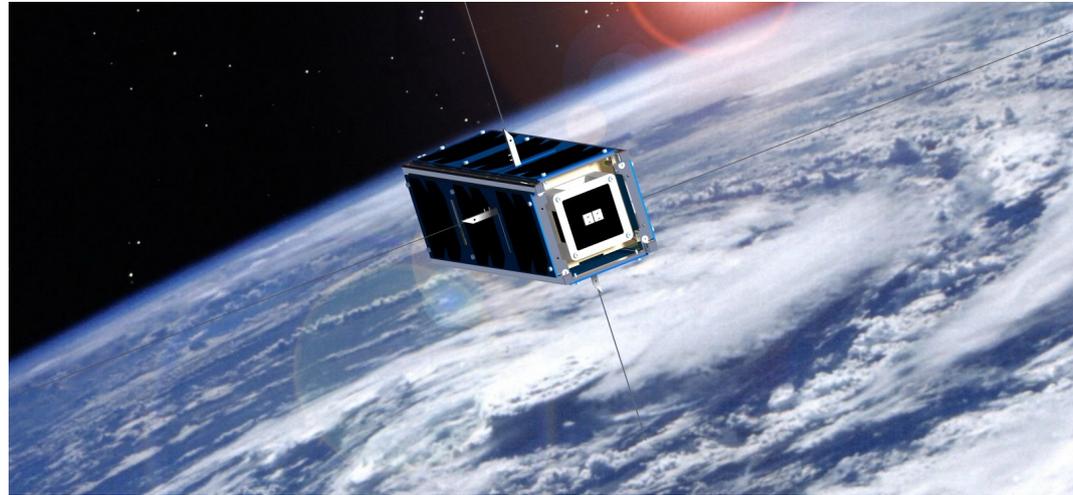




Labex **UnivEarthS**



IGOSAT, CubeSat 3U Etudiant

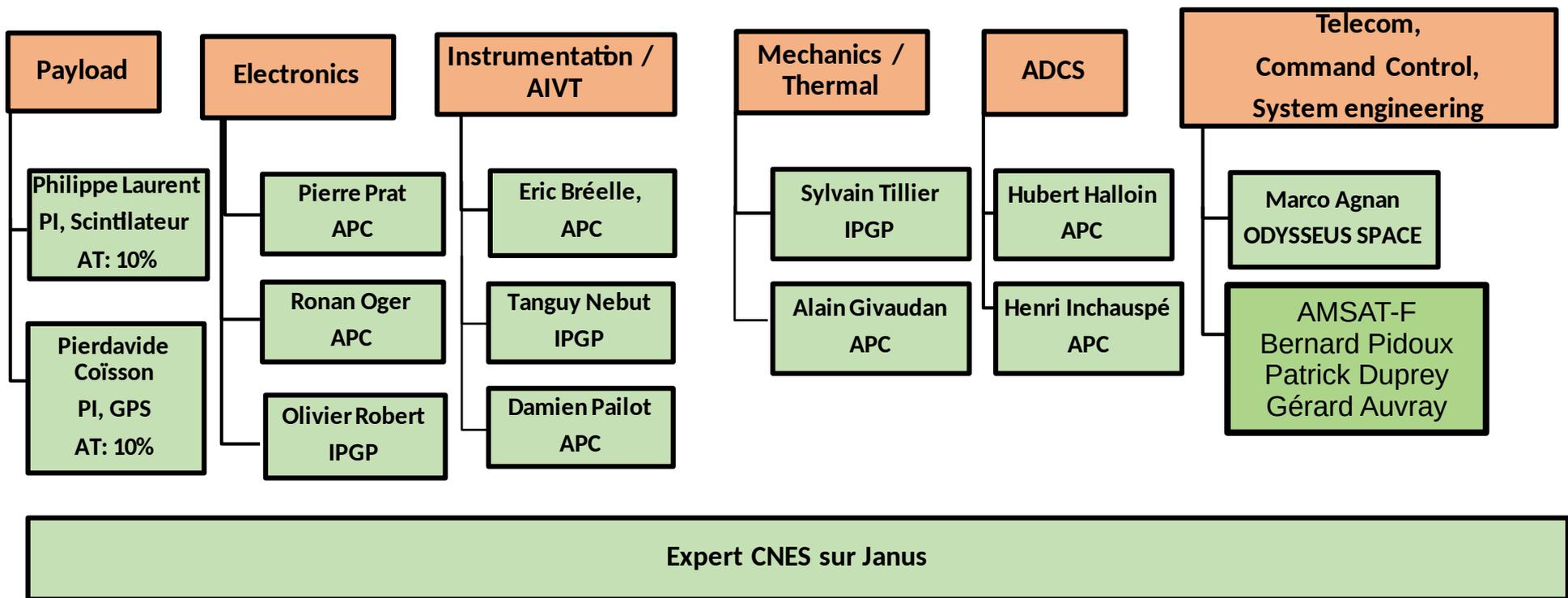


L'équipe

Sébastien Durand
Chef de projet, ingénieur système,
ingénieur qualité

Hubert Halloin
PI, IGOSAT

Alexandre Malecot
