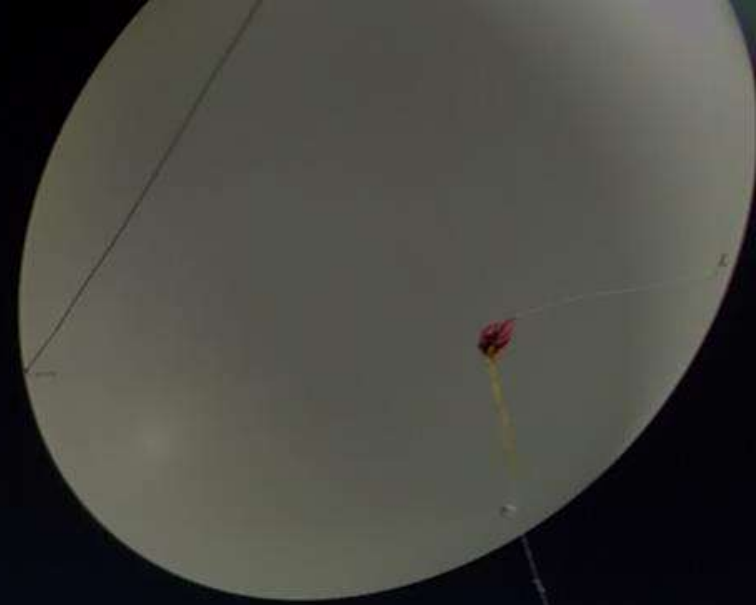


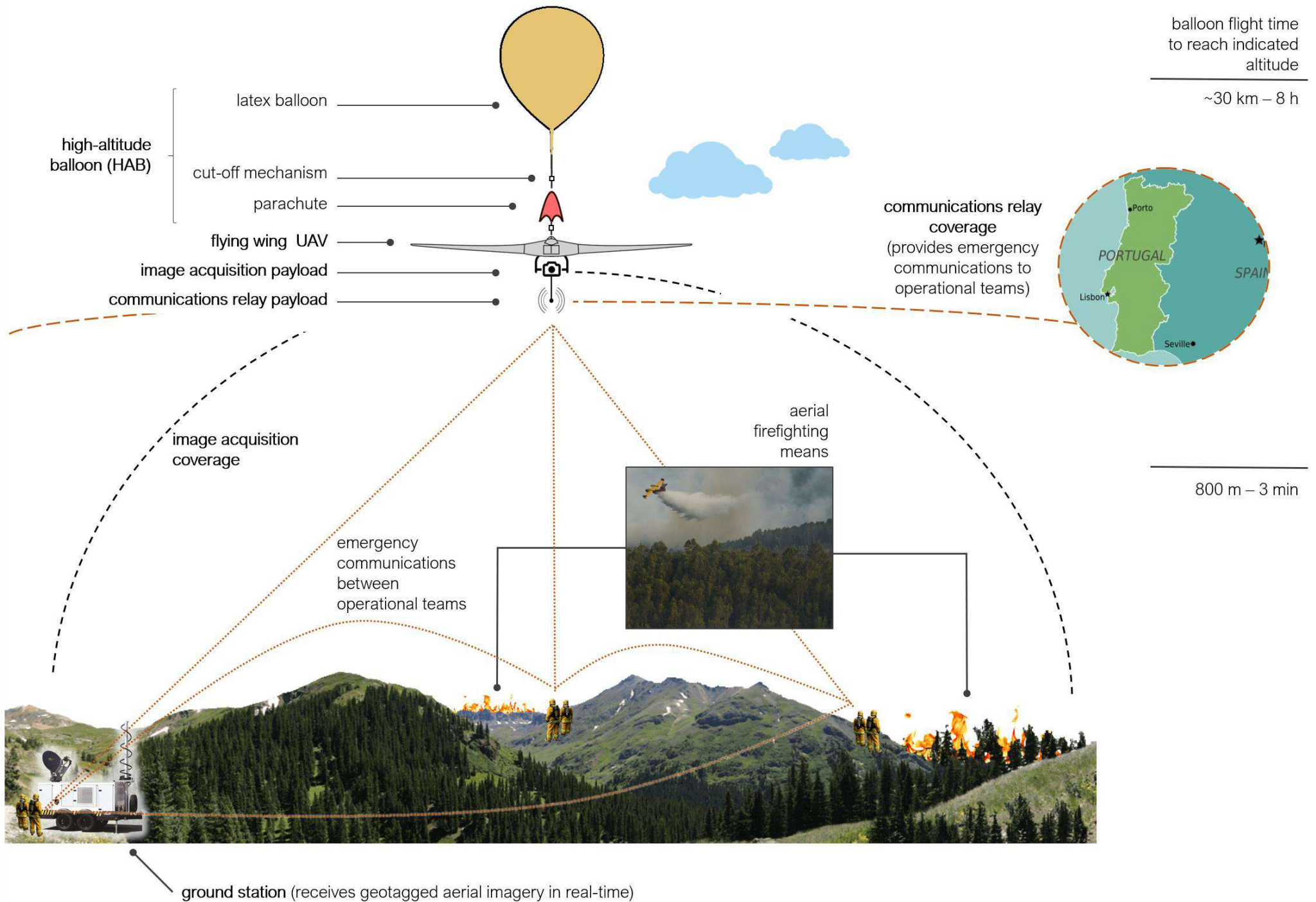
Alexandra Moutinho
Miguel Almeida
Maria João Sousa
Miguel Bergano
Diogo Henriques
Dário Silva

