



MONTHLY OPERATIONS REPORT

MOR#097

Reporting period from 16-Dec-2021 to 15-Jan-2022

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1. Summary

Since 31 October 2021, the Payload data ground segment is operating in off-line mode, focussing on distribution of the PROBA-V archive and maintenance activities of the PDGS and MEP infrastructure and services. Additionally, limited maintenance calibration segments will be acquired to assess the instruments degradation. The results thereof will be documented in the quarterly reports.

As there are no other active acquisitions anymore, this consolidated report will only focus on the end user activities and remaining KPI's.

In terms of product dissemination, no significant downtime or interruptions were experienced.

Phase 3 of the reprocessing was started in December 2021. In this phase, the complete PROBA-V archive is being processed. Due to set priorities, the period of January 2018 to June 2020 is being processed first. At the time of reporting, August 2018 is being processed. Afterwards, the period October 2013 to December 2017 will be handled. Expectation is that reprocessing activities will be concluded in Q1/2023.

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	1
PROBAV_L2A_100M	0	0	0
PROBAV_L2A_300M	0	0	6
PROBAV_L2A_1KM	0	0	0
PROBAV_L3_S1_TOA_100M	0	60	61
PROBAV_L3_S1_TOC_100M	0	63	63
PROBAV_L3_S1_TOC_NDVI_100M	0	0	0
PROBAV_L3_S5_TOA_100M	0	0	0
PROBAV_L3_S5_TOC_100M	0	3	4
PROBAV_L3_S5_TOC_NDVI_100M	0	75	77
PROBAV_L3_S1_TOA_300M	0	200	200
PROBAV_L3_S1_TOC_300M	0	0	0
PROBAV_L3_S10_TOC_300M	0	0	0
PROBAV_L3_S10_TOC_NDVI_300M	0	0	370
PROBAV_L3_S1_TOA_1KM	0	0	1
PROBAV_L3_S1_TOC_1KM	0	0	0
PROBAV_L3_S10_TOC_1KM	0	0	0
PROBAV_L3_S10_TOC_NDVI_1KM	0	39	42

Table 2: Ordered and delivered products for this reporting period

3.2. End-user activity

4 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 **2007** with **124** different nationalities representing **1457** different companies/universities.

Product type	Africa	Asia	Europe	N-America	Oceania	S-America
PROBAV_L1C	0	0	1.34	0	0	0
PROBAV_L2A_100M	0	0	0	0	0	0
PROBAV_L2A_300M	0	0	1.16	0	0	0
PROBAV_L2A_1KM	0	0	0	0	0	0
PROBAV_L3_S1_TOA_100M	0	0	1317.39	0	0	0
PROBAV_L3_S1_TOC_100M	0	0	1286.91	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	0	38.49	0	0	0
PROBAV_L3_S5_TOC_NDVI_100M	0	0	156.13	0	0	0
PROBAV_L3_S1_TOA_300M	0	0	0	0	0	2110.40
PROBAV_L3_S1_TOC_300M	0	0	0	0	0	0
PROBAV_L3_S10_TOC_300M	0	0	0	0	0	0
PROBAV_L3_S10_TOC_NDVI_300M	0	0	20.52	0	0	0
PROBAV_L3_S1_TOA_1KM	0	0	0.01	0	0	0
PROBAV_L3_S1_TOC_1KM	0	0	0	0	0	0
PROBAV_L3_S10_TOC_1KM	0	0	0	0	0	0
PROBAV_L3_S10_TOC_NDVI_1KM	0	0.25	7.02	0	0	0

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



Product Type	Global
L1C	1.34
PROBAV_L2A_100M	0
PROBAV_L2A_300M	1.16
PROBAV_L2A_1KM	0
PROBAV_L3_S1_TOA_100M	1317.39
PROBAV_L3_S1_TOC_100M	1286.91
PROBAV_L3_S1_TOC_NDVI_100M	0
PROBAV_L3_S5_TOA_100M	0
PROBAV_L3_S5_TOC_100M	38.49
PROBAV_L3_S5_TOC_NDVI_100M	156.13
PROBAV_L3_S1_TOA_300M	2110.40
PROBAV_L3_S1_TOC_300M	0
PROBAV_L3_S10_TOC_300M	0
PROBAV_L3_S10_TOC_NDVI_300M	20.52
PROBAV_L3_S1_TOA_1KM	0.01
PROBAV_L3_S1_TOC_1KM	0
PROBAV_L3_S10_TOC_1KM	0
PROBAV_L3_S10_TOC_NDVI_1KM	7.26

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

Company	# Downloads
JOINT RESEARCH CENTRE	368
ICMBIO	200
DESCARTES UNDERWRITING	123
LSCE	115
VITO	8
UNIV LISBON	6
CHINA UNIVERSITY OF GEOSCIENCES WUHAN	3
AIOS INTEGRATED LAND SYSTEMS D.O.O.	1
FAO	1

Table 5: Top user companies for the reporting period



Country	# Users
ITALY	368
FRANCE	238
BRAZIL	200
BELGIUM	8
PORTUGAL	6
CHINA	3
CROATIA (HRVATSKA)	1
NETHERLANDS	1

Table 6: Top countries with most registered users

List of issues raised by users:

- PDF: N.A. - Diana Orlandi - 2022/1/12 - login

4. Image Calibration services

For the next phase in its lifetime, PROBA-V will acquire only a limited amount 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. The amount of calibrations in a month will be 19 form lunar and 2 for DC resulting in < 1GByte in data.

To combine acquisitions for absolute radiometric and geometric calibration, a survey is still on-going to identify the appropriate location/site. The calibration region needs to contain both a radiometric reference in the absolute scale and sufficient geometric features. A good candidate is currently being investigated : Railroad Valley, which is an instrumented RadCalNet-site. The wider range area also contains quite a few geometric features to be used to perform a limited geometric assessment.



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-096_2021-12_v1.0.pdf	20/12/2021	21/12/2021	1	
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 2: 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 3: 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
PDF: N.A. - Diana Orlandi - 2022/1/12	12/01/2022 11:10	12/01/2022 14:14	0,50	
KPI value (1 if max. delay < 5 NWD)			1	

Table 4: PROV-KPI-0050 calculation for this reporting period

(*) Response time is expressed in working days with a resolution of 0.25 days.

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:

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

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

Mid December 2021, the final reprocessing started with the period of January 2018 to June 2020 in order to give early access to the Copernicus Services for continuation of their evolution tasks.

In this reporting period, all possible resources were shifted towards the reprocessing activities resulting in a reprocessing speed of 7-8 days per 24 hours of processing. At the time of reporting, the reprocessing is at August 2018.

Once finished, the period of October 2013 to December 2017 will be reprocessed.