PROGRAMME OF THE EUROPEAN UNION

Copernicus Europe's eyes on Earth

EUMETSAT

NASA

NOAA

esa

cnes CENTRE NATIONAL D'ÉTUDES SPATIALES

Sentinel-6 mission overview

Snetinel-6 Programme/Project Managers
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Virtual OSTST, 21-22 March 2022

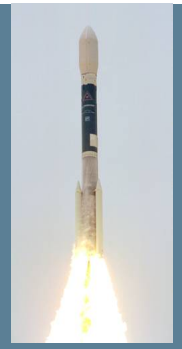
Agenda

Sentinel-6 Mission Overview

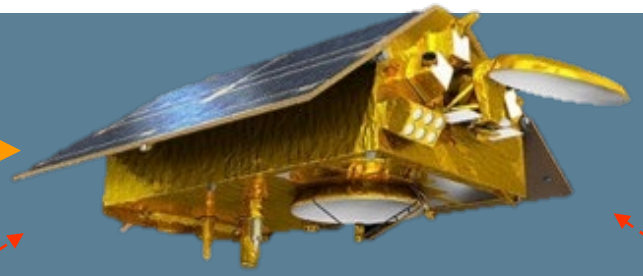
Status of Sentinel-6 Michael Freilich

Sentinel-6 B preparation status and plans

Sentinel-6, an international partnership for Copernicus



Launch Vehicle
SpaceX-F9 for S-6-MF
TBD for S6-B

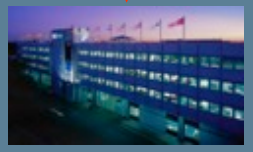


NASA Elements, NOAA Elements, European Elements (EUMETSAT, ESA, EC, CNES)

US X/S-band Ground Station (Fairbanks)

ESA ESTEC + NASA/JPL
(sat. dev) (US Payload)

European X/S-band Ground Station (Kiruna)



ESA ESOC
(LEOP)

EUMETSAT

ROM SAF
Generation and distribution of RO L2 products

NOAA

Operational NOAA and RO WMO users

System, G/S development, product processing, Operations, dissemination & archiving

