

# PSA User Group Meeting

Notes in *italics* were added during the meeting, other content was prepared ahead of time.

## THURSDAY 30TH NOVEMBER

### Attendance

[Mark Bentley](#)

[Beatriz Sanchez-Cano](#)

[David Heather](#)

[Emmanuel Grotheer](#)

[Guido De Marchi](#)

[Anni Maattanen](#)

[Gianrico Filacchione](#)

[Antonio Genova](#)

[Tanya Lim](#)

[Daniela Coia](#)

| Time  | Topic  | Discussion  |
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| 09:00 | Welcome  |   |
| 09:05 | Mission updates (archive and project scientists, high-level points only) <ul style="list-style-type: none"><li>• MEX</li><li>• ExoMars TGO</li><li>• BepiColombo</li><li>• JUICE</li></ul> (Mark+) | <ul style="list-style-type: none"><li>• <i>Some changes to the personnel involved:</i><ul style="list-style-type: none"><li>○ <a href="#">Joana S. Oliveira</a> started as JUICE support archive scientist (50%)</li><li>○ <a href="#">Tanya Lim</a> will be moving to TGO full time in 2024</li><li>○ the recruitment of a new staff AS, to support Mars and possible JUICE, should conclude soon (interviews next week)</li></ul></li></ul> |

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|  | <p>Future missions updates<br/>EnVision, Comet<br/>Interceptor, ExoMars rover</p> | <ul style="list-style-type: none"> <li>• EnVision - assuming start of work around 2030, but TBD depending on the profile of instrument teams delivering pipelines to the SOC</li> <li>• Rosalind Franklin - discussion still needed on when we should re-start work <ul style="list-style-type: none"> <li>◦ code frozen but ready to be re-integrated as needed</li> </ul> </li> <li>• Comet Interceptor <ul style="list-style-type: none"> <li>◦ discussions not really started, but expected to be a different delivery structure than current PDS4 missions - a science support centre in Belgium will collate data, produce higher level products, and deliver to PSA</li> </ul> </li> <li>• <a href="#"><u>David Heather</u></a> <i>Prospect - is still at the definition phase</i> <ul style="list-style-type: none"> <li>◦ <i>pushing to get into the PSA (rather than HRE Data Archive)</i></li> <li>◦ <i>5 instruments, one lunar day, so fairly small dataset</i></li> </ul> </li> <li>◻ <a href="#"><u>Beatriz Sanchez-Cano</u></a> <i>to discuss with UG and draft a recommendation that all planetary data (from mission in any directorate) should go into the PSA</i></li> </ul> |
|  | <p>New missions to be supported by PSA (Hera, MSR)</p>                            | <ul style="list-style-type: none"> <li>• Hera <ul style="list-style-type: none"> <li>◦ another "oddity" in the sense that it's not coming from the science directorate</li> <li>◦ data will be curated/collected first by an external entity and then submitted to PSA in bulk</li> <li>◦ more archive scientist support needed than engineering</li> <li>◦ effort estimate created and waiting for feedback</li> </ul> </li> <li>• MSR <ul style="list-style-type: none"> <li>◦ discussions have started on the ERO dosimeter</li> <li>◦ MSR Mission System and Campaign Science Discussion taking place this afternoon</li> </ul> </li> </ul>  |

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|       |  | <ul style="list-style-type: none"> <li>○ recruitment underway for new archive scientist who will support MSR and other planetary missions.</li> </ul>  |
| 09:30 | <p>Update on PSA development status</p> <ul style="list-style-type: none"> <li>•             <ul style="list-style-type: none"> <li>○ Including feedback on new UI</li> </ul> </li> </ul> <p>(Mark+)</p> | <ul style="list-style-type: none"> <li>• PSA v6.7.0 should be released next week</li> <li>• Preparing to switch the old and new UIs             <ul style="list-style-type: none"> <li>○ the User Manual needs some work before this can be done.</li> </ul> </li> </ul> <p><a href="#">Beatriz Sanchez-Cano</a> asks when we will switch to the new UI as primary</p> <p><a href="#">Mark Bentley</a> replies that he still hopes to do this in 2023, but it depends on the deployment of PSA version 6.7.0 and completion of an initial user manual.</p>   |
|       | GSF updates (Mark+)  | <ul style="list-style-type: none"> <li>• Not much to report             <ul style="list-style-type: none"> <li>○ a few new submissions</li> <li>○ some "old" data still need to be moved to GSF (e.g. UPWARD) but that needs additional effort</li> <li>○ some data could be removed from PSA UI to GSF (e.g. ground based observations of Wirtanen)</li> </ul> </li> <li>• Two approaches being considered for GSF evolution             <ul style="list-style-type: none"> <li>○ use generic system under development in ESDC</li> <li>○ STAC/COG or something similar which is more geospatially oriented</li> </ul> </li> </ul>                |
| 10:00 | <p>Link between Planetary, Heliophysics and Astrophysics user groups (Beatriz+)</p>  | <ul style="list-style-type: none"> <li>• A summary of the discussion at the "Heliophysics in Europe" Workshop, 30 October – 3 November 2023, ESTEC is given.</li> <li>• People from one community do not know there are data in another archive that are useful to them             <ul style="list-style-type: none"> <li>○ need links between archives to guide the users</li> <li>○ <a href="#">Mark Bentley</a> we may be able to use EDL to help bring in data from multiple archives                 <ul style="list-style-type: none"> <li>▪ but this requires some time/effort to define and implement.</li> </ul> </li> </ul> </li> </ul> |

