

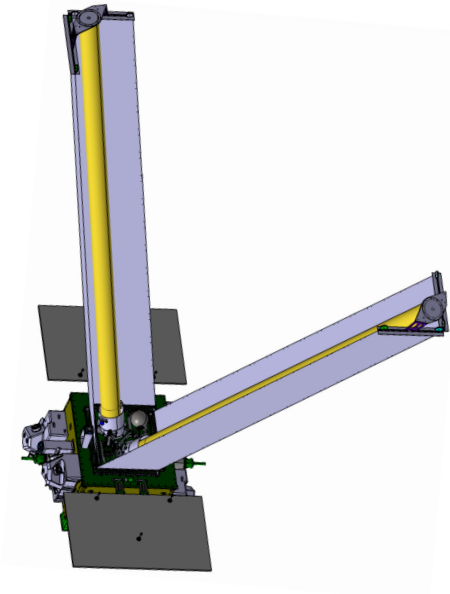
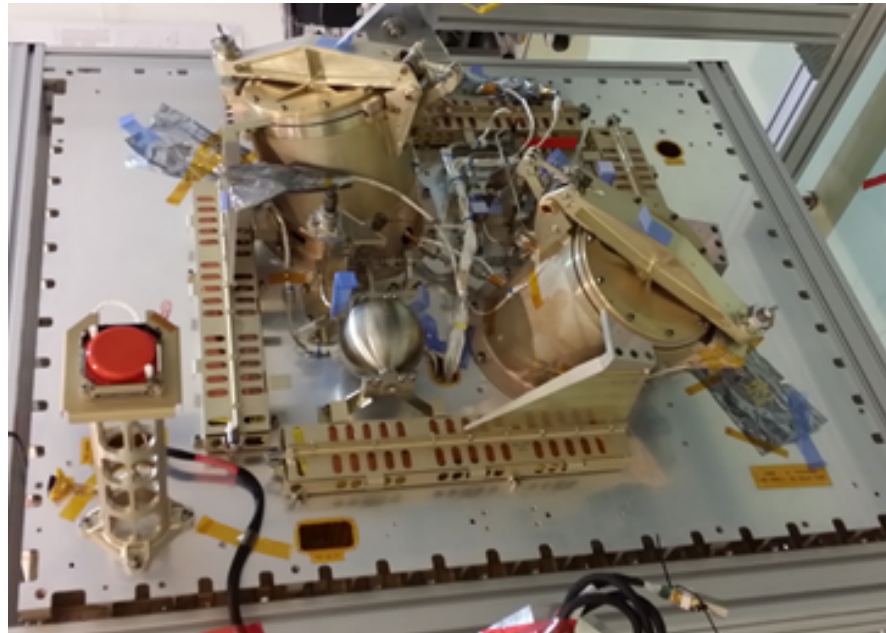


MICROSCOPE SATELLITE AND LAUNCH

Y.ANDRE DCT/PO/EU

SATELLITE PROGRESS STATUS

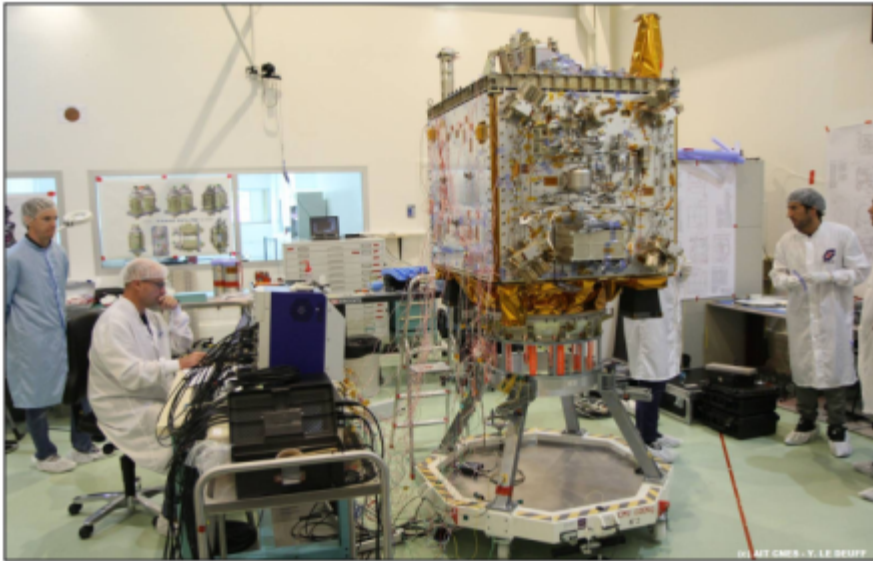
IDEAS Innovative DEorbiting Aerobraking System (IDEAS)



