

QWG5 - PAYLOAD DATA GROUND SEGMENT
STATUS

09-10/05/2017

D. CLARIJS

PRESENTATION OUTLINE



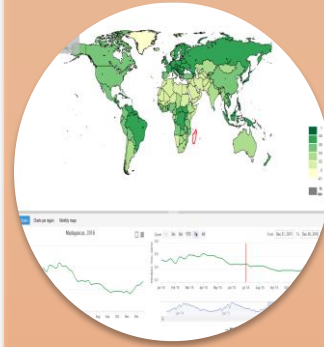
Data
reception



Processing



Reprocessing



Product
distribution



PR



PRESENTATION OUTLINE



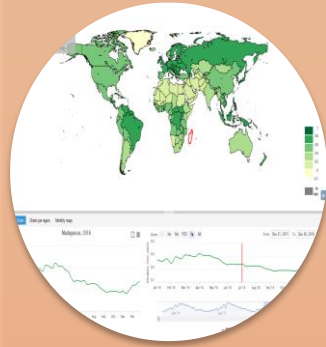
Data
reception



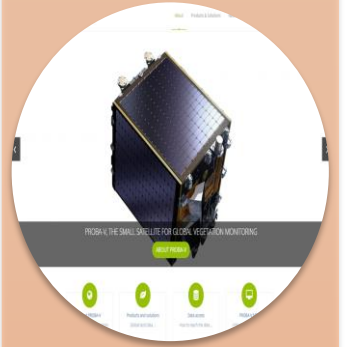
Processing



Reprocessing



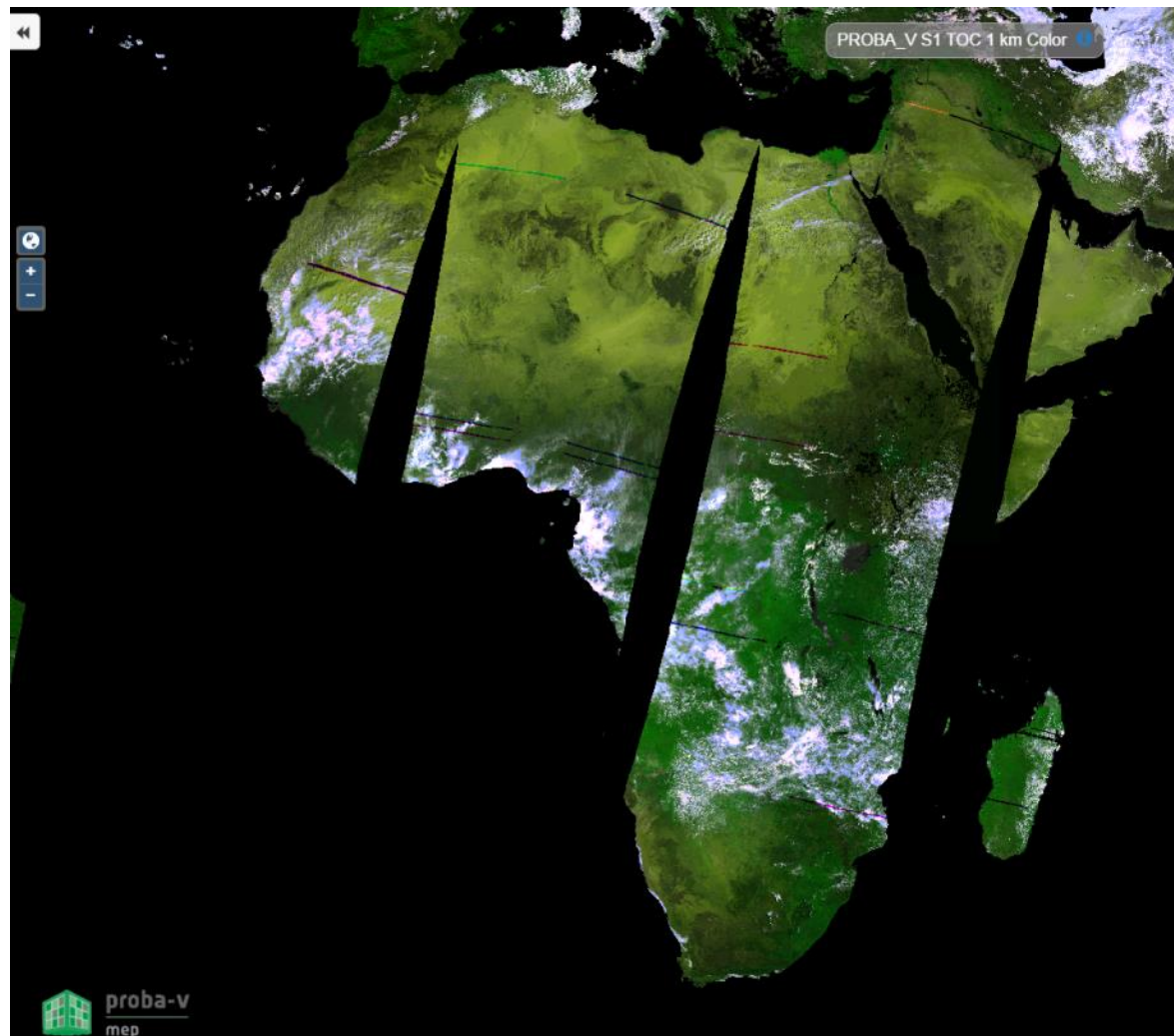
Product
distribution



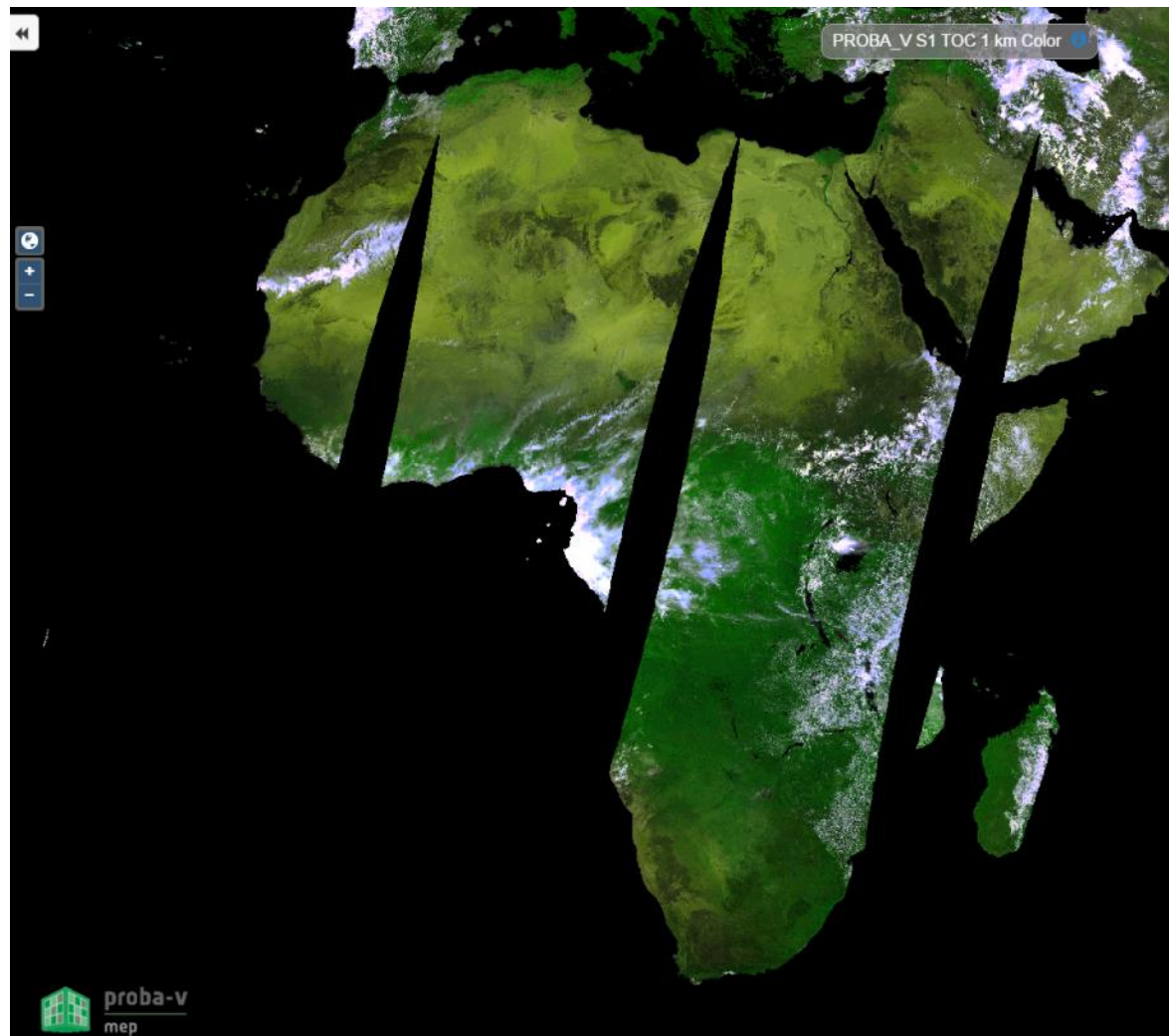
PR



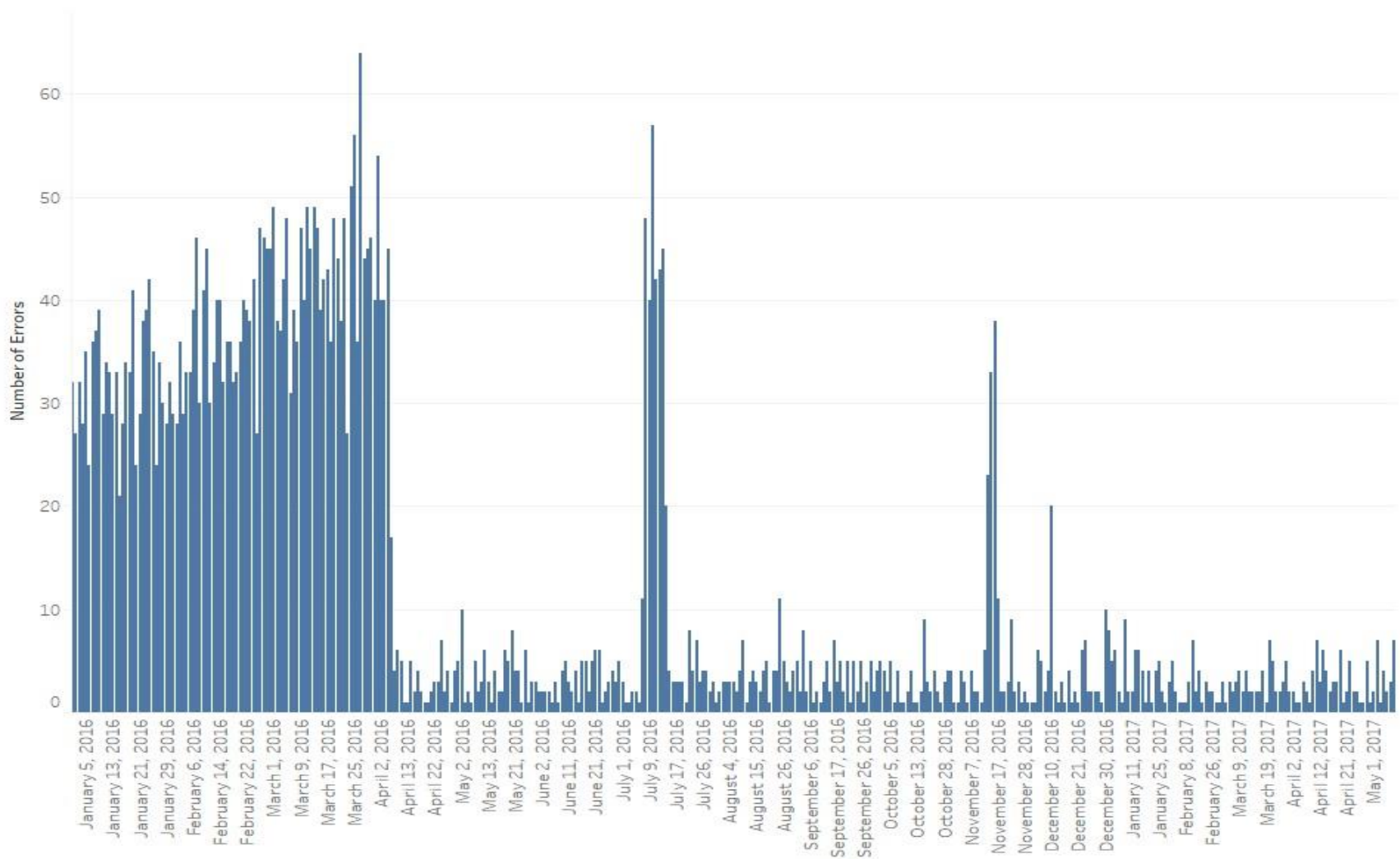
DECOMPRESSION ERRORS (BEFORE SWITCH ON 05/04/2016)



