**Drones for RemoteALPHA**

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The UPC has selected two drones from its UAV fleet for use in the RemoteALPHA project, the DJI WIND 4 and the DJI Matrice 600 Pro, see Figure 1. The decision on which drone will be used is still under discussion and will depend on the final weight and size of the optical detection systems. The UPC has great experience in flying airborne detectors for radiological measurements using DJI Matrice 600 Pro as this was used in the previous EMPIR Preparedness project. It is also easier to plan the flights because it incorporates more recent flight technology than the WIND 4. On the other side, the WIND 4 has a better payload weight and flight autonomy than the DJI Matrice 600 Pro. Both drones can carry the Fresnel-lens system currently under development at the PTB. However, based on the argumentation above, the DJI Matrice 600 Pro seems to be more convenient as it also allows substituting its legs by the Fresnel mechanics. The endurance for a payload of 5 kg is about 15-20 minutes.

**Figure 1**: Left: DJI WIND 4. Right: Matrice 600 pro

The UPC developed a code in the previous Preparedness project called RIMA-Spec. A screenshot of the on-line synchronized available data of both, vehicle and detector, is shown in Figure 2. The code is being upgraded for use in RemoteALPHA.

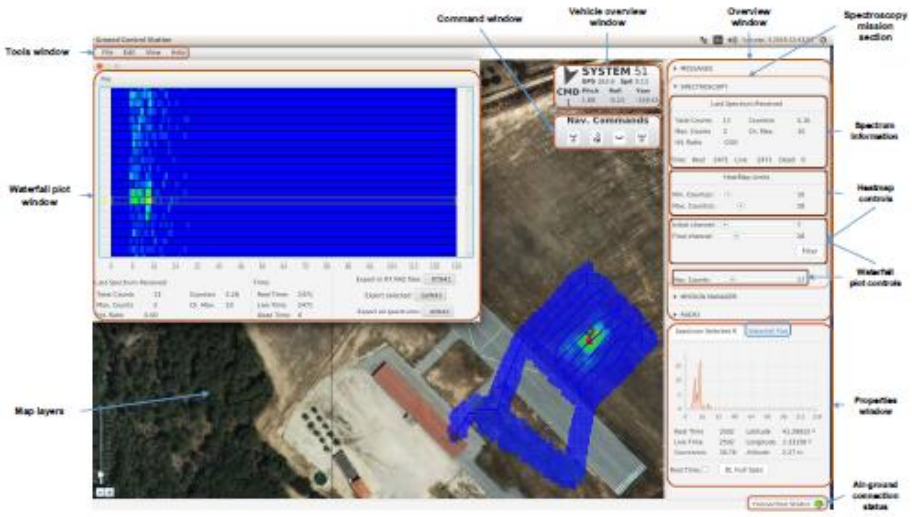


**Figure 2**: Screenshot of the RIMA-spec code during a flight.

### Aerial site – The Dronelab

The Dronelab is the only drone flight space in Spain, which will allow validation for any type of professional application or technology development related to drone-based logistics, automatic operation, and operation of drones. It has flight preparation spaces with power points and Wi-Fi and 4G communications network. Also, a video recording option to record the operation is available. The flights with the airborne detectors developed in the RemoteALPHA project will be carried out in the DreonLab.

**Dimensions**: 90 x 45 meters (useful for flight 80 x 40 m) enclosure with a maximum height of 15 meters.
**Location**: Mediterranean Technology Park, Esteve Terrades, 1, 08860 Castelldefels, Barcelona (Spain). It is located just 10 km far from Barcelona Airport and 20 km from Barcelona city by car.