Eye in the Sky

Using High-Altitude Balloons for
Decision Support in Wildfire Operations



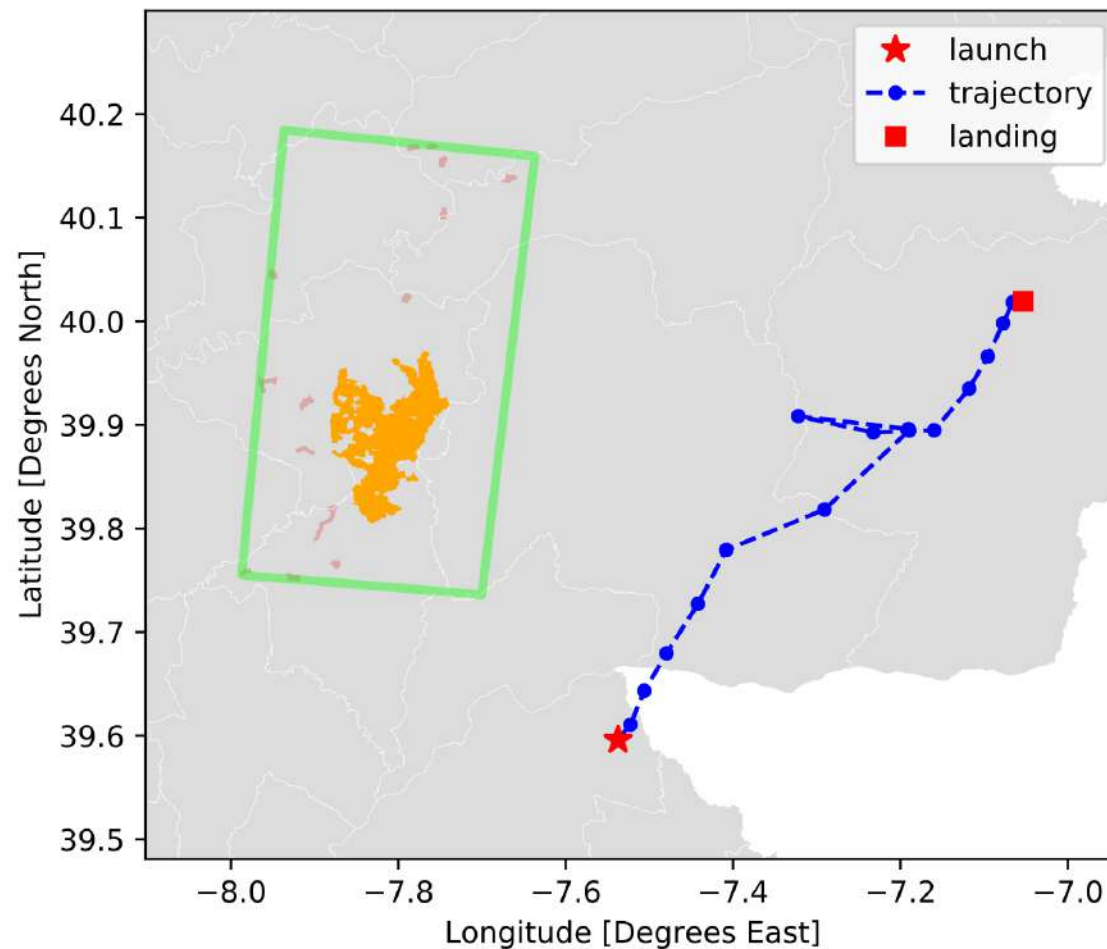
EYE
in the SKY
Concept



Balloon launch during wildfire



Wildfire at Cunqueiros, Proença-a-Nova, started on the morning of the 13th September 2020



