot on board during the tests and the choice of an ULM aircraft category permits the systems development without incurring in the existing hard restrictions for UAV.

The project's targets are the following:

1. Conversion of an ultralight helicopter into an OPV with a removable EFIS to be used as a ground control station
2. Implementation of Autonomous and Smart Technologies to increase the system safety by means of two innovative features: 1) an emergency flight termination system linked to the condition monitoring system; 2) a stability system to facilitate operations with suspended loads.

To maintain the focus on these specific objectives, it has been designed a mission where the pilot leads the aircraft to a specific place within its overall autonomy, disembark what it is required to use and control remotely the aircraft, finally utilize the system only as a lifter (for instance per dangerous goods). The lifting payload equals the removed items weights, that is the pilot and flight instrumentation-hardware integrated into the seat.