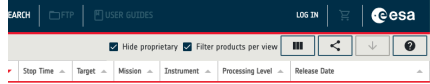
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|       |   | <ul style="list-style-type: none"> <li>○ <a href="#">Beatriz Sanchez-Cano</a> proposes that if we have an integrated summary page (per instrument) we could use this</li> </ul>  |
| 10:30 | PSA DataLabs (Mark+)                      | <ul style="list-style-type: none"> <li>• PSA DataLab is still pending release               <ul style="list-style-type: none"> <li>○ and will access PDS3 data only</li> <li>○ a solution for PDS4 is under discussion</li> </ul> </li> <li>• New version of ESA DataLabs was released which includes SciApps store               <ul style="list-style-type: none"> <li>○ allows users to create DataLabs - quick demo can be given</li> </ul> </li> </ul>  |
| 11:00 | PSA dataset reviewers                     | <ul style="list-style-type: none"> <li>• Proposal to pay reviewers a nominal fee for their participation               <ul style="list-style-type: none"> <li>○ and what we ask of them in return</li> </ul> </li> <li>• <a href="#">Mark Bentley</a> has a list (spreadsheet) or reviews expected for active missions in order to prepare cost estimates for the mission managers (to be presented in December)</li> <li>• <a href="#">Beatriz Sanchez-Cano</a> comments that she was paid several hundred dollars for a recent proposal review from NASA</li> <li>• <a href="#">Anni Maattanen</a> asks what guidelines we provide to reviewers               <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> answers that we have a review procedure which gives the basics (caveats, links to tools, known issues etc.) but that a review guidelines document would be better - once we are paying reviewers we can also ask for more concrete outputs (e.g. a few slides to document how they reviewed a given dataset).</li> </ul> </li> </ul> |
| 11:30 | MSR updates (Beatriz, on behalf of Ernst) | <p>Ernst provided a first list of names and expertise of European sample experts.</p> <p><a href="#">Beatriz Sanchez-Cano</a> wonders if we should contact the people on this list to sound them out</p> <p><a href="#">Mark Bentley</a> proposes that we wait at least a couple of months until the initial discuss has taken place on the ways forward with the MSR DAWG.</p>  |

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|  |   | <p><a href="#">Beatriz Sanchez-Cano</a> proposes we consolidate the above names with the original list (<a href="#">MSR Data Archiving Working Group</a>)</p> <p><input checked="" type="checkbox"/> <a href="#">Mark Bentley</a> to do this as part of minuting this meeting</p>   |
|  | <p>AOB</p> <ul style="list-style-type: none"> <li>• Advertising of releases</li> <li>• Highlighting of higher level / most useful products</li> <li>• Out-of-date info in Cosmos</li> </ul> | <p>As part of the discussion on releasing products, it was noted that PSA doesn't advertise releases of new data very well - sometimes there are tweets, but not for every case. This is difficult for PDS4 data after the initial releases, since new data are published every day, but could be done for PDS3.</p> <p><a href="#">Beatriz Sanchez-Cano</a> asks if we can use the PSA mailing list for this</p> <p><a href="#">Mark Bentley</a> says that in principle we can.</p> <p><input type="checkbox"/> <a href="#">Mark Bentley</a> to discuss a communication strategy for release info</p> <p>As part of general discussions the issue of how we highlight the important data was discussed</p> <ul style="list-style-type: none"> <li>• an instrument may generate millions of raw/calibrated products, but much of the science to be done comes from the higher level products generated by the instrument teams (e.g. maps, DTMs, etc.).</li> <li>• these can currently be found by filtering on derived products, but perhaps we could improve on this to highlight the key science products? <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> proposes we could use a new "card" category on the homepage for this?</li> </ul> </li> <li>• <a href="#">Beatriz Sanchez-Cano</a> in general it may be useful to have a summary page per instrument <ul style="list-style-type: none"> <li>○ this could show stats of products (raw, cal etc.) as well as pointing to key resources - important products, quick-start guides etc.</li> </ul> </li> <li>• In general we could improve the visualisation of data in time and space <ul style="list-style-type: none"> <li>○ <a href="#">Beatriz Sanchez-Cano</a> comments on the Bepi cruise phase coverage plots - which are useful for some data in some mission phases.</li> </ul> </li> </ul> |

