PRoVisG - Planetary Robotics Vision Ground Processing
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D2.1. Mission Context Document

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Work package 2 – Specifications and Requirements **Tasks** 2.1 Mission Cases/2.4 MER Context
Lead contractor for this deliverable SSL
Dissemination level: Public

EXECUTIVE SUMMARY

The PRoVisG research project aims to develop a frame work for planetary robotic vision processing by bringing together the European space community. Through the better processing and visualisation of data products from robotic missions reductions in the operational cost and increases in data output can be realised. The project also aims to provide an increase in the public awareness and generate procedures for distributing mission data and information to the scientific community and general public. This document presents a spectrum of mission cases and possibilities regarding the vision processing chain, data handling and archiving of mission data. Through a study of the relevant past, present and future missions and analysing them to understand their science and mission goals, data processing methods the user requirements for the PRoVisG frame work have been derived.
In deriving the user requirements from the investigated missions three scenarios have been proposed; a rover, an aerial vehicle and a multiple vehicle system. Each has been analysed for their system configuration and processing requirements. The PRoVisG system consists of a vision processing function server (PRoVIP) and an interface client (PRoGIS). The scope and boundaries of the PRoVisG system have been derived to be:

Out of Scope	PRoVisG Scope
Dynamic Simulation of hardware and software components of a robot system	Normalisation process of the data (import/export)
Mission planning, mission resource management and science classification	Provide tools needed for planning, resourcing and assessment but not provide actual interpretation of the results
Source generation (should be done in the hardware)	Processing the images
Direct interaction with the mission control system	Presentations (selected print outputs)
Automation of mission elements	Automated batch processes of the PRoVIP functions
Storage/archiving	Access to information is required (good search tools, metadata) → image data & image management
	Data mining? (database interrogation?)

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