IDEAS Integrated on the +X satellite panel in March 2015

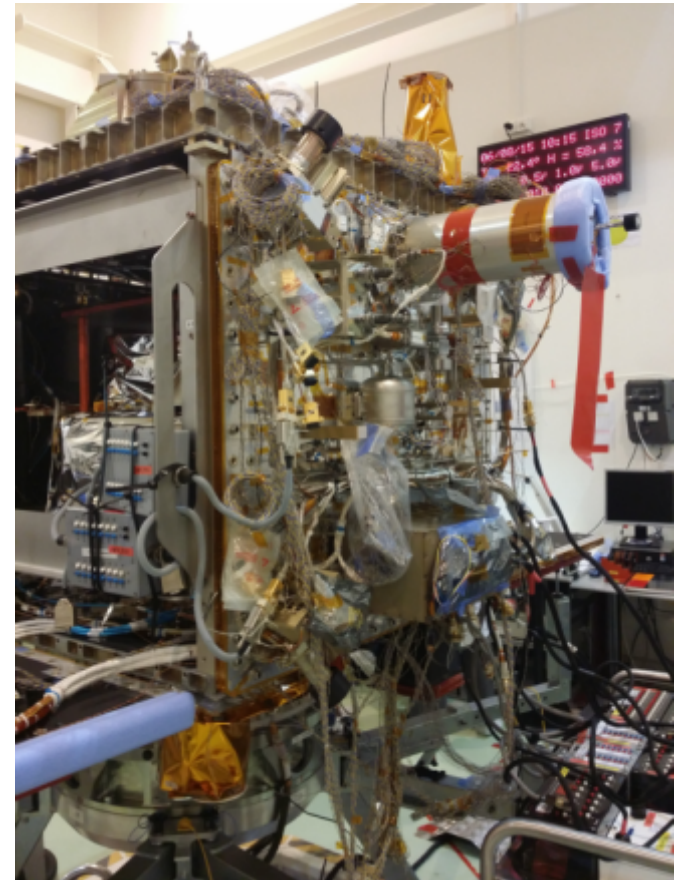
SATELLITE PROGRESS STATUS

Launcher Interface Drop test done end of June



SATELLITE PROGRESS STATUS

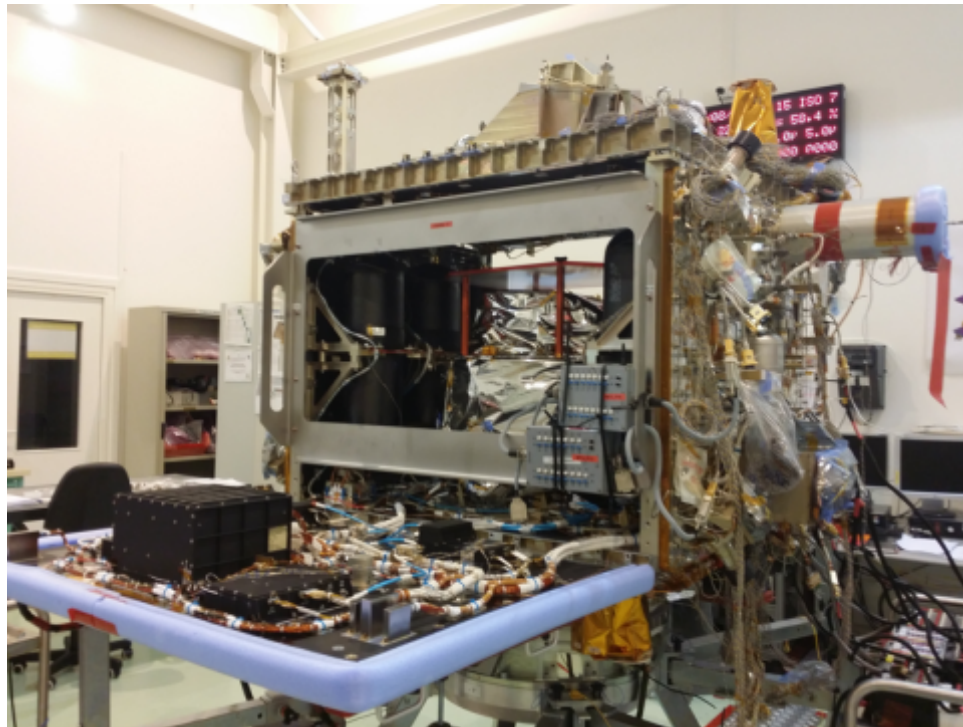
- Deliveries of the nominal thrusters the 17th of July and their Electronic boxes the 7th and 10th of August



Integration of the thrusters and their electronics

SATELLITE PROGRESS STATUS

- ◆ Electrical / Fonctionnal / Performance tests:
 - » Full Reference /Performance test
 - » EMC tests and Electrical Compatibility
 - » End to end SCAA Test (close loops: SCAA, payload and propulsion)



SATELLITE PROGRESS STATUS

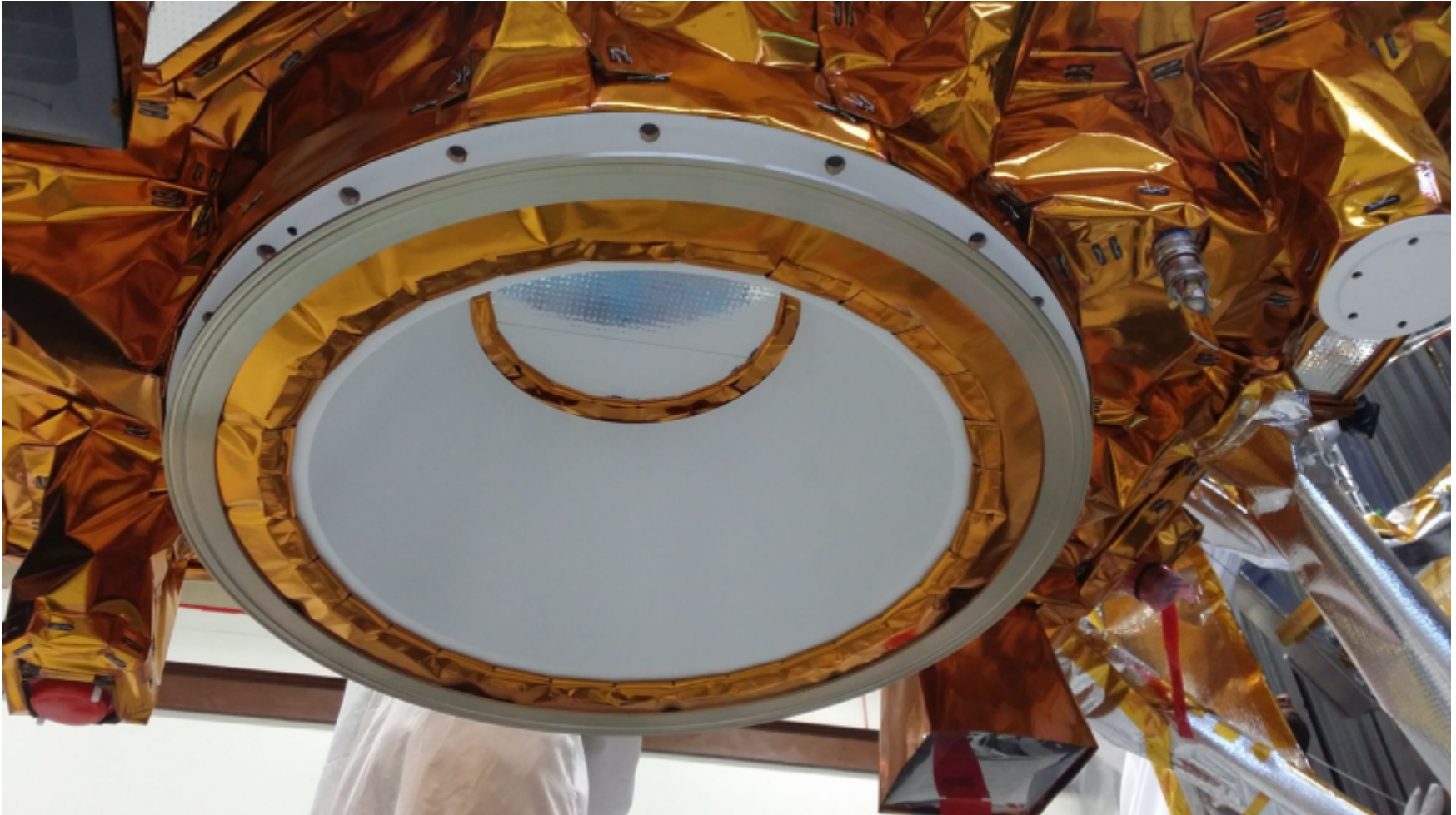
◆ Thermal vacuum test:



SATELLITE PROGRESS STATUS

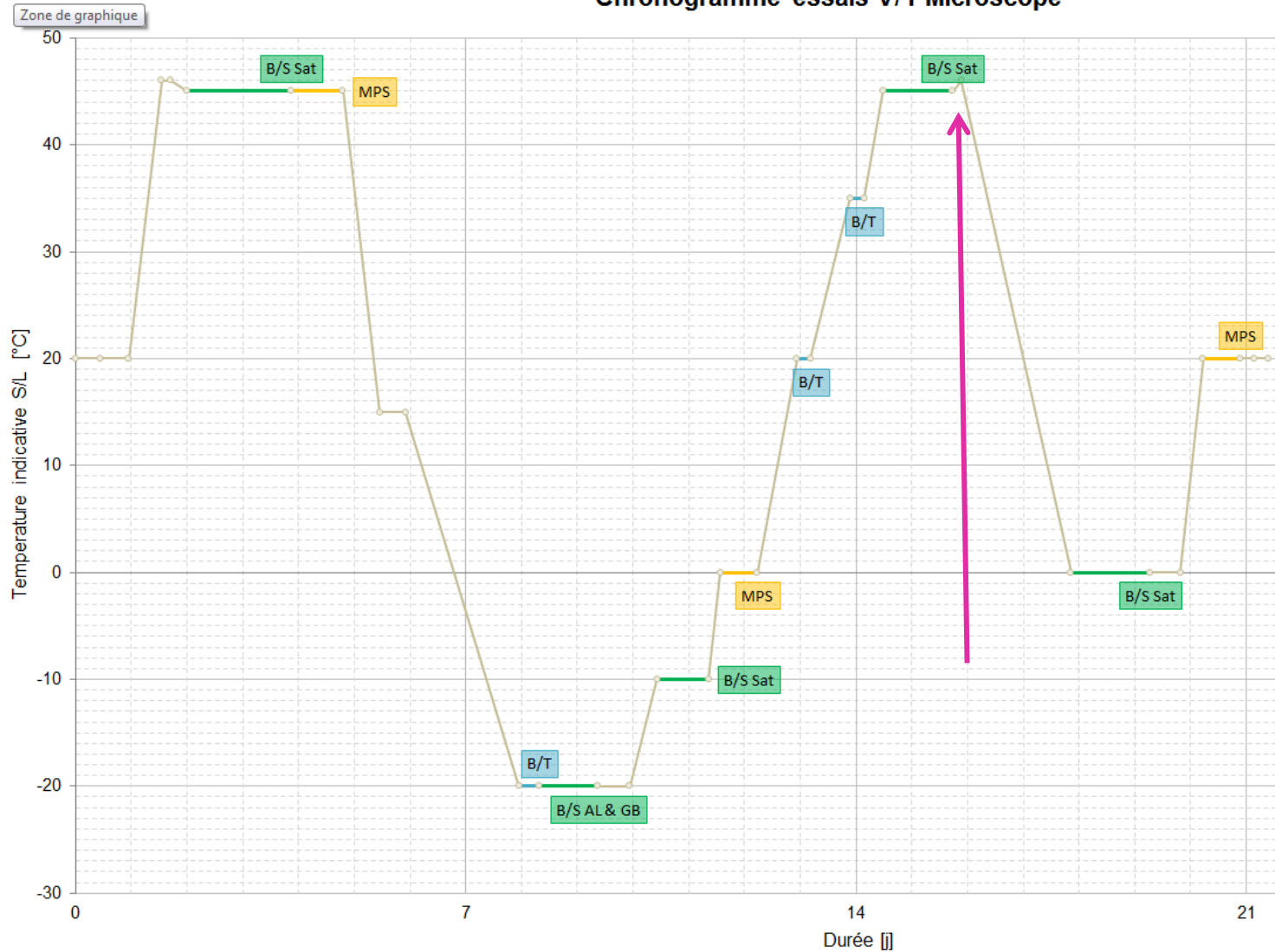


SATELLITE PROGRESS STATUS

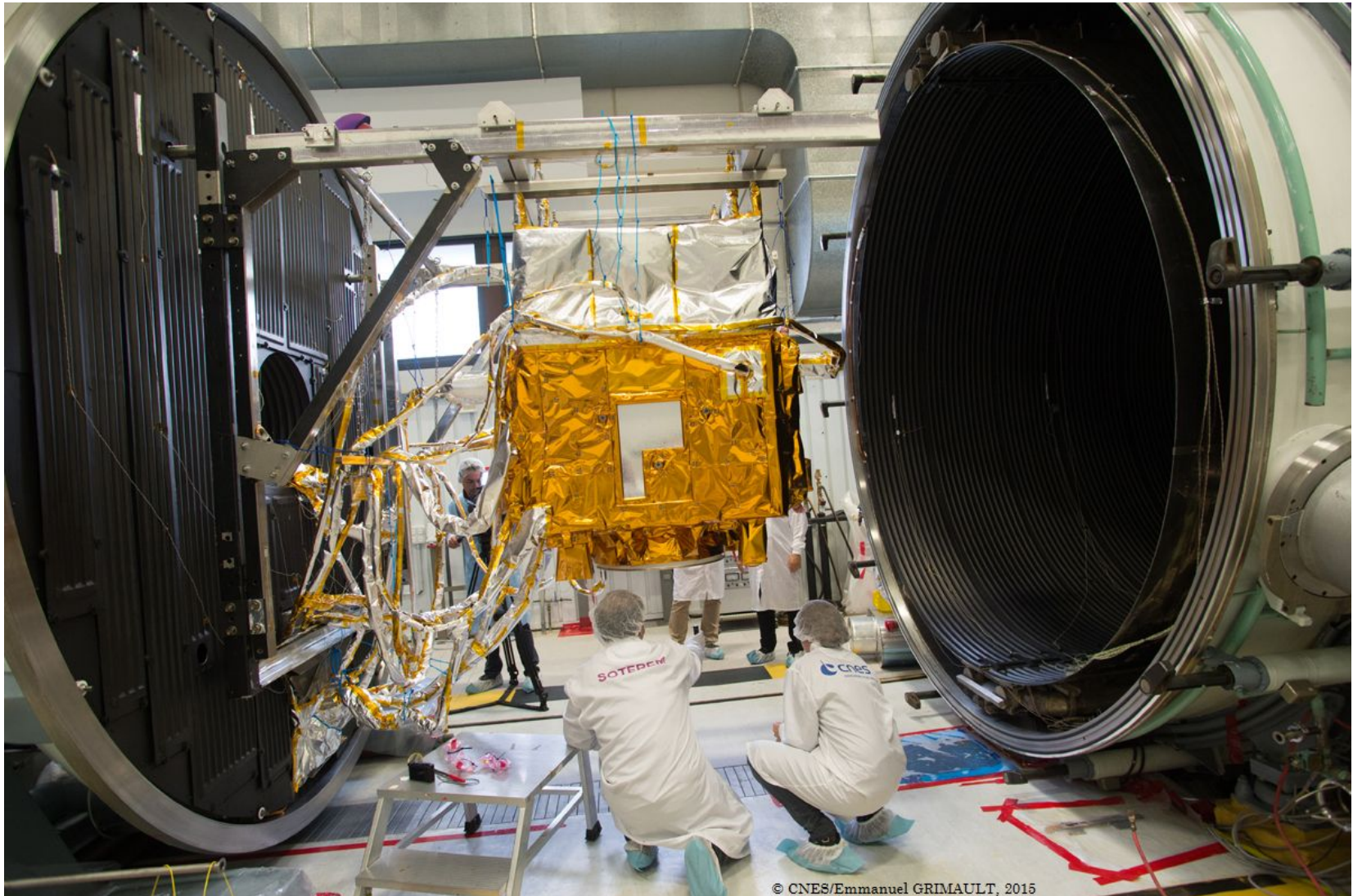


SATELLITE PROGRESS STATUS

Chronogramme essais V/T Microscope



SATELLITE PROGRESS STATUS



© CNES/Emmanuel GRIMAULT, 2015

Opening of the Vacuum Chamber the 2nd of November

SATELLITE PROGRESS STATUS

- ◆ Physical properties measurements: Mass, Center of gravity tuning and location, inertia: 7th and 9th of November