Trajectory of the balloon launched at 7pm of the 14th September 2020, and wildfire approximate area



EYE
in the **SKY**





Field tests experiments

Objectives:

- Multimodal data acquisition
- Analyze sensitivity of thermal sensor with altitude and different fire scenarios

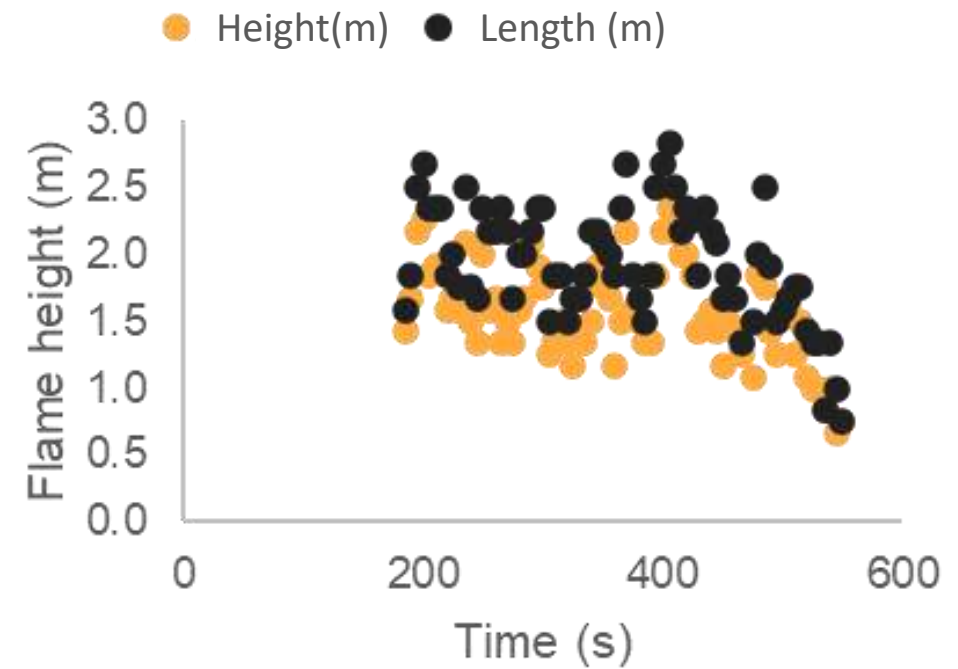
Methodology:

- Fire ignitions with different characteristics, varying constrained diameters/areas
- Combination of different fire and flight configurations
- Data acquisition in vertical and horizontal flights over the fire area at altitudes 10 – 250 m