DECOMPRESSION ERRORS (AFTER SWITCH ON 05/04/2016)



DECOMPRESSION ERRORS JAN 2016 - MAY 2017



PRESENTATION OUTLINE



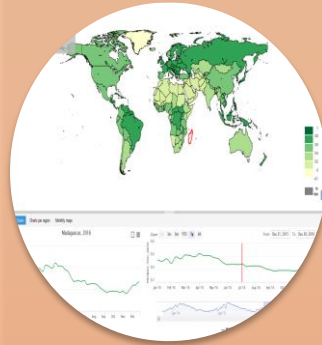
Data
reception



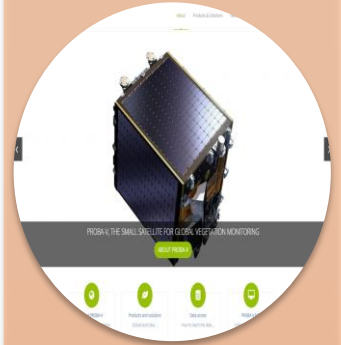
Processing



Reprocessing



Product
distribution

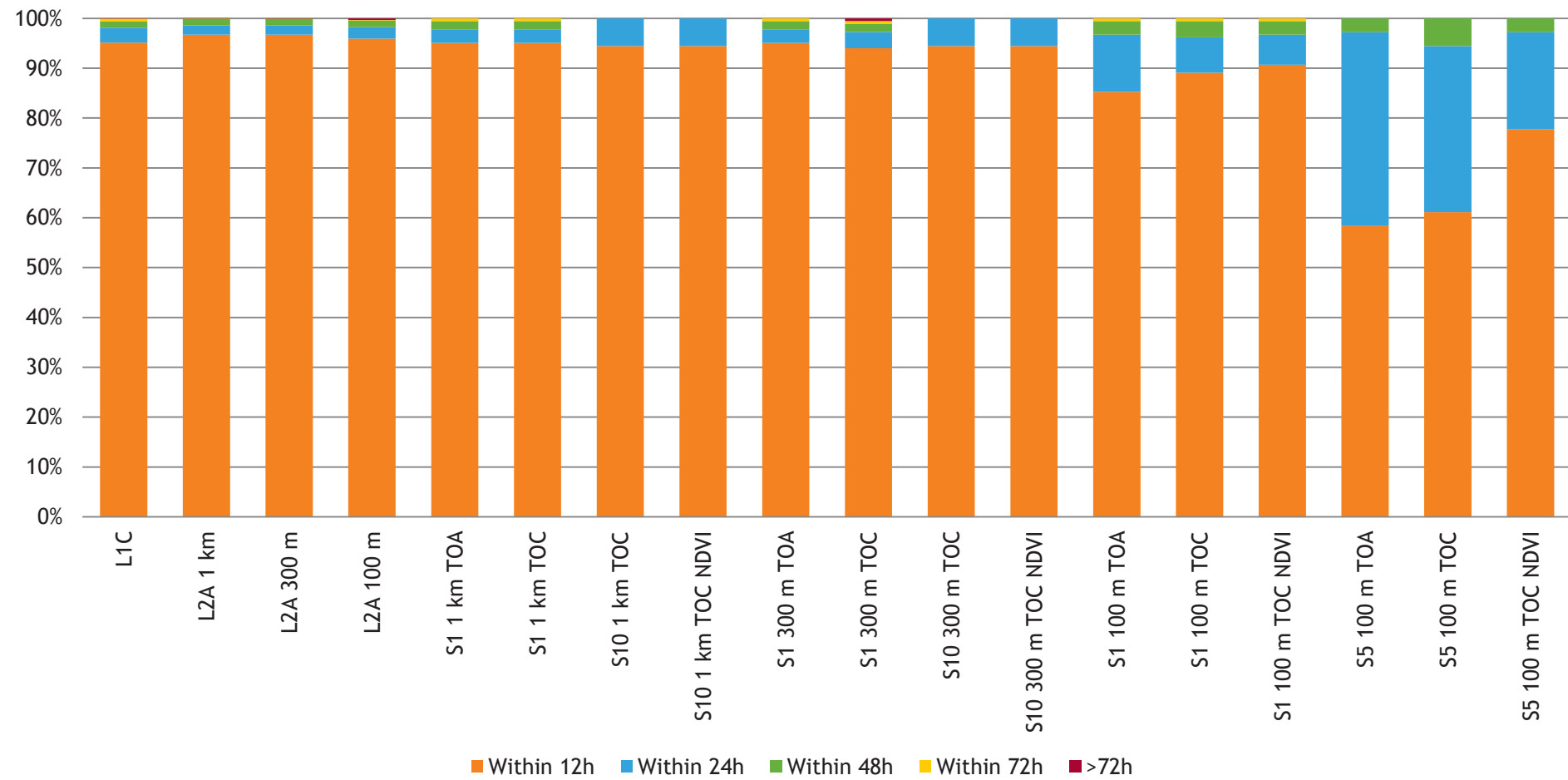


PR



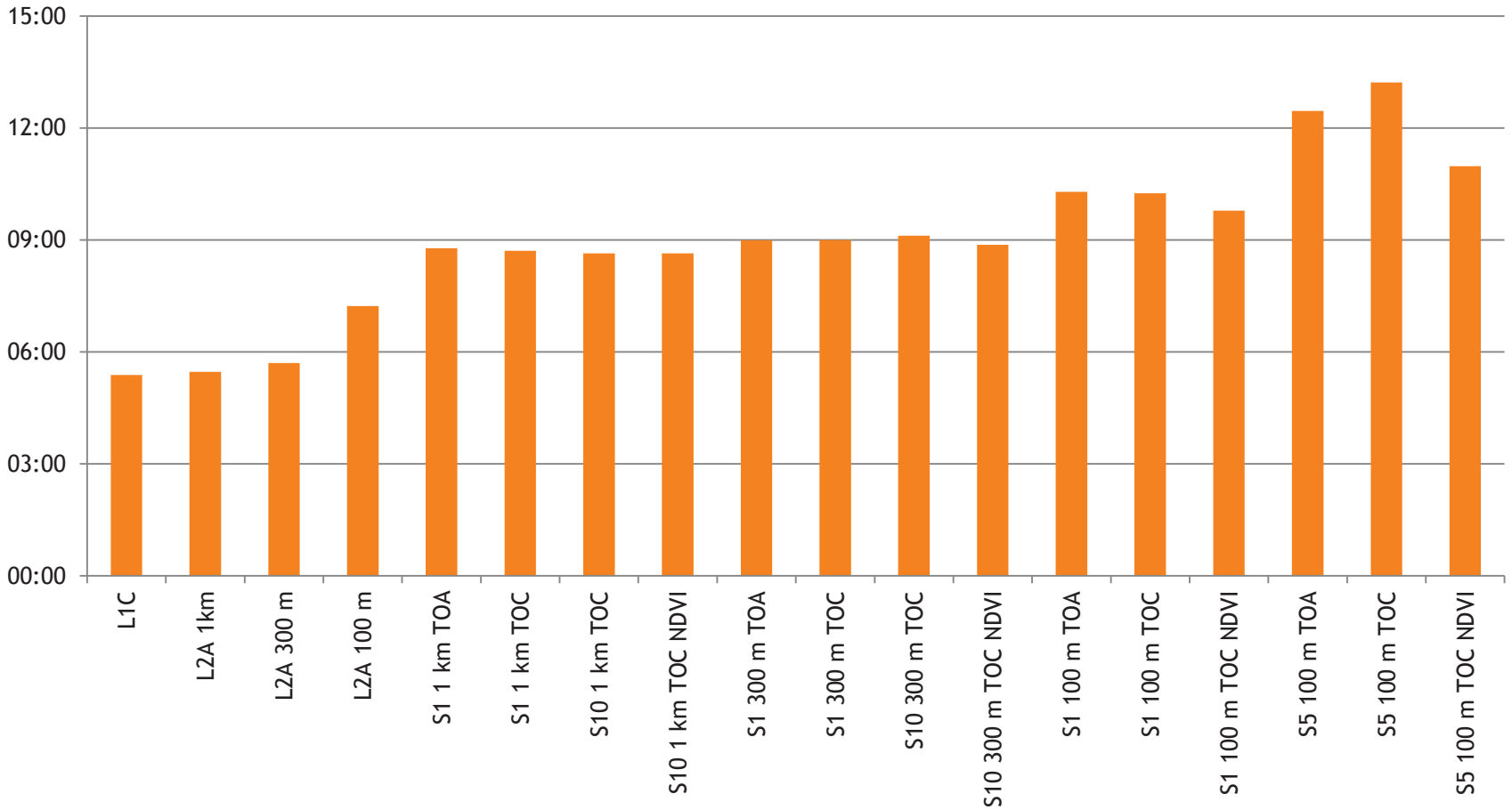
DATA TIMELINESS

Period November 1, 2016 - May 5th, 2017



DATA TIMELINESS, AVERAGE DELIVERY TIME

Period November 1, 2016 - May 5th, 2017



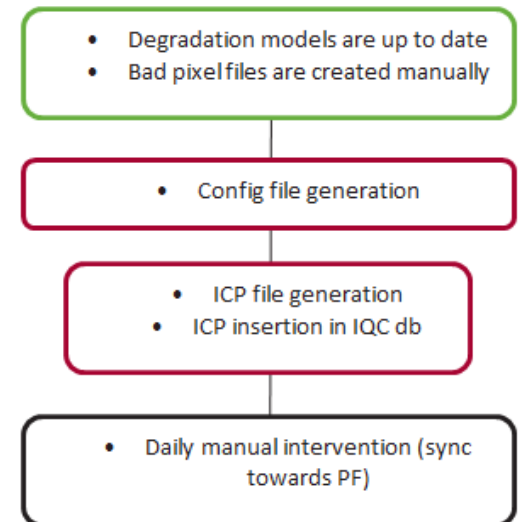
SYSTEM INFRASTRUCTURE AVAILABILITY

Period Nov 2016 - May 2017; Including planned downtime!