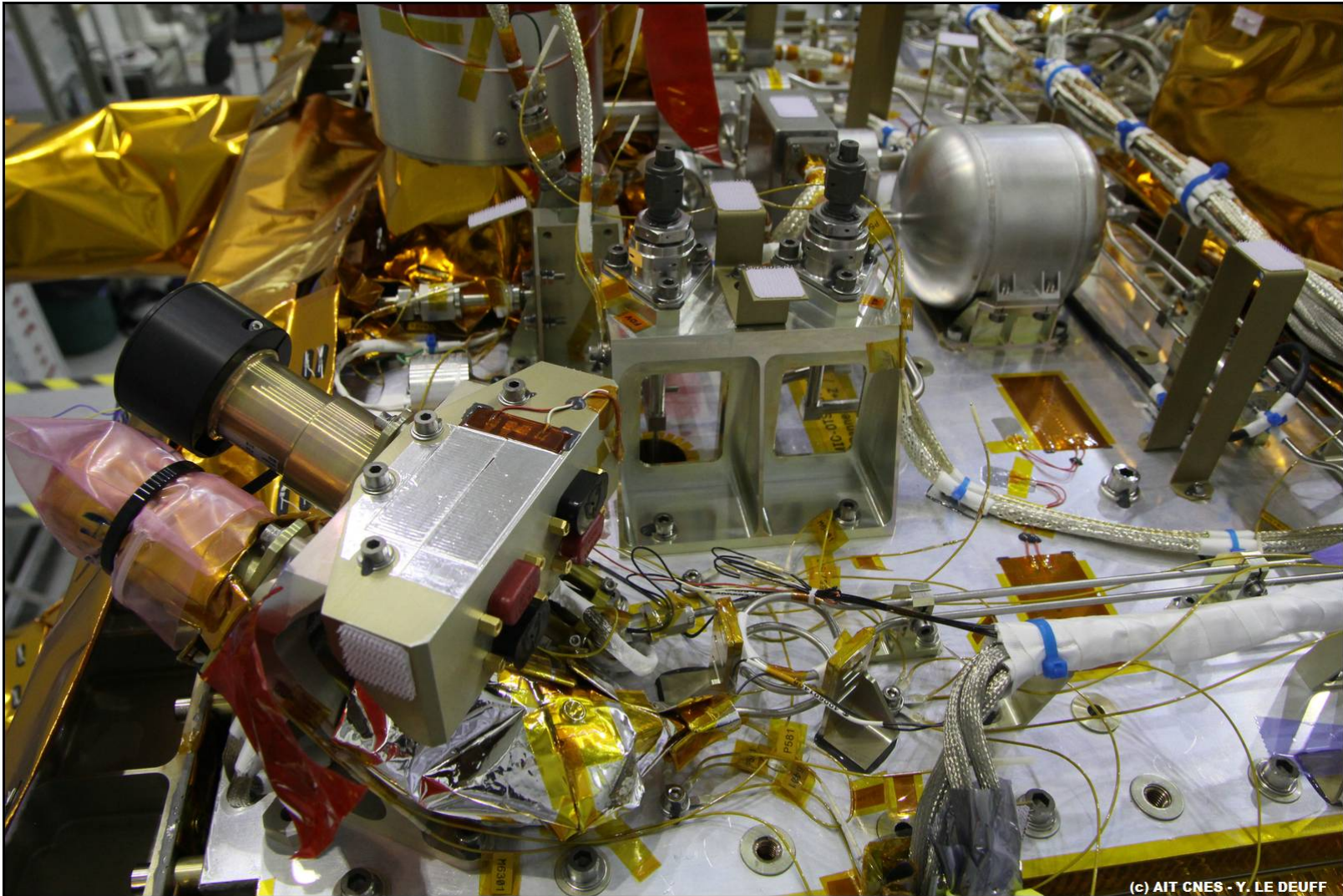
SATELLITE PROGRESS STATUS

- ◆ Integration of the redundant micro-thrusters: the 12th and 13th of November .



SATELLITE PROGRESS STATUS

◆ Integration of the redundant micro-thrusters:



(c) AIT CNES - Y. LE DEUFF

SATELLITE ACTIVITIES

◆ Major schedule activities after the thrusters functional tests:

- Solar Array Integration 24th and 25th of November
- Mechanical tests:
 - Vibration tests 30/11-05/12
 - Acoustic tests 07/12- 8/12
- Final Reference and Performance tests 16/01 – 30/01
- Final satellite configuration setting 01/02-09/02
- Transport to Kourou 19th of February
- Launch between the 1st and the 30th of April 2016