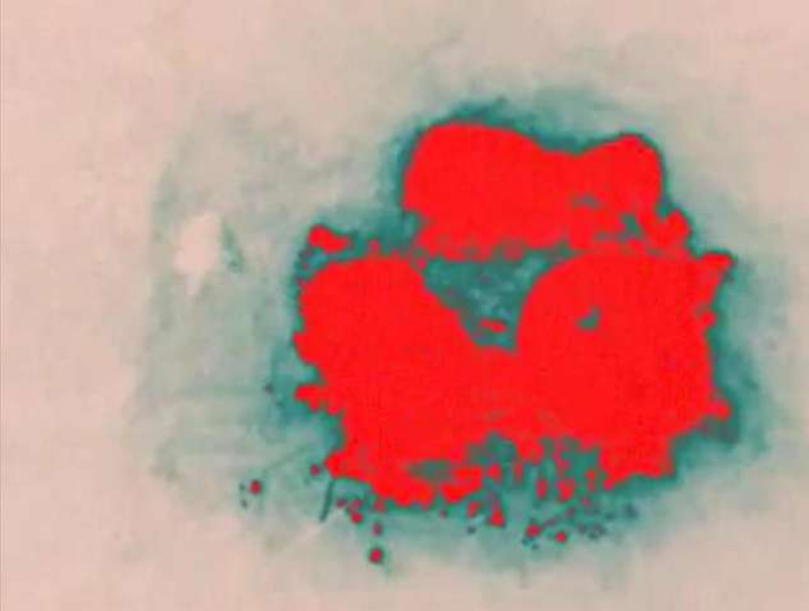


Field tests experiments



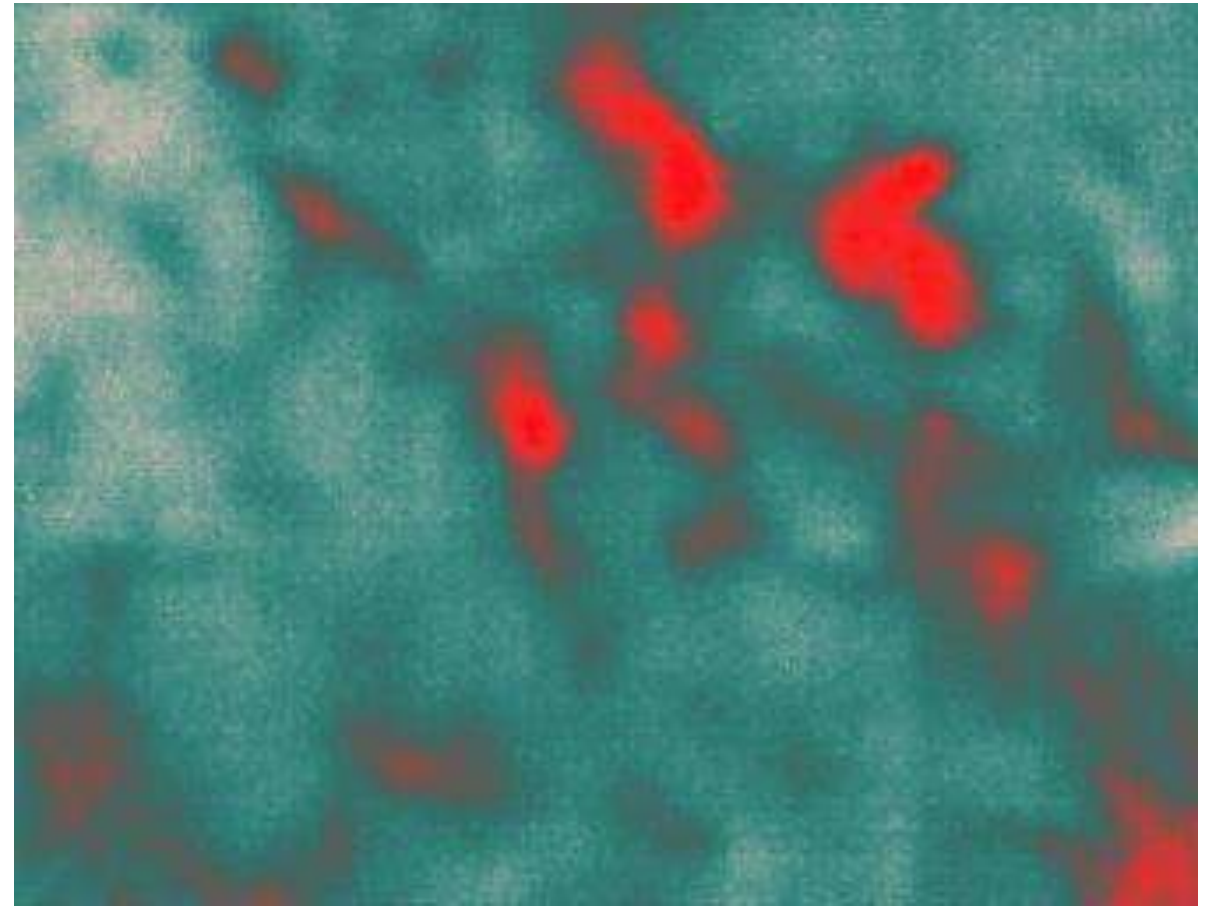
