

# Herschel status update

# DP hands-on workshop

ESAC, 24-27 March 2009

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# LSS campaign



- 'Final' and most representative Herschel testing at s/c level in LSS Nov-Dec 2008
- Including instrument testing, full HIFI testing for the first time (LOU cold)
- SOVT-2 at end just before Xmas break





# LSS campaign – as done



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# **Herschel to Kourou**



- 'Consent to ship' given by the FQAR Flight Qualification and Acceptance Review in the Board meeting held on Friday 6 February 2009.
- Herschel flown from Amsterdam-Schiphol to Cayenne-Rochambeau on 11-12 Feb 2009.







# HEL OBSERVATORY

## Herschel in Kourou



- Then installed in the cleanroom in the S1B payload flight preparation facility in CSG
- Cleaning and inspection of the telescope one of the first actions









# Herschel in Kourou – the plan



- Cleaning and inspection of the telescope one of the first actions
- ACU (spacecraft interface adapter, provided by Arianespace) mechanical and electrical fit check
- Spacecraft and payload functional tests Herschel instruments declared ready for flight on 9 March!
- Hydrazine filling
- Helium filling & superfluid helium production
- Integration to launcher & final He top-up
- Launch!
  - Nominally on 16 April 2009



# Herschel in Kourou – media

- Pre-launch media press trip arranged 2-5 March with ESA, industry, & instrument team reps
- Herschel launcher 'inspection' in the BIL
- Following week moved to the BAF





# Herschel in Kourou – delay



 Spacecraft activities proceeding OK wrt launch planned for 16 April 2009

## Herschel and Planck launch postponed

13 Mar 2009

In order to carry out additional checks on the ground segment of the Herschel and Planck programmes, Arianespace and ESA have jointly agreed to postpone the launch initially planned for 16 April 2009. A new launch date will be announced at the end of March.

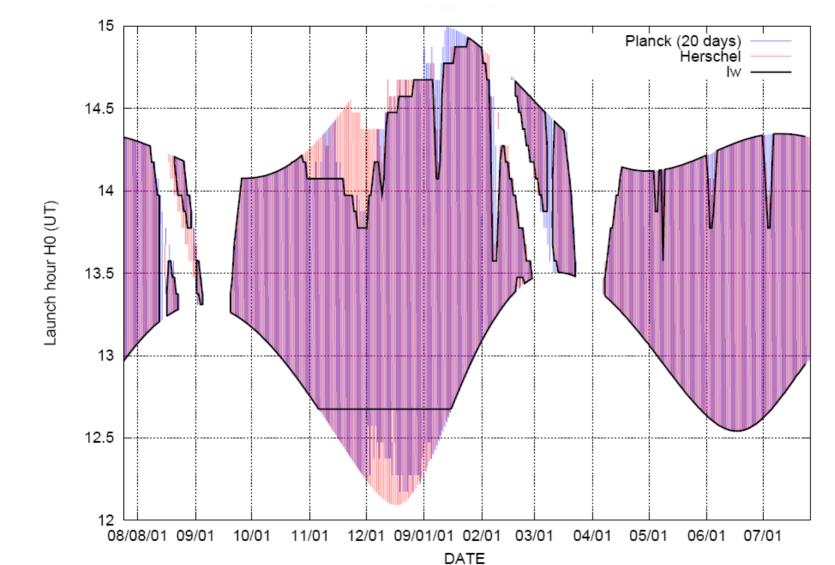
The decision to postpone the launch by a few weeks was needed to finalise the validation of the spacecraft operations procedures following recent software updates.

In the meantime, the preparation of the two spacecraft for launch continues as planned at Europe's Spaceport in Kourou, French Guiana.