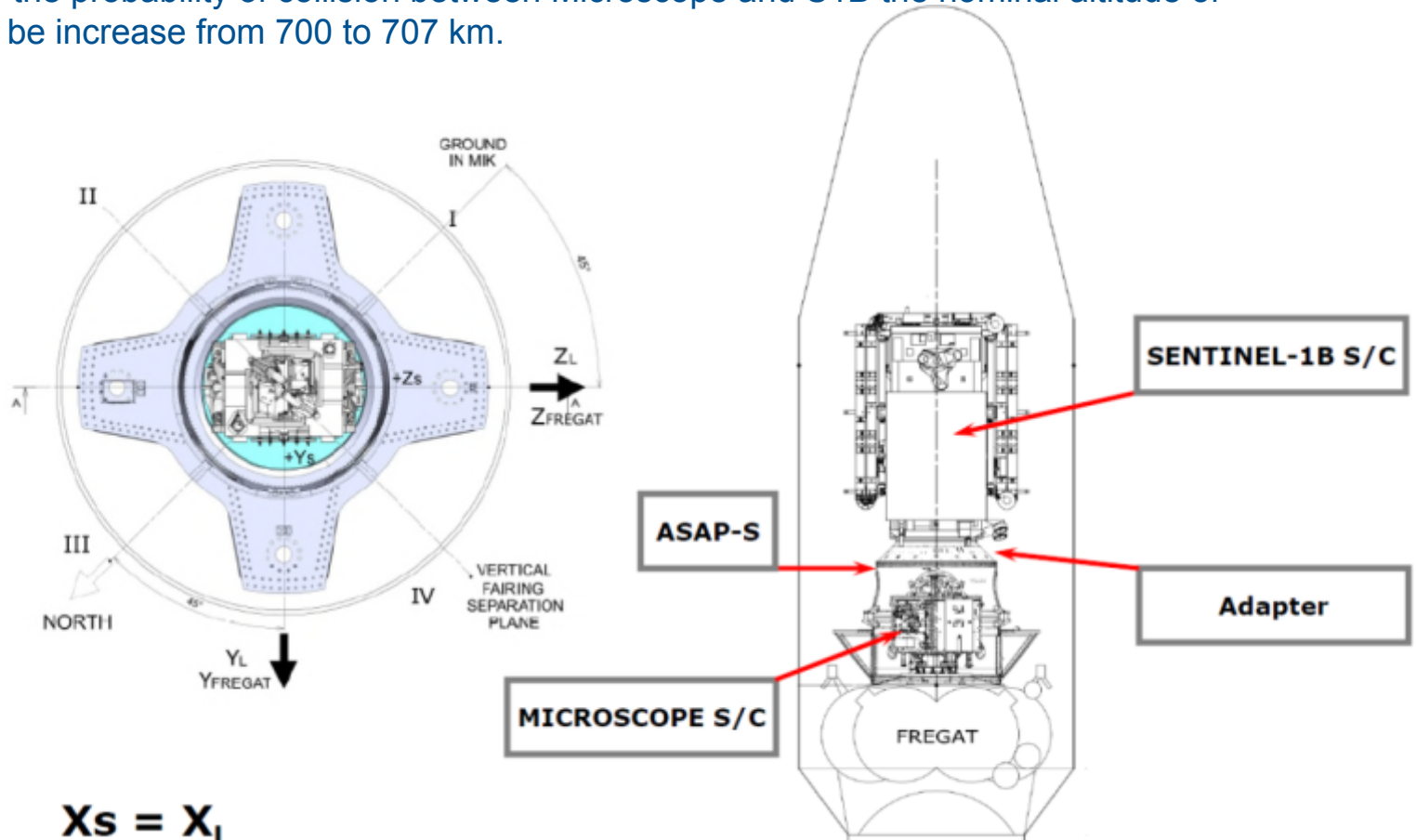
To obtain some margin on the early launch date, the 1st of April, we increased the human resources in term of AIT team and Satellite Architects. The activities are performed 7 days per week (except the 25/12 and the 01/01) at least 16 h per day and 30% are performed 24h per days.

LAUNCHER INTERFACE

Preliminary Mission Analysis Review 28/05/2015 and a Trajectory KP the 24/10/2015

The studies are done with the hypothesis of a launch in multiple satellite configuration with Sentinel 1B. They show that there is not technical issue on Microscope and no technical impact on Sentinel 1B.

In order to reduce the probability of collision between Microscope and S1B the nominal altitude of Microscope shall be increase from 700 to 707 km.