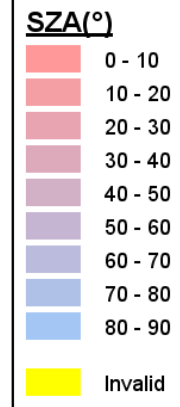
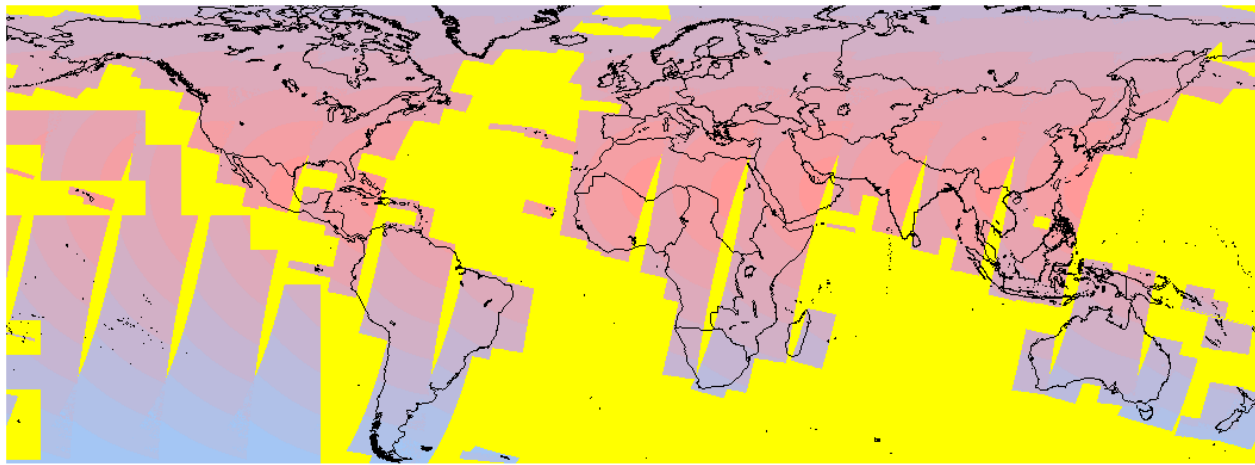
Category	Pct uptime
Switches	100%
Database servers	99.99%
Mid Term File Servers	100%
Short Term File Servers	100%
Master Servers	99.90%
Worker Nodes	99.47%
PDF	99.99%

AI4.5 - IMPACT ON PRODUCTION OF 1 ICP/DAY

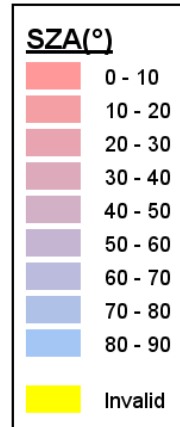
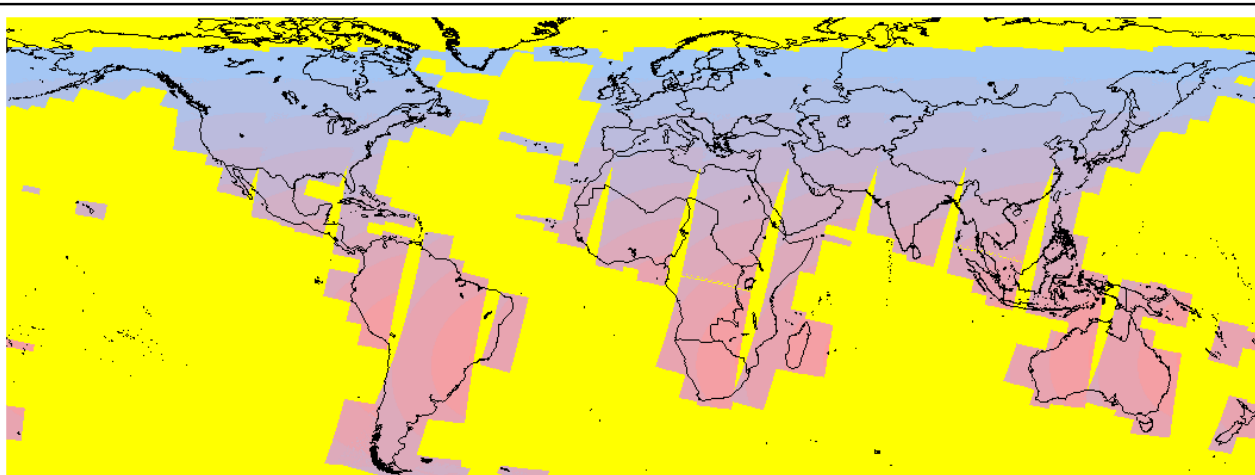
- Problem: ICP files contain settings on dark current, absolute calibration update (SWIR), bad pixel info and are update on a monthly basis in production.
- Question: Increase frequency of updates to 1 ICP/day
- Impact:
 - Update of workflows
 - System impact:
 - 250 GB increase of data
 - No other system impacts
 - Implementation/testing/validation/DB changes:
 - Roughly between 20 and 40 mandays



AI4.13 - GENERATION OF SZA MAPS

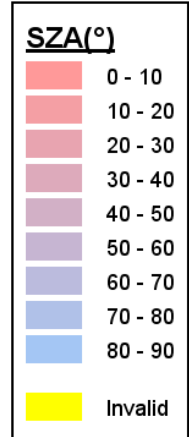
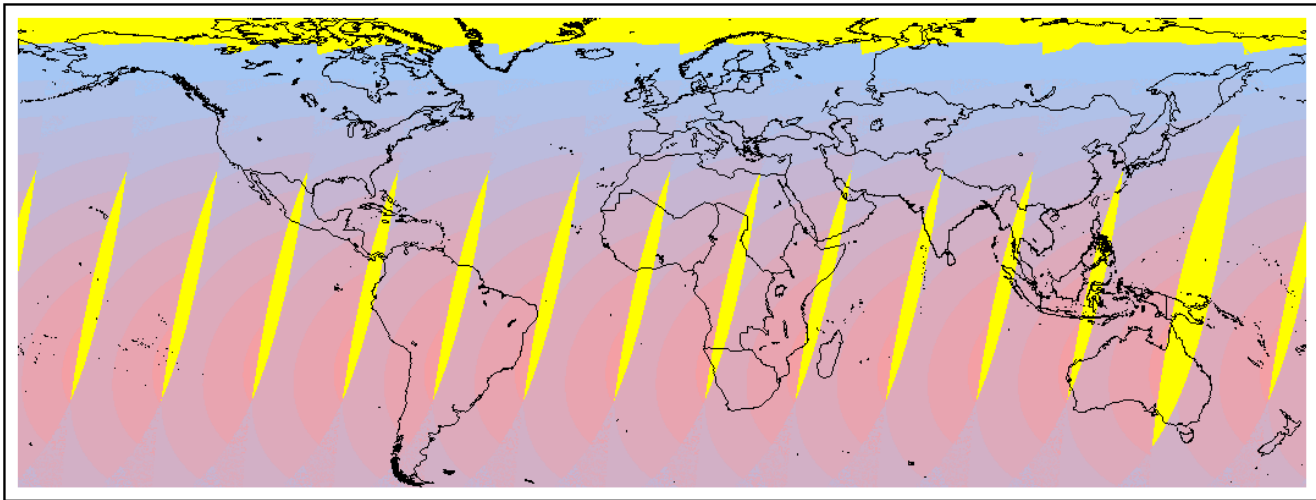


June 2016

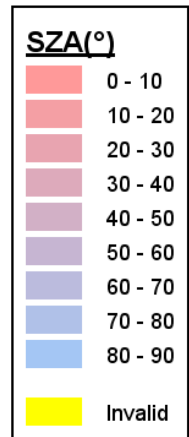
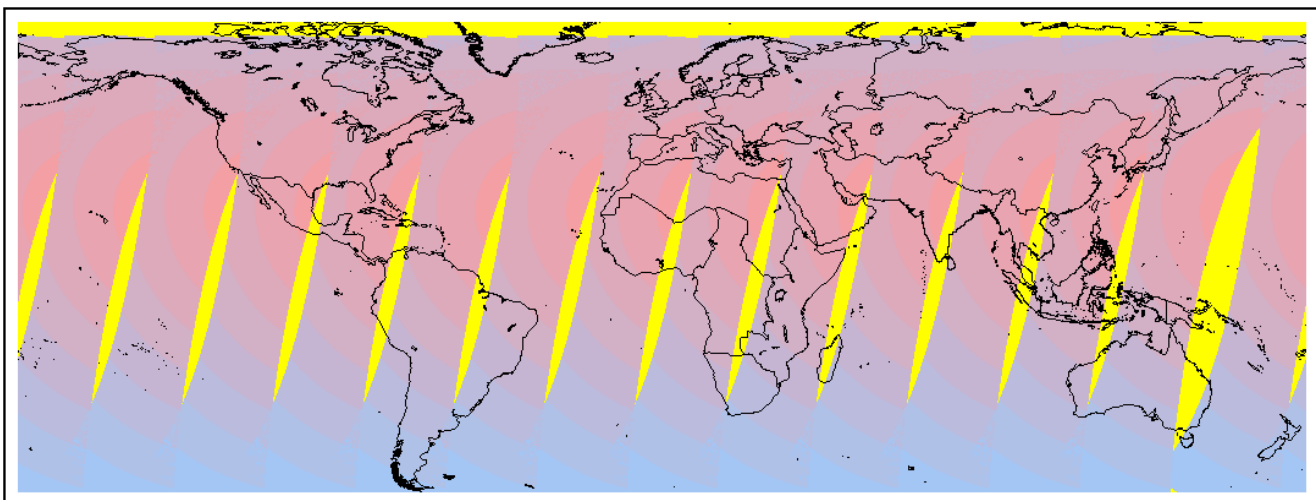


December 2016

AI4.13 - GENERATION OF SZA MAPS

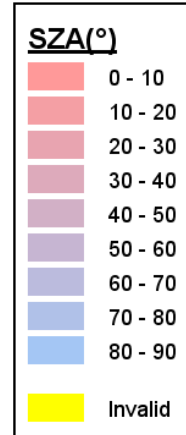
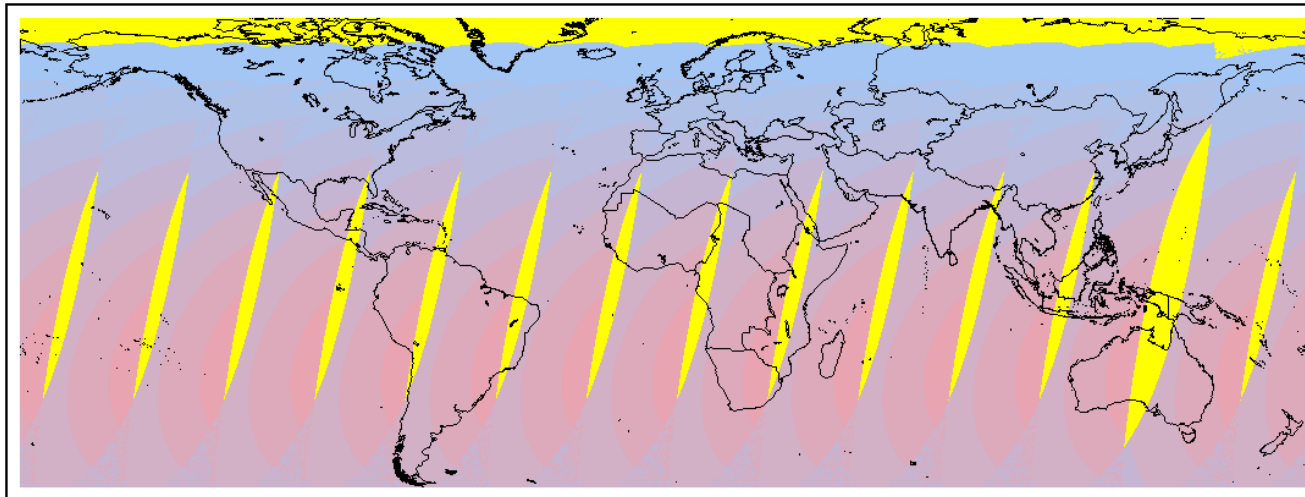


