MONTHLY OPERATIONS REPORT

MOR#106

Reporting period from 16-Sep-2022 to 15-Oct-2022

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1.0	19/10/2022	All	Initial version	

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1. Summary

Since October 2021, the PROBA-V mission seized its acquisition activities. The PDGS activities are focussing on off-line dissemination of the entire archive, next to the exploitation activities in the PROBA-V MEP.

All activities were nominal in the last month. Five new users registered that downloaded products or used a MEP service. Downloads in the last month are mainly done by European and Asian users.

Due to a backlog of calibration segments in the on-board mass memory, an X-band pass will be planned to increase downlink capacity.

In terms of the C2 reprocessing activities, the focus is on provision of period October 2013 – December 2017. At the time of writing, we are processing January 2017.

2. System Infrastructure

Category	% Up Time	% Down Time
Switches	100.0	0.0
Database Servers	100.0	0.0
Mid Term File Servers	100.0	0.0
Short Term File Servers	100.0	0.0
Master Servers	100.0	0.0
Worker Nodes	100.0	0.0
PDF	100.0	0.0

Table 1: System Infrastructure availability for this reporting period

3. Image Processing Services

3.1. Dissemination service

Product type	Added to catalogue	Ordered	Delivered
PROBAV_L1C	0	0	0
PROBAV_L2A_100M	0	51	52
PROBAV_L2A_300M	0	0	0
PROBAV_L2A_1KM	0	1535	13862
PROBAV_L3_S1_TOA_100M	0	0	0
PROBAV_L3_S1_TOC_100M	0	2312	1987
PROBAV_L3_S1_TOC_NDVI_100M	0	0	0
PROBAV_L3_S5_TOA_100M	0	0	0
PROBAV_L3_S5_TOC_100M	0	58	63
PROBAV_L3_S5_TOC_NDVI_100M	0	0	1
PROBAV_L3_S1_TOA_300M	0	0	0
PROBAV_L3_S1_TOC_300M	0	2575	2554
PROBAV_L3_S10_TOC_300M	0	0	0
PROBAV_L3_S10_TOC_NDVI_300M	0	0	3145
PROBAV_L3_S1_TOA_1KM	0	1	2
PROBAV_L3_S1_TOC_1KM	0	2385	2343
PROBAV_L3_S10_TOC_1KM	0	0	0
PROBAV_L3_S10_TOC_NDVI_1KM	0	1123	1093

Table 2: Ordered and delivered products for this reporting period

3.2. End-user activity

5 new user(s) were registered in this reporting period.
The total number of users registered for PROBA-V data and that have ordered data is **2111** with **126** different nationalities representing **1517** different companies/universities.

Product type	Africa	Asia	Europe	N-America	Oceania	S-America
PROBAV_L1C	0	0	0	0	0	0
PROBAV_L2A_100M	0	0	3.59	0	0	0
PROBAV_L2A_300M	0	0	0	0	0	0
PROBAV_L2A_1KM	0	62.14	508.83	0	0	0
PROBAV_L3_S1_TOA_100M	0	0	0	0	0	0
PROBAV_L3_S1_TOC_100M	0	10.90	5.68	0	0	0
PROBAV_L3_S1_TOC_NDVI_100M	0	0	0	0	0	0
PROBAV_L3_S5_TOA_100M	0	0	0	0	0	0
PROBAV_L3_S5_TOC_100M	0	110.88	1.75	0	0	0
PROBAV_L3_S5_TOC_NDVI_100M	0	0	0.02	0	0	0
PROBAV_L3_S1_TOA_300M	0	0	0	0	0	0
PROBAV_L3_S1_TOC_300M	0	0	120.79	0	0	0
PROBAV_L3_S10_TOC_300M	0	0	0	0	0	0
PROBAV_L3_S10_TOC_NDVI_300M	0	0.01	51.38	0	0	0.66
PROBAV_L3_S1_TOA_1KM	0	0	0.00	0	0	0
PROBAV_L3_S1_TOC_1KM	0	8.17	0	0	0	0
PROBAV_L3_S10_TOC_1KM	0	0	0	0	0	0
PROBAV_L3_S10_TOC_NDVI_1KM	0	10.59	53.40	0	0	0

Table 3: Data download (GB) in total per Origin of the User for the reporting period

