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## PLANMAP data packaging: lessons learned towards FAIR planetary geologic maps

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Geologic mapping is a key element of planetary exploration for mission planning, orbital and rover reconnaissance, and target selection for in-situ analysis and sample return, as well as for understanding the formation and evolution of planetary surfaces. The PLANMAP project (<http://www.planmap.eu>) aims at produce high-level, standardized geological maps of the Moon, Mars, and Mercury (Massironi M. et al., 2018). The project is integrating different types of data as images, spectral-cubes, chemical data, Digital Terrain Models and three-dimensional geological models to produce geological maps suitable to planetary exploration at different levels. The process results in rich datasets composed by a variety of datatypes encapsulated in open standards and released to the community as freely accessible packages (<https://maps.planmap.eu>).

To accomplish the complexity of deploying PLANMAP packages, considering reliability and automation as key components of a data release workflow, we arranged a data management framework respecting the FAIR (findable, accessible, interoperable, and reusable) guidelines. Geographic data are stored and served by a multi-layered Web-GIS allowing easy information discovery. Particular attention has been paid in designing the user interface and in the definition of the underlying data structure. Different data query services are also provided to properly address different user needs (Luzzi E. et al., 2020). PLANMAP's datasets can be downloaded in the form of fully contained packages (<https://data.planmap.eu>) fulfilling a specifically designed standard. Once a data package is ready for publication, validation and summary information extraction take place and the results are published together within the packages.

We will here present an overview of the PLANMAP's deployed data system, and the technical solutions that were adopted with the final goal of improving the quality standards of planetary geological maps.

### References:

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