Ingénieur software

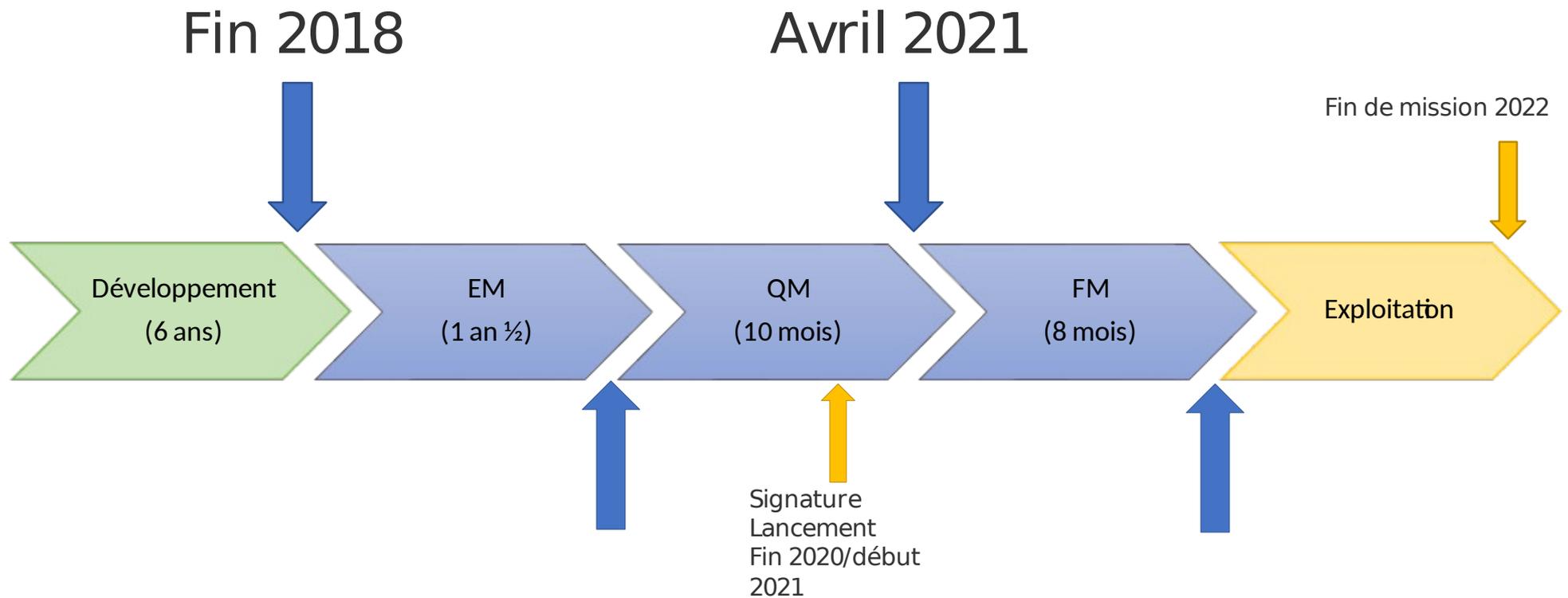




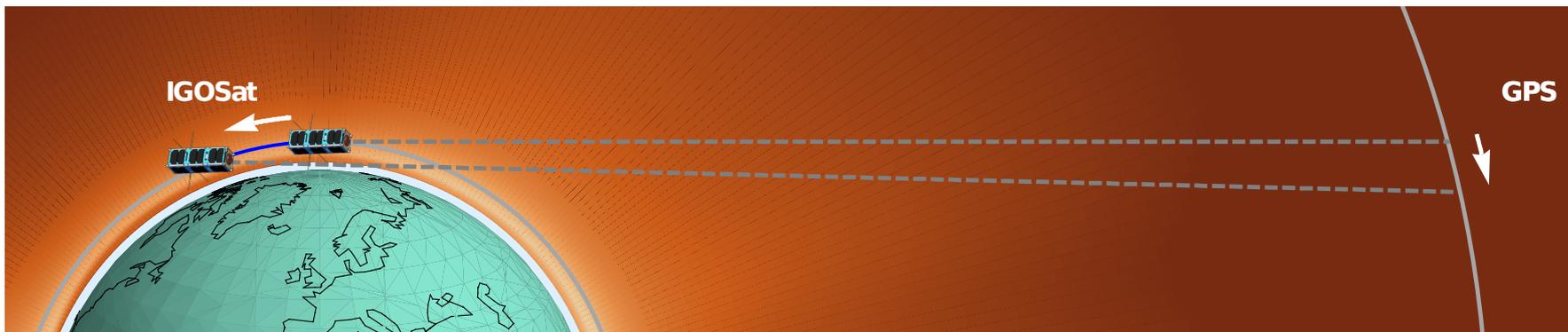
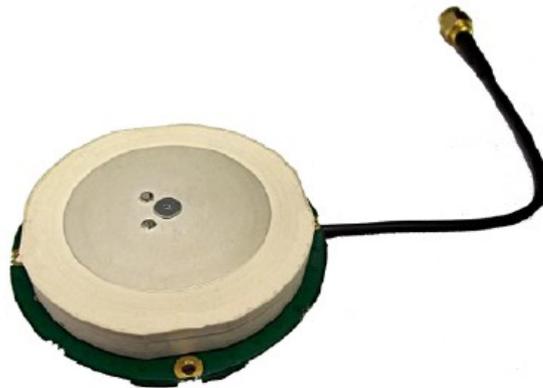
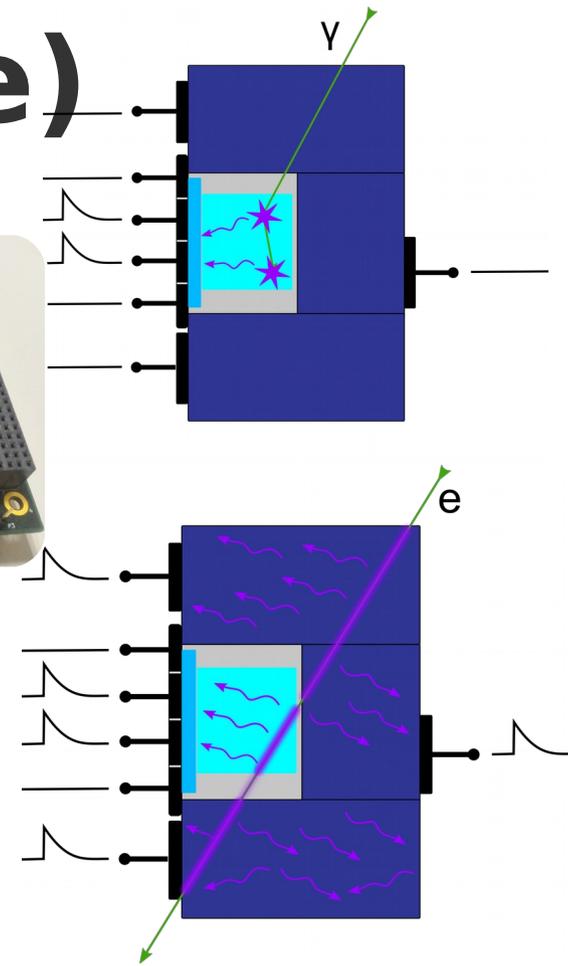
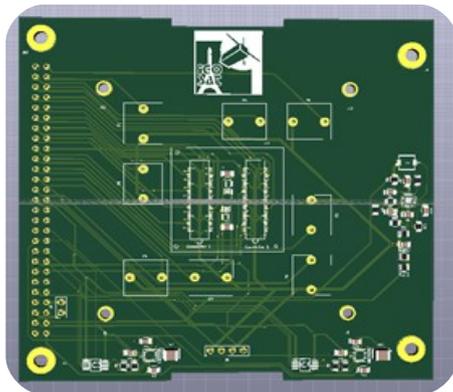
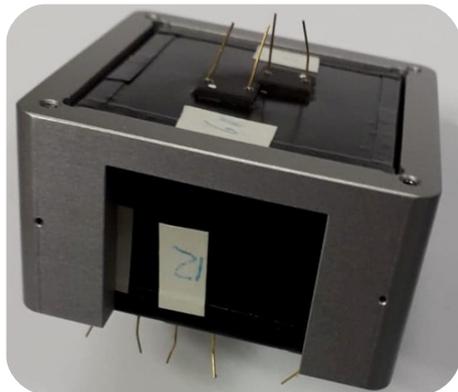
Le projet en quelques chiffres

- Budget total en fin de projet (lancement compris) :
1 500 000 d'euro
- Nombre d'étudiant impliqué :
entre 300 et 400 étudiants de L3 à M2 (+1 thèse)
- Nombre de Stage de 2 à 6 mois :
80 stagiaires français et internationaux