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|  |  | <ul style="list-style-type: none"><li>○ <a href="#">Mark Bentley</a> we have a draft user story in place for this.</li><li>□ <a href="#">Mark Bentley</a> to prepare a requirements discussion on instrument summary display and data coverage visualisation</li></ul> <p><i>It was noted that the PSA Cosmos pages are often out-of-date</i></p> <ul style="list-style-type: none"><li>• <i>e.g. the TGO pages say that data should be available soon, when we have data</i></li><li>• <a href="#">Mark Bentley</a> comments that we will try to streamline this information when moving to the PSA app itself, but this may take some time, so we should update it in the meanwhile</li></ul> <ul style="list-style-type: none"><li>□ <a href="#">Mark Bentley</a> to organise an effort to update and streamline the PSA Cosmos pages</li></ul> |
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## FRIDAY 1ST DECEMBER

| Time  | Topic   | Discussion   |
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| 09:05 | Platform HK<br>archiving – updates<br>(Mark, Beatriz+)  | <p><b>Notes before meeting for discussion:</b></p> <ul style="list-style-type: none"> <li>• MEX and VEX EDAC files are easily accessible to archive</li> <li>• Rosetta archive is a very good example</li> <li>• Teams have been asked to think which HK parameters would be essential to conserve, e.g. Accelerometer of TGO, temperatures, etc.</li> </ul> <p><b>Discussion during meeting:</b></p> <p><u>Mark Bentley</u> showed the presentation he gave to the TGO/MEX SWT (attached)</p> <ul style="list-style-type: none"> <li>• Examples of documentation (EAICD and science user guide) were shown for Rosetta</li> <li>• The TEC-MUST instance was shown (data from VEX, MEX, ROS)</li> <li>• <u>David Heather</u> we should try to get this discussion and decision included in the early definition of future missions, to avoid repeating this discussion</li> </ul>  |
| 09:30 | Archival delay to<br>publish data<br>(Beatriz+)<br>(e.g., Funding<br>proposals can't use<br>recent MEX<br>archival plasma<br>data because no<br>data beyond<br>June/Dec 2019<br>(depending on<br>dataset) are<br>available).<br>No radio science<br>high level products<br>available but data | <p><b>Notes before meeting for discussion:</b></p> <ul style="list-style-type: none"> <li>• American colleagues from the MAVEN mission have complained as they cannot use any Mars Express plasma data in any NASA proposal as there are no data products public since mid/end 2019 (i.e., MARSIS and ASPERA).</li> <li>• No high level products available in the archive from MEX Radio Science (i.e., MaRS) despite have been delivered by the team. <ul style="list-style-type: none"> <li>○ <u>Mark Bentley</u> I'm pretty sure these are ingested and available - I see e.g. temperature/pressure profiles, electron density profiles etc. Or are we discussing something different?</li> <li>○ <u>Beatriz Sanchez-Cano</u> My bad, just seen that they have been made available last month! I will have a proper look for tomorrow. Thanks Mark.</li> <li>○ ASPERA PI comment: Mars Express ASPERA-3 IMA (Ion Mass Analyzer) counts after June 2019, and IMA flux for</li> </ul> </li> </ul> |

