PACS Post-operation plans

Herschel Users Group
ESAC, 6 september 2012

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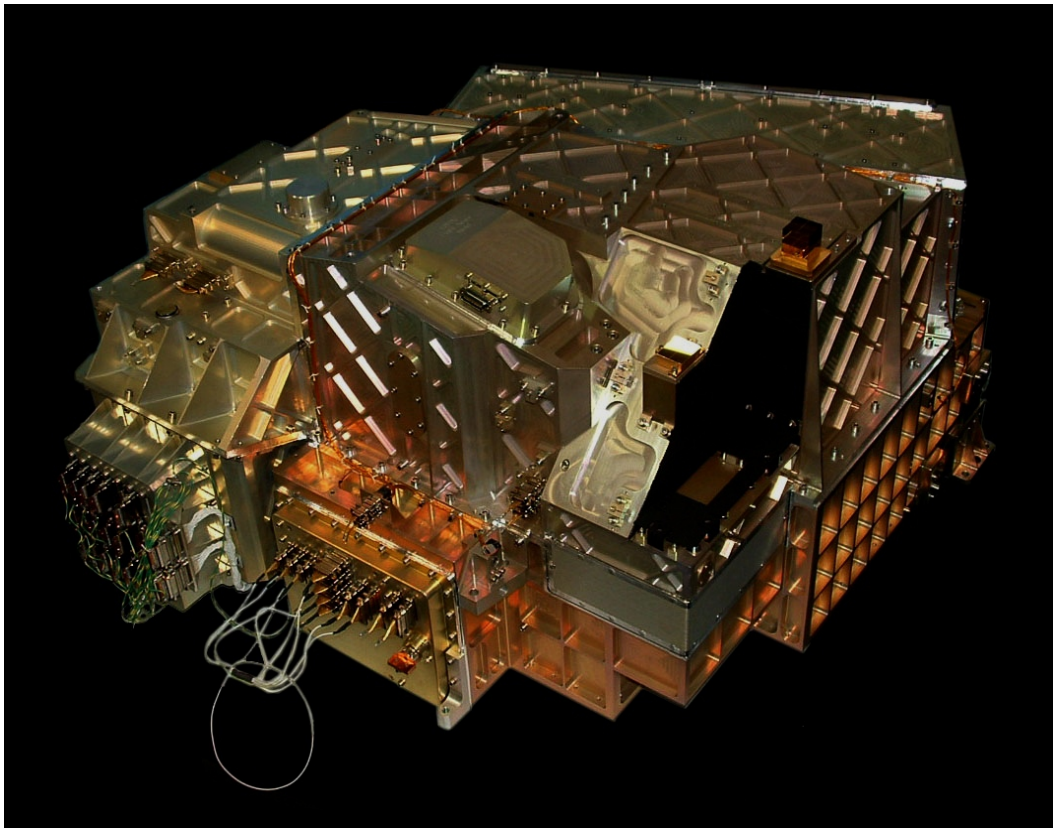
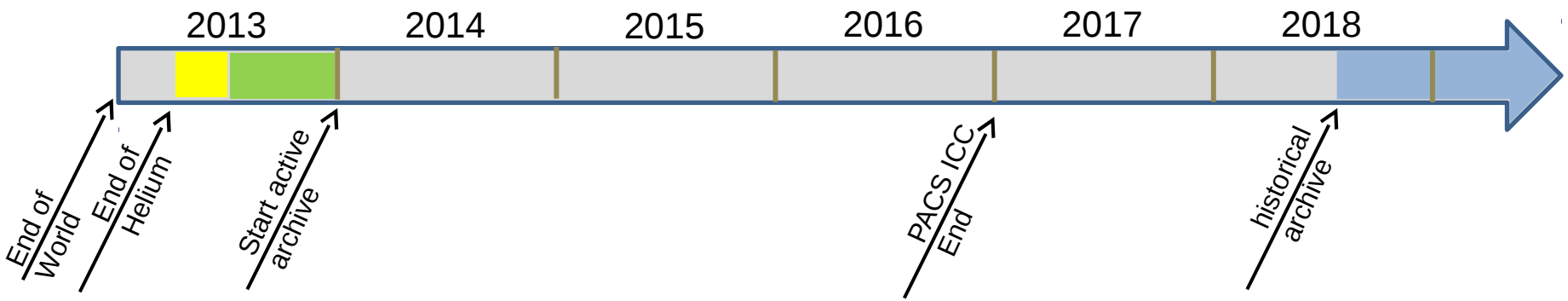