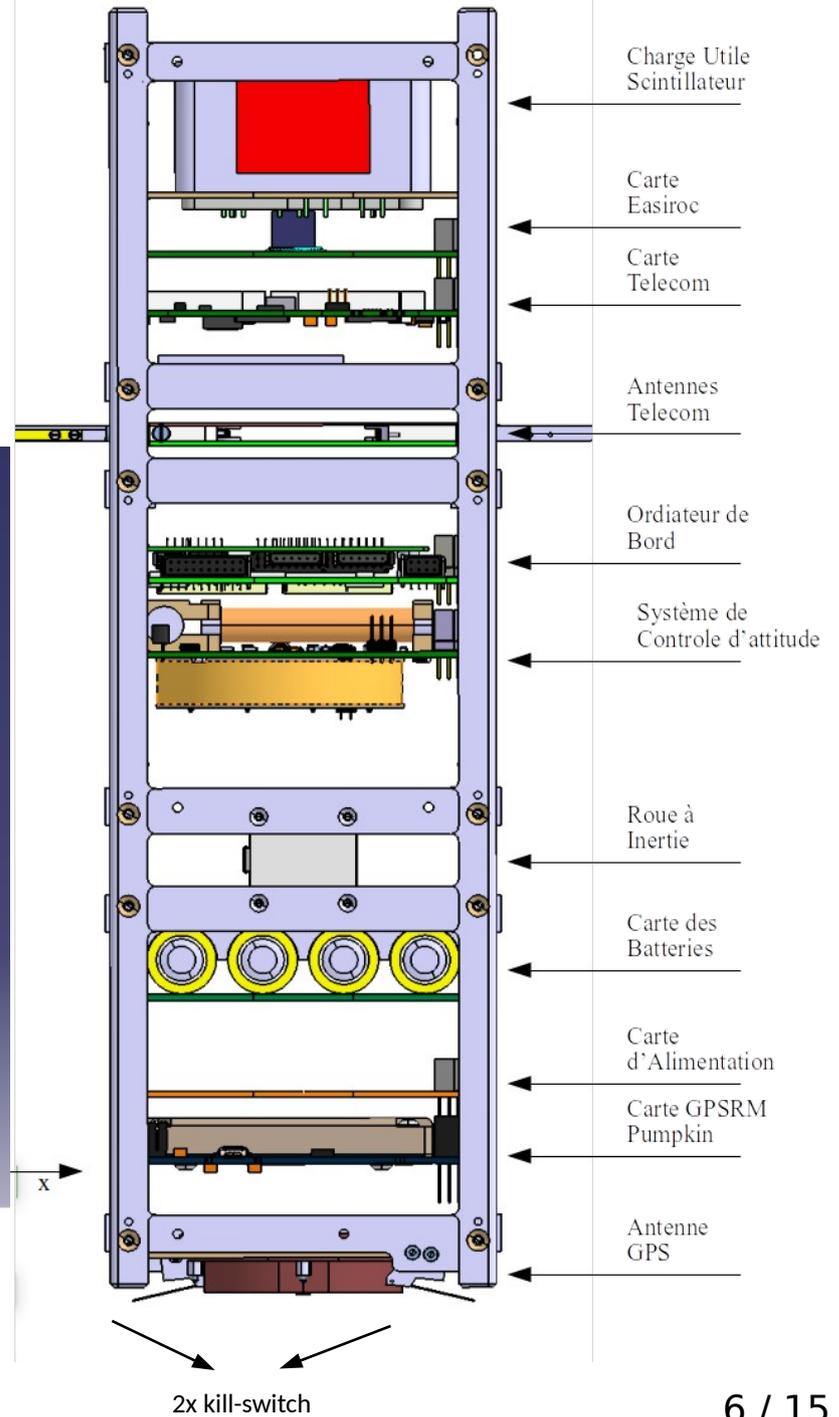
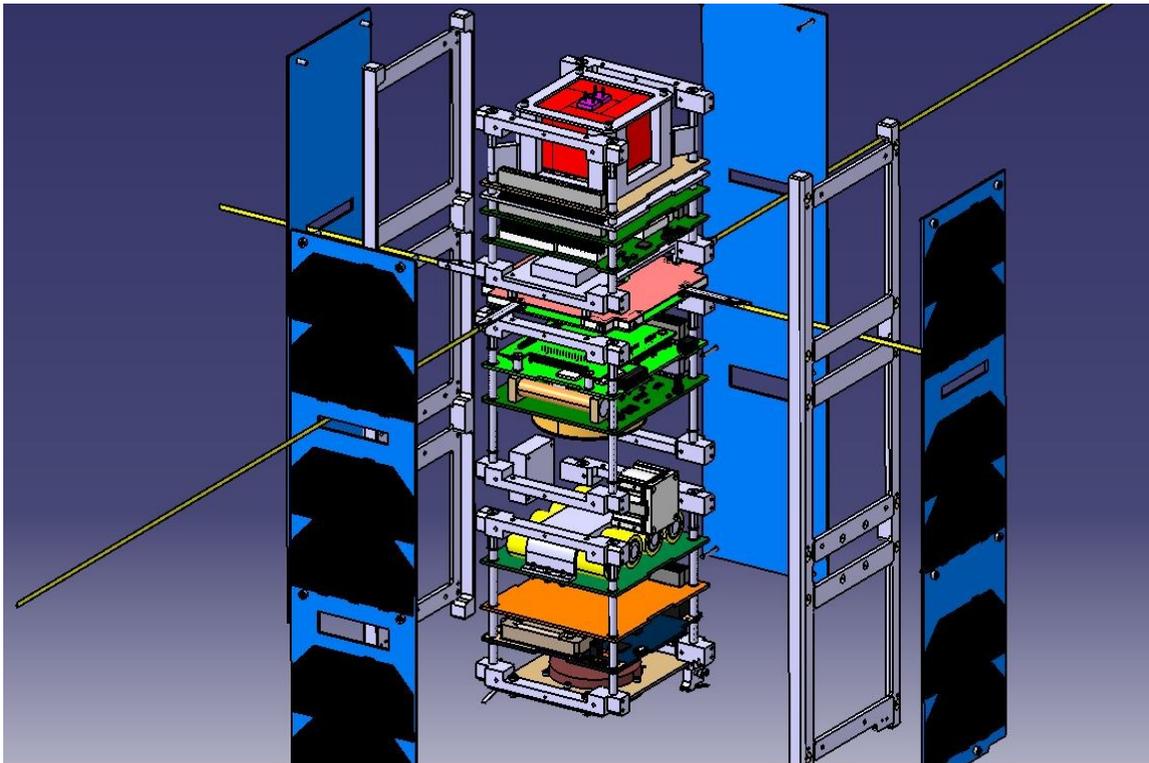
Le calendrier