December 2018

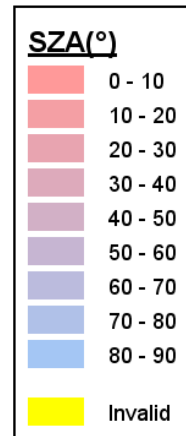
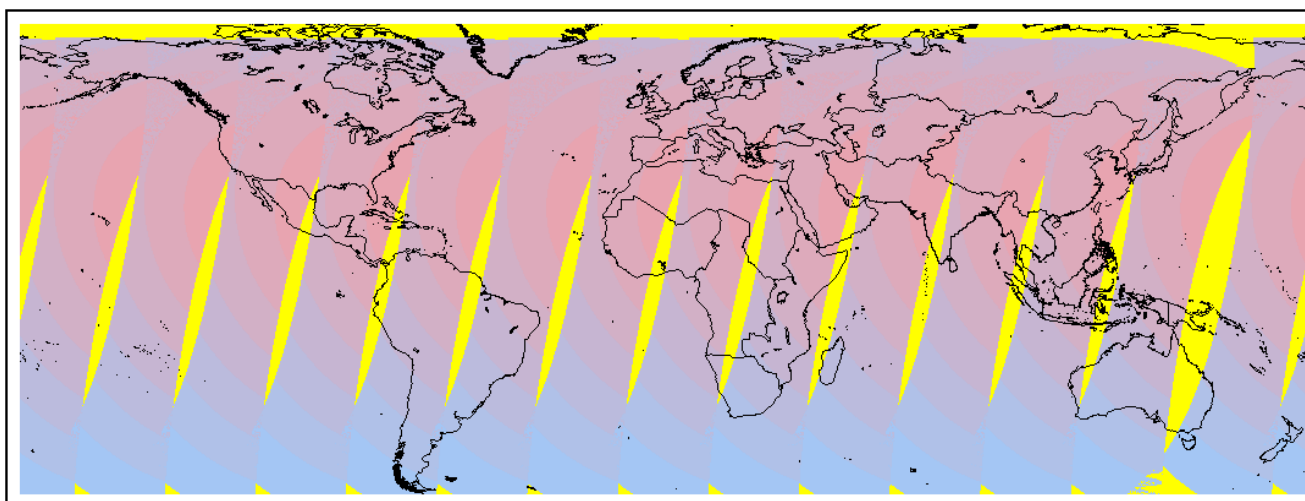


June 2019

AI4.13 - GENERATION OF SZA MAPS



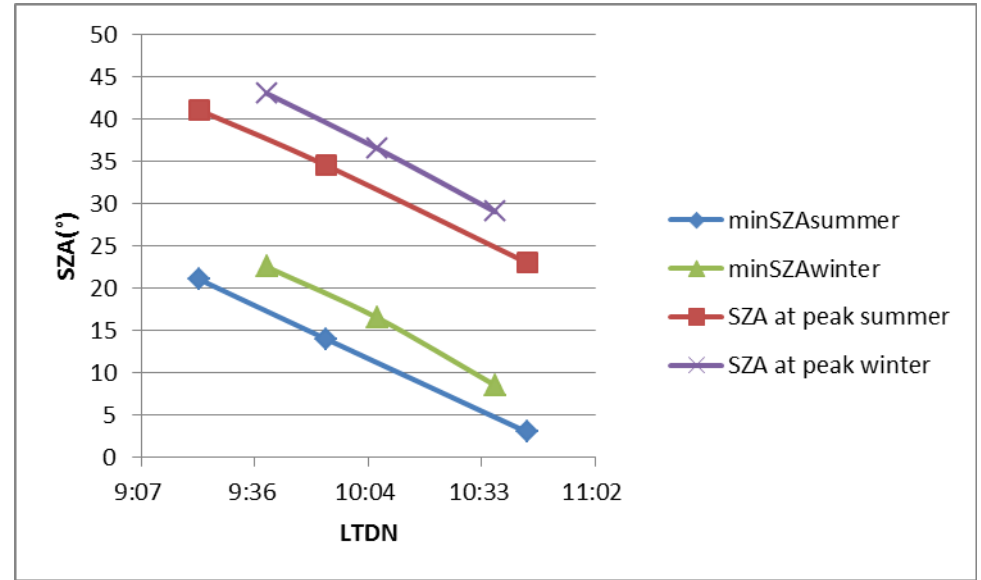
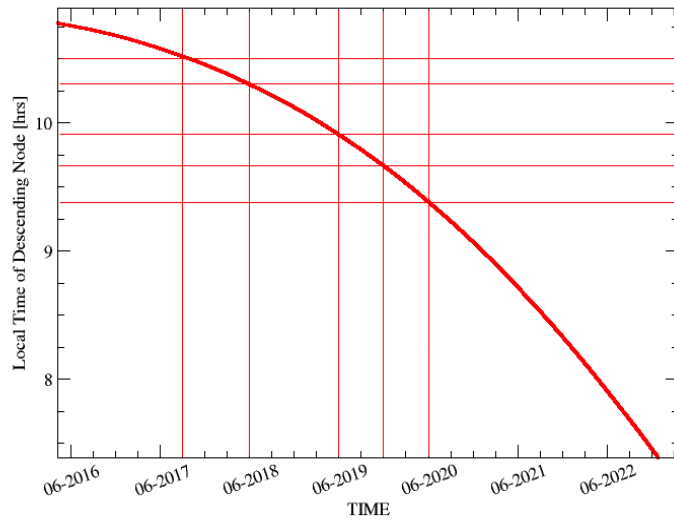
December 2019



June 2020

AI4.13 - SZA MAPS

Proba-V - Predicted Evolution of LTDN



AI4.14 - CHANGE IN SZA RESOLUTION

- Problem: Values of solar and satellite angles are encoded as unit8 (0-255)
- Question: Impact if we change to float or double?
- Impact:
 - Minor change in source code to ensure stable processing chain
 - Change in config files of processing workflows
 - Test/validation processing chain
 - Update of metadata of all products
 - Update of documentation
- System:
 - Negligable
- Product archive:
 - The entire archive needs to be reprocessed!
 - **No backward compatibility with Collection 0 and SPOT-Vegetation!**
- Implementation: 8 mandays + reprocessing effort

PRESENTATION OUTLINE



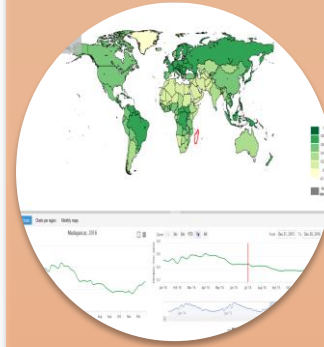
Data
reception



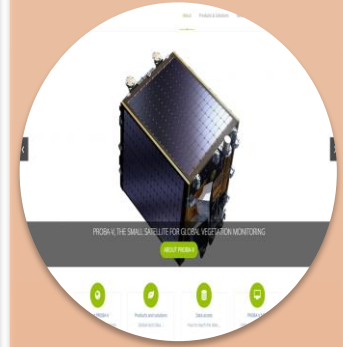
Processing



Reprocessing



Product
distribution



PR



REPROCESSING: COLLECTION 1

Reprocessing entire archive (Oct 2013 - Now)



Improved Cloud detection

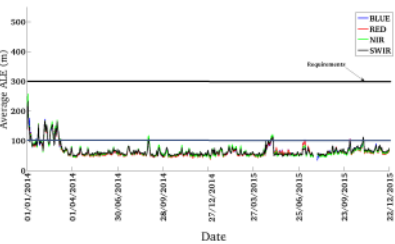


CF Compliancy of PV data

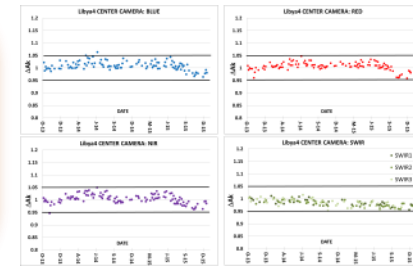
2016041451	Missing: 0.28%	Decompression error: 3	
		Geometric error: 3	

Addition of missing % of pixels to processing chain

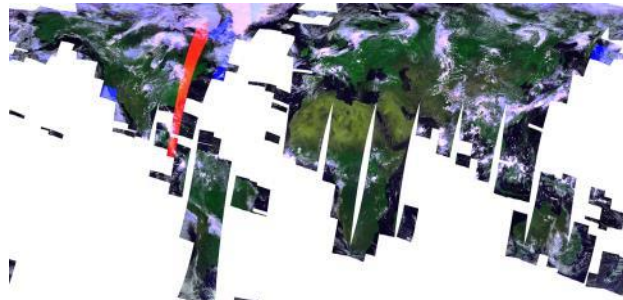
Reprocessing campaign



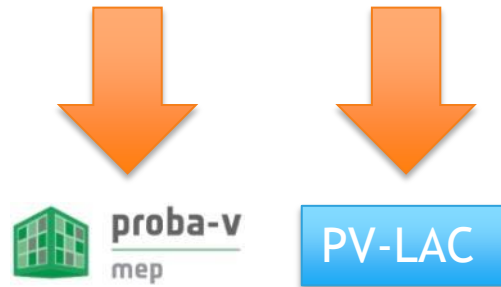
Improved geometric calibration parameters



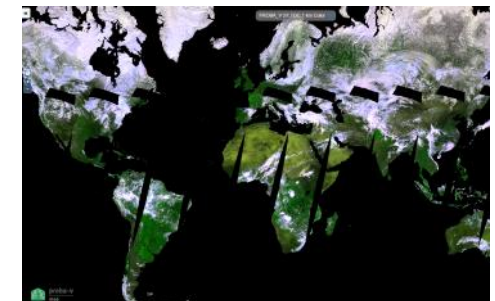
Improved radiometric calibration parameters



Decrease impact of decompression errors



L2A!