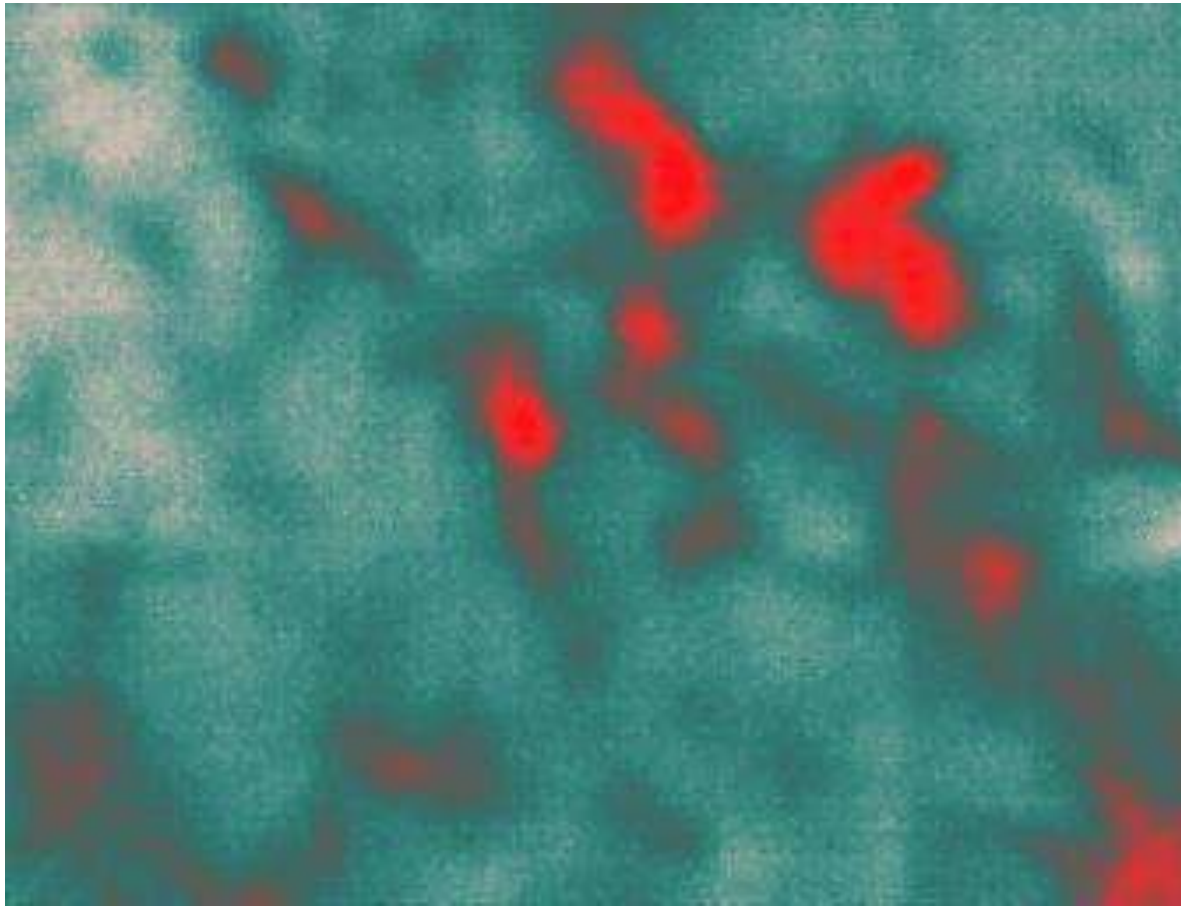
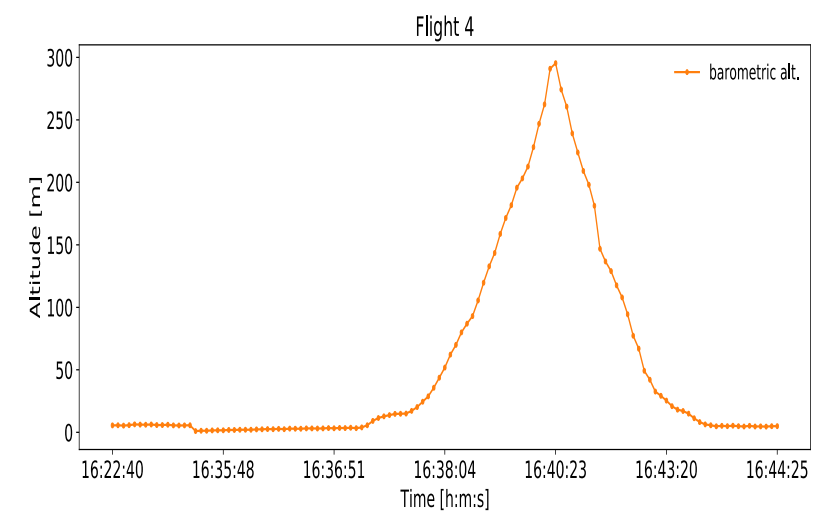