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|  | delivered >1 year ago. | <p>the whole mission will be delivered to PSA in the coming months. It is important to make this data public as soon as possible since there are a lot of science proposals and collaborations that depend on these data.</p> <ul style="list-style-type: none"> <li>▪ <a href="#">Mark Bentley</a> OK - we should discuss with the PS to make sure this is given priority.</li> <li>• TGO: the PSA website says that there is not available data for most of the instruments. However, there seems to be raw available products (at least HK?) in the archive. Are there high level products? <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> CaSSIS provides derived data products, not sure about other teams</li> </ul> </li> <li>• BepiColombo cruise data: only available for the team. <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> correct - in principle cruise phase data do not <i>have</i> to be made available, but in most cases we are aiming for this to be the result of the first archive review</li> </ul> </li> <li>• Venus Express high level products: not clear if for example, radio science electron density profiles are available (it seems not?) <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> no, I don't think so. If these are "lying around" somewhere we can consider archiving them</li> </ul> </li> <li>• JUICE: the archive has some data (HK, RADEM, etc) but the website says "not available". Perhaps better to say: "under priority period" or similar. <ul style="list-style-type: none"> <li>○ <a href="#">Mark Bentley</a> the next release has an improved message, but for performance reasons this is static (does not depend on the data):</li> </ul> </li> </ul> <div data-bbox="938 1541 1369 1624" data-label="Image">  </div> <ul style="list-style-type: none"> <li>▪ another approach would be to hide the menu entries altogether until the first data are public, but that could also be confusing for a subset of the community.</li> </ul> <p><b>Discussion during meeting:</b></p> |
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|       |   | <ul style="list-style-type: none"> <li>• <a href="#">Mark Bentley</a> the causes of delay are different from the older missions (e.g. MEX, using PDS3) and the newer ones (e.g. TGO, using PDS4)</li> <li>• MEX: problem is that teams are often delivering data which is not validated, and not bug-free. So significant time is spent debugging and fixing issues on our side. <ul style="list-style-type: none"> <li>○ we are trying to address some of these issues by looking if other tools could help speed up the validation effort on our side and/or be more easily deployed to the instrument teams <ul style="list-style-type: none"> <li>▪ <a href="#">David Heather</a> if we get better validation tools, there is also a danger that they are more thorough and we create additional problems to be fixed</li> </ul> </li> <li>○ <a href="#">David Heather</a> comments that we have previously tried exposing "bad" data to the public ahead of review and fixes, but it comes with problems - how do we version this? what happens when people use/publish on wrong data?</li> </ul> </li> <li>• <a href="#">Guido De Marchi</a> comments that there are possible solutions here (EXPRO etc.) and that if the user group feels this is a major problem they should make a recommendation that in general ESA looks at how to speed up the time to public data release, and then we can discuss with management how this might be achieved.</li> <li>• TGO: CaSSIS and NOMAD reviews were pretty nominal (around 2020) but ACS and FREND have taken longer <ul style="list-style-type: none"> <li>○ ACS (occultation channels at least) should be resolved</li> <li>○ FREND is going to be a harder dataset to resolve/release</li> </ul> </li> </ul> |
| 10:00 | Resources for legacy archives (continued) <ul style="list-style-type: none"> <li>• Potential Giotto re-processing data</li> <li>• Data not archived,</li> </ul> | <ul style="list-style-type: none"> <li>• Documentation of outstanding legacy tasks ongoing. Main topics are: <ul style="list-style-type: none"> <li>○ validation and ingestion of a large number of Rosetta datasets</li> <li>○ validation and ingestion of a few VEX datasets <ul style="list-style-type: none"> <li>▪ provided to ESA but never processed</li> <li>▪ promised, but not yet provided</li> </ul> </li> <li>○ support to the PDS3 → PDS4 migration process <ul style="list-style-type: none"> <li>▪ KO in Q1 2024</li> </ul> </li> </ul> </li> </ul>  |

