# Primary CONOPS

## Summary

- Using a UAS to observe to monitor a solar plant power.

- The UAS shall be equipped with a thermal camera and a normal camera.

- During the operation the vehicle flies automatically following a pre-determined trajectory (from taking off to landing) and it operates outside of the visual observation of the pilots.

- The pilot recognize the situation of the vehicle and the solar plant via equipment in the ground control station

## Primary CONOPS description

### Characteristic of the operation

- The maximum altitude of the vehicle: 30m

- Flight range: 4km

- During the operation, the aircraft fly at the auto mode under the monitoring of the pilot.

- Type of the operation: BLOS

- The vehicle fly over a solar plant. Around this plant, there is not any habitant.

- Within the airspace above the plant, the air traffic is very low. Almost, there is not any aerial activity near the plant. The plant is far from every airports.

### UAS

- Maximum size of the vehicle: 1m

- The aircraft is equipped with a video camera and a thermal camera. The video camera has the resolution of 1920x1080 pixel and a view angle of 140o

- The aircraft communicates with the ground control station via RF modules dedicated for UAS operation.

- The vehicle is equipped with a parachute which is activated in cased that a malfunction occurs. The malfunction which could active the parachute is IMU failures, motor failures. For other malfunction, the parachute could be activated manually by the pilot.

### Staffs

There will be two people involving directly the operation: a pilot and a support staff

- Pilot, who monitors and control the aircraft from the control station.

- Support staff, who observe visually the aircraft during the take\_off phase and landing phase. Moreover, the support staff is responsible for deploying/recovering the aircraft before/after the operation and performing the maintenance task.

**d. Emergency Response Plan**

- is suitable to the operation

- limits the escalating effect

- defines clearly remote crew-member(s) duties

- defines criteria to identify an emergency situation