

Copernicus Operations

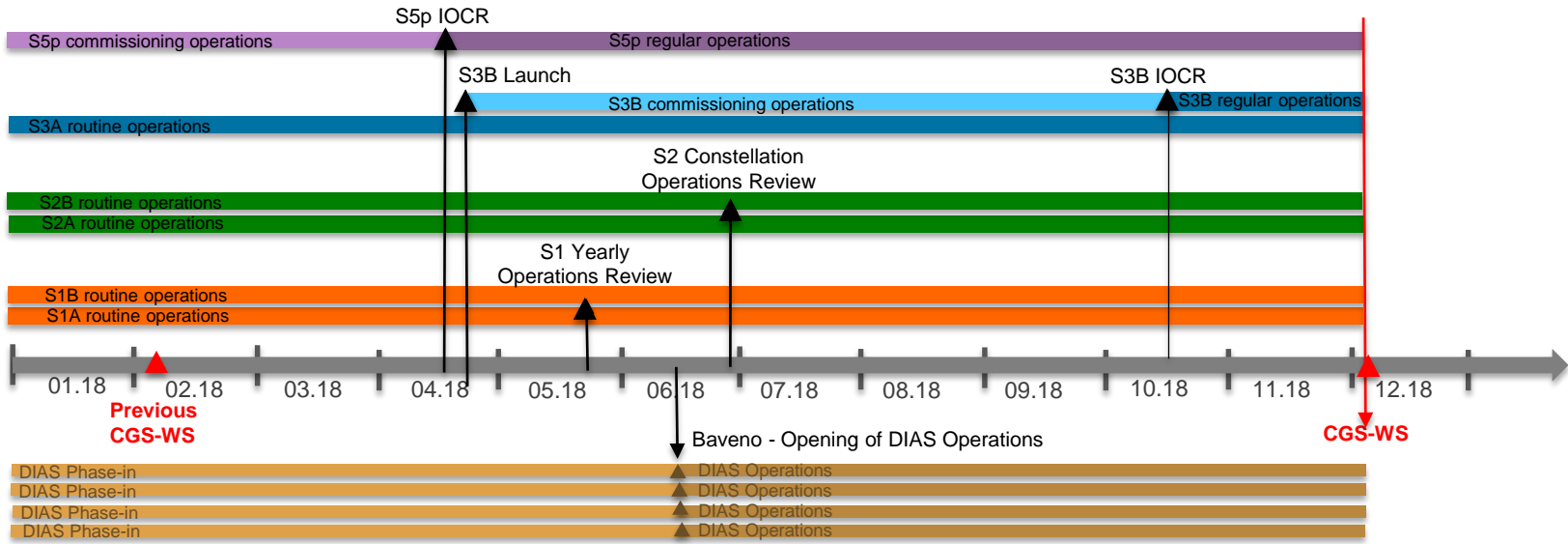
Collaborative Ground Segment Meeting – ESRIN 2018-11-04

Summary of Copernicus operations in 2018



Main 2018 activities:

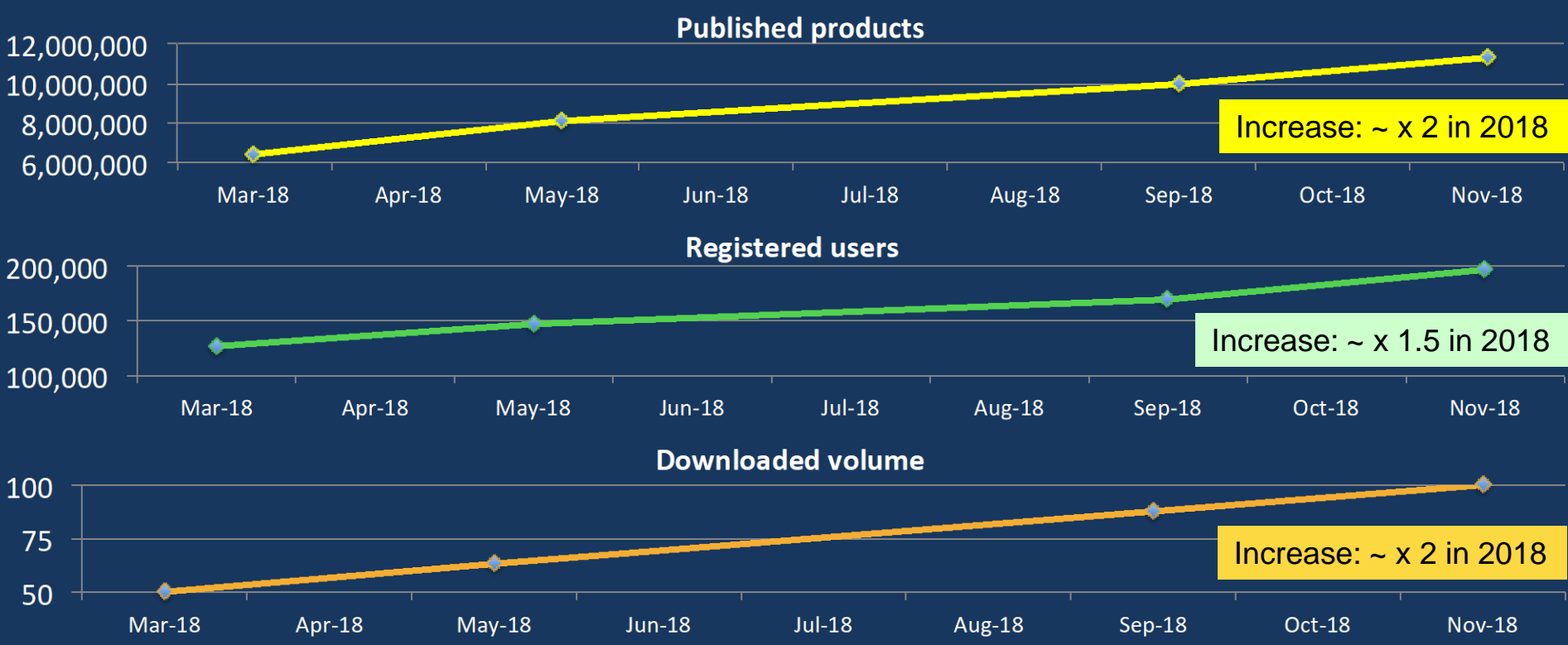
- Completion of the Sentinels family in orbit with the launch of Sentinel-3B on 25th April 2018
- Continuation of the routine operations of Sentinel-1 & Sentinel-2 missions, Sentinel-3A routine operations, Sentinel-5p commissioning operations, start of Sentinel-5p routine operations, Sentinel-3B commissioning operations
- Start of the DIAS operations in June 2018
- Major evolutions in the data access operations during 2018



Routine Operations in continuous expansion during 2018



Continuous increase of operations expansion through 2018:



ESA UNCLASSIFIED - For Official Use

ESA | 2018/11704 | Slide 3



A significant number of operations evolutions in 2018



A significant number of operations evolutions introduced during 2018 in parallel to the continuous expansion of the routine operations:

- Access to new Sentinel products and missions
- Enhancements in the data available for the Sentinel missions in routine operations
- Activation of the on-line data rolling
- Complementary operational activities



Access to new Sentinel products and missions (1/2)



- Following the **Sentinel-5p** commissioning operations, the firsts Sentinel-5p products have been published in July 2018 on the Pre-Operations Hub for all users and gradually enlarged:
 - ✓ Products available since July 2018: Total Columns of Ozone (O₃), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Cloud & Aerosol information
 - ✓ New products available since October 2018: Sulfur Dioxide (SO₂, in NRT), Formaldehyde (CH₂O, in NRT)
 - ✧ Availability of all S-5p products to users is foreseen by mid 2019 (pending the reprocessing of Level-1 data for improved inter-band calibration).
 - ✧ Availability of Sentinel-5p products on the ColHub is foreseen at the end of the ramp-up beg. Q2 2019

- Following the delivery of a new **Sentinel-3 Synergy** processor resolving existing blocking issues, the Sentinel-3 Synergy products are operationally generated:
 - ✓ Sentinel-3 Synergy are made available on the Pre-Operational Hub to all users since October 2018. Sentinel-3 Synergy validation is on-going, updated processor deliveries and associated product quality enhancements expected in the coming months with publication on the OpenHub and ColHub accordingly



Access to new Sentinel products and missions (1/2)



- **Sentinel-3:** The definition and implementation of two new core data products, the Aerosol Optical Depth (AOD) and Fire Radiative Power (FRP) is on-going with sample products expected to be available in early 2019.



Enhancements of data available for the Sentinel missions in routine operations (1/2)



❑ Transfer of **Sentinel-3A** products data access to Open Hub and ColHub:

- ✓ Sentinel-3A SRAL products: published on Open Access Hub since 19th October 2017 & in the collaborative hub since 2nd November 2017.
- ✓ Sentinel-3A OLCI products: transferred from the pre-ops Hub to the Open Hub since Q4 2018.
- ✦ Sentinel-3A SLSTR products: transfer from the pre-ops Hub to the Open Hub and ColHub planned for Q1 2019 in synchronisation with the publication of SLSTR reprocessed data.

❑ **Sentinel-2 Level-2A** (surface reflectance) products generated and distributed since March 2018:

- ✓ Level-2A products over the Euro-Mediterranean region available on the Copernicus Open Access Hub and the Copernicus Services Data Hub since 26 March 2018 (for both S-2A and S-2B)
- ✦ Level-2A products worldwide available for data access starting before the end of the year.



Enhancements of data available for the Sentinel missions in routine operations (2/2)



❑ Repackaging of **Sentinel-2 Level-1C** products.

The overall data set to be repackaged covers the S2A sensing period from 4 July 2015 to 6 December 2016. It corresponds to about 340,000 existing products to be repackaged into 1.3 million new products.

- ✓ Repackaging completed for products between December 2016 and March 2016.
- ✓ Updated information is available on-line:

<https://scihub.copernicus.eu/news/News00368>

❑ Increase of **Sentinel-1 L0 and L1-GRD products** available in NRT in the ColHub: Full Europe

- ✧ Assess the possibility to use Predicted POD to NRT processing and single processing of all data



□ Gradual start of products rolling-out from the Data Access Hubs

- ✓ The gradual start of products roll-out started in September 2018 and has been implemented for Sentinel-1.
- ✧ It is targeted to reach 12 months rolling for all Sentinel-1 products by Q1 2019.
- ✓ Rolled-out products are retrieved from the LTA in case of user request. User data access interfaces remain unchanged.
- ✧ Gradual Rolling-out of Sentinel-2 and Sentinel-3 products foreseen to start in 2019

□ Copernicus Data Access benchmarking tendering

- ✓ The activity aiming at benchmarking the Copernicus Sentinels data access, including the DIASs' services will kick-off in Q1-2019.
- ✧ First reports expected by mid 2019.

□ DIAS operations ready to on-board interested third parties

- ✓ The DIASs' activities are progressing within schedule.
- ✓ Activities focussed during the first quarter of operations (Q3 2018) on the respective data offer completeness to reach steady state of operations.
 - All the fresh data are systematically ingested and published by the 4 DIAS's from the ESA DuHs since the ORR (June 2018):
 - Three dedicated DIAS data access nodes are in operations since early 2018 to ease the data access by the DIASs and prevent an impact on the ColHub data access performance: No issues raised to date.
- ✧ The planned data offer increase is being prepared by the various DIASs' with target objectives by end 2018 and mid 2019.
- ✓ Key DIAS operations parameters (e.g. number of registered accounts, downloaded data volume, number of virtual machines, etc.) will start to be systematically reported in the QIR starting from 2018-Q4.

Reference Web Sites & Public Dashboards



<https://mundiwebservices.com/>
<https://mundiwebservices.com/help/dashboard>
<https://mundiwebservices.com/help/monitoring>



<https://www.onda-dias.eu/>
<https://dashboard.onda-dias.eu/#/dashboard>



<https://sobloo.eu/>
<https://dashboard.sobloo.eu>



<https://creodias.eu/>
<https://creodias.eu/public-reporting-dashboards>