Solve certain geometric errors

PROBA-V REPROCESSING STATUS

- Reprocessing figures:
 - +-295 000 new products online
 - 430TB extra data
 - 72 additional servers
- Reprocessing timeline:
 - Finished on 07/02/2017
 - 6 months of processing needed
 - NRT switchover was done on 05/12/2016
 - C0 was online to end of February, now on tape storage
- Reprocessing documentation:
 - Evaluation C1 (Phase 2) report
 - Technical Note on comparison SPOT-VGT and PROBA-V new collections
 - New Product User Manual
 - [To Do] Complete evaluation (Phase 3) report

PRESENTATION OUTLINE



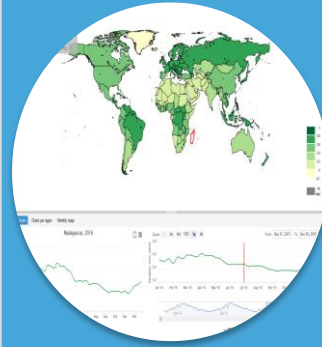
Data
reception



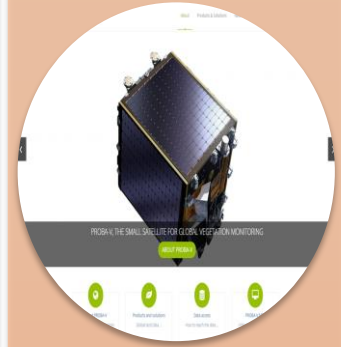
Processing



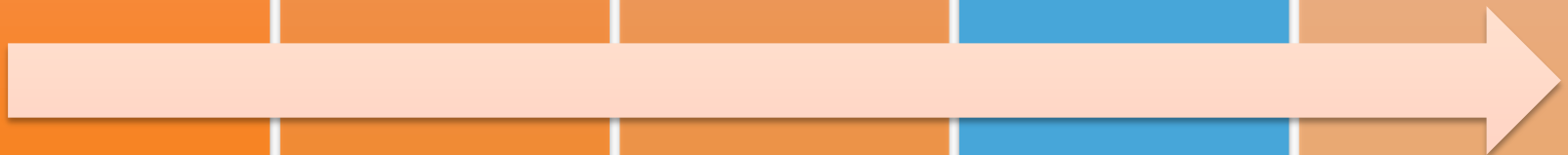
Reprocessing



Product
distribution

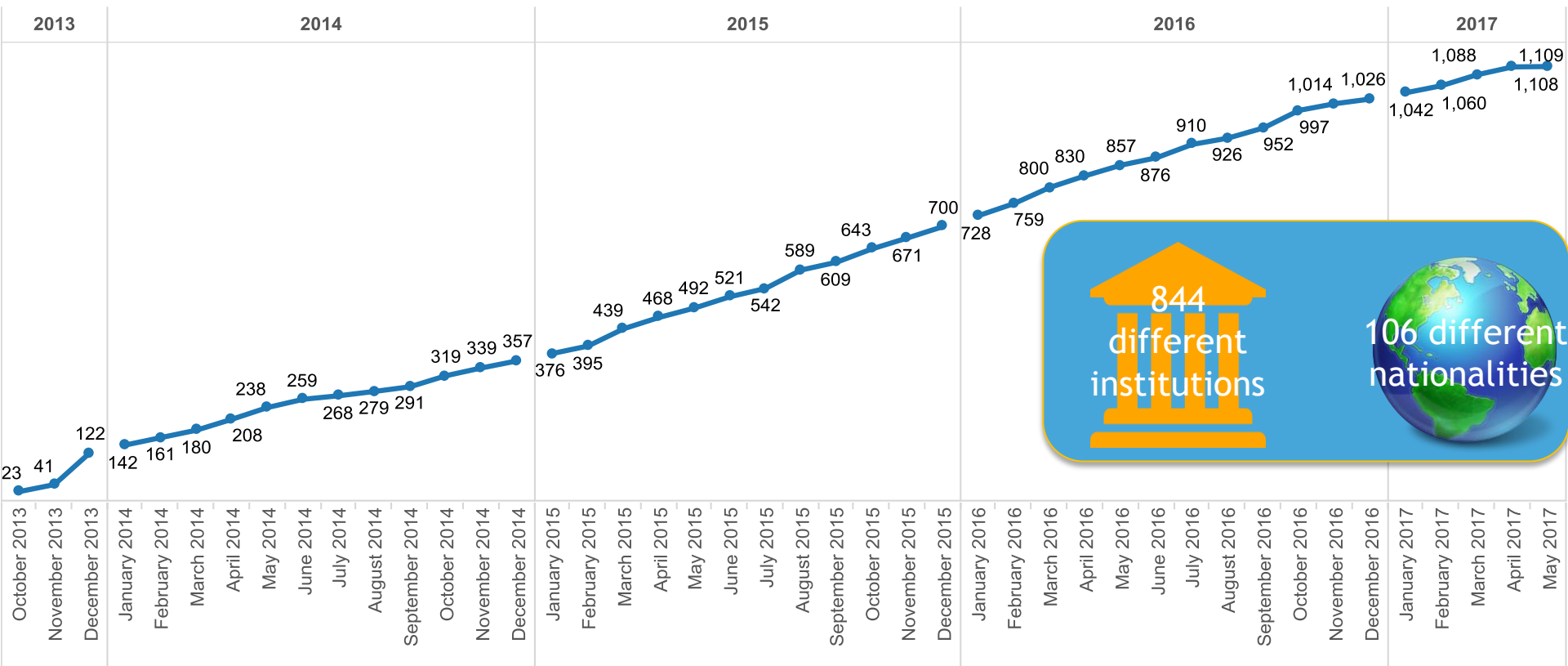


PR



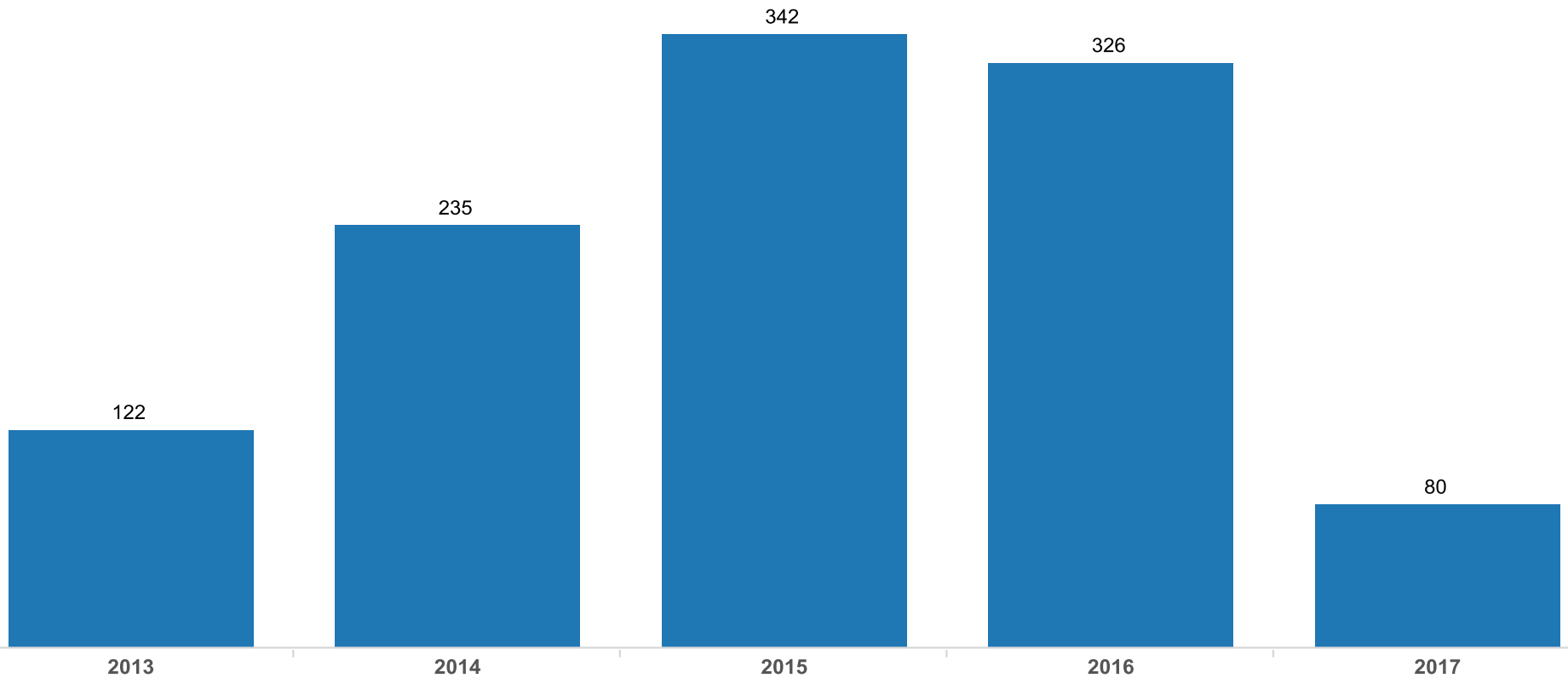
PROBA-V EVOLUTION USER REGISTRATIONS

- *Period October 15, 2013 - May 1st, 2017*
- *Active users registered via www.vito-eodata.be portal: 1,109*



PROBA-V EVOLUTION USER REGISTRATIONS

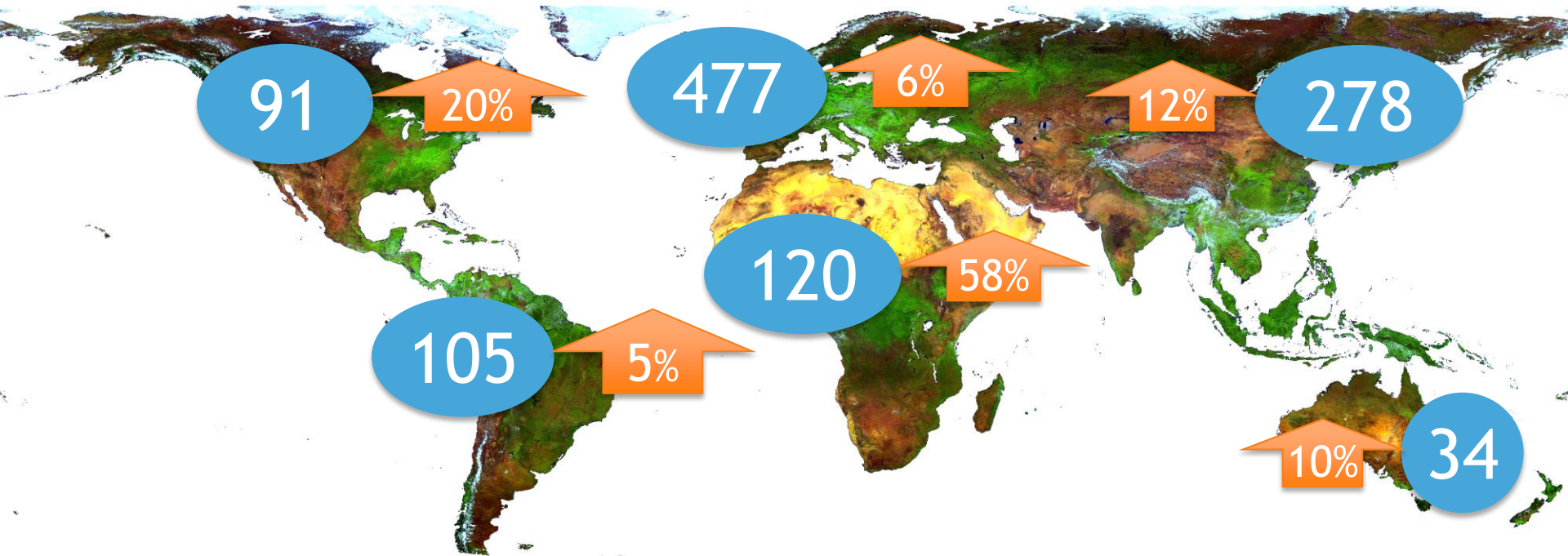
- *Period October 15, 2013 - May 1st, 2017*
- *Active users registered via www.vito-eodata.be portal*



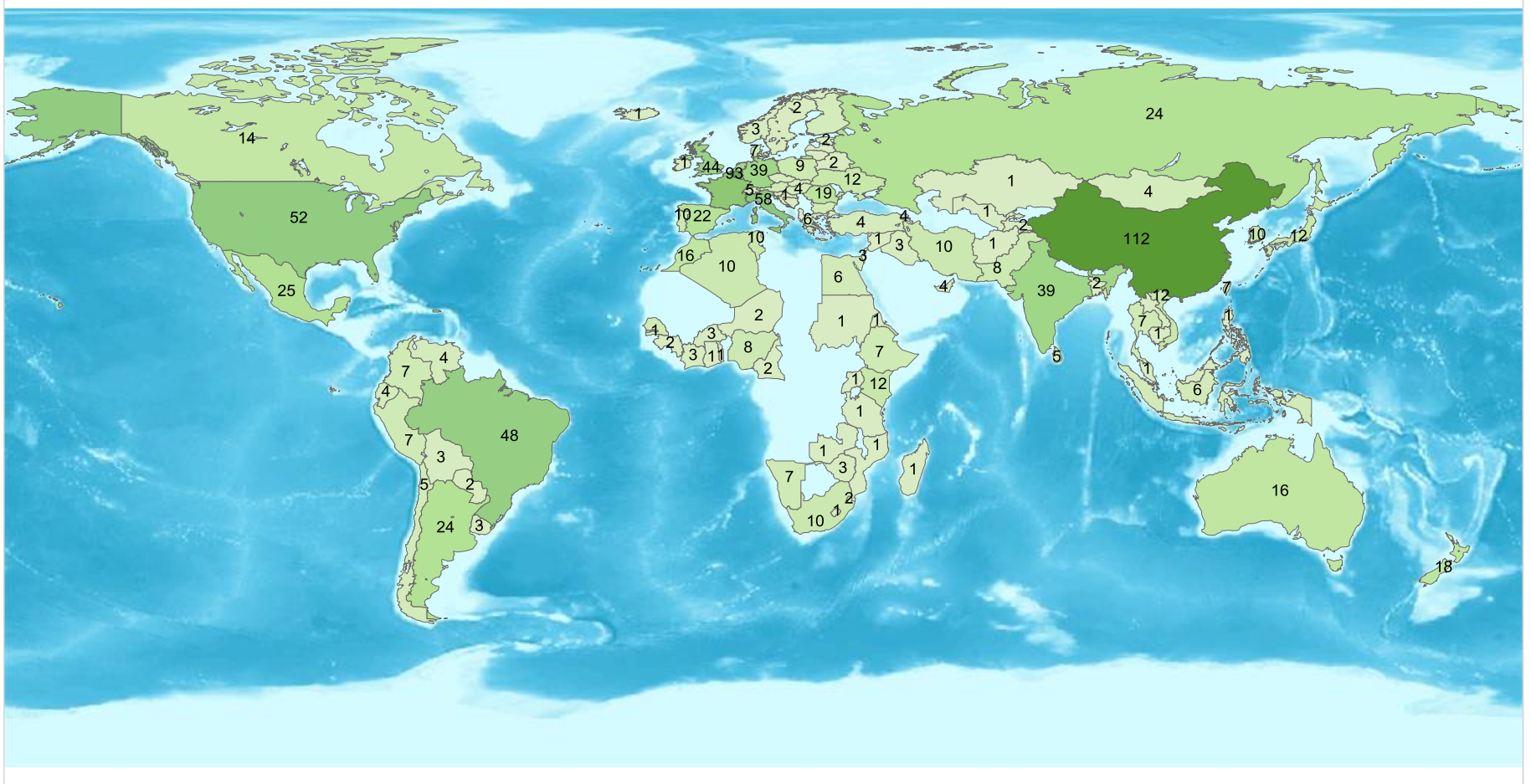
GEOGRAPHICAL SPREAD OF PROBA-V USERS

Spread of users on 01 May 2017

User growth since QWG #5 (21 November 2016)



USERS PER COUNTRY - SPREAD OVER THE WORLD: START - 1 MAY '17

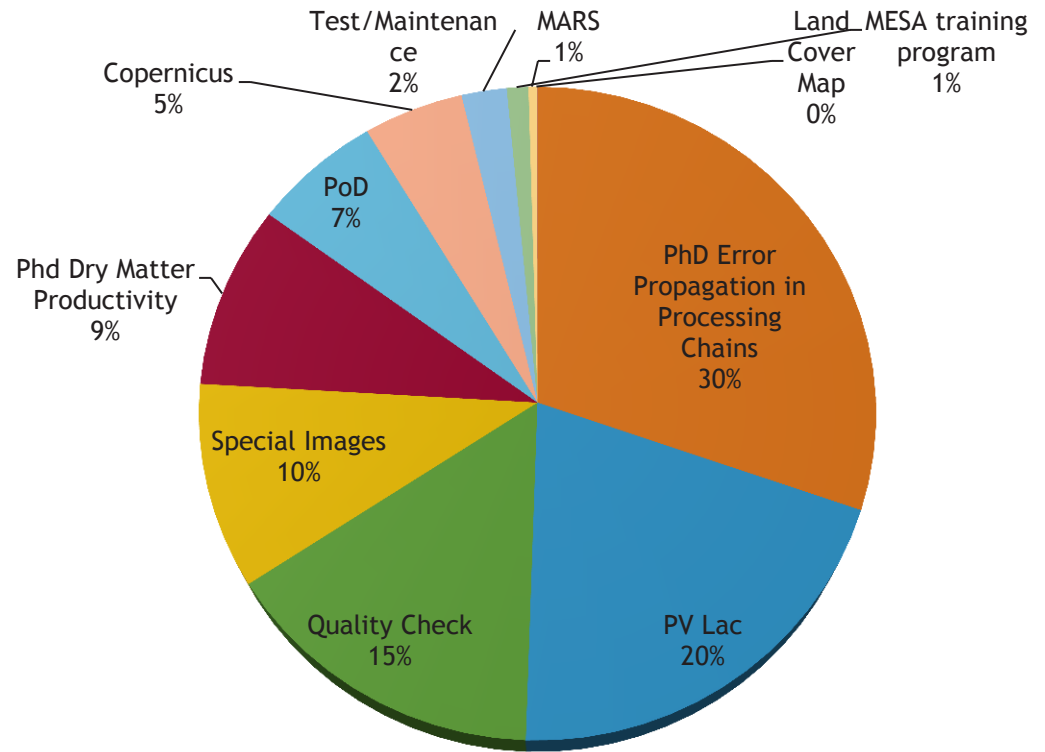


TOP 20 USER COMPANIES NOV '16 - 1 MAY '17

1	VITO	BELGIUM	23,149
2	GOOGLE	UNITED STATES	10,462
3	UNIVERSITY OF LEICESTER	UNITED KINGDOM	5,814
4	JXNU	CHINA	4,032
5	IKI-RAS	RUSSIAN FEDERATION	3,982
6	METEO FRANCE	FRANCE	3,862
7	UCLOUVAIN	BELGIUM	3,205
8	CELSIUSPRO	SWITZERLAND	2,719
9	YALE UNIVERSITY	UNITED STATES	2,431
10	BASRAH	IRAQ	2,349
11	BEIJING FORESTRY UNIVERSITY	CHINA	1,772
12	BOKU VIENNA	AUSTRIA	1,735
13	IFSULDEMINAS	BRAZIL	1,424
14	UNESCO-IHE	NETHERLANDS	1,284
15	LAPIG	BRAZIL	1,189
16	NSMC	CHINA	1,141
17	SPACE RESEARCH INSTITUTE	RUSSIAN FEDERATION	1,099
18	CAS	CHINA	1,097
19	SASSCAL	NAMIBIA	1,038
20	DEVELOPMENT SEED	UNITED STATES	1,028

VITO DATA USE NOV '16 - 1 MAY '17

PhD Error Propagation in Processing Chains	7,080
PV Lac	4,735
Quality Check	3,573
Special Images	2,362
Phd Dry Matter Productivity	2,124
PoD	1,479
Copernicus	1,156
Test/Maintenance	521
MESA training program	248
MARS	100
Land Cover Map	3

