ACT·IN SPACE

Create a user friendly software or application to manage the system

Code the app or a software to track the flight and to collect the data

Drones to replace probe rockets!

Work on the feasibility to manage measurement campaigns by using drones or ballons and develop a business plan

Model the flight plans to be followed before, during and after the take-off

CNES17

Reduce the need of probe-rockets

FROM SPACE

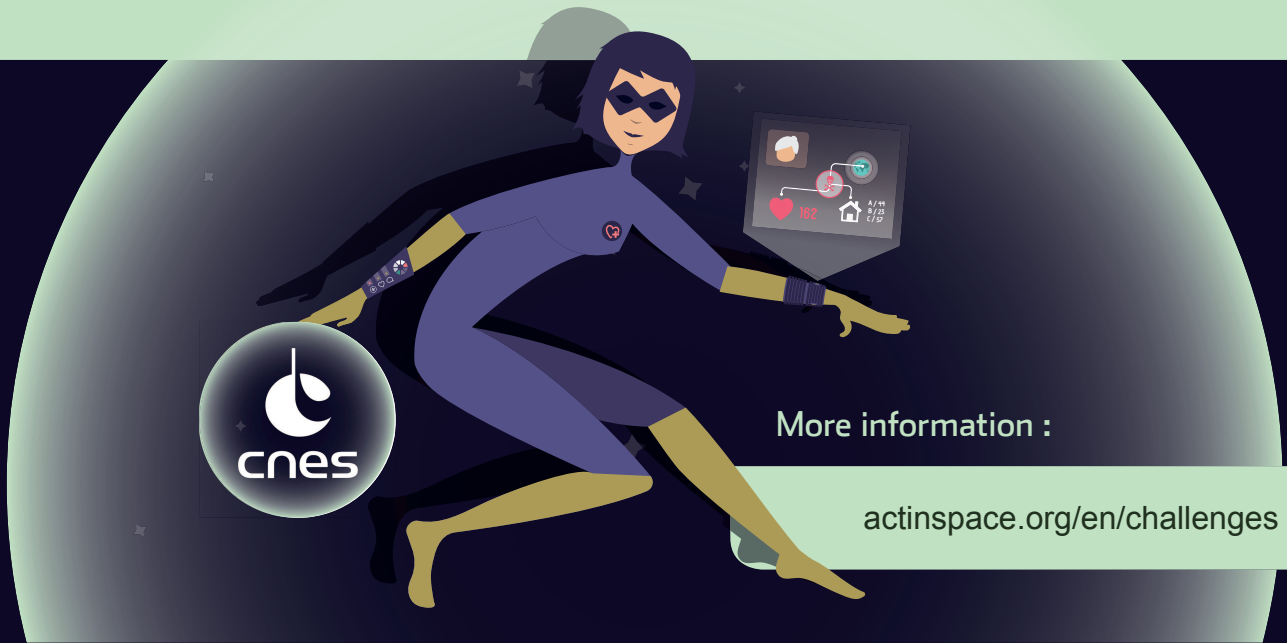
For a launch to be sucessful, you have to the evaluate weather forecast. In fact while crossing a cloud mass, a launcher is a risk to be struck by lightning.

The weather forecast has to be extremely precise, but right now it is difficult to achieve this level of accuracy locally; winds for example change with altitude.

Weather balloons could be a good answer to this, however difficult to manage so close to the launching time.

TO THE CHALLENGE

The weather data gathering in the atmospheric layers right above the launcher could be done by drone. This challenge is all about the rapidity of the data acquisition.
For security reasons, flights over launch sites are highly regulated.
Your drone has to take off, reach a distance between 3 to 5 kms and return in a very short time.
Define a flight configuration responding to the safety conditions, and that is compatible with weather data gathering while selecting the good sensors (moisture, pressure …).
Model the flightpath to take, before, during and after the take off for a complete data acquisition.
The programming course must be adaptable to other conditions, particularly after disasters where the drone would measure the pollution, the extent of the pollution and its location.
Beforehand, you'll have to focus on the defining the cost of such a campaign and the necessary materials needed, as well as it being ready to be used in a very short time.



More information :

actinspace.org/en/challenges