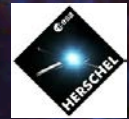


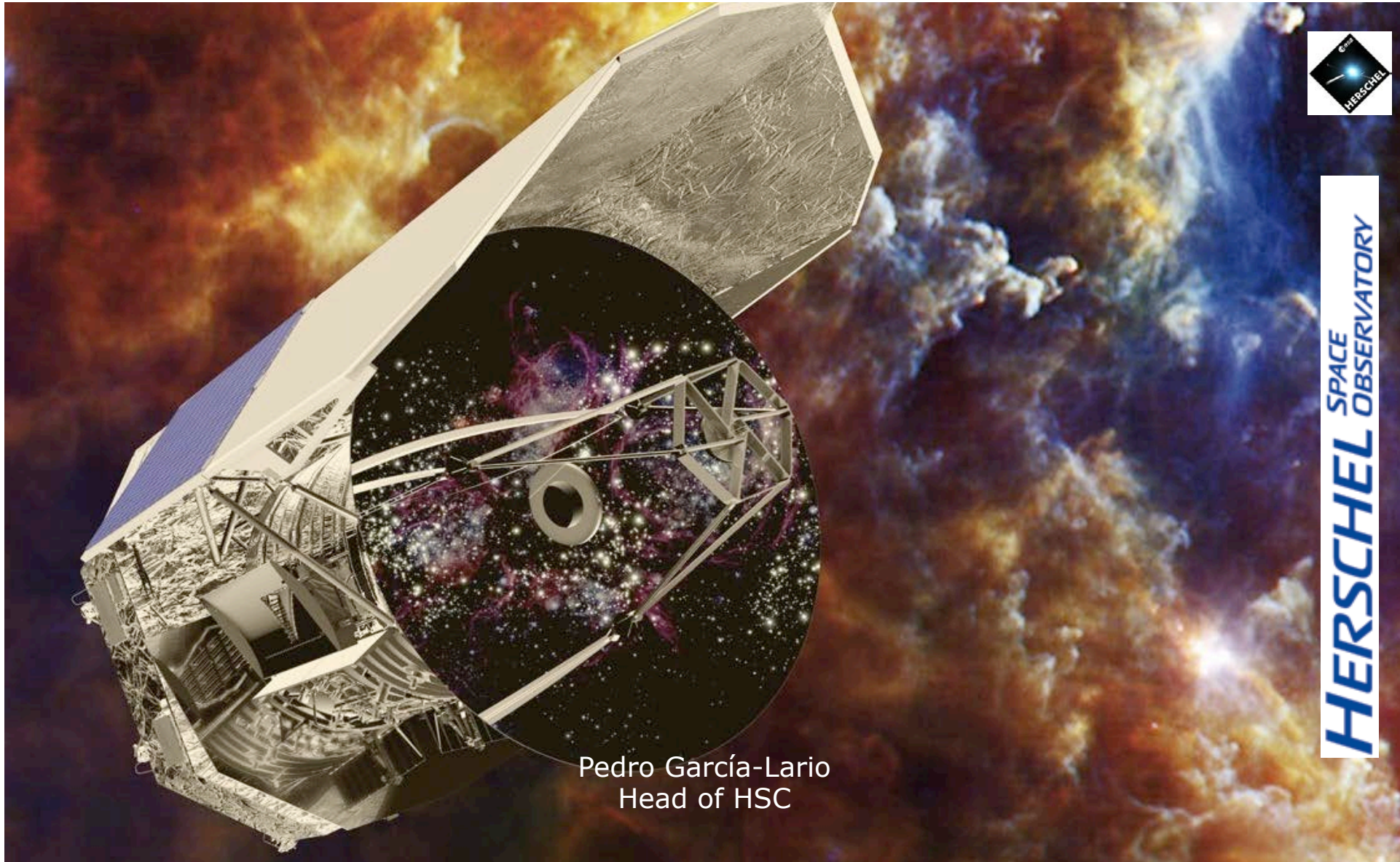
HSC POPs Status / HUG#8



22-23 May 2014 @ ESAC



HERSCHEL SPACE OBSERVATORY



Pedro García-Lario
Head of HSC

Timing of Post-operations across all Centres



HSC		
Launch	14 May 2009	
Start routine operations	01 Dec. 2009	
End routine operations	29 Apr. 2013	
End of the run-down (sub-)Phase (iPOP)	30 June 2013	
End of the main (sub-)Phase (mPOP)	30 Sep. 2017	
End of post-operations Phase (hPOP)	31 Dec. 2017	
ICCs & NHSC		
HIFI ICC wraps-up	31 Mar. 2016	
SPIRE ICC wraps-up	31 July. 2016	
PACS ICC wraps-up	31 Dec. 2016	
NHSC wraps-up	30 Sep. 2017	