Product Type	Global
L1C	0
PROBAV_L2A_100M	3.59
PROBAV_L2A_300M	0
PROBAV_L2A_1KM	570.97
PROBAV_L3_S1_TOA_100M	0
PROBAV_L3_S1_TOC_100M	16.58
PROBAV_L3_S1_TOC_NDVI_100M	0
PROBAV_L3_S5_TOA_100M	0
PROBAV_L3_S5_TOC_100M	112.64
PROBAV_L3_S5_TOC_NDVI_100M	0.02
PROBAV_L3_S1_TOA_300M	0
PROBAV_L3_S1_TOC_300M	120.79
PROBAV_L3_S10_TOC_300M	0
PROBAV_L3_S10_TOC_NDVI_300M	52.05
PROBAV_L3_S1_TOA_1KM	0.00
PROBAV_L3_S1_TOC_1KM	8.17
PROBAV_L3_S10_TOC_1KM	0
PROBAV_L3_S10_TOC_NDVI_1KM	64.00

Table 4: Data download (GB) in total for the reporting period

Company	# Downloads
MAGELLIUM	12327
HOHAI UNIVERSITY	3878
JOINT RESEARCH CENTRE	3142
UPMC	2554
VISIOTERRA	1076
NSMC	911
IWHR	472
NOISETTE	270
CAS	242
INNER MONGOLIA NORMAL UNIVERSITY	108

Table 5: Top 10 user companies for the reporting period

Country	# Users
CHINA	247
BELGIUM	173
INDIA	103
FRANCE	95
BRAZIL	88
UNITED STATES	87
ITALY	82
NETHERLANDS	71
UNITED KINGDOM	68
GERMANY	64

Table 6: Top 10 countries with most registered users

List of issues raised by users:

No issues reported.

4. Image Calibration services

For the next phase in its lifetime, PROBA-V will acquire only a limited number of segments, for accommodating instrument sanity, while it is in a hibernate condition. The instrument is kept in stand-by for reasons the thermal stability.

A limit number of calibration images will be acquired to monitor both radiometric and geometric sanity of the instrument. The acquisitions will serve both methods 'at once' as much as possible.

For radiometry it is decided that lunar measurements over the full cycle will be continued every month. As an addition to this, few dark current (DC) acquisitions will be done to allow for the automated monitoring of the dark signal and bad pixel detection. The DC will be acquired for all 3 cameras.

Currently two sites are targeted in terms of calibration activities: Railroad Valley and Gababeb. An update of the assessment of these activities will be done in the quarterly reporting. To accommodate a higher rate of calibration segments one or 2 X-band passes will be scheduled to have the necessary downlink capacity as the S-band proves to be insufficient at the moment.

Figure 1: Railroad Valley area

5. KPI metrics

5.1. Management Service

5.1.1. PROV-KPI-0010: Reporting

Report	Due Date	Delivery Date	Delay	Remarks
PROBAV_D6_MOR-105_2022-09_v1.0.pdf	20/09/2022	21/09/2022	0	
KPI value (1 if 100% within time)			0	

Table 7: PROV-KPI-0010 calculation for this reporting period

5.2. System infrastructure services

5.2.1. PROV-KPI-0040: Network availability

Network	Issue	Reported at	Solved by	Delay	Remarks
LAN	None			0	
Inter-site	None			0	
Internet	None			0	
KPI value (1 if max. delay < 18h)				1	

Table 8: PROV-KPI-0040 calculation for this reporting period

5.2.2. PROV-KPI-0041: System infrastructure availability

Issue	Reported at	Solved by	Delay	Remarks
None			0	
KPI value (1 if max. delay < 18h)			1	

Table 9: PROV-KPI-0041 calculation for this reporting period

5.3. End-user support services

5.3.1. PROV-KPI-0050: Helpdesk response time

Issue	Created at	Answered by	Delay	Remarks
No issues				
KPI value (1 if ≥ 95.0 % < 2 NWD)			1	

Table 10: PROV-KPI-0050 calculation for this reporting period

5.4. KPI evaluation

Each KPI is assigned a weighing factor (w) from 0 to 10, this weighing factor is used to calculate the service credits due according to the formula:

$$\text{Service Credit} = \frac{\sum_i w_i\,(1 - KPI_i)}{\sum_i w_i} \times \max Monthly\ Service\ Credit$$

KPI Reference	Description	Metric	1-KPI	Weight	Result
PROV-KPI-0010	Reporting	1	1	10	10
PROV-KPI-0040	Network availability	1	0	6	0
PROV-KPI-0041	System infrastructure availability	1	0	6	0
PROV-KPI-0050	Helpdesk response time	1	0	9	0
			Totals	31	10
			Service credit coefficient	30%	
			Service Credit	0	

Table 11: Service credit evaluation for this reporting period

6. Ongoing and future activities

6.1. Reprocessing activities

The priority in the full C2 reprocessing activities was period January 2018 to June 2020. This whole period has been processed and is currently under validation.

During this reporting period, we are processing the first part of the archive being October 2013 to December 2017. At the time of writing, January 2017 is being processed.