# H/P launch window



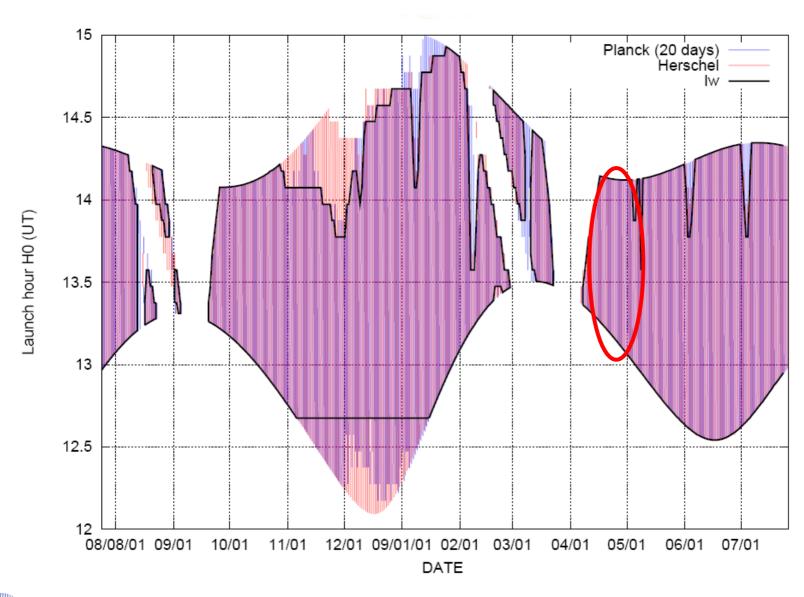




# H/P launch 'slot'









# Final assembly

Freschill.

- Assuming launch on 29 April 2009 (TBC)
- Herschel to move to S5 building on 27 March 2009
  - Hydrazine filling 31/03-1/04, followed by
  - He-II production and top-up
- Herschel to move to BAF on 17 April 2009 (L-12)
- 'Original' BAF schedule
  - L-12: Planck transfer to BAF
  - L-11: Planck integration to launcher
  - L-10: SYLDA integration
  - L-9: Herschel transfer to BAF
  - L-8: Herschel integration
  - L-7 L-5: Herschel final He top-up
  - L-4: Fairing integration; start external shield cooling
  - L-1: Roll-out; end external shield cooling
  - L: Nominal launch
    - L+1: Second launch opportunity

# Launch







Ariane 5 ECA with Planck

Now on 29 April 2009 (TBC)

25 min: end powered flight

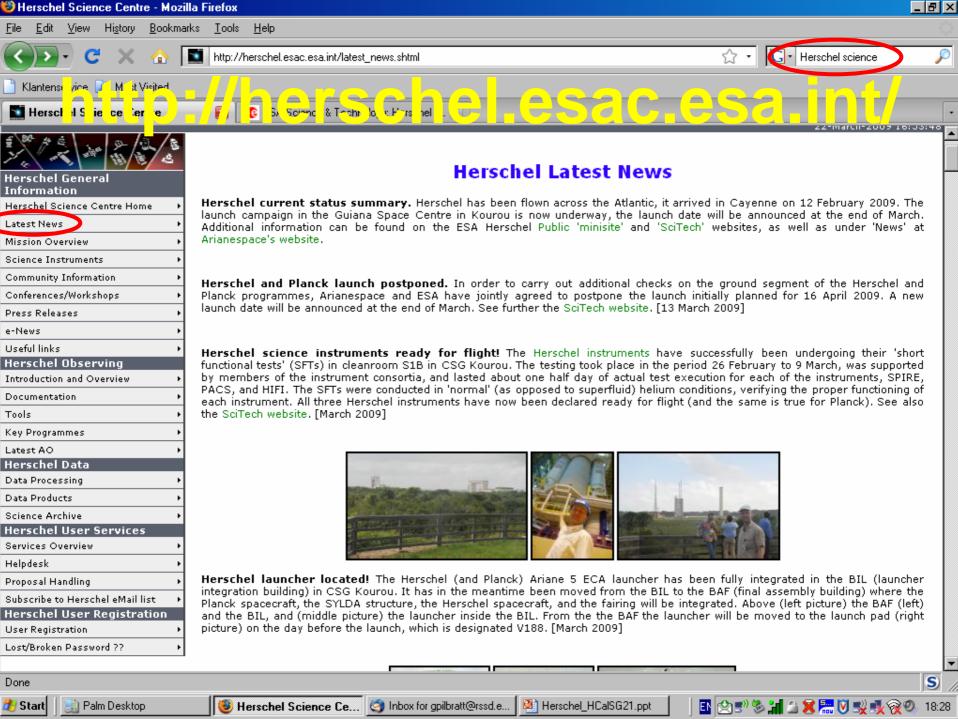
27 min: release Herschel

29 min: release SYLDA

32 min: release Planck



DP wkshop 24-27 Mar 2009 Göran L. Pilbratt VG # 17 http://herschel.esac.esa.int/



# Herschel in-flight



- Assume late April 2009 launch
- Post-launch timelines yet to be carved in stone...
   but can assume something like:
- May-June: LEOP & Commissioning phase
- July-September: Performance verification phase
  - Optimising observing, data processing, and calibration
  - Release of AOTs for SD & routine phases
- October: Science demonstration phase
  - KP & AOR global updates as required
- November: Start of routine science operations
  - SDP workshop followed by next AO!
  - Delivery of first 'public operational' DP version



