F. Pérez-López¹, T. Lock²

¹ BepiColombo MPO Science Ground Segment (SGS),
² Science Operations Department – Quality Assurance,
European Space Astronomy Center (ESAC), Madrid, Spain

Abstract

This poster presents a Generic Documentation structure applicable during the analysis, definition, implementation and operational phases of a Science Ground Segment, SGS. It is the conclusion of the analysis performed in the scope of the BepiColombo SGS development project and is also derived from the experience of ESA science missions. This generic documentation tree is aligned with the ESA standardization processes and has been written with the goal of being understandable and suitable for the science community. It represents a new approach for the development of future ESA science missions, providing an initial documentation structure that should be tailored depending on the specific scientific, engineering and managerial characteristics of each mission.

Introduction and Scope

- The SGS is responsible for writing and maintaining the specific ESA SGS documents and also contributing to other mission entities documentation.
- The SGS is composed of several subsystems, covering the following core competences: Science Operations Planning, Science Instrument Handling, Data Reception & Processing, and Archiving & Science Support.
- Subsystems could be developed by different teams. The resulting documents could be included as a part of the SGS documentation or separately, it depends on the specific managerial aspects of the mission.

ESA Science Mission follows the following lifecycle:
- Analysis Phase (phase 0/A)
- Definition Phase (phase A/B1)
- Implementation/Operational Phase (phase B2/C/D/E1/E2): This includes post-operational activities.

Documents for the early phases

- Mission Project Acceptance
- Science Ops
- Mission Operations
- Mission Project Plan
- Mission Operations Project Plan
- Mission Project Plan Implementation
- Mission Project Plan Implementation/Operational Phases

SGS Documentation Tree

SGS Documentation Tree -- Implementation & Operational Phases

Analysis and Definition phases are the early periods from mission proposal to mission selection. The SGS Documentation Tree covers the documentation generated by SRE-O during the ESA science mission lifetime.

and more ...

Traceability and Requirements flow:

Authorization organized by levels:

Detailed Document Descriptions:

Tailoring

The documentation tree can be tailored by document merging depending on the specific characteristics of the SGS development and operations. Please, contact us for further information.

Contact Info

Fernando Pérez López
Phone: +34 91 8131 203
Fernando.Perez-Lopez@esa.int
European Space Astronomy Center (ESAC), P.O. Box 78, 28691 Villanueva de la Cañada, Madrid, Spain

SCIOPS 2013 (10-13 September 2013), ESAC, Madrid, Spain