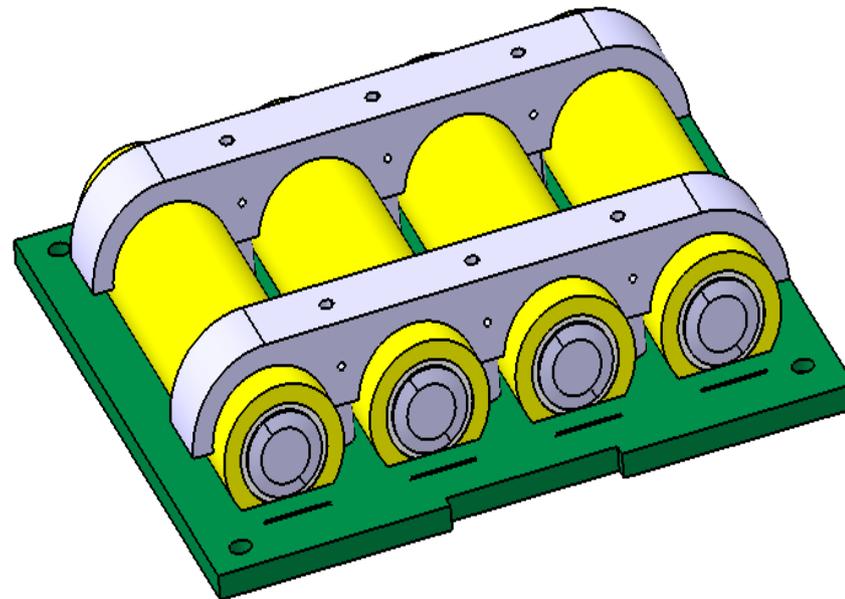
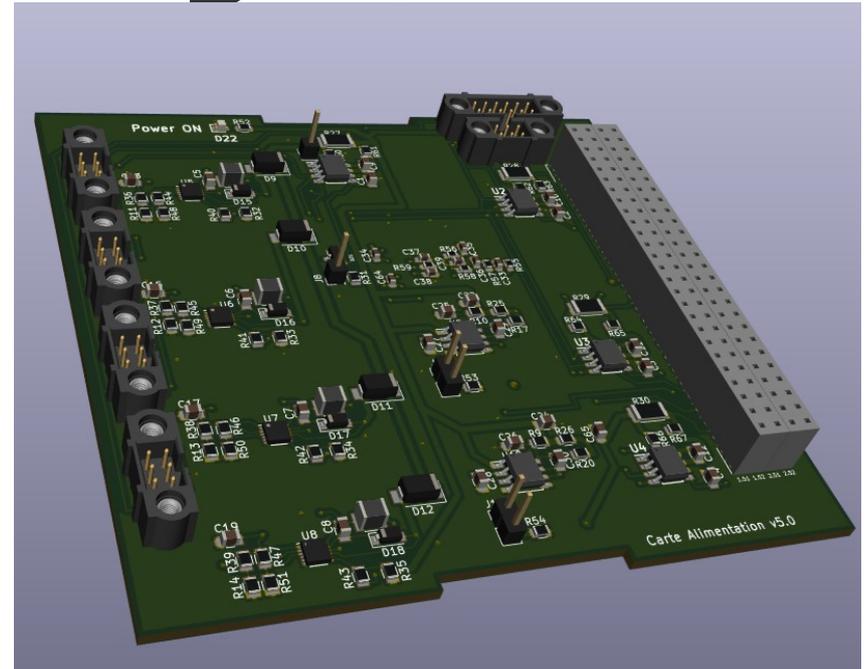
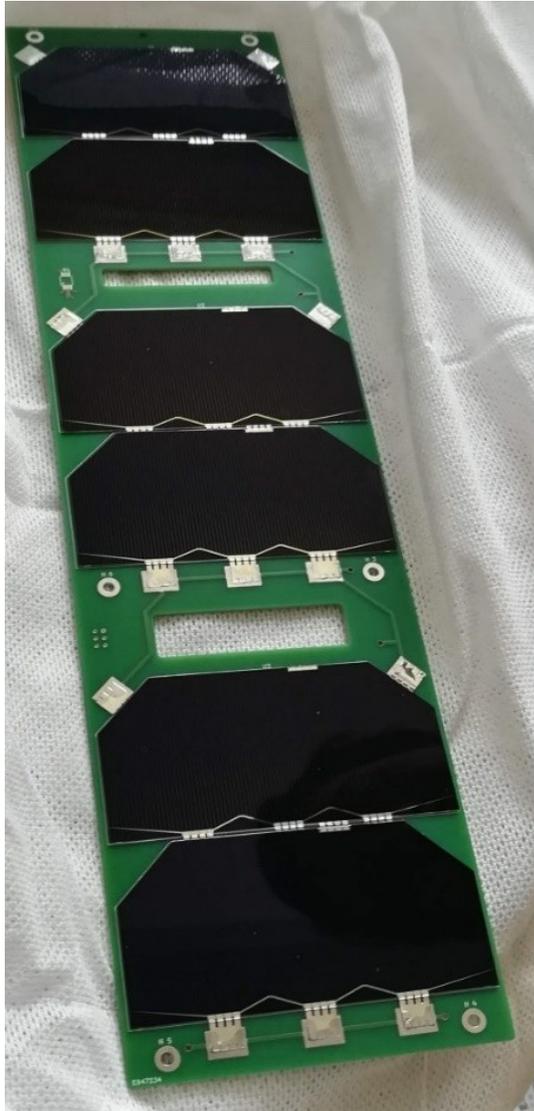
Le CubeSat (Science)