CNES

Development and operations Support, L2P/L3, POD and Mission Performance Services

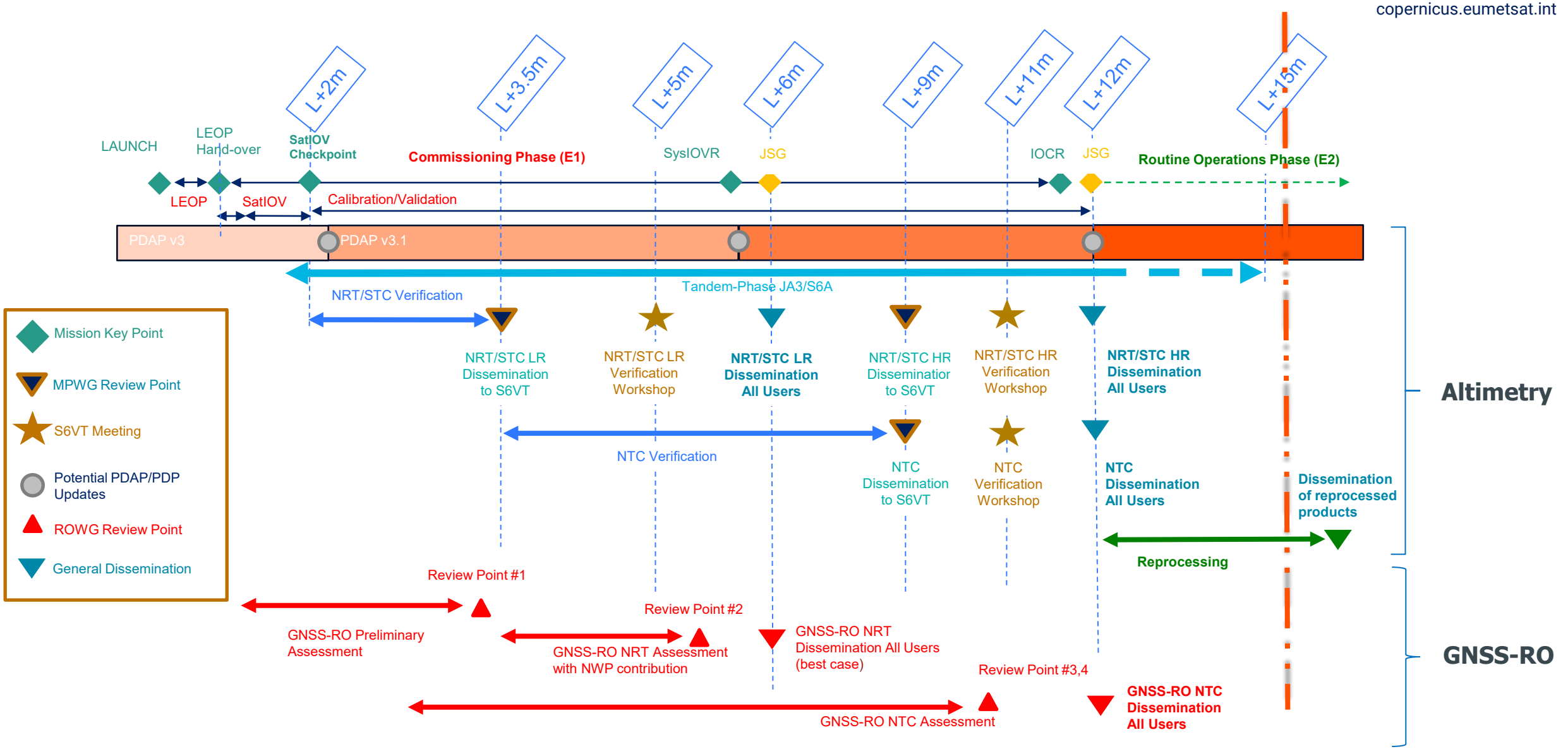
NASA/JPL

RO product processing, US Payload Monitoring & Ops support, data dissemination & archiving

US Users
PO.DAAC (Altimetry products)

European, Copernicus (EC) and ALT WMO Users

Sentinel-6 Michael Freilich- the journey



Sentinel-6 Michael Freilich- status of services

Product release:

Product	Latency	Format	Distributed since June 2021	Distributed since November 2021	Value-added products expected by April 2022
ALT Low Resolution (LRM)	NRT	BUFR	L2 (GTS since Sep 2021)		
		NetCDF	L2		L2P, L3 Wind/Waves
	STC	NetCDF	L1B, L2		
	NTC	NetCDF		L1B, L2	L2P, L3
ALT High Resolution (SAR)	NRT	BUFR		L2	
		NetCDF		L2	L2P
	STC	NetCDF		L1A, L1B, L2	L2P, L3
	NTC	NetCDF		L1A, L1B, L2	L2P, L3
MWR	NRT	NetCDF	L2		
	STC	NetCDF	L2		
	NTC	NetCDF		L2	
RO	NRT		L2 (GTS since August 2021)		
	NTC			L1B, L2	