Field tests experiments

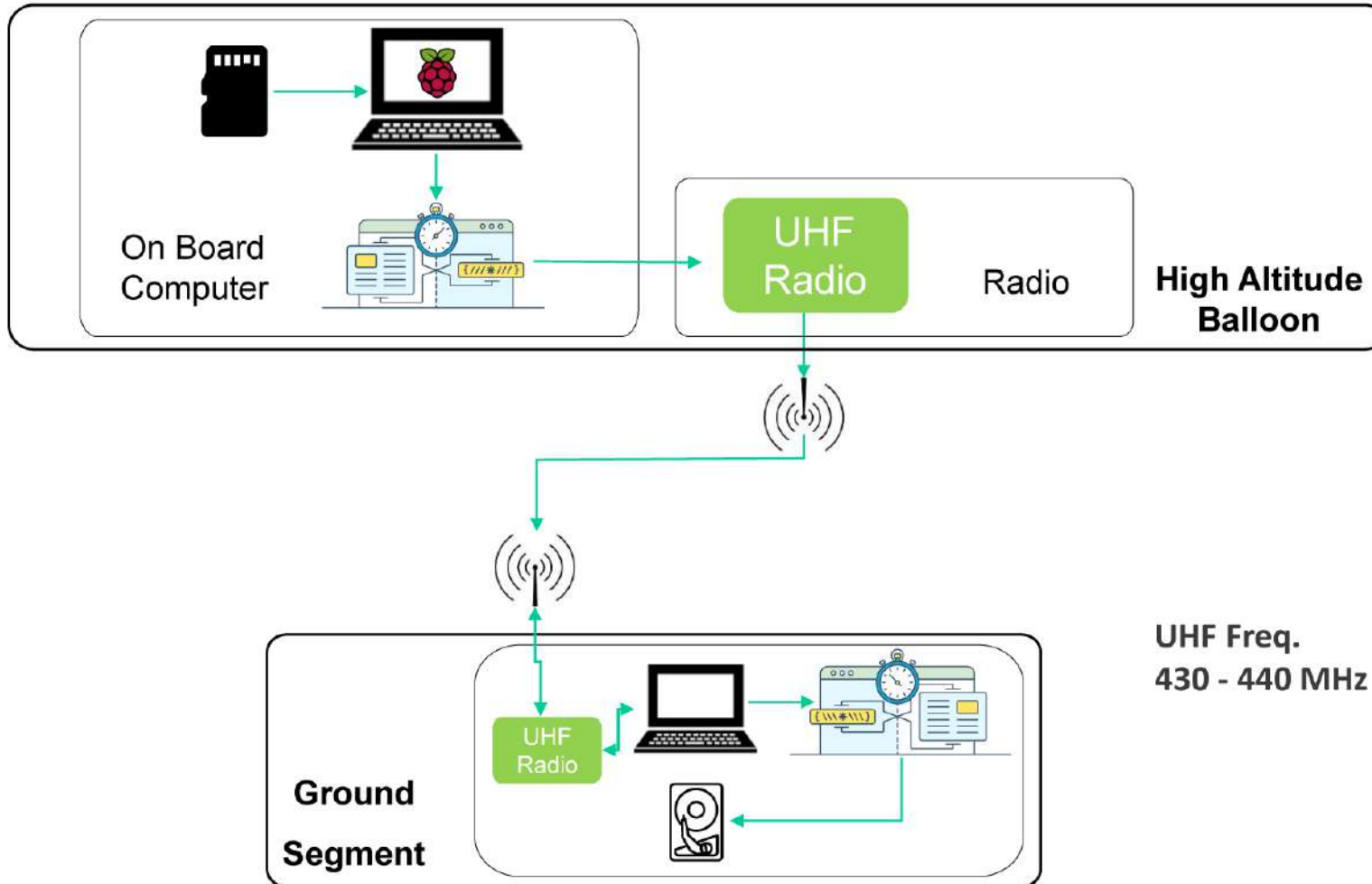


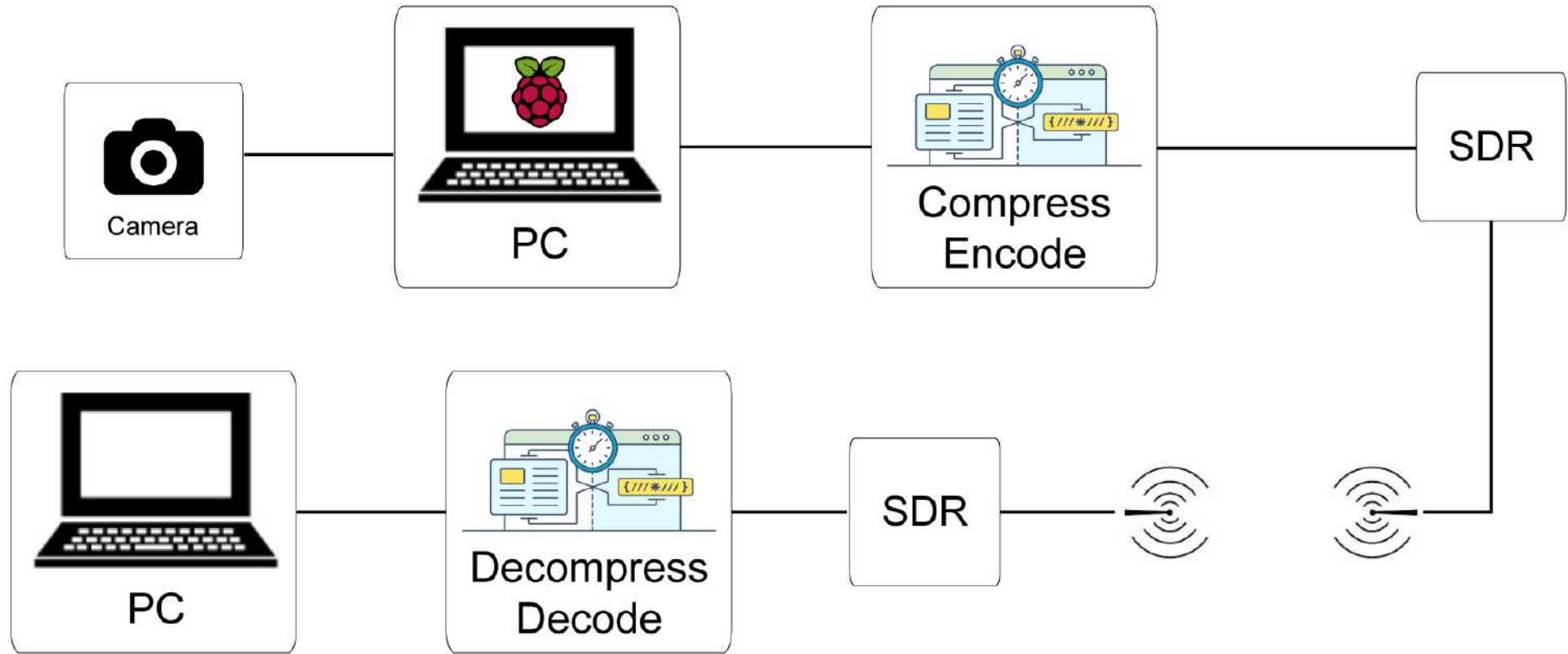


Field tests experiments

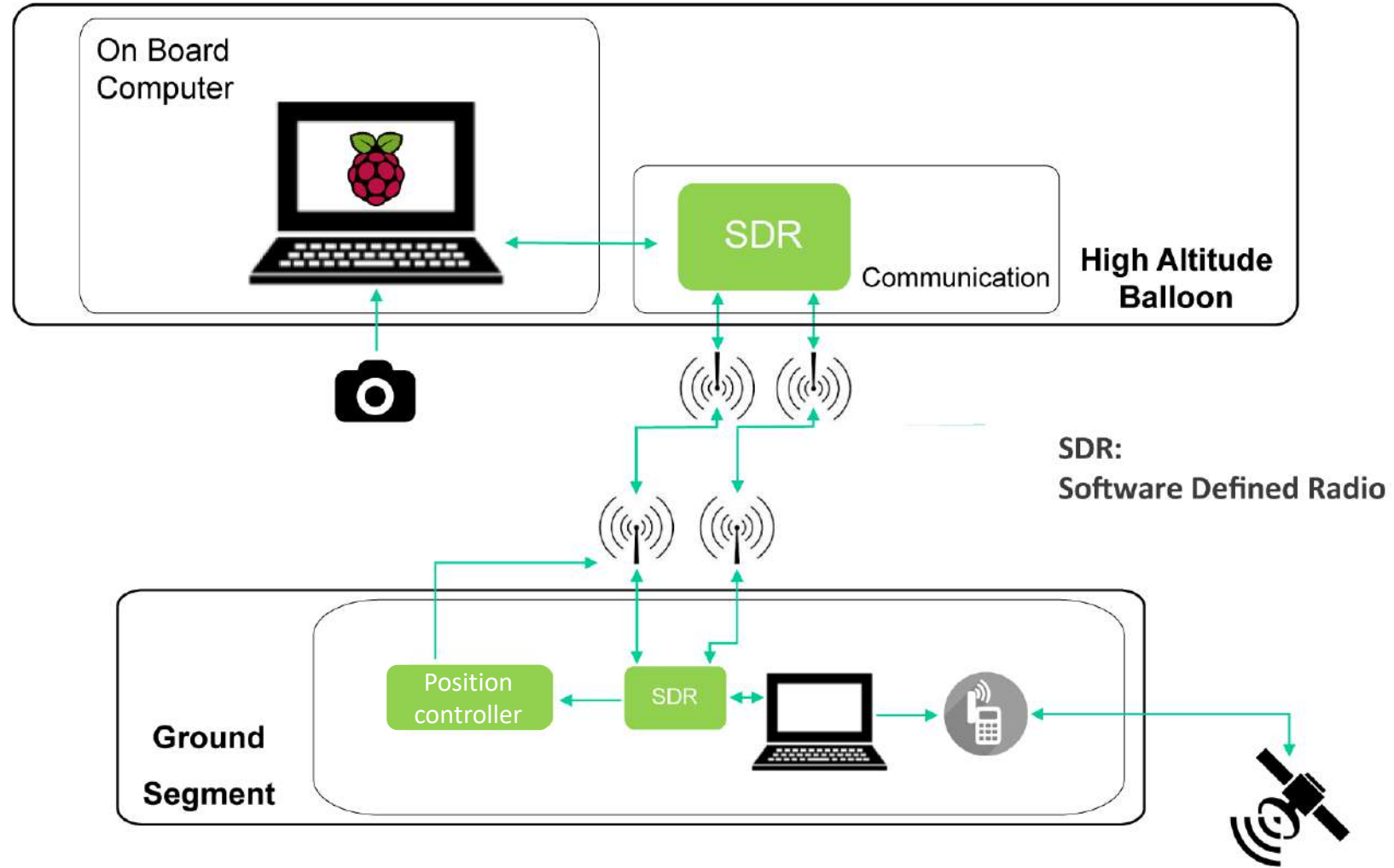
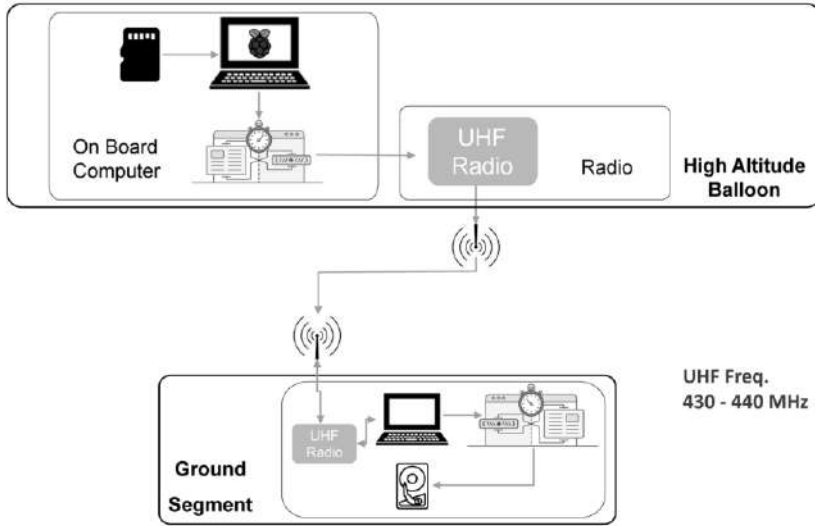


Communications development





Next steps





Next steps

Next week:

- Field tests with prescribed burns at Miranda do Corvo

Balloon launches:

- To evaluate the sensors performance at higher altitudes
- To test the communications for range, latency and signal quality





Consortium



instituto de
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Acknowledgments



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