

2018-12-18 meeting

Type: **board meeting**

Meeting time: **18:30 – 19:20**

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Number of people: **8**

Subsystem	Subsystem referent(s)
Structure	Adrien Cassagne
Thermal	Johan Alberti
ADCS	Paula Marin Banqué
Payload	Javier / ABS
Power	Aly
Mission Analysis	Pierrick
Systems engineering	Cedric / Pierre
OBDH	ABS
Communications	ABS

Deadline is set for the 10th of January for the iteration 0.

Question: iteration review directly on the 10th or on the 17th?

--> 10th of January: iteration review!

Second meeting: Tuesday evenings?

--> yes, first at INSA, then we might move out

Test of presenting each other's results each Thursday

DME: a mission concept was proposed by a CNES expert after a meeting with the payload team. The objective is to study the interference between DME signals (used to communicate between planes) and the satellite communications E5 Galileo frequency band. The expert stated that for a DME mission support could be brought by CNES.

Subsystem status:

Payload gravimetry: fine for the moment. They have an idea of the system they will use, based on technical solutions that already exist on the market. They got components specs, and they got into simulations/calculations to know whether the targeted precision can be achieved. Objective: establish a mission requirements document for Christmas.

Power: they worked to have a simulation of charge/depletion of the batteries over time. They focused on power generation to have precise measurements of the power collected at each orbit. They are awaiting for Matthieu Vuillemin's answer about that, to set a meeting to discuss this with him. Thus they will be able to make their calculations.

Thermal: they circled around for some time. As long as the components are not delivered, they will take components in CubeSatShop plus the payload components to make their simulations. On Thermica, they are implementing a simulation for a spherical model with conduction and radiation.

Structure: they went from a structure they got in CubeSatShop. They reversed engineer it, and they replicated it. Problem is on CubeSatShop it was only two 1U with some constraints. Now they are trying to get one 2U model.

They are making standardized cards to perform structural simulations and to. They are also working about integration (structural interfaces, screws, materials). They intend to deliver a final Catia structure for the 10th of January.

ADCS: they did not advance that much. They worked at understanding Pilia, with the help of Daniel. Now that can perform some simulations. They have to contact someone to help them (not done yet). They are working at modeling the accelerometers from the payload for the Pilia simulations. The most of their work is trying to figure out how Pilia works. 3 persons on the core of the work that has been done.

Mission Analysis: they worked from the ISS orbit. They used Satorb and GMAT. GMAT gave 133 days lifetime in orbit. On Satorb they did the same simulation with the integration of Iridium satellites. They worked on the Doppler effect measurements, and radiation measurements (good for reliability) with HOMER.

Communications: they completed a link budget with the Kourou ground station. They got their data from EntrySat or from Airbus contacts. For other data they could not find they took large margins.

Miscellaneous information given (non-exhaustive):

Pizza next Thursday!!