Sentinel-6 Michael Freilich- important events and achievements

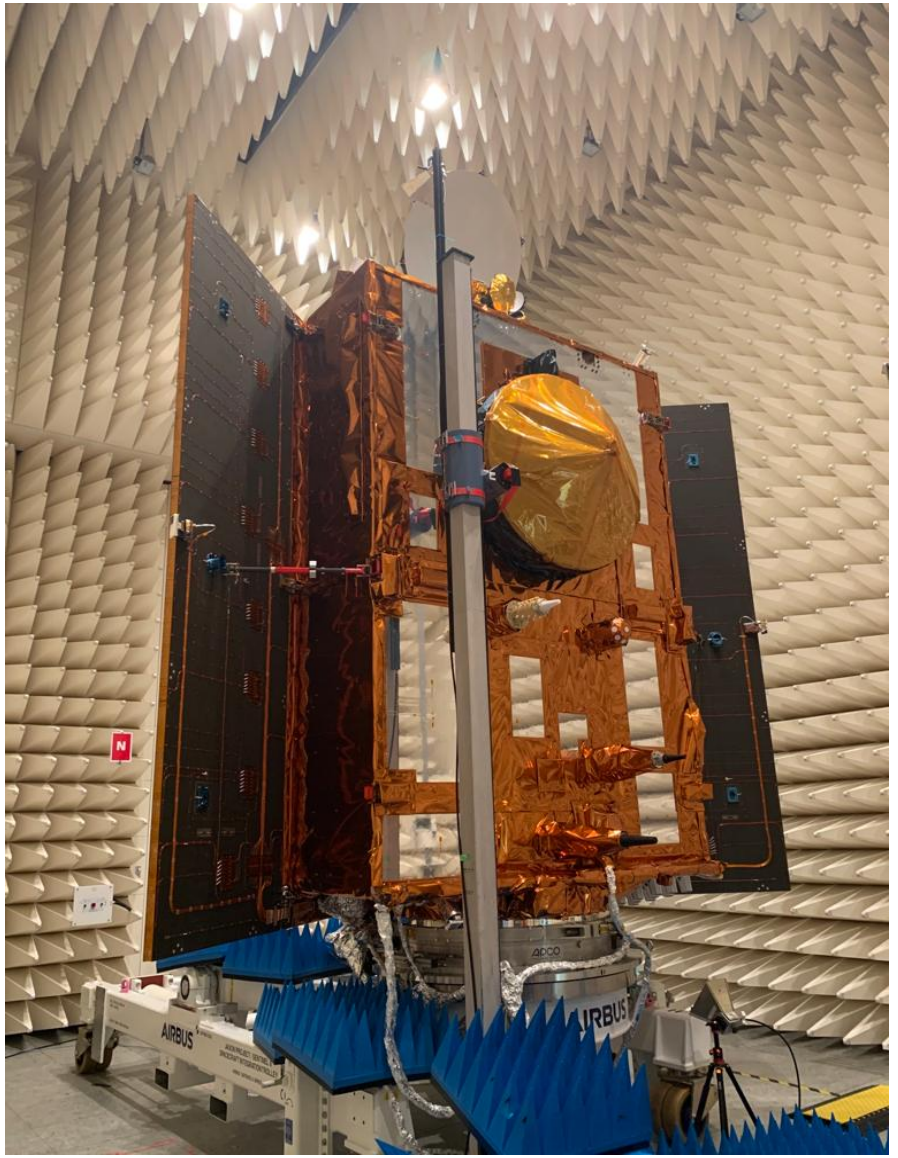
- ✓ Launched on 21 November'20 on a Falcon 9 rocket from Vandenberg Air Force Base
- ✓ In orbit verification of the satellite (January'21) and the overall system (June'21)
  - ➢ release of the first products (ALT LR and RO, NRT/STC)
- ✓ Decision in August'21 to cross-calibrate the Side B of the POS-4 against Jason-3, to ensure the continuation of the 30-year Global Mean Sea Level record
  - ➢ extension of the tandem phase with Jason-3
- ✓ Commissioning Review in Nov'21, marking the start of Routine Operations
  - ➢ Completion of Cal/Val activities (ALT HR and all NTC products) -> release of the remaining mission products
  - ➢ Decision to implement mode mask F: interleaved Low Resolution and Range Migration Corrected SAR mode, globally!
- ✓ Sentinel-6 Validation Team supported these decisions by providing valuable independent expert advice on the data quality: Workshops in May'21 and Nov'21
  - ➢ Expected to remain involved during the routine operations phase
- ✓ This Copernicus mission is supported by an international partnership, with joint responsibility for the mission performance: the Mission Performance Working Group (NASA/ESA/NOAA/EUMETSAT/CNES) monitors the data and products quality and, together with the Project Scientists, steer evolutions and improvements of the overall mission value

What is coming up for Sentinel-6 Michael Freilich

- ✓ L2P/L3 release coming up
- ✓ Re-processing data release
  - ➢ Re-processed data set will include data acquired during the commissioning phase, processed with the state of the art L1/2 operational processor version at EUMETSAT
- ✓ Day-2 evolutions to implement necessary corrections/improvements identified already at the time of the commissioning review
  - ➢ Check out *Instrument Processing: Measurement and Re-tracking session tomorrow*

S-6 B Status and outlook

- ✓ The satellite is fully integrated
  - ➢ Thermal Vacuum Chamber tests completed in December'21
  - ➢ Environmental tests completed
  - ➢ Shipping to Friedrichshafen end of March'22
- ✓ Next milestone at satellite level: Pre-Storage Review (PSR) in June'22
  - ➢ The satellite will be stored in flight configuration
  - ➢ Kept under a tent filled with nitrogen
  - ➢ Yearly health check verification
- ✓ Environmental tests and a re-acceptance review (RAR) after de-storage
  - ➢ The successful RAR will authorize the launch campaign
- ✓ Launcher procurement action ongoing
  - ➢ Selection of Launch Vehicle expected in October'22
  - ➢ Launch baselined for November'25



Thank you!

Questions are welcome.