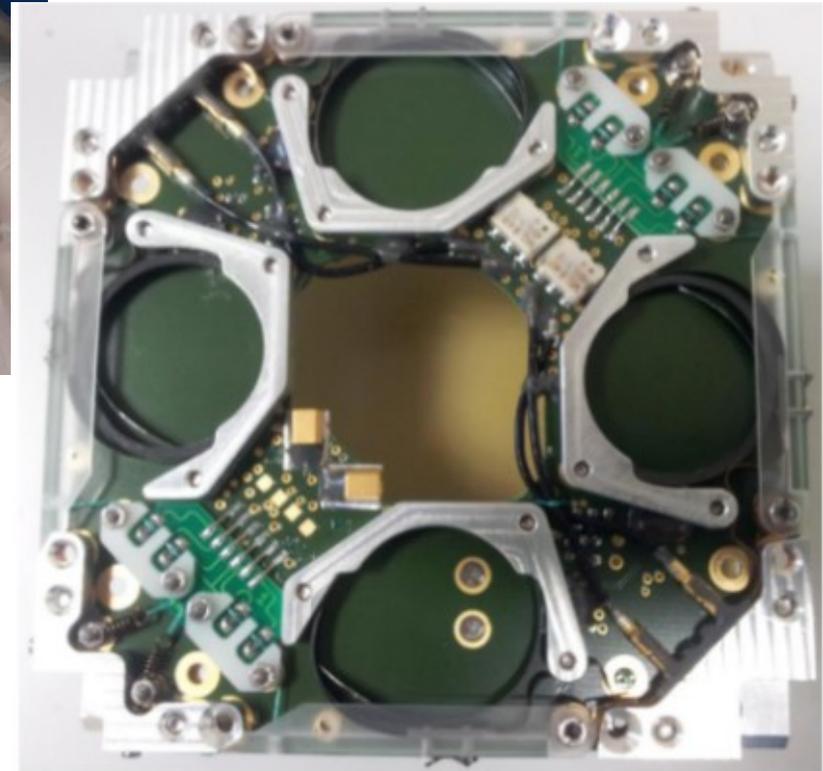
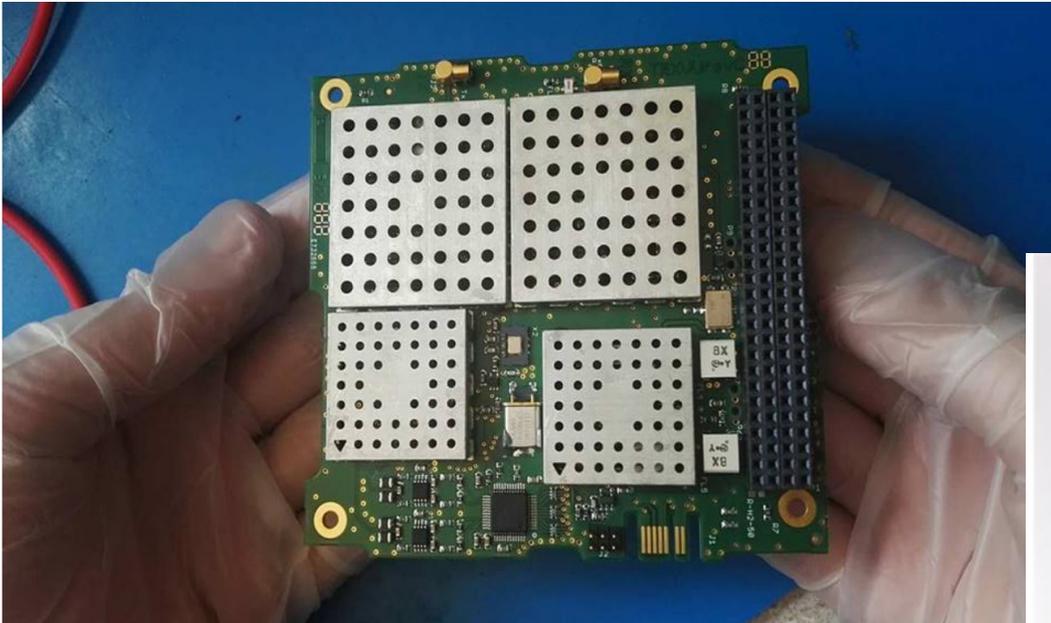
Le CubeSat



Le CubeSat (énergie)



Le CubeSat (Télécom)