HERSCHEL SPACE OBSERVATORY

SOME EVENTS LAST YEAR (I)



Herschel Science Team#51 @ ESTEC	Jan. 17-18 2013
HCSS v10.0 released	Jan. 22 2013
PACS / SPIRE Map Making Workshop @ ESAC	Jan. 28-31 2013
HSPot v6.3 roll out (in line with HCSSv10.0)	Feb. 7 2013
HCSS v9.1 (BKRP ends)	March 3 2013
DP Webinars round#4 (after HIPE v10.0)	Feb-Apr 2013
Herschel Calibration Workshop @ESAC	March 25-27 2013
Herschel Users Group #6 meeting @ ESAC	April 8-9 2013
HCSS v11.0 branch-off	April 11 2013
End Helium	April 29 2013
Start of Post-Operations – Run Down Phase (iPOP)	April 30 2013
Herschel Science Operations Coordination Group #13	May 07 2013
Herschel Archive Group (HAG) #1	May 8 2013
Herschel disposal Delta-V (130m/s)	May 13/14 2013
Herschel Science Team#52 @ESTEC	May 13-14 2013
End of KP Wrap-Up Telecons (42)	May 17 2013



HERSCHEL SPACE OBSERVATORY

SOME EVENTS LAST YEAR (II)



End-Helium Lessons Learned Meeting @ ESAC	May 28-30 2013
Final burn and passivation	June 17 2013
Herschel Data Processing for Newcomers @ESAC	June 24-27 2013
HCSS v10.3 (BKRP starts)	June 28 2013
End of Post-Operations – Run Down Phase (iPOP)	June 30 2013
Start of Post-Operations – Main Phase (mPOP)	July 1 2013
Herschel Archive Group (HAG) #2	Aug. 6 2013
Exploiting the Herschel Archive: A Data Processing Workshop (NHSC)	Aug. 26-30 2013
HCSS v10.3 (BKRP ends)	Sep. 5 2013
HSA v5.0 (with links to UPDPs)	Sep. 9 2013
HCSS/HIPE v11.0 release	Sep. 29 2013
HCSS v12.0 branch-off	Oct. 11 2013
Herschel Users Group #7 @ ESTEC	Oct. 14 2013
The Universe Explored by Herschel Symposium @ ESTEC	Oct. 15-18 2013
Herschel Science Operations Coordination Group #14	Oct. 30 2013
End of MOC support to POPs	Oct. 31 2013



HERSCHEL SPACE OBSERVATORY

SOME EVENTS THIS YEAR (until end 2014) (I)



Herschel Science Team#53 @ESAC	Nov. 4-5 2013
DP Webinars round #5 (after HIPE v11.0)	Nov-Dec 2013
Herschel Calibration Steering Group meeting#34	Nov. 27 2013
HCSS v11.1 (BKRP starts) - delay of 2 months -	End Jan. 2014
Herschel Science Operations Coordination Group #15	Feb. 5 2014
HSA v5.2 roll out (access to 'standalone browse products')	March 17 2014
HCSS/HIPE v12.0 release date	March 21 2014
Herschel Science Team#54 @ ESTEC	April 7-8 2014
HCSS v11.1 (BKRP ends)	April 10 2014
Herschel Spectroscopy On-line Workshop	April 23-25 2014
Herschel SGS co-location @ Paris area	May 12-14 2014
Herschel Users Group #8 – you are here -	May 22-23 2014
HSA 6.0 (database ready for instrument expert query panels)	May 2014
HCSS v12.1 (BKRP starts)	June 2014
Herschel Data Processing for Newcomers (@ESAC)	24-27 June 2014



HERSCHEL SPACE OBSERVATORY

SOME EVENTS THIS YEAR (until end 2014) (II)



HCSS v12.1 (BKRP ends)	End July 2014
HSA 6.1 (access to instrument expert panels from the HUI)	End July 2014
HCSS v13.0 branch-off	Sep. 18 2014
Star Formation Across Space and Time – Science Conference @ESTEC	Nov. 11-14 2014
ALMA/Herschel Joint Workshop @ ESO-Garching	Nov. 19-21 2014
HSA 7.0 (links to publications / improved geometrical searches)	Dec. 2014
HCSS/HIPE v13.0 target release date	Dec. 2014