Background

Herschel Mission phases:

- **Routine Operations :** **ends with Helium run-out**
- **Run down:** **3 months, beginning with end-of-helium, MOC consolidation**
- **Mission Consolidation:** **6 months** **(til ~End 2013)**
- **Active archive phase:** **48 months** **(til ~End 2017)**
- **Archive consolidation:** **6 months** **(in 2018)**

Followed by: historical archive phase (>10 years)



Scope

Defined in Science Implementation Requirements Document (SIRD)

&

Science Implementation plans of the partners (HSC, HIFI, SPIRE, PACS, NHSC)

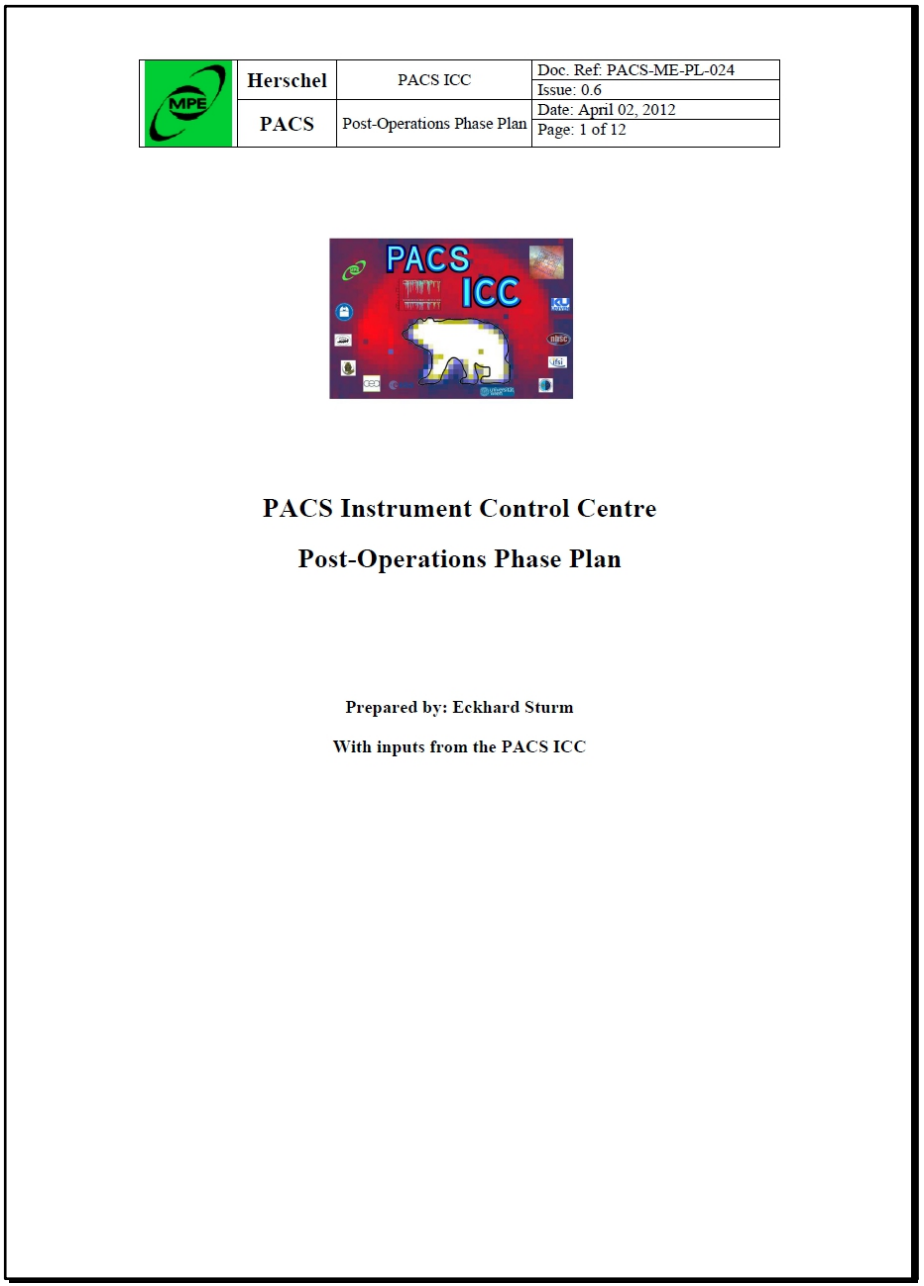
The ICCs shall, as a minimum, carry out the tasks listed below. The list is limited to the tasks required in support of the Herschel mission. The ICCs may want to perform additional ICC-specific tasks. In this case the ICC manpower allocated must be such that these additional tasks do not compromise the tasks listed below.