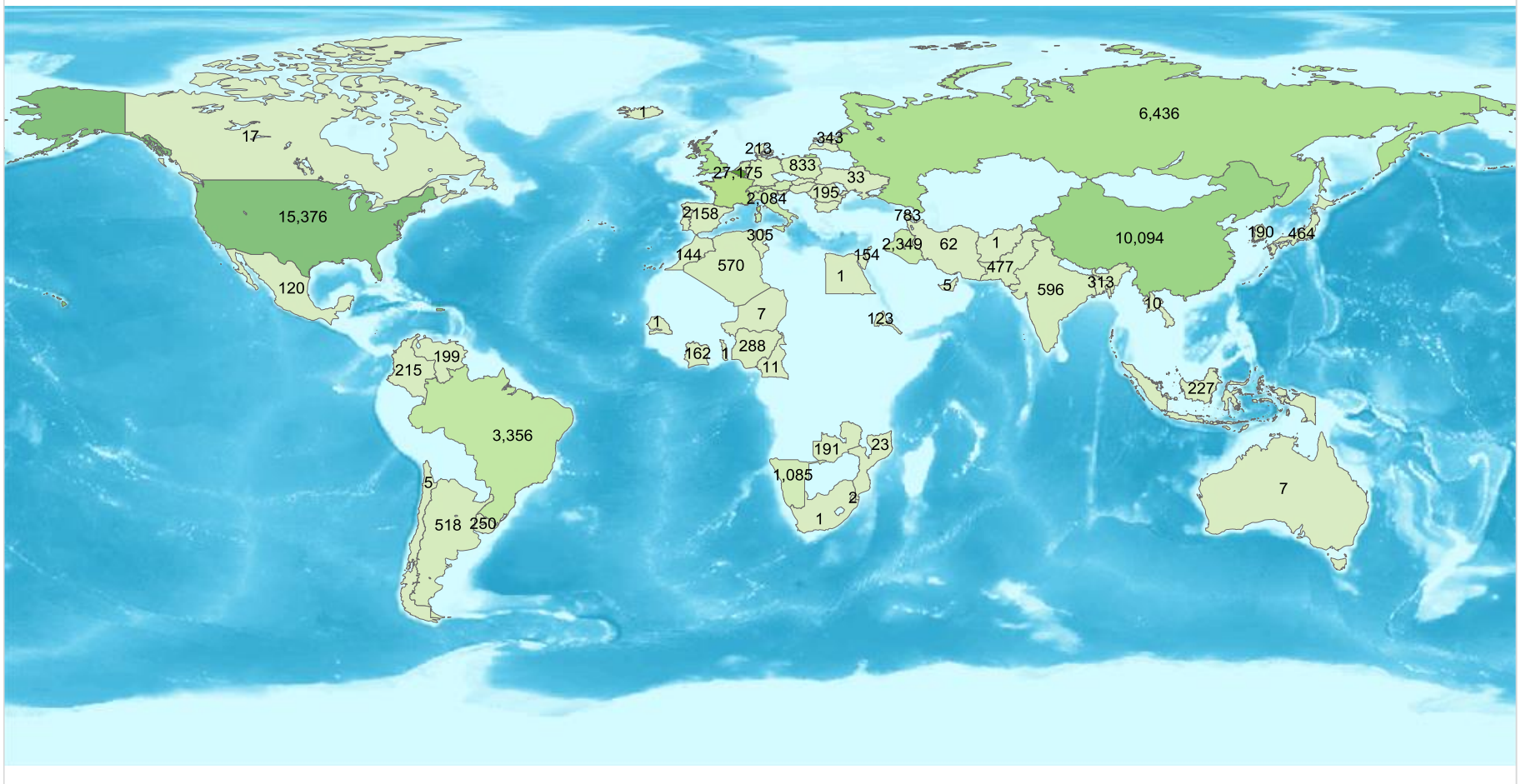


Active registered users: 1674
Eumetcast reach: 594 registered users

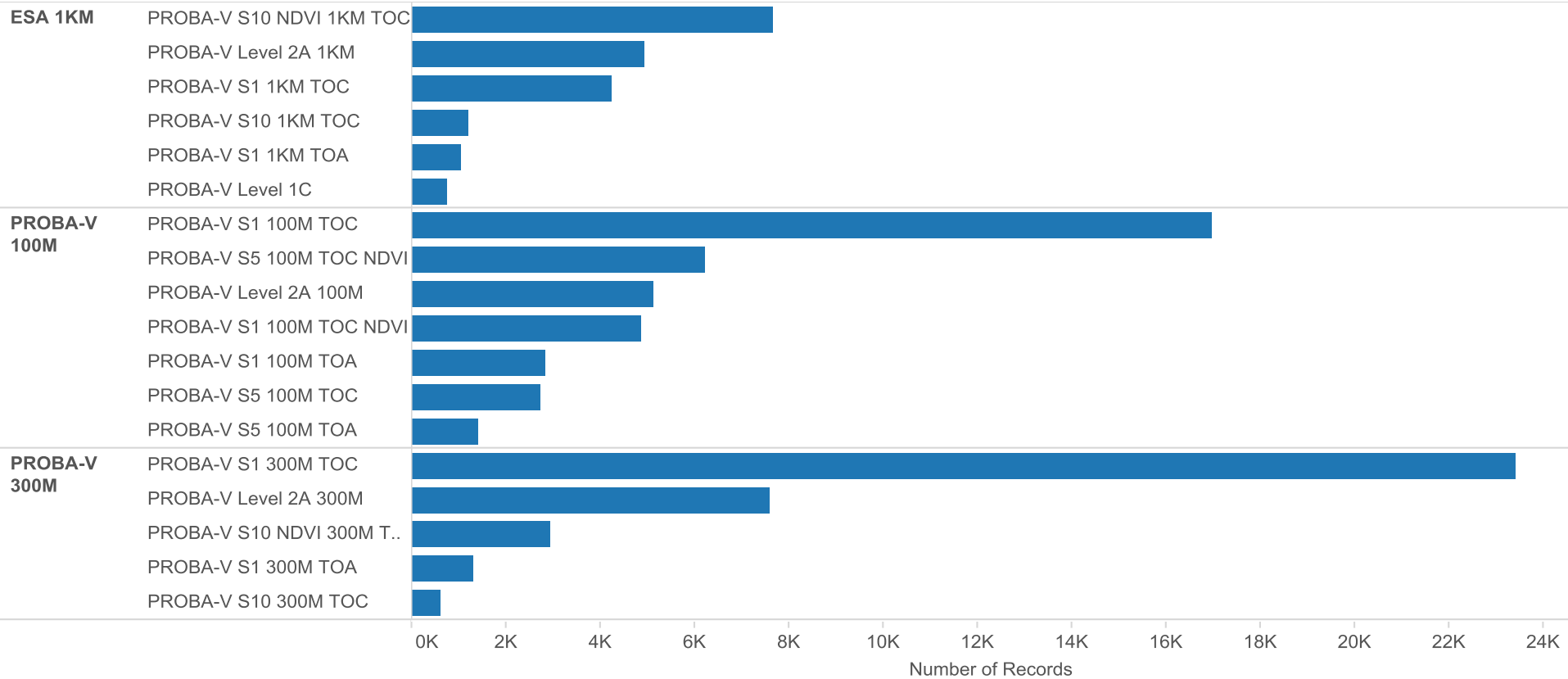
TOP 20 USER COUNTRIES NOV '16 - 1 MAY '17

1	BELGIUM	27,175
2	UNITED STATES	15,376
3	CHINA	10,094
4	UNITED KINGDOM	6,523
5	RUSSIAN FEDERATION	6,436
6	FRANCE	5,192
7	BRAZIL	3,356
8	SWITZERLAND	2,728
9	IRAQ	2,349
10	ITALY	2,084
11	AUSTRIA	1,735
12	NETHERLANDS	1,504
13	NAMIBIA	1,085
14	SLOVENIA	923
15	GERMANY	860
16	POLAND	833
17	ARMENIA	783
18	INDIA	596
19	ALGERIA	570
20	ARGENTINA	518

DELIVERIES PER COUNTRY NOV '16 - 1 MAY '17



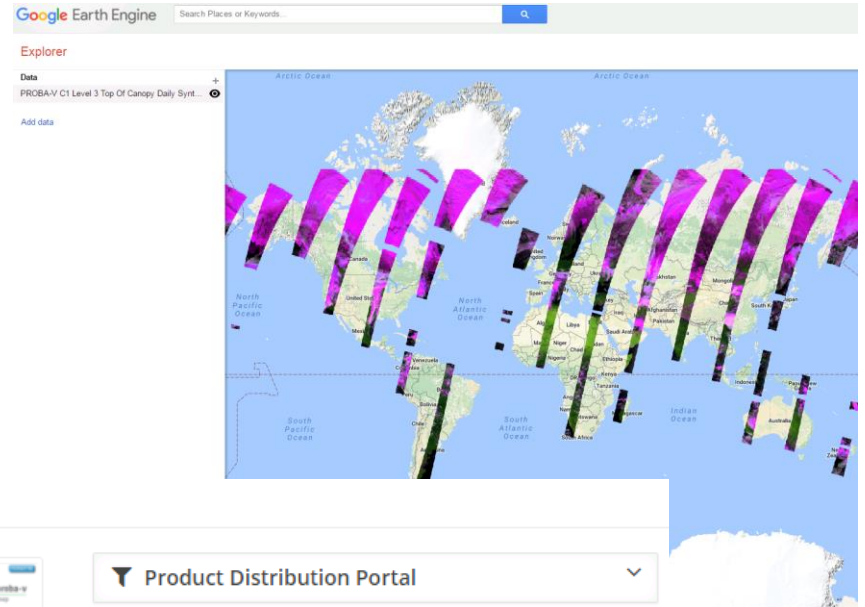
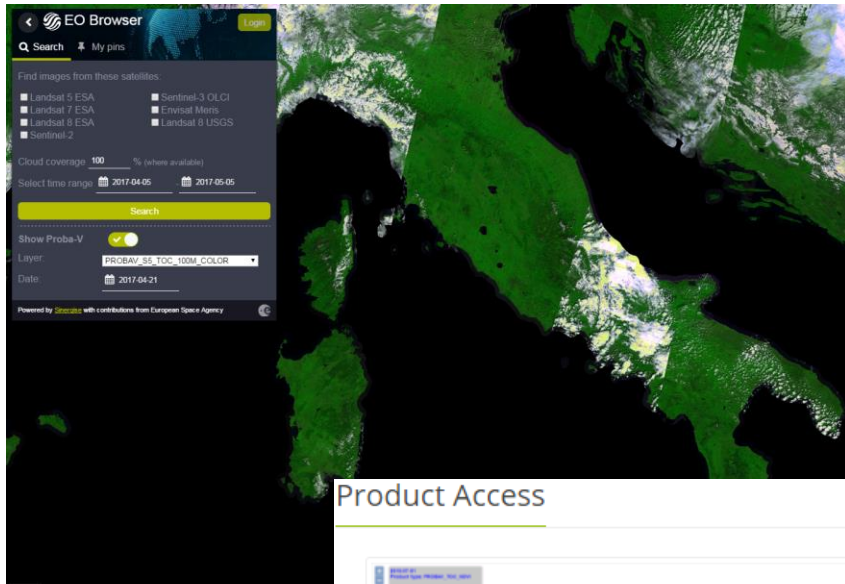
AMOUNT OF DOWNLOADED PRODUCTS: NOV '16 - 1 MAY '17



DATA DOWNLOAD/PRODUCT IN GB: NOV '16 - 1 MAY '17

		Africa	Asia	Europe	N-America	Oceania	S-America	Grand Total
ESA 1KM	PROBA-V Level 1C	3	602	1,254				1,858
	PROBA-V Level 2A 1KM	0	8	2				10
	PROBA-V S1 1KM TOA	0	0	1,151			0	1,151
	PROBA-V S1 1KM TOC	0	0	3,037	3	0	0	3,040
	PROBA-V S10 1KM TOC	9	83	430	5			527
	PROBA-V S10 NDVI 1KM TOC	13	98	41	25		1	178
PROBA-V 100M	PROBA-V Level 2A 100M	0	1,292	1,130	1		1	2,424
	PROBA-V S1 100M TOA	1	528	205	1		169	905
	PROBA-V S1 100M TOC		8,508	8,708	25,010		40	42,265
	PROBA-V S1 100M TOC NDVI	24	114	6	0		0	144
	PROBA-V S5 100M TOA	273	2,255	64			1,339	3,932
	PROBA-V S5 100M TOC	197	105	4,279	359		1	4,941
	PROBA-V S5 100M TOC NDVI	605	1,045	2,564	528	0	28	4,771
PROBA-V 300M	PROBA-V Level 2A 300M		1	216				217
	PROBA-V S1 300M TOA	0	11	7,745	0		7	7,763
	PROBA-V S1 300M TOC		11	20,964	12,655		19	33,650
	PROBA-V S10 300M TOC	24	61	1,227	9		0	1,321
	PROBA-V S10 NDVI 300M T..	4	11	30	72	0	2	119
Grand Total		1,153	14,732	53,054	38,669	0	1,608	109,217

PLATFORMS GIVING ACCESS TO PROBA-V DATA



Product Access



- Product Distribution Portal
- Datapool
- Virtual Machine
- GEO Viewer
- Time Series Viewer
- N-Daily Compositor
- Notebooks

More details about our data policy on this link.

PRESENTATION OUTLINE



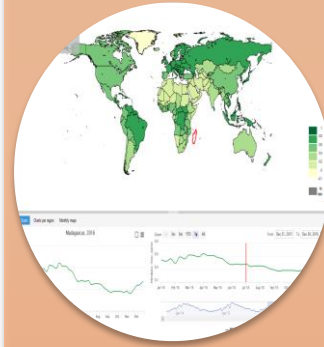
Data
reception



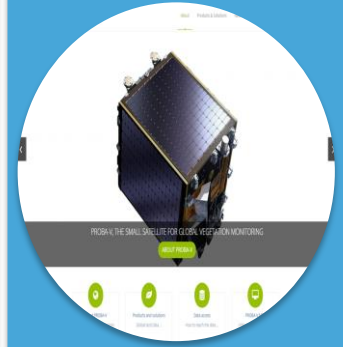
Processing



Reprocessing



Product
distribution



PR



NEW WEBSITE PROBA-V.VGT.VITO.BE



QUALITY WORKING GROUP INTRODUCTION

[Home](#) / [Quality](#) / [Quality Working Group](#) / Quality Working Group Introduction

Quality Working Group Introduction

The PROBA-V Quality Working Group (QWG) was established in November 2014 with the following objectives:

- Inform on and discuss the PROBA-V quality maintenance at both operational and scientific level with key user groups, supporting team members, and funding partners.
- Preserve observational consistency and continuity with previous (SPOT-VGT) and follow-up (Sentinel-2 and -3) missions.