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- Very poor performance observed just after the start of the bulk reprocessing exercise with HCSS v11.1
 - Poor throughput and slowness of queries through HAIO leading to time-outs – data ingestion problems
 - Bulk reprocessing stopped until problems understood
- Inappropriate configuration of ESAC GRID network identified
 - Throughput back to normal – still slow performance of queries through HAIO observed
 - Bulk reprocessing resumed
- Slow performance in user queries still an issue
 - Identified poor communication performance between HSA and NetApp mount points in the ESAC GRID – still not understood
 - Migration to local SSDs (took place last week) – considering improving the database model



SOME INTERESTING NUMBERS (UPDATED)(I)



- Herschel registered users: 2850 – 1 new user per calendar date for years; also in POPs; may be slightly dropping rate in the last few months

(+173 with respect to HUG#7 on 14 Oct 2013; +360 since end of Operations on 29 Apr 2013)

- Helpdesk tickets: 6780 – drop from ~15-25 tickets/week in operations to ~ 5-7 tickets/week in POPs; maintained rate in the last few months

(+194 with respect to HUG#7; +478 since end of Operations)

- HIPE user release installer downloads – 9020 since June 2010 – 38 last week; maintained rate after every major HIPE release: ~400-600 downloads – HIPE 12.0 downloaded 400 times since recent release in March

(+1333 with respect to HUG#7; +2582 since end of Operations)



HERSCHEL SPACE OBSERVATORY

SOME INTERESTING NUMBERS (UPDATED) (II)



- Total number of refereed publications based on Herschel data: 1007 publications recorded as of 20 May 2014

2010: 228 (special A&A issue)
2011: 100
2012: 242
2013: 307
2014: 130 ...

[307 reached in 2013; similar expectations for this year]

- All science observations public in HSA since 29 October 2013 (37,141), 6 months after end of Operations, plus some 6,800 calibration observations taken in science modes
- Some 39,8% (in observing time = 32,5% in #AORs) of the science observations in HSA have already resulted in a refereed publication

(+9.0% with respect to HUG#7)

HERSCHEL SPACE OBSERVATORY



PERSONNEL

RECENT CHANGES: DEPARTURES



HERSCHEL SPACE OBSERVATORY

- **Leo Metcalfe:** ExoMars 2016 SGS Development Manager (from 1-Sep-2013), remains as Herschel Mission Manager at 20% level; full handover to **Pedro Garcia-Lario** (currently Head of HSC) planned for mid-2014
- **Stephan Ott:** left the project – now ExoMars 2016 Avionics and Software System; **Jorgo Bakker** took over as Herschel DP Dev. Manager as of 1 Jan 2014
- **Tony Marston:** now 50% JWST since 1 Jan 2014
- **Luca Conversi:** left the project – now 100% Euclid (from 1 Jan 2014)
- **Bruno Altieri:** increased 50% dedication to Euclid (from 1 Jan 2014)
- **Jean Matagne:** 50% dedication to Herschel (from 1 Jan 2014)
- **Jose Marcos (QA),** 50% Solar Orbiter from 1 Jan 2014
- **Daniel Galan (Configuration Control Eng.),** 50% Solar Orbiter from 1 April 2014

RECENT CHANGES: ARRIVALS



- **Craig Stephenson** re-joined the ICS Team starting January 2014, as pointing reconstruction expert; now 50% Rosetta
- **Jonathan Cook** joined the DP team as of late Jan 2014 replacing Juan Carlos Segovia
- **3 new members** of the ICS Team will join the HSC soon – 2 of these contracts will be for ‘off-site services’ (**Katrina Exter** and **Luca Calzoletti**), plus **Tanya Lim** (start date next Monday); they will provide PACS/SPIRE expertise replacing Luca, Bruno and Roland.
- **2 new RFs** will join the HSC starting 1 Oct 2014 – 2 years contract - science
- If successful, we could extend the new formula to other individuals: specially applicable to contracts associated to well-defined deliverables (documentation, HPDPs?) – looking for some additional support to HIFI
- Overall migration of contracts to so-called ‘C-class’ outsourcing contracts provided on-site is planned



TOP PRIORITIES FOR 2014 (REVIEW)



