SAOCOM Mission Status

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SAOCOM Mission Main Driver

- To support agricuture, hