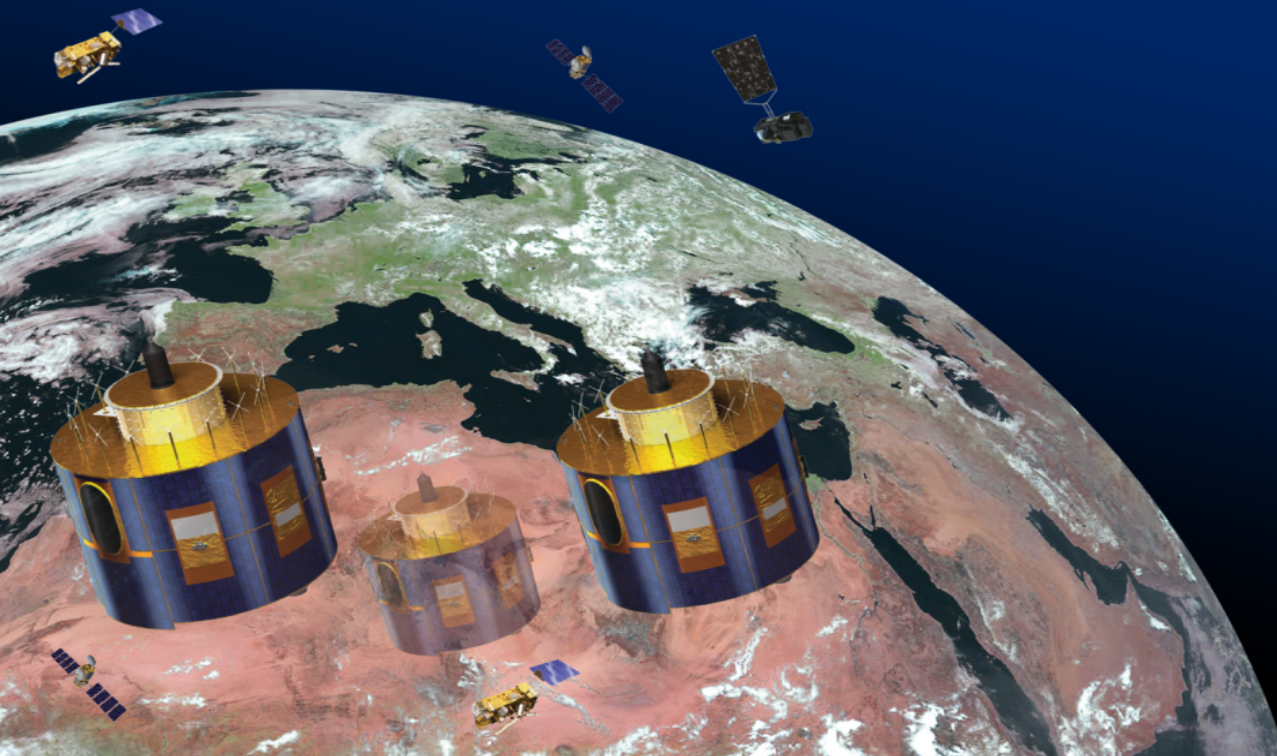


IRS L2 ATBD – MAG review summary



MAG review of the L2 ATBD

- Timeline:
 - The MAG review started with the distribution of the document via email on 30 April
 - RIDs were asked to be submitted by 18 May (some entries were late but still accepted)
- MAG members submitting RIDs on behalf of themselves and/or their organisation:
 - Nigel Atkinson
 - Claude Camy-Peyret
 - Pierre-François Coheur
 - Nadia Fourrie
 - Antonia Gambacorta
 - Mateja Irzic-Zibert
 - Christina Köpkens-Watts
 - Miguel A. Martinez

- There were overall 99 RIDs submitted
- These were categorised by the reviewers as follows:
 - Major: 15
 - Normal: 50
 - Minor: 8
 - Editorial: 25
 - Unclassified: 1 (PC-08)

Quick summary of contents

- All RIDs will be answered in the review report prepared by J. Grandell by the end of June
- The main part of the major RIDs (in fact, 5 major + 6 normal by 1 reviewer) are dealing with the general question of the choice of *a priori* in the Optimal Estimation part of the L2 processor
- This has been the subject of discussion during previous MIST meetings and SWG (*see the following slides*)
- At that time this had resulted in the choice of NWP forecast to be used as a *priori*
- The current algorithm, as defined in the ATBD, **retains both options as being available for processing** (i.e. NWP forecast and the PWLR³ retrieval from the first stage)

SWG/MIST in retrospect

- During the STG-SWG#31 (September 2011) the item EUM/STG-SWG/31/11/DOC/13 was presented discussing Recommendation 30.6 from the 30th STG-SWG meeting:

“Recommendation 30.6: SWG recommends that
 1. the paper “Elaboration of user requirements for MTG-IRS products and implications for data processing methods: a discussion paper”, presented as Annex to paper EUM/STG-SWG/30/11/DOC/11 should be updated based on comments received and presented at SWG-31.
 2. the MIST should be invited to take forward the discussion confirming and establishing the user requirements in all application areas, and addressing the open issues identified by the paper above.
 3. in developing MTG-IRS T/q products, priority should be given to NWC and VSRF requirements and their future evolutions.”

SWG/MIST in retrospect

- The paper named at item #1, *“Elaboration of user requirements for MTG-IRS products and implications for data processing methods: a discussion paper”* was presented as Annex to paper EUM/STG-SWG/30/11/DOC/11.
- In this Annex, the selection of prior information is discussed, and a summary is presented in section *“2. Scientific issues”*:

“In summary, therefore, the choice for NWP users of Level 2 products is as follows:

- *to use a NWP background, leading to a profile with quite an accurate representation of the fine-scale (unresolved) structures, but coming from the NWP system that provided them, or*
- *to use a climatological background, leading to a profile which, although it has errors that are independent of any NWP system, is generally deficient in its representation of the fine-scale structures.*

In either case, the assimilation of such profiles into a NWP system is not straightforward. The growing trend towards direct assimilation of radiances is largely a response to this problem.”

SWG/MIST in retrospect

- The discussion on the IRS user requirements at STG-SWG#31 closed with an action **to create a repository of open issues**:
 - Action 31.4: The Secretariat to create repository of open issues identified in EUM/STG-SWG/31/11/DOC/13, indicating level of maturity of answers, ownership of activities, status of activities.

→ On the Repository of open issues:

- From SWG#32: *“Regarding Action 31.4 on creating a repository of open issues regarding MTG-IRS products, it was noted by J. Eyre and S. Tjemkes that creating such a repository had been initiated in the last MIST meeting with an action placed on MIST to fill it. Updating the repository is an ongoing activity of MIST.”*

SWG/MIST in retrospect

- From STG-SWG#36 (March 2013):
 - MIST (represented by C. Köpken-Watts) presented EUM/STG-SWG/36/14/DOC/08, providing a summary of recommendations and actions as presented in “**Elaboration of user requirements for MTG-IRS products: Repository of open issues**”.
 - Following the overall discussion on the MIST recommendations, SWG then decided:
 - [...]
 - *Recommendation 36.7: SWG recommends that a NWP background is used for the L2 retrievals. The exact specification and content of the dissemination need to be established in interaction with NWC users. The NWC community also considers a wind product derived from IRS as a very high priority.*
 - [...]

Way forward

Considering the discussion started in the previous IRS MAG meeting in October 2017,

...and taking into account the **new developments and results** achieved with PWLR³ (in the IASI PPF 6.x) since the MIST and SWG discussions in 2013,

...and noting that **both options** for prior information **are available** for IRS L2,

...it is proposed that **the issue of prior information selection is further investigated** and reported at next IRS MAG meetings.

Backup

IRS-MAG new membership from 2017 onwards

Chairs:

- Hervé Roquet (Météo-France) - Bojan Bojkov (EUMETSAT)

Members:

- Nigel Atkinson (MetOffice – UK)
- Claude Camy-Peyret (IPSL – France)
- Pierre-François Coheur (ULB – Belgium)
- Nadia Fourrie (Météo-France)
- Antonia Gambacorta (NOAA/NESDIS/STAR – USA)
- Erik Gregow (FMI – Finland)
- Mateja Irzic-Zibert (ARSO – Slovenia)
- Christina Köpkins-Watts (DWD – Germany)
- Miguel A. Martinez (AEMET – Spain)
- Anthony McNally (ECMWF)
- Johannes Orphal (KIT – Germany)
- Dave Tobin (CIMSS – USA)

External experts:

- Tobias Guggenmoser (ESA)
- Daniel Lamarre (ESA)