ICCA-005	monitor (jointly with the HSC) the run-down activities in order to ensure that all required spacecraft data are secured.
ICCA-010	- moved to section 4.1 as ICCF-210 -
ICCA-015	- moved to section 4.1 as ICCF-215 -
ICCA-020	support the HSC helpdesk in helping archive users in the reduction of their data.
ICCA-025	improve calibration files/data. Deliver updates to the HSC.
ICCA-030	improve processing algorithms. Deliver updates to the HSC.
ICCA-035	support validation of the data products generated with improved algorithms/calibration data.
ICCA-040	process (as applicable) "specific" instrument modes (e.g. parallel and serendipity data) generated by their instrument. Deliver to the HSC.
ICCA-045	support cross-calibration of their instrument with other instruments
ICCA-050	maintain the necessary facilities and staff throughout the post-operations phase.
ICCA-055	Provide documentation on calibration activities and instrument characterisation for the Instrument Handbooks and as legacy for future missions.

SIRD (§4.3)

PACS post-operations plan

August 10 version provided prior to the meeting



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			Issue: 0.6
	PACS	Post-Operations Phase Plan	Date: April 02, 2012
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PACS Instrument Control Centre

Post-Operations Phase Plan

Prepared by: Eckhard Sturm

With inputs from the PACS ICC

Top-level goal

Final – legacy version of the Herschel archive

Including

- Data (raw, final end products)
- Documentation
- Software

Continuing user support during post-operations phase

- Interactive analysis software maintenance
- Helpdesk questions

Legacy HSA with best products possible

- Interactive analysis and pipeline software improvements
- Calibration
- Science validation
- End-to-end tests
- Support to legacy bulk-reprocessing
- Consolidation of QA and QC products
- Consolidation of Browse products
- Consolidation of data processing / algorithms
- Produce Highly Processed Data / Catalogues semi-manually if appropriate

Processing / calibration improvement examples

- Flux calibration using all measurements of the mission
- Refinement of
  - Flatfield (P+S)
  - Nonlinearity (P)
  - Spectral response (S)
  - Leak characterision + correction (S)
  - Pointing (S+P)
  - Flux loss due to pointing jitter correction (S)
  - Trend analysis (S+P)
  - Photometric and spectroscopic standards (S+P)
  - Mapping strategies (P)
  - Convolution / deconvolution kernels (P+S)
  - ....