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|  | <p>something<br/>we can<br/>recommend<br/>?</p> | <ul style="list-style-type: none"> <li>Currently support for legacy should be: <ul style="list-style-type: none"> <li>part of the science lead's duties (but no time)</li> <li>0.25 STE covered by SCO-09 <ul style="list-style-type: none"> <li>but limited due to other tasks and capacity</li> </ul> </li> <li>hope is to raise this level to 0.5 STE</li> </ul> </li> </ul> <p><u>Guido De Marchi</u> this could also be done via EXPRO if there are no resources in house</p> <p><u>Anni Maattanen</u> some years ago did a large work on female PIs in ESA missions and published a paper in Advanced in Geosciences - did lots of background work on this and have an Excel with many names. Will try to dig out and provide. DOI for paper: <a href="https://doi.org/10.5194/adgeo-53-169-2020">https://doi.org/10.5194/adgeo-53-169-2020</a>.</p> <p><u>Mark Bentley</u> recalls that we would like to make better use of the Heritage Space Programme - want to make a bolder proposal - e.g. request several million EUR. <u>Guido De Marchi</u> clarifies that we can request funding here every 3 years. <u>Beatriz Sanchez-Cano</u> UG could recommend here that we prepare a consolidated request in this area.</p> <p><b>Notes before meeting for discussion:</b></p> <p><b>Giotto:</b> <a href="https://www.cosmos.esa.int/web/psa/giotto">https://www.cosmos.esa.int/web/psa/giotto</a></p> <ul style="list-style-type: none"> <li><b>RPA-(Reme) Copernic Plasma Experiment</b></li> </ul> <p>One of two plasma experiments to study the solar wind and charged particles. The RPA measured velocity distributions of electrons and composition/distribution of thermal positive ions close to the cometary object.</p> <p>No public data available yet</p> <ul style="list-style-type: none"> <li><b>EPA-Energetic Particle Analyser</b></li> </ul> <p>An energetic particles analyser to study electrons, protons and alpha-particles.</p> <p>No public data available yet</p> <p><b>Email from Fredrik Leffe Johansson</b><br/>&lt;<a href="mailto:Fredrik.Johansson@ext.esa.int">Fredrik.Johansson@ext.esa.int</a>&gt;</p> <p>"I am looking for Giotto, Vega 1 and Vega 2 data that are not archived anywhere. Mostly Langmuir probes, and impact plasma monitors. I have come across data from an ESA instrument on the Vega 1 and 2 missions that is not archived, and I've managed to calibrate it.</p> |
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|       |                          | <p>So what I have, that is not archived, is Plasmag A0, A1, A2 from Vega 1 <b>and 2</b>. In raw format and calibrated to currents (by myself) during each spacecraft comet encounter. That's 4 files, with 12 datasets.</p> <p>Plasmag A1 and A2 are Faraday cups, made by Russians. PLASMAG has been described here:</p> <p><a href="https://inis.iaea.org/collection/NCLCollectionStore/Public/17/053/17053278.pdf">https://inis.iaea.org/collection/NCLCollectionStore/Public/17/053/17053278.pdf</a></p> <p>Plasmag A0 is an impact plasma monitor, the description and naming convention varies, but an exact replica was on Giotto, and developed by Rejean Grard.</p> <p>I'm still looking for an equivalent on Giotto, my latest lead, from Jean-Pierre Lebreton is that it should be somewhere in some basement in CDP (it is not on their AMDA database). I am also looking for the Langmuir probe information from the Vega missions (APV-V), some information and description is available here</p> <p><a href="https://articles.adsabs.harvard.edu/pdf/1987A%26A...187..297P">https://articles.adsabs.harvard.edu/pdf/1987A%26A...187..297P</a> "</p> <p><a href="#">Mark Bentley</a> if we can get the data in any form then we can preserve it somehow (in GSF if not in PSA)</p> <p><a href="#">Beatriz Sanchez-Cano</a> could we ask the community to let us know if they have higher level data from old missions lying around. For Giotto we need to contact the old Cols etc. <a href="#">Guido De Marchi</a> suggests asking John Zarnecki. <a href="#">Mark Bentley</a> adds that he has a follow-up email with Simon Green re DIDSY data. User group to make a recommendation to help here.</p> <p><a href="#">Mark Bentley</a> notes that Giotto data are different in PDS and PSA and this needs to be considered.</p> |
| 10:30 | Archival visitor program | <p><b>Notes before meeting for discussion:</b></p> <ul style="list-style-type: none"> <li>• Current review deadline: 6 December</li> <li>• Female/Male ratio in applications increased a lot: 43%/57%. Is it double anonymous review?</li> <li>• Applications from UK are 25%, then Italy 13%, Austria 10%, Poland and Spain 7%, ...</li> <li>• Astronomy 70%, Planetary Science 20%, Heliophysics 10%</li> <li>• Idea: Some expertise may be missing within ESA and perhaps would be more useful to link the applicants to the instrument teams for the training on how to use the archived data.</li> </ul>   |

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|  |                  | <ul style="list-style-type: none"> <li>○ <a href="#">Guido De Marchi</a> interesting idea! We cannot send people to the PI teams, but we could invite people from the teams to join the applicat at ESA site</li> <li>○ <a href="#">Mark Bentley</a> would also love to see this combined with the production of data tutorials (e.g. if we invite someone from a team, can we use a few hours of their time to hack through a tutorial?)</li> </ul>   |
|  | Any other items? | <p>Last year we proposed a joint meeting of the different User Groups in the week 19-23 Feburary 2024, with some overlap between the different groups (e.g. Helio → Planetary → Astro starting Monday lunch and ending Friday afternoon). Are members of the UG still available in this timeframe? If so we can start to check for rooms etc.</p> <p><a href="#">Anni Maattanen</a> has a conference that whole week</p> <p><a href="#">Beatriz Sanchez-Cano</a> could make this week</p> <ul style="list-style-type: none"> <li>□ <a href="#">Mark Bentley</a> to confirm with other UGs what their plans are and send poll for dates/availability</li> </ul> |