		REF. : HP-ASPI-MN.1187	
				DATE : 20/03/02	PAGE : 1/4
COMPTE RENDU DE REUNION / MINUTES OF MEETING				LIEU / PLACE : ESA	
OBJET / PURPOSE :			CLASSIFICATION :		
Instrument Splinter meeting ESA Alcatel/Alenia/Astrium + HFI, SPIRE, PACS, HIFI					
PARTICIPANTS ATTENDEES	SOCIETE FIRM	SIGNATURE SIGNATURE	PARTICIPANTS ATTENDEES	SOCIETE FIRM	SIGNATURE SIGNATURE
See attached					
REDACTEUR / WRITTEN BY : G.Lund					
CONCLUSION :					
Review of warm units accommodation. Instrument critical items Change process					
For each point, actions taken to freeze interface					
Next meetings decided:					
03-avr	Alcatel	SPIRE accommodation			
04-avr	Alcatel	HIFI Accommodation			
09-avr	Astrium	Herschel FPU thermal Industry (TBC)			
10-avr	Astrium	Herschel FPU thermal Industry + Instruments			
<u>DISTRIBUTION</u> : PARTICIPANTS / ATTENDEES	POUR ACTION : FOR FURTHER ACTION		PACS (O.Bauer), HIFI (K.Wafelbaker), SPIRE (K.King), HFI (J.Charra) ESA (G.crone), Astrium (K.Moritz, E.Hoelzle), Alenia (M.Sias, M.Cesa), Alcatel (G.Lund, J.P.Chambelland, B.Collaudin, P.Rideau)		
	POUR INFORMATION : FOR INFORMATION		Alcate JJ Juillet, ESA Th.Passvogel C.Jewell		
APPROUVE PAR / APPROVED BY					
NOM / NAME					
SIGNATURE / SIGNATURE					

H-P INTERFACE MEETING - ESTEC
WITH instruments

PARTICIPANTS

<u>NAME</u>	<u>AFFILIATION</u>
B. LUND	ALCATEL
B. Guillaume	ESTEC SCI/PT
OHo H. Paule	MPE / PACS
A. Seidel	Consultant to Estec
A. Hanser	ASED
J. Kroehler	"
E. Holzle	"
K. Moritz	"
W. Rinke	"
A. HESKE	ESA
J. CHARRA	IAS/HFI
J. Querté-coudes	ESA
G. Come	ESA
J. Deldorff	SPIRE
K. King	M. SPIRE
Bruce Swingard	SPIRE
J. Schubert	PACS
J. Brunton	ESA
C. K. WAFELBAKER	SRON
B. COLLAUDIN	Alcatel
JP CHASTIBELLAND	Alcatel

20-03-03

1100 → Evening.

- HP INTERFACE MEETING / ESTEC.
With Instruments

p.1

Presentation - VUES of B.C. (Annex 1).[Minutes taken by
G. Lund.]

J.D. Requests adequate advanced technical information before technical/interface meetings, to enable instruments to be prepared.

O.B. Requests an agreed agenda, before the end of the meeting, on ^{such} future technical meetings, to settle all open points for PACS. (~~to be discussed in the meeting~~)

PACS - W.U. Accommodation.

Proposed, revised accommodation of PACS WUs: drawings to be sent to PACS and Astrium next week (WK 13).

Drawings to include details of harness routing and shadowing angles.

[See AI-2
next page]

Filippo CIONINI - Explains basic constraints of SVM panel accommodation:

1. Edge of the panels: 65mm wide "forbidden area" (vertical strip on panel edges).
2. Upper edge of panels: clear space needed (= fn of height of the upper WUs) to allow opening & tilting of the panels
3. Lower edge - - : stay-out zone(s) needed for connector brackets.

⇒ Alenia to provide the rationale of SVM accommodation constraints to the instruments (copy Alcatel + ESA).

[See AI-1
next page]

PACS - "confirms ~80%" feasibility of SVM stacking.

" - confirms DECMEC length is frozen at not more than 560mm including feet.

- Generic SVM layout info to be supplied to ^{all} the instruments
- Accommodation of W.Us on SVM panels, removal, tilting, access concept.
 - Details of constraints (stay-out areas, "height" restrictions) + rationale
 - 2D harness routing sketches, including "stay-in" restrictions for the harnesses, mousehole locations
 - Pipe routing details (Planck).
 - Allowable loads for mounting fasteners

Alenia - AI-1
For 29-03-02

Proposed ^{preliminary} accommodations + routing info first sent to instruments.
This to be confirmed/commented by the instruments,

AI - Instruments ?

Compensation heaters

These will be implemented, as necessary, - on the panels (not on the boxes) - in order to maintain stable ^{thermal} conditions during instrument standby.

HIFI

→ proposed update accommodation shown (vug).

↳ heated discussions.... HIFI insists on the importance of:

- temp. reqts of WOH/WOV respected
- thermal stability (goal of 1K/hr) being achieved.

since September 2001 - There is an action on Alcatel/Alenia Alcatel will provide to the instruments Alenia's Alcatel AI-2 preliminary analysis of thermal behaviour of SVM panels, for 25-03-02 as produced for the SAR. This is in the data package but Alcatel will send separately.

Engineering assessment of the thermal of the last

configuration of HIFI in the SVM. Alcatel AI-3

This to include temperatures of WBS + HRS weeks 14 and stability requirements. (Temperature: -40° to +10° and 1K per hour)

HIFI to: confirm dimensional constraints of LSU } HIFI AI-4
provide cable constraints wrt harness }
connections between HAH and HRV }
requirements }

For 29-03-02

SPIRE

Preliminary accommodation drawings will be available from Alenia by end of WK 13. To be sent to SPIRE.

Alenia
A2-5
27-03-02

Proposed meeting date to converge with SPIRE + HFI:

3+4 April 2002

All parties to confirm their availability by end of this week (22-03) - normal work.

HFI

DCCU I/F details to be clarified by HFI, and forwarded to Alcatel + Alenia.
(connections + pipes)

General

BC. (Instruments to formalise their WU interfaces, by means of proposal: ICDs (Interface Control Documents). These would be attached as an annex to the IIDs.

Similarly, the IIDA would be updated to include SUM panel layout drawings for each of the instruments.

2. INSTRUMENT Critical IssuesThermal ctrl of FPUs

- Agreement on thermal I/F at each level to be reached, incl. mass flow rate.
- Astrium thermal analysis: Issue 1 was sent to instruments. Issue 2 is in preparation.
- Yesterday's 'o'head views' (thermal presentation) will be put on Livelink and attached to minutes of meeting.
- Astrium's current assumptions - re instrument models - are to be maintained for the time being. This corresponds to models delivered to them by ESA in Oct. 2001.

REVIEW

Instruments are requested to ~~read~~ the Astrium Thermal report, and feed back their comments, ~~back~~. - to be defined more clearly by Alcatel (wk. 13).

SPIRE has submitted a CR (N°13) related to ground conditions for thermal tests. This has not been given (by ESA) to industry.

Astrium states that the CAM is the only environment for qual./acceptance testing of the instruments. This will not be done on the FM. Use of the CTA on FM would imply 2 additional cool-down cycles - probably 4 additional months. (+ additional risks).

It can be expected that on FM: the cover lid temperature will be too high to allow correct use of the SPIRE shutters and/or operation of its (and PACS) 0.3K sorption cooler.

Astrium cover design: Emissivity ≤ 0.03 , $T \leq 240K$ on ground. A meeting needs to be established first between ESA and Industry and then including instruments.

Proposed meeting dates: 9th April: Astrium + Alcatel + ESA
to converge towards a consolidated, agreed design / model.
10th + 11th April " " + instruments.

- exchange of models.
- steady-state in-orbit perf.
- on-ground perf.:
- "reference"
- time-line disruptions, transient behaviour

Main objectives → (to be clarified with more detailed agenda).

SPIRE Ref. §6.5.3 - doc. Ref. 650 / for typical timeline.

AI-6 Astrium
27-03-02

Prepare / distributed detailed agenda ↗

CRYOHARNES: Astrium's current design is based on 11DB 2.0 definitions + certain clarifications supplied by the instruments. 10

Since 11DBs 2.0; major changes reflected in PACS-CRO17, SPIRE-CRO13, HIFI-CRO33.

A Need for dedicated meeting ^{between Astrium and} with each of the 3 H. instruments, to review ^{may be needed}

CH ~~the~~ definition/wiring, and identify potential difficulties to be resolved.

The instruments would ~~like~~ need to review the "wiring list" of Astrium's Cryoharness desc. - doc. before such a meeting.
~~has been submitted to instruments~~ The cryoharness ITT is on ENIT's and includes the requirement specification

CRYOHARNESS ROUTING

Location of interface brackets: Alcatel to assume responsibility of producing the I/F drawings related to these.

Warm section of cryoharness (below I/F bracket): - Astrium has foreseen the use of brass - TBC.

Astrium should be ready to send "harness description data packages" to the instruments, by end of wk. 13. (next week), for comment

GD Instruments
AVM Configurations

AI ?

- Form/fit/function requirement for ~~AVM~~ ^{AVM} Warm Electronics:
PACS/SPARE not completely compliant with this.

Reasons for reqt. : representativity for cryoharness length, fit, behaviour.

: AVM of SUM should receive representative WUs, after use of an ERM programme.

: EMC representativity.

PACS + SPARE to investigate possibility of supplying - at least - ~~Fit/Function~~ ^{Fit/Function} AVMs, completely connectable to the cryoharness.

AI-7

15-04-02

No radiated susceptibility test will be performed on AVM.



Interface critical issues of Planet Instrument

LFI definition & Interface : meeting for the next week
design review definition

Goal is to have the same definition ^{of Interface} with 2 options
(with or without 100 GHz)

Alcatel to prepare a list of top-priority requirements
~~from Alcatel~~ prior to the meeting.

Saturn Coax power

Ongoing activities from JPL to reduce the power

Some first results expected at the 28th JPL meeting

HFI 4K charge regulator

HFI to prepare a Specification & SOW for
this box, including interface (volume and
connector face location at least)

Change Request Process

- modification of change process described in Annex 1
- main change is that the discussion shall take place at the ~~same~~ origin, during interface meetings

IID-A.

- it is proposed to red line it - and red lined
- distribution of ~~review~~ chapter to be reviewed by Alcatel/Astrium/Alenia has been proposed (attached) AI due date

Astrium and Alenia will review this by end of april.
(1st iteration) and final version by end of may
AI due date

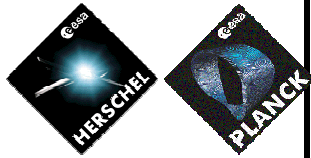
Change request Process

- Alcatel proposed a modification of the change process, attached. This was noted and discussed but no final agreement reached. Instruments want to establish a stable, signed IIDB 2.1 on which to base all further change requests. ~~■~~ HIFI 2.1 issue was signed last year but it is recognised that more updates are required to reflect the current status. New CR's are in the pipeline. SPIRE and PACS consider that the resolution of the ~~remaining~~ CR's ~~for~~ ~~the~~ ~~work~~ ~~packages~~ already submitted

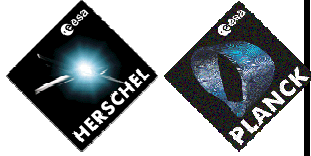
and treated ~~and~~ by Industry and ESTEC
and under final consolidation would
be sufficient for a baseline 2.1
(CR, 9 and 10 for SPARK; CR 13 etc for
PACS). Methods must be agreed to rapidly
update IID-B's further to reflect the current
~~design~~ status of the instrument.

ESA together with Alcatel will draft a
plan for both ~~are~~ more efficient CR
processing and updating of ~~IID~~ IIDB
for PDR

~~That is~~ ~~proposed~~ ~~improvements~~ In terms
of improving efficiency it is noted
and agreed by Alcatel and Arrium ~~that~~
~~that~~ that a more pro-active
approach will be made to interface management.
Interface meeting ~~agreements~~ should be structured
to address in advance issues affecting
interfaces both from Instrument and Industry
side and to set in place at these meetings
the methods to resolve these issues. ~~It~~ ~~must~~ ~~most~~
CR's should be pre-analysed and ^{pre-}agreed via
normal interface meetings ~~with~~ without the
need for long cycles.



Origine	ACTION ITEM List			DATE
	N°	Description	Responsable / Responsible	Echéance / Due
	1	Alenia will prepare interface drawings for all Instrument panels including: - Warm unit accommodation including shadowing angles - 2D harness routing sketches, incl. "Stay-in" restrictions for the harnesses, mouse-holes location - Pipes routing for Planck - description of rationale of SVM accommodation and integration constraints (fixation, connectors, dynamic for opening)	Alenia	29/03/2002 for PACS HIFI, HFI
		Instruments will comment these Drawing, aiming for the edition of PDR interface drawings	Instruments	2 W after
	2	Alcatel will provide HIFI preliminary analysis of SVM transient behaviour of SVM panels after Worst case tilt as produced for SRR	Alcatel	25-mars
	3	Alenia will prepare engineering assessment of temperature range for the last HIFI configuration (HRH & WBH on the same panel) to confirm that this solution is compatible with the WBS temperature requirement	Alenia	29-mars
	4	HIFI will confirm the dimensional constraints of LSU, and dimensional constraints wrt harness connection between HRH & HRV	HIFI	29-mars
	5	HFI will clarify interface details of DCCU (connection & pipes) to Alcatel/Astrium	HFI	29-mars
	6	Astrium will distribute detailed agenda for thermal meeting	Astrium	27-mars
	7	Astrium will send Harness description data package to be reviewed by instruments	Astrium	27-mars
	8	PACS & SPIRE will investigate how the AVM could be build at least FIT/Function to have a representative integration with the SVM and	PACS & SPIRE	15-avr



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LIEU / PLACE :ESA	

	representative harness		
9	Alcatel will prepare a list of priorities requirements for the LFI review	Alcatel	25-mars
10	HFI will prepare procurement documentation for the 4K pre charge regulator	HFI	01-mai
11	Alcatel will send to Astrium and Alenia (and internally to Alcatel) relevant IID-A chapters to be reviewed / red lined by End April (1st iteration) & end may (final version)	Alcatel	27-mars

Herschel / Planck QPM Instruments Splinter meeting

Wednesday 20/03/2001

ESTEC

Agenda

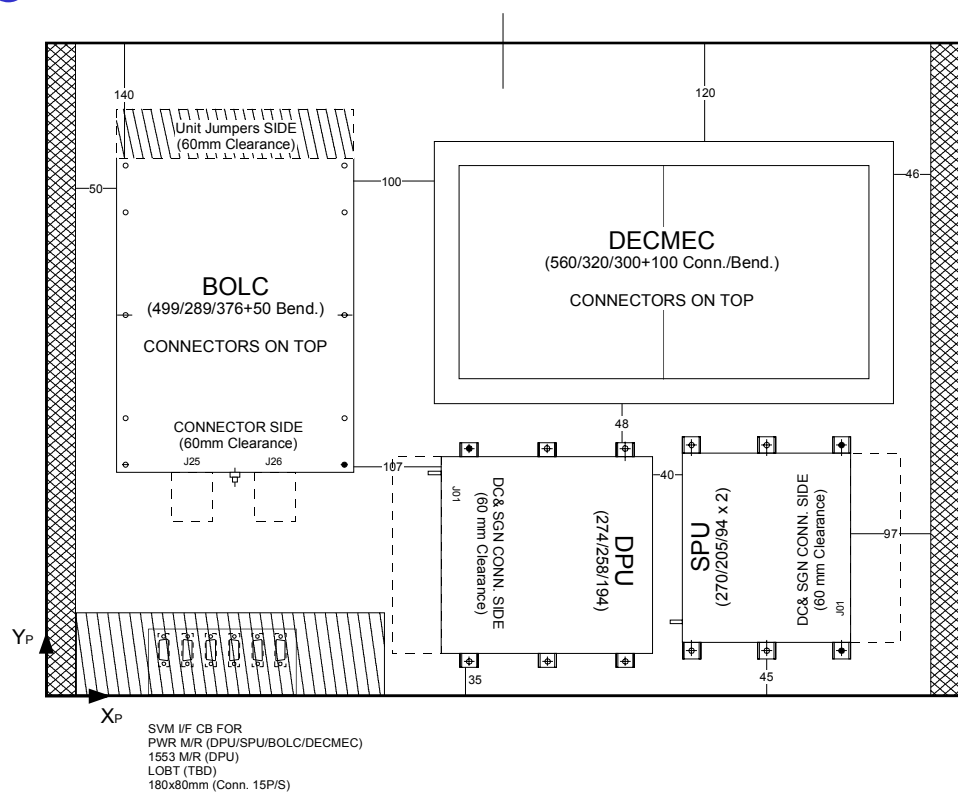
- 1: Instruments Warm units accommodation.
- 2: Instrument Interfaces critical issues –
Priorities for PDR
- 3: IID's change process.
- 4: Organisation and aims of working groups
- 5: Next interface meetings

1: Status of SVM Accommodation

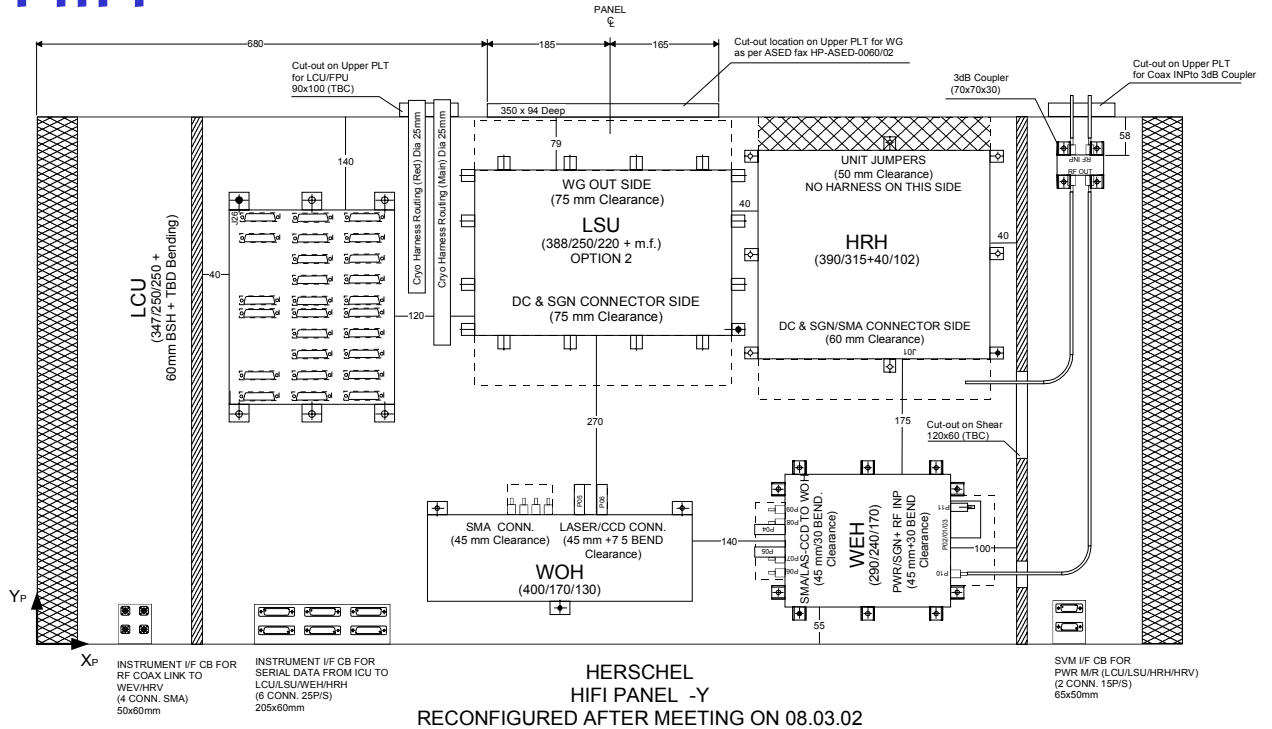
- Recent Instrument Warm units changes
- PACS (Meeting on 27/02/2002 Cannes)
 - Stack SPU
- HIFI (Meeting on 8/03/2001 Cannes)
 - Move 3dB Couplers from FCU & Split in polarisation
- SPIRE (Teleconf. with CEA DCU-FCU)
 - The limitation of 80cm harness can be negotiated
- HFI (Meeting on 8/03/2001 Cannes)
 - Clarification on cooler pipes & interfaces