La station sol

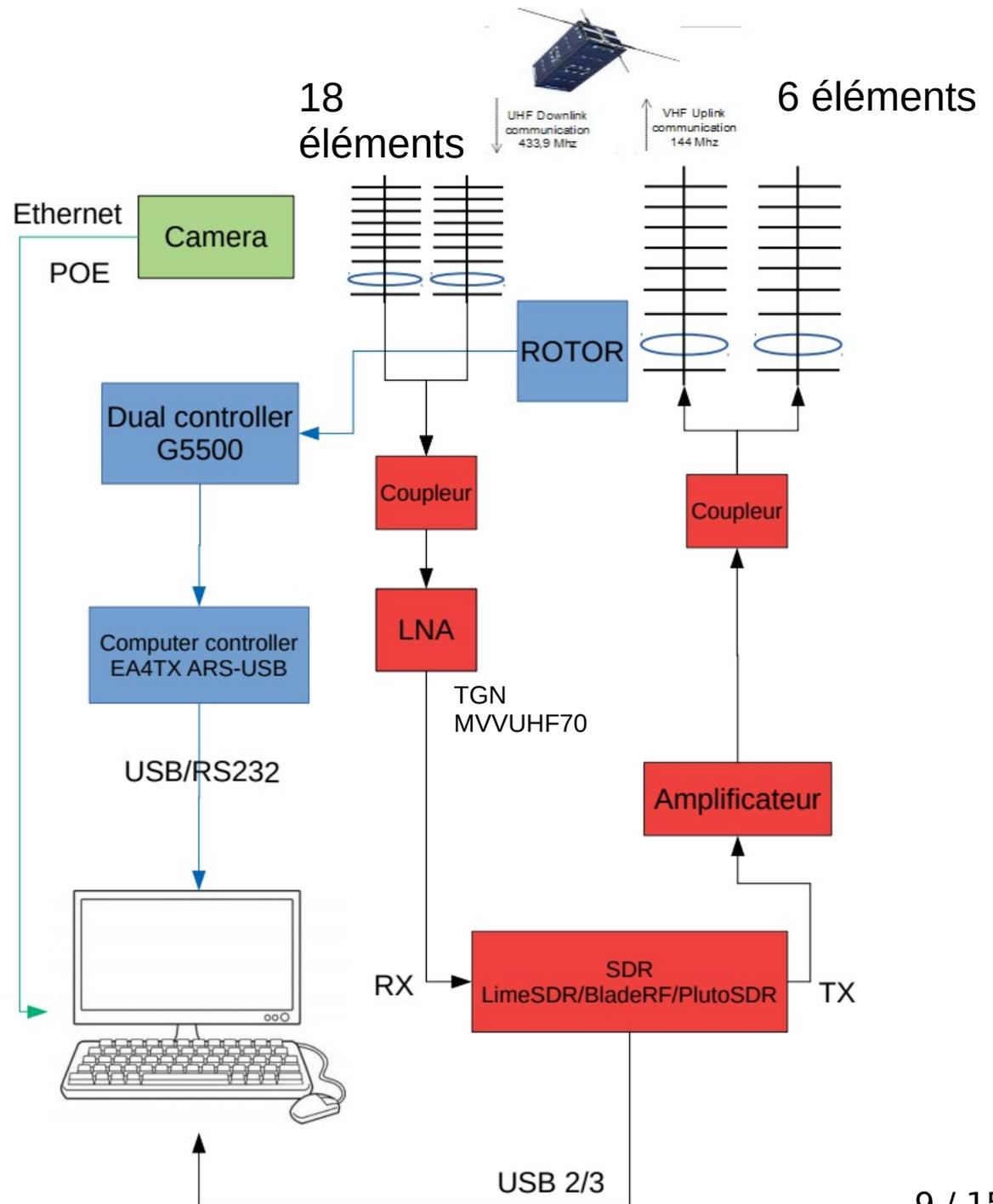
Responsable :

Marco Agnan (F4HPI)

DownLink : 435,525 MHz
GMSK (G3RUH)
9600bds – FX.25

UpLink : 145,925 MHz
FSK – 9600bds max

Identifiant Station : F4KJO
Identifiant CubeSat : FX1ZBT



La station sol (poste pilotage)



Station Sol (Antennes)