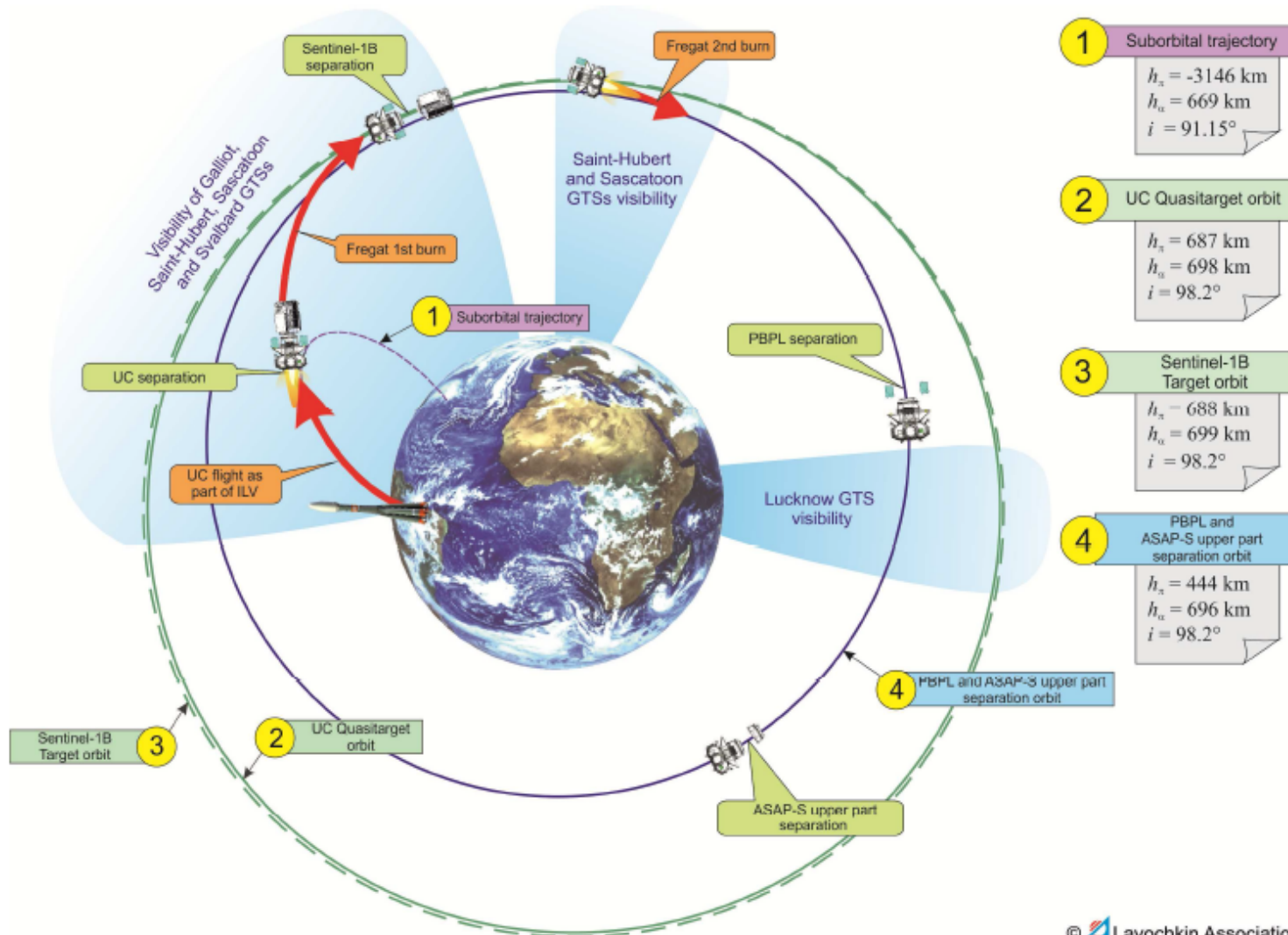
LAUNCHER INTERFACE

- The contract of S1B launch is signed in single-launch configuration. A CCN to change the contract in multi-launch configuration is still under negotiation.
- The Sentinel 1B official launch windows is between 1st and the 30th of April 2016. The launch day will be defined in January.
- We are still waiting for a proposal for a launch opportunity from Arianespace

At the Trajectory KP the statement of ESA was the following : ” Pending the formal signature of the related CCN (Contract Change Notice), ESA confirms the Multi-Launch configuration with Microscope.”

LAUNCH SCENARIO

General injection scheme (ST-A) (1/2)



LAUNCH SCENARIO



General injection scheme (ST-A) (2/2)