- **Release of HCSS v12 (March 2014) and HCSS v13 (Dec 2014)**
 - ❑ HCSS v13 last chance to incorporate significant changes to instrument pipelines (e.g. new map-maker(s) for PACS Photometry pipeline)
 - ❑ Plans for HCSS v14 and beyond discussed at last HGS Meeting in Paris
- **Bulk reprocessing exercises with HCSS v11.1 (Feb-Apr 2014) and HCSS v12.1 (Jun-Jul 2014)**
 - ❑ Typically take 2 months+
 - ❑ HCSS v12.1 bulk reprocessing needed for HSA 6.1
- **Coordination of acceptance testing campaigns associated to HCSS v12 and HCSS v13**
 - ❑ New strategies implemented in HCSS v12 validation (workflow driven)
 - ❑ Plus the usual implementation / testing / validation of SxRs with every new version of HCSS
- **QC Reports population**
 - ❑ Currently completed for ~60% of the science observations in HSA

INSTRUMENT CALIBRATION:



- **Consolidation of latest calibration models available**
 - ❑ Coordination by HCalSG (Planets, asteroids, stars)
- **Consolidation of pointing related improvements**
 - ❑ After latest modifications of pointing products
- **Maintenance of Instrument Twikis**
 - ❑ Homogenization, adapt structure to POPs needs
 - ❑ Adding / Updating instrument calibration documents in view of future explanatory library
- **Support overall calibration improvements / new data analysis tools**
 - ❑ In coordination with the ICCs
- **Cross-calibration**
 - ❑ Including written report (due this summer)

- **Helpdesk support**

- Coordination and day-to-day operation, in cooperation with ICCs – through dedicated staff accounts
- Most frequent topics in POPs: Data Processing, Data Analysis, UPDPs, publication tracking, DP workshops
- FAQ population continues

- **Web improvements**

- Regular updates – e.g. posting of Latest News, links to HIPE installers and calibration files, new documentation as it becomes available, etc.
- Migration to LifeRay technology (it may happen this week), in line with other ESA missions (COSMOS web server) - will allow twiki-like editing of specific web pages

- **Mass-Mailings**

- E-News (mass-mailings to all Herschel registered users) – latest is #29 on the occasion of the roll-out of HCSS 12 and HSA 5.2 (24 March) – investigating migration to html format (see e.g. latest NHSC Newsletter)
- General announcements and dedicated messages to subsets of users when necessary – e.g. recent circulation of HUG Questionnaire on HSA or announcement of On-Line Spectroscopy DP Workshop 23-25 April 2014



SCIENCE OUTCOME:



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- **Publications Tracking**

- Herschel Publications Tool

(<http://herschel.esac.esa.int/hpt/>)

- Publication statistics twiki

(<http://herschel.esac.esa.int/twiki/bin/view/HSC/StatisticalPublicationReports>)

- per programme
- per (sub-)instrument
- per science category

- Added links to postcards (standalone browse products)

- Will start making distinction between KP/GO research vs. archival research

- **Ph.D. Theses based on Herschel data**

- Initial list compiled - will be posted on a dedicated web page soon

- **DP (HIPE internal) Documentation**

- Coordinated by the DP Editorial Board led by Alvar Garcia, updated at least once per week
- Plus some twiki pages (What's New, HIPE Known Issues, ...), updated by hand



- **Explanatory Supplement**

- Four Handbooks (available electronically as standalone printable documents), one per instrument plus a general one on the mission/spacecraft – evolution of Observers Manuals towards versions oriented to legacy archive users
- First versions by end 2014 – editors Mark Kidger (General Handbook + overall coordination) + HSC ICS team, for the instrument specific volumes, with the support of the ICCs

- **Explanatory Library**

- Collection of technical documents collected during the mission, only available electronically
- HCSG will support reorganisation of instrument-specific twiki pages, identify missing/obsolete docs, chase expected contributors – first iteration completed

- **Science Ground Segment Twiki**

- Documentation internal to the Science Ground Segment

- **Creation of Herschel Explanatory Legacy Library (HELL) Working Group**

- Decision taken at last HGS meeting in Paris

ENHANCED PRODUCTS (UPDPs and HPDPs):



- **User Provided Data Products**

- Chasing KP PIs promised deliveries
- Collect new UPDPs from the community of non-KP PIs
- Ingestion in HSA ; delivery of associated catalogues to Vizier
 - 12 UPDPs already in HSA; more in the queue
 - Herschel Observing Log (37,141 entries) in Vizier plus many other catalogues
- UPDP Statistics twiki:
<http://herschel.esac.esa.int/twiki/bin/view/HSC/StatisticalUpdpReports>
 - Less than 20% of the KP observing time has been ingested back in HSA so far
 - Only 8.6% of the Herschel observing time is now back in HSA as UPDP

- **Highly Processed Data Products**

- Herschel Point Source Catalogue: collaboration between HSC/NHSC and Konkoly Observatory, coordinated by a Working Group chaired by B. Altieri
- Looking for other possibilities – in coordination with ICCs and/or expert groups in the community (e.g. HIFI scans, superresolution SPIRE maps) – discussed at HGS meeting

- **Herschel Archive Group**

- Regular meetings every 2-3 months (Chairs: D. Ardila – NHSC / E. Verdugo - HSC) to provide advise on science requirements related to HSA



- **HSA 5.0 (released on 9 Sep 2013)**

- With links to UPDPs for the first time

- **HSA 5.2 (March 2014)**

- Providing access to the so-called ‘standalone browse products’ through the product postcards (by right-clicking on them in the HUI or selecting the ‘data download’ option everywhere else)

- **HSA 6.0 (June 2014) and HSA 6.1 (July 2014)**

- Incorporating instrument advanced panels / Requires population of queryable metadata after bulk reprocessing with HCSS v12.1

- **HSA 7.0 (end-2014)**

- Providing links to associated publications and improved geometrical searches

- **HSA and EMMI**

- Eventually, Herschel products should be queryable and accessible from the EMMA (ESA Multi-Missions Archive) interface



- **Herschel DP webinars**

- New rounds with every new major version of HIPE (last was round #5, after HIPE v11.0, in Nov-Dec 2013); decreasing attendance with respect to previous rounds; concentrating on 'What's New on a given HIPE version seems to be not very attractive; effort led by B. Merin
- Moving to a combination of workflow-like webinars concentrated on a given topic during on-line workshops (see below) plus short video tutorials addressing specific data processing/data analysis steps or other interesting topics for new users of HIPE

- **Herschel On-Line Spectroscopy DP Workshop 2014 (23-25 April)**

- Series of webinars concentrated on spectroscopy and covering the three instruments using workflow-like presentations as much as possible
- Demanded by the HUG and the community through our KP wrap-up telecons; very well attended (~50 participants) and positive feedback

- **Herschel DP Workshop for Newcomers 2014 (24-27 June)**

- Following the nice experience we had with the same kind of workshop in June 2013
- Combination of on-site and on-line participants through webex

- **HIPE academy (video-tutorials)**

- Shorter than 3-5 minutes, addressing very specific topics related to data mining, data access, data processing and data analysis; effort led by A. Garcia

PROMOTING HERSCHEL AWARENESS:



- **Access to the Herschel Observing Log and ‘standalone browse products’**
 - ❑ The Herschel Observing Log is available through VizieR since October 2013 – it also provides now direct links to postcards – and through them to the ‘standalone browse products’
 - ❑ Soon the Herschel Observing Log will be available through SIMBAD queries as well (this requires prior cross-matching between the Herschel Observing Log and individual SIMBAD objects - a difficult, time consuming task initiated only recently)
 - ❑ From ADS (through the existing ‘link to data’ functionality)
- **Herschel Catalogues in VizieR**
 - ❑ Associated to UPDPs received at the HSC and others (49)
- **Herschel-related science conferences**
 - ❑ Information regularly posted on the web
 - ❑ Science Conference organised at ESTEC: “Star Formation Across Space and Time” – tentatively scheduled for 10-14 November 2014 – with strong Herschel content
- **ALMA/Herschel Synergies and Archival Workshop @ ESO-Garching (19-21 Nov 2014)**
 - ❑ Suggested by ALMA Community Support Team – to be organised in coordination with HSC
 - ❑ Promote archival research through the combined use of ALMA/Herschel data
 - ❑ Support the preparation of ALMA proposals

HERSCHEL GROUND SEGMENT MEETING 2014

@ CEA-Saclay and IAP, 12-14 May



- **Target audience**
 - ❑ everyone currently working for Herschel at any of the various centres involved in Post-Operations: HSC/ICC/NHSC
 - ❑ anyone interested in contributing to the success of Herschel POPs
- **Scope and goals**
 - ❑ review where we are with respect to the broad main goals of POPs: legacy software, legacy calibration, legacy data products and legacy documentation, enabling legacy science
 - ❑ review plans/strategies/goals/deliverables considering the progress and achievements made so far in the first year of POPs and the remaining work still to be done with the available time and resources
 - ❑ feed the future POPs activity of HSC/ICCs/NHSC and of the various ground segment working groups with the outcome of the discussions held
 - ❑ let people know about what other people are doing in other areas of activity during POPs to improve their feeling of being part of a common project
 - ❑ celebrate all together the 5th Anniversary of Herschel launch!!
- **Format**
 - ❑ On the first day, following an introductory plenary session, a series of splinter sessions covering the various main goals of POPs by the experts on the field, followed by a second day of plenary sessions where a wider discussion took place