Documentation

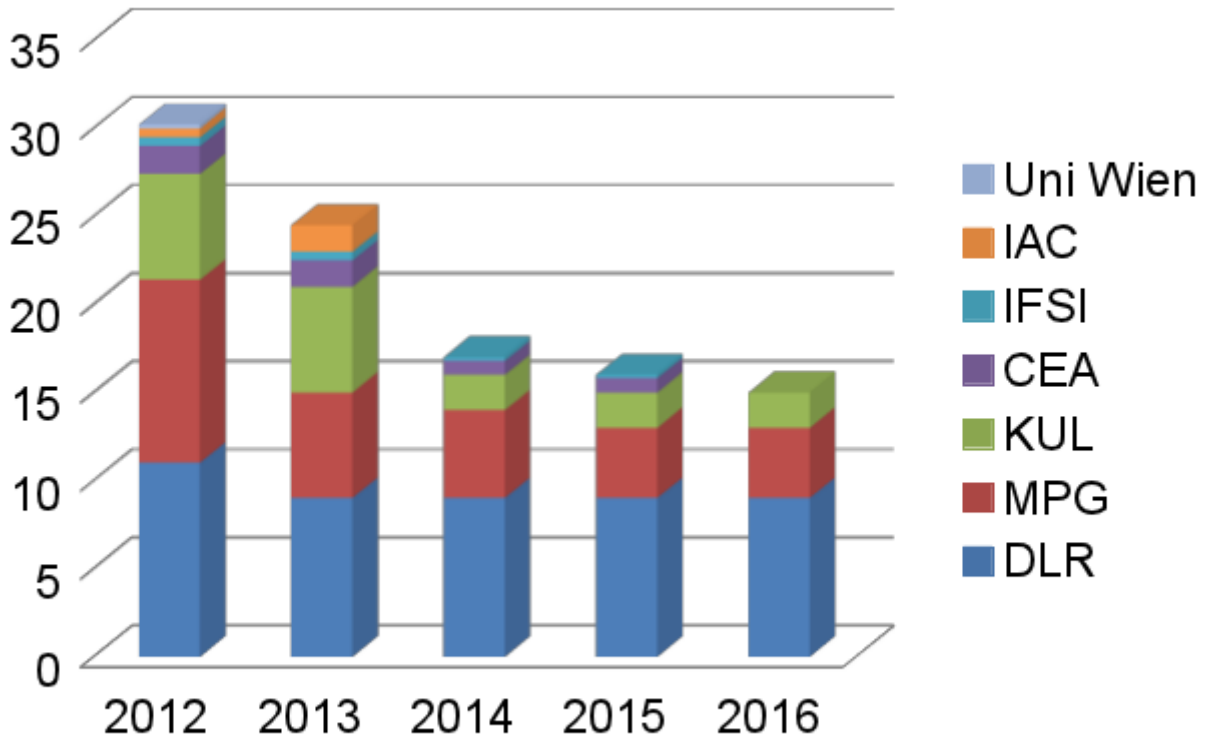
Continuing on current effort. Legacy versions of:

- the PACS user's manual
- Instrument Technical Notes
- calibration documentation
- the PACS data processing guide
- HIPE documentation
- a lessons learned document (TBC)
- the data description document
- the pipeline description document
- PACS web pages
- the operations history (events, procedure updates, etc.)

Manpower allocation

Task	chapter in POPs-plan	2013	2014	2015	2016
Documentation	3.1	4,5	4,0	3,0	3,5
IA and pipeline improvements	3.2	6,5	4,0	4,0	3,0
Calibration	3.3.1	6,5	4,0	4,0	3,0
HCSS releases and validation	3.3.2	2,5	1,5	1,5	1,0
HSA consolidation	3.3.3	1,0	1,0	1,0	1,5
HSC and community support	3.4	1,0	0,5	0,5	1,0
Management and Project Control*	3.5, 4	1,0	1,0	1,0	1,0
Science data exploitation	2.2	1,5	1,0	1,0	1,0
Total		**24,5**	**17,0**	**16,0**	**15,0**

Staffing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2012
2013
2014
2015
2016
Uni Wien
IAC
IFSI
CEA
KUL
MPG
DLR