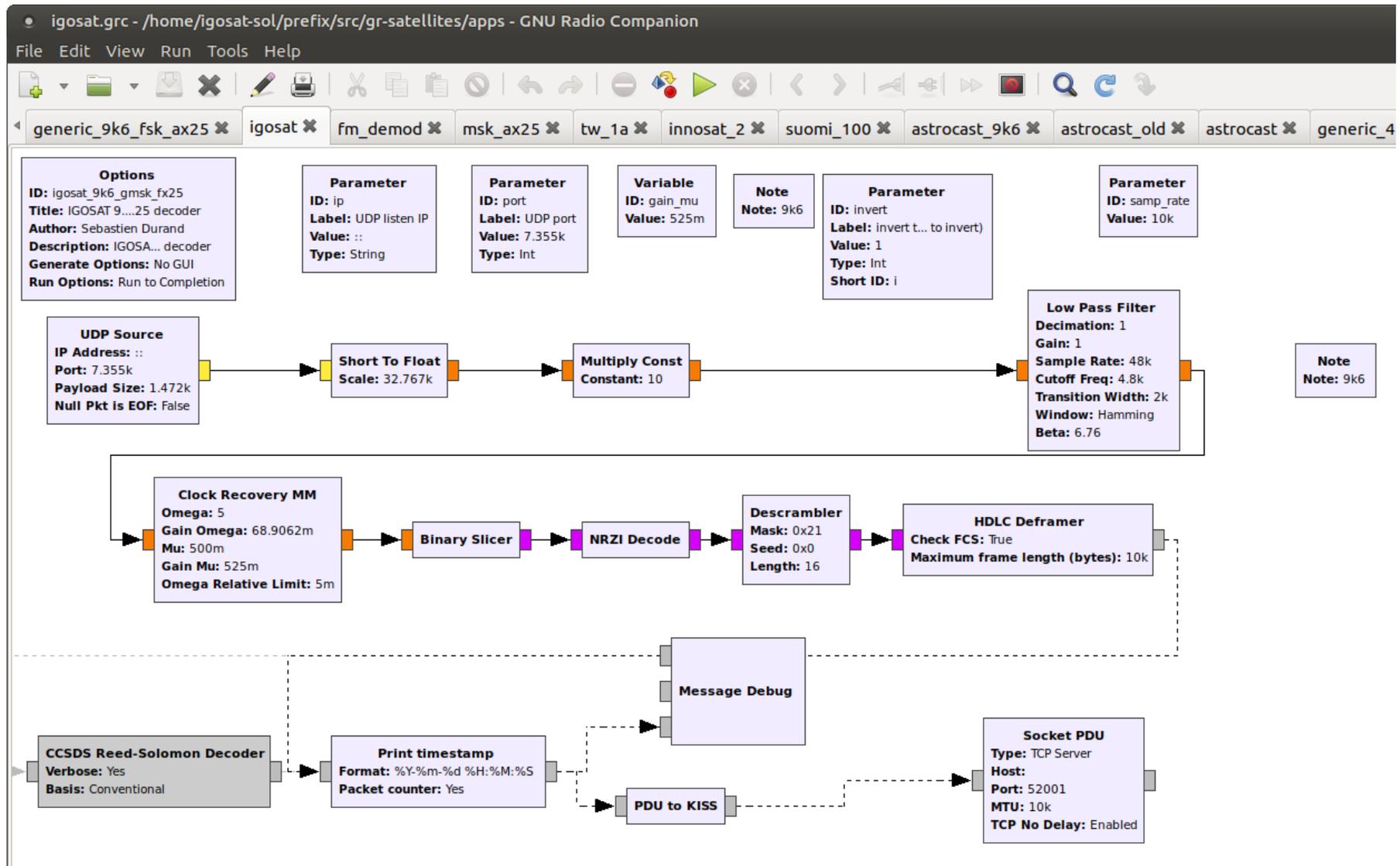
La station sol (Réception)

The screenshot displays the Gpredict software interface, which is used for satellite tracking and reception. The main window is divided into several panels:

- Top Left:** A world map showing satellite footprints for various satellites like IGSAT-1, IGSAT-2, IGSAT-3, IGSAT-4, and IGSAT-5. A specific satellite, LUME 1, is highlighted.
- Top Center:** A panel titled "Lien descendant" (Downlink) and "Lien ascendant" (Uplink). It shows the frequency of the signal: 437.060000 Hz for the downlink and 145.890000 Hz for the uplink. Other parameters include Doppler shift (-10275 Hz and 3430 Hz) and LO (0 MHz).
- Top Right:** A panel titled "LOS dans 01:08" (LOS in 01:08), showing the time until the satellite is out of sight. It includes a "Cible" (Target) dropdown set to "LUME 1" and "Suivi" (Track) button.
- Bottom Left:** A panel titled "Gpredict Rotator Control: Amateur" showing the rotator's position: Azimut 345.56° and Élévation 3.07°. It also includes a "Cible" dropdown set to "LUME 1" and "Suivi" button.
- Bottom Center:** A large spectrum plot showing the received signal. The frequency is 437.049.727 kHz. The plot shows a clear signal peak at this frequency. A tooltip indicates the signal is from "2019_10_31 11:34:52.759" at "437017.281 kHz".
- Bottom Right:** A panel titled "Input controls" with various settings for the receiver, including LNB LO (0.000000 MHz), LNA (43.6 dB), and Freq. correction (71.0 ppm).
- Bottom Far Right:** An "Audio" panel showing the received signal's waveform and a "Gain" slider set to 18.3 dB.

The interface also shows a "Menu" bar at the top left and a system tray at the top right with the date "Jeu. 31 oct., 11:34".

La station sol (GNU Radio)





Grand jalon Radio

- 11/2019 : première réception et décodage de CubSat et tracking via la station sol.
- 12/2019 : première réception du beacon de l'EM de IGOSAT, décodage et interprétation ASCII
- 03/2019 : première émission du banc de test vers IGOSAT et bonne réception via l'OBC.



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YOU**

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