The QWG meets twice a year and its core members comprise representatives from:

- Key user groups
 - Copernicus Global Land Service (CGLS, France)
 - Université Catholique de Louvain (UCL, Belgium)
 - Royal Belgian Institute of Natural Sciences (RBINS, Belgium)
 - University of Natural Resources and Life Sciences (BOKU, Austria)
- Funding partners
 - European Space Agency (ESA, Italy/Netherlands/Belgium)
 - Belgian Science Policy Office (BELSPO, Belgium)
- Project Team and Supporting Members:
 - Flemish Institute for Technological Research (VITO, Belgium)
 - ESA
 - Serco (Italy)
 - Brockmann Consult (Germany)
 - ACRI (France)

QUALITY

[Calibration](#)

[Platform Status Information](#)

[Product Evaluation](#)

[Product and Algorithm Information](#)

[Quality Working Group](#)


[Quality Working Group Introduction](#)

[Quality Working Group Members](#)

[Quality Working Group Contact](#)

News

02 MAY **New PROBA-V website launched!**

 We are excited to announce that our new and refreshed website is live. The updated site includes change in the navigation, direct links to the data and all Mission Exploitation applications. Don't forget to stop by our Quality pages



About PRO

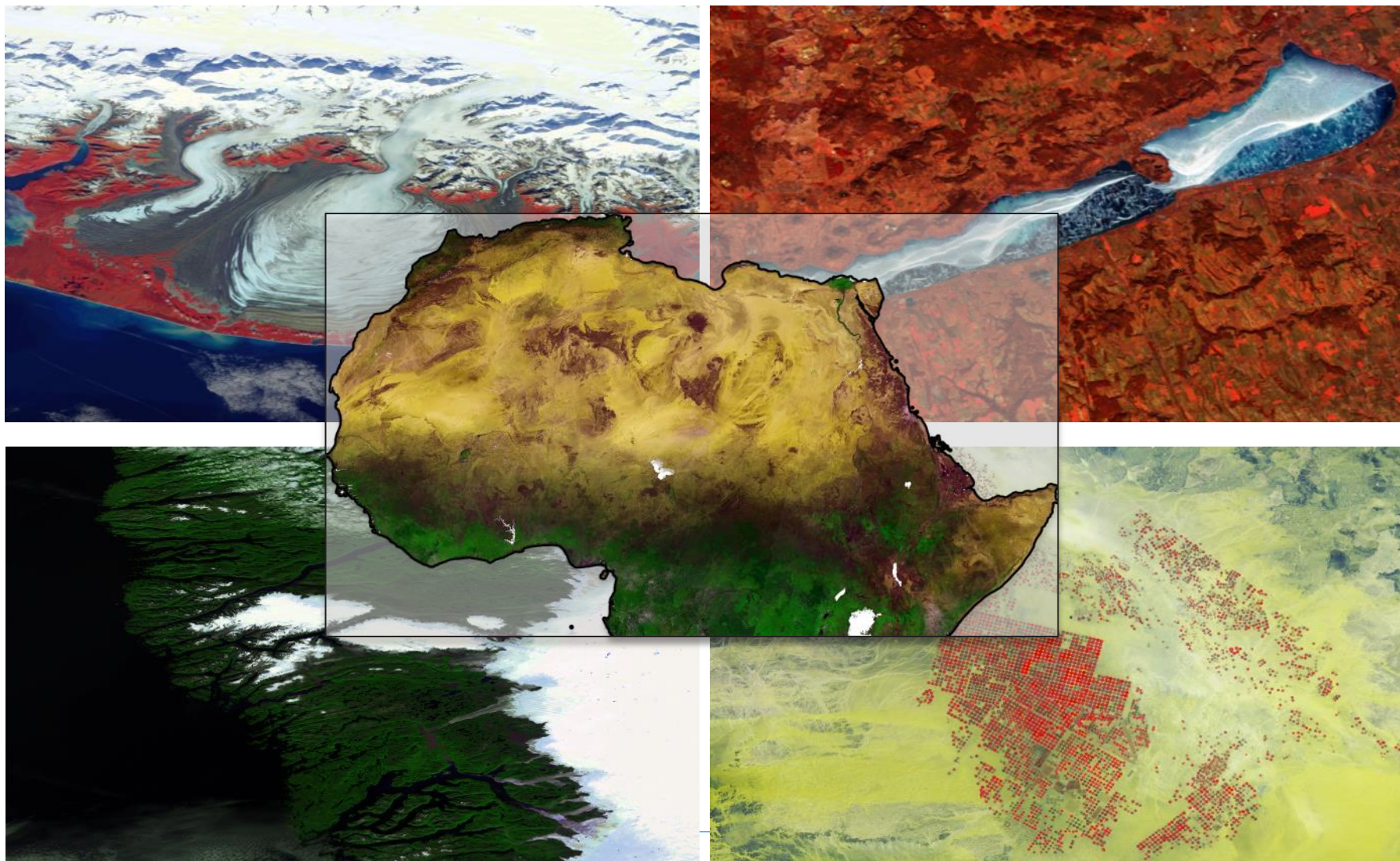
PROBA-V's satellite mission

Validation data

How to read the data

Unleash the power of EO data

NEW TIME LAPSES



MISSION EXTENSION TO END OF OCTOBER 2019



PROBA-V RAISES THE BAR

ESA's miniature satellite PROBA-V may only be as large as your average dishwasher, it's potential in Earth Observation is inversely proportional. Providing images on a daily basis in a spatial resolution of 100 m, 300 m and 1 km, PROBA-V serves a niche market. Combine its valuable data sets, revisit time, complementarity with satellite data such as SPOT-VEGETATION and the Sentinel missions, and the new improved Mission Exploitation Platform (MEP), you have a series of invaluable tools at your disposal to explore our planet to infinity and beyond.

This weekend it's time to celebrate as PROBA-V gets to blow out 4 candles. The small satellite was launched in on May 7, 2013 in Kourou, New Guinea. And this is not the only reason to celebrate. With an original lifetime of 5 years, PROBA-V now raises the bar by extending its operational services till at least the end of 2019.

A story about Time series, Image Processing, PROBA-V, MEP, EO Data by Dennis Clarijs 05.05.2017

PROBA-V OBSERVATIONS TILL 2019

Launched in May 2013 with an original operational lifetime of 5 years, PROBA-V now raises the bar and **adds another 1.5 years to its lifetime**. The platform availability is still of superior quality with no signs of degradation, geometric and radiometric performances are well within requirements and all infrastructure and protocols are in perfect condition. All the more reason to keep observing the Earth and **providing valuable EO data till at least the end of October 2019** to more than 800 institutions or companies, representing more than 100 nationalities.



Reach of 800 000+ users

ESA Retweeted

ESA EarthObservation @ESA_EO · May 7

#HappyBirthday #ProbaV1 Launched on 7 May 2013, this #MiniSatellite continues to map #LandCover & #VegetationGrowth: earth.esa.int/web/guest/miss...



PROBA-V

2 60 159

With its 4th birthday coming up this weekend, PROBA-V raises the bar by extending its operational services till at least the end of 2019. Find out what our mini satellite was able to capture for us in the last four years.



PROBA-V Raises the bar [BLOG POST]
blog.vito.be

7 Likes

Like Comment Share

VITO 🎉 celebrating another year.
May 5 at 11:18am · 🌐

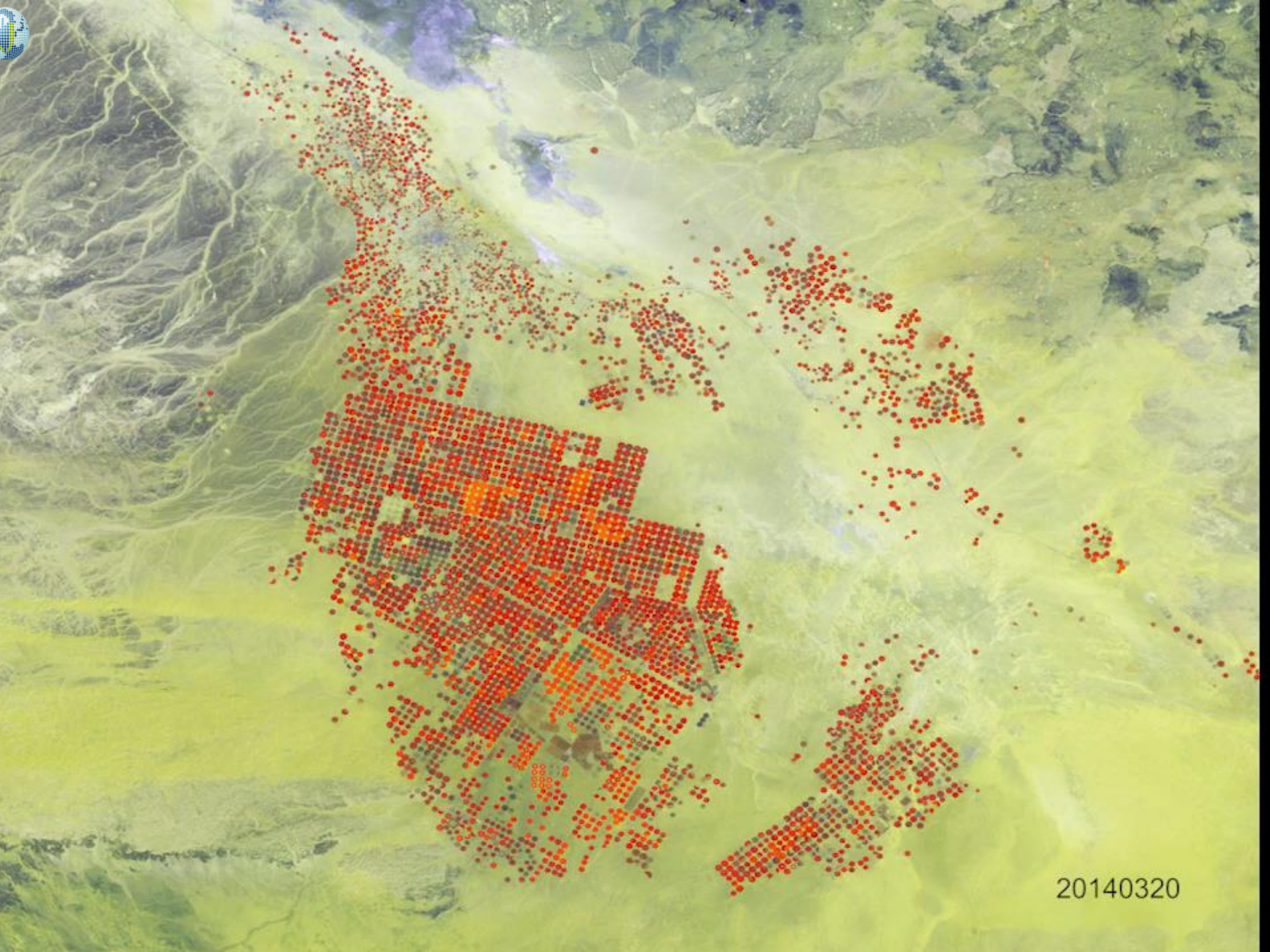
With its 4th birthday coming up this weekend, PROBA-V raises the bar by extending its operational services till at least the end of 2019. Read our latest blog post and find out what our mini satellite was able to capture for us in the last four years.



PROBA-V raises the bar [BLOG POST]

ESA's miniature satellite PROBA-V may only be as large as your average dishwasher, it's potential in Earth Observation is inversely proportional. Providing images on a daily basis, PROBA-V serves a niche market. With an original...
BLOG.VITO.BE

Like Comment Share



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