MEETING

Meeting Date	29-30 October 2014	**Ref**	PSA-UG-MN-003
Meeting Place	ESAC, Madrid	**Chairman**	A. P. Rossi
Minute's Date	2014-11-03	**Participants**	A. P. Rossi, A. Hagermann, P. Rosenblatt, T. Widemann, B. Cecconi, H. Svedhem, C. Arviset, D. Heather, N. Manaud, S. Martinez, A. Masson, L. Noiseau, E. Verdugo, I. Barbarisi, J. Gonzalez, A. MacFarlane
Subject	Planetary Science Archive User Group Meeting #3	**Copy**	D. Lennon, Planetary Data Handling Archive Scientists

The third meeting of the PSA User Group (henceforth PSA-UG) took place at ESAC, Madrid from 29-30 October 2014. The meeting focussed on assessing the outputs from the second user questionnaire and building recommendations accordingly, as well as the drafting of the first annual report of the User Group. The afternoon of the first day was an open session in which Archive Scientists at ESAC were encouraged to attend and provide inputs.

These minutes will summarise the key points from the discussions that took place during the meeting. Actions are copied at the end of the minutes for information, but will be tracked in a separate file on Livelink. All presentations and other documentation from the meeting are also copied onto Livelink.

Wednesday 29th October

The chair began the meeting by reiterating the key objectives of the PSA-UG:

- To advise on the future development of the PSA
- To be a focus for community
- To be and advocate of the PSA to the user community
- To monitor activities related to the PSA

The objectives of the meeting were then summarised as:

- Assess results so far (focus on responses to Q2)
- Plan future activities and means to address/engage the community
- Draft outline of report on activities and results so far for SSEWG

Deliverables:

- Report draft for SSEWG
- Minutes (this document)
- Any additional notes etc., all provided on Livelink

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The Action Item list was then actively worked, closing many items, merging a number of duplicates, and removing some that were judged to be normal or ongoing activities rather than fixed actions. The updated sheet is available on the PSA-UG Livelink area.

During the discussion of actions, an important item was raised related to the inclusion of 'value-added' products in the PSA, and the possibility to include non-PDS data in the archive. Many PI teams are developing value-added products for use internally within their Co-I groups. These are often very useful for science, and it was agreed that they should be encouraged to provide these materials for inclusion in the long-term archive. Strengthening the link between the science web releases and the data in the archive would be a good step towards this.

Related to this is the inclusion of other non-PDS data, such as the navigation data from ESOC. These are very important for radio science, but are not currently preserved through the archive at all. It is clear that some effort would be needed to provide PDS3 compliant headers for these data, so ingesting them fully into the existing PSA is not possible without additional resources. Many other potentially useful engineering or housekeeping parameters are currently kept on the MUST servers at ESOC for each mission. The current plan is for ESAC to take a copy of the MUST servers during post operations and a backup of all ESOC data for long-term preservation. These will be preserved on the archive disks, but as they are not PDS compliant, there is no plan to make any of these data available directly through the archive. If this is deemed to be important, it can be included as a requirement in the next version of the PSA, which is currently being defined for ExoMars and BepiColombo, using the new 'PDS4' archiving standards.

Action *M3-01* was raised to track this, and to avoid similar issues arising in future, it was suggested that recommendations are provided by the archive team for the inclusion of additional HK and metadata in future experiment proposals. Similarly, guidelines should be provided for the long-term preservation of operational data and higher level derived products as well as science products.

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A short discussion followed on FP7 style European projects and whether the PSA-UG could recommend or play a part to encourage delivery of products to PSA. CA indicated that this is a very complex political issue, and that ESA cannot be directly involved in any EU funded project, so there is no clear or easy way to achieve this. A further discussion on H2020 was planned for the afternoon session, so further discussion was put on hold until then.

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A presentation followed from DJH on the processed outputs of the second PSA-UG questionnaire. The full presentation is available on Livelink. The main points and discussions are summarised below. A few major points from this shall be extracted for inclusion in the PSA-UG end of year report to the SSEWG.