PACS

HERSCHEL
PACS PANEL +Y-Z
RECONFIGURED

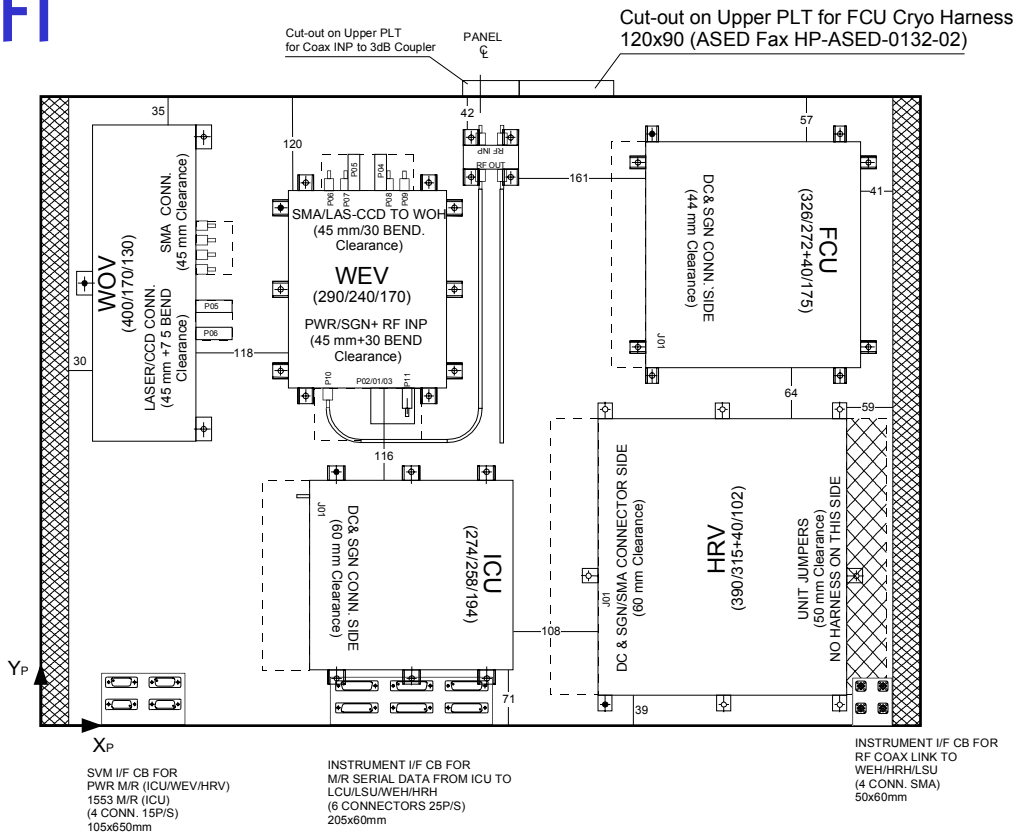


HIFI



HIFI

**HERSCHEL HIFI PANEL -Y-Z
RECONFIGURED AFTER MEETING ON 08.03.02**



1: Status of SVM Accommodation

- Pending actions
 - feasibility of PACS SPU Staking
 - HIFI Coupler Size & mechanical interfaces
 - Cable HRH-HRV
- New configuration needs to be configured
 - Mechanical IDS + Update IID-B 's
 - Agreement on SVM panel I/F drawing (= > IID-A)

2: Interfaces critical issues Herschel

- Thermal control of FPU 's
 - All instruments need proper Optical bench thermal model
 - OB + Instrument shield + baffle/cover/CTA environment + Cryoharness to 1st shield+ other instruments
 - PACS Thermal control needs to be consolidated
 - Thermal meeting initiated
- Straylight:
 - Plan proposed

2: Interfaces critical issues Herschel

- Cryoharness
 - ITT starting
 - Wiring list to be produced for Kick off meeting
 - Instruments to review it.
- AVM Configuration
 - Not form/fit Function for PACS/SPIRE
 - Find work around solution. Which shape ? How to accommodate

2: Interfaces critical issues Herschel

- Instruments verification on ground
 - CTA performances
 - Cover configuration / Testing on PFM
 - Standing waves test (HIFI)
 - EMC radiated susceptibility

2: Interfaces critical issues Planck

- LFI definition & interfaces
 - Agree on configuration at IBDR
- Sorption cooler Power
 - Negotiate between instruments (1KW total allocated)
- HFI 4K Charge regulator
 - HFI to prepare procurement documents (Spec, SoW)
- Instrument verification approach
 - Cooler & instrument testing not satisfactory (bits & pieces)

3: IID Change process

- Missing a step of discussion on a draft CR before the formal process
- IID-B proposed procedure
 - Prepare draft CR (Nominally by instrument, can be industry). Can be decided during interface meeting
 - Send draft to ESA/Alcatel in parallel
 - After 10 CR/1 months: Teleconf ESA/Industry/Instruments
 - Clarification / Negotiation
 - Ranking: With impacts (Class A)/Without impacts (B)
 - Propose CR version 1
 - Nominate responsible for processing (Alcatel/Astrium/Alenia)
 - Edit version 1 of CR
 - Initiate configuration process

4: Working groups

- Change working group to working forums
 - To reduce numbers of meeting
 - avoid free running Working group
 - Improve interaction
- Organisation
 - Mailing list: 1 specialist / Instrument, Industry, ESA
 - 1 animator per working group
 - reporting for system PM's & instruments
 - Clear input (from Payload team, system teams,...)
 - Output oriented to clarify IID-A (or B), and give recommendation on specific question

4: Working groups

- Existing WG
 - EMC (L.Trougnou)
 - Data management (K.R.Hibberd)
 - Planck cryo (TBD)
 - Contamination (C.Masse)
 - Herchel Telescope/Optics (D.de Chambure)
 - Planck telescope / Optics
- New WG
 - Herchel Cryo (Astrium)
 - Herschel Straylight (Ph.Martin)
 - Configuration SVM (Ph.Clavel)

5: Next interface meetings

- Schedule
 - Herschel FPU meetings
 - Herschel SVM accommodation + PLM interfaces
 - Planck Interface meetings
 - WG