- The questionnaire was released on 01/04/2014 and has been promoted continuously online and at various conferences and workshops.
- Total of 61 responses, with strong peaks at conferences and workshops. It is clear that these activities need to be directly promoted in order for the community to react.
- Overall response and quality of inputs indicates that the questionnaire was very successful.
- Every discipline showed common responses to the key themes of query, browse images and data usage, providing a number of clear recommendations for future direction / development of the PSA.
    - Search/query results showed a strong preference for a web form, with a need for a Map interface for surface observations, and text based searches for atmosphere and space environment users.
    - Normal quick views were requested for all data, with some specialised needs for context information and annotated quick views for atmosphere and space environment users.
    - Three strong common themes came for data usage needs across all disciplines: PDS reader/data visualiser, software for higher level data production, and a tool to transform/import the PDS data into common formats for science usage.
- Additional needs specific to each discipline have also been identified and need to be addressed with more detailed use cases and requirements from each PSA-UG member based on their expertise. This is related to the ongoing action *M1-2013-07-03#02*.

Action *M3-04* was raised on DJH to provide a condensed report on the outputs of the questionnaire. This will be disseminated via PSA WWW and as an appendix to the SSEWG report.

Open Session – Archive Scientist attendance

The afternoon began with a session that was open to archive scientists and the PSA archive engineers. A brief summary of the morning's discussions was provided. A few key sentences and keywords were extracted from the Q2 result summary for the end of year report to SSEWG.

A discussion on the PSA-UG's activities in the year was then bulleted to help provide inputs for the report, following the process of releasing the first questionnaire and the subsequent development of the much-improved Q2 along with an overview of the responses.

A number of tools and interoperability programmes were then presented and discussed. BC presented the AMDA online tool (http://amda.cdpp.eu/), useful for usage of plasma / space environment data. This tool provides interoperable links to external data as well as the facility to link to 'local' data. Data from missions and a number of laboratories are already linked, and the tool uses the SAMP protocol to link to the Aladin software for visualisation and limited analysis. It was noted that ESA is subsidizing the Aladin development, so a request for additional functionality can be made to allow for access to some PDS data.

Tutorials are regularly run at science conferences for users to learn how to utilise these tools and access/manipulate their space environment data. The tutorial materials are available online, and will be provided to the PSA-UG. Similar tutorials are recommended for other disciplines and for the overall PSA.

The VESPA project proposal / use case was then shown by BC. This proposal is again driven by the space environment community needs for interoperable data access, and has been submitted to the H2020 call. The presentation is provided on the PSA-UG Livelink area.

A general call was made for each PSA-UG member to provide a list of applications and tools related to their discipline for investigation and inclusion on the PSA WWW. This is following up on the action *M1-2013-07-03#04*.

A discussion followed on equivalent services for users of surface data. No presentation was given but a number of tools were actively shown by APR.

- The *Earthserver (*www.earthserver.eu) project uses an OGC protocol and uses footprints downloaded from the PDS, so could be a good option for PSA to investigate.
- *PlanetServer Touch* (www) is an FP7 project, which allows for a small degree of analysis to be done on some surface data.
- A number of PI teams also run activities to support the use of their data. The www.maps.planet.fu-berlin.de is an example from the HRSC team. Resources should not be expended on re-inventing tools that PI teams have already developed, but PSA could link to some of these tools and promote the use of the PSA data in this way.

Although several discrete tools are available for surface data manipulation, there is currently no Topcat or AMDA equivalent in the surface community right now.
BC demoed the 3DView software developed by CDPP, which is currently under development. This tool can be linked by SAMP so would be very easy to connect to the future PSA, and may be an option for visualization of irregular bodies (e.g. Rosetta).

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The MEX/VEX Archive Scientist, NM, then presented the idea of hosting a Planetary GIS workshop at ESAC to help with the development of the GIS enabled PSA in future. There is already a working group at ESAC that has been looking at the implementation of GIS for the future PSA along with designs for possible User Interfaces. Use cases from each discipline and domain would be needed to help evolve the prototype (see action *M1-2013-07-03#02*). A number of items highlighted from the questionnaire results are already accounted for in the design. These include pre-defined searches based upon the use cases from each discipline, saving of searches and the possibility to share searches with the community as well.

A poster was presented on this at the recent EPSC conference, and was described for the PSA-UG here. A copy of the poster is available on the PSA-UG Livelink area.

The prospective GIS workshop would help to get feedback from the community for the PSA development, teach the community how to use the PSA data in a GIS environment, and evaluate the current state of the art GIS in Europe. The idea is to have a focussed workshop with approximately 20 people.

The PSA-UG strongly support the idea of the workshop, and suggested to aim for early May, linking it with a PSA-UG face to face meeting to allow for all disciplines to be represented at the workshop.

AI M3-08: NM and APR will iterate on the GIS workshop plan, outlining the objectives and format / key participants. DJH to follow up with management and reserve room(s) as soon as dates are fixed.

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The long-running issue of PI recognition was raised by APR, who suggested that the future PSA includes/uses DOI. The PDS4 standards already have space for this, but some effort would be required to investigate the best way to manage this with the PDS3 data. The DOI is a well recognised identifier that would be easier for many people to cite and is used by most authorities so that citations are more easily tracked. DJH will look into this and see if/how DOI can be used with the existing and future PSA.

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PSA Exploitation and augmentation activities
A number of items were discussed related to the exploitation and promotion of the PSA and its data holdings. A small amount of money is available for supporting the PSA, and a number of ideas for the use of this were discussed, based around the outputs from the questionnaire. Based on these ideas and discussions, DJH will out together some proposals for PDS reading libraries and visualisation tools, and for conversion tools. This should be followed up quickly, and DH requested that the PSA-UG identify possible groups within their own institutions who may have the expertise to work on these tools.

AI M3-05: DJH to put draft requirements and ITT together for small contracts to support the PSA.

The Space App Challenge was highlighted as a potentially excellent way to promote the PSA and its data holdings. CA was asked to follow up on this and identify how and when applications for the next challenge can be made (*AI M3-06*).

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Day 1 finished with a short impromptu presentation of the Cluster Science Archive (CSA) by Arnaud Masson, the Cluster Archive Scientist. Several features of the CSA were highlighted that are relevant to the current and future PSA, such as the representation / visualisation of plasma data, proprietary data access and the save / restore of data searches.

Thursday 30th October
Day 2 of the meeting focussed on detailing the actions and future plans of the PSA and the User Group, trying to plan a skeleton of the end of year report for the SSEWG.

Promotion of the PSA internally will help to drive the development of use cases and requirements. HS will aim to actively generate inputs from the Project Scientists at ESTEC, and will distribute the MoM and Livelink links to them so as they are more aware of the PSA and the PSA-UG activities.

The future activities were summarised as follows

- GIS workshop plans for next year, with associated UG meeting. Aim for early May at ESAC.
- Space App Challenge: this should be a regular activity, starting as soon as we know the application procedure.
- PSA mini ITT (contract for PDS reader etc). To be defined and tracked by DJH.
- Tutorial development and re-use based on examples from Baptiste and others.
- Aim for holding PSA related workshops at conferences

- PSA-UG social media presence and promotion. All members should try to look into this.
- Consider including materials in conference packages.
  AI M3-09: APR will talk to Maria Teresa Capria and TW will talk to local Nantes contacts for EPSC.
- Consider making a PSA business card, or have a URL on rolling screen at a conference, and put together a single page / flyer with catchy taglines.
  AI M3-10: APR to lead and all to discuss ideas for materials to use.

A short discussion took place on the possible use of Trainees for PSA or PSA-UG related activities. HS suggested the use of a trainee for packaging the Radio Science profiles. DJH mentioned that a number of trainees have been used over the years for PSA activities, and sees this s a valuable resource.

AI M3-11: DJH to propose a list of potential projects for trainees over the coming year(s).

The meeting closed with a discussion of the year 1 report. The structure and top level content was outlined and will be worked on outside of the meeting, drafted by APR and discussed with the other members in the coming weeks. The aim is for a 2 page (maximum) executive summary.

The next PSA-UG face-to-face meeting will be planned in line with the prospective GIS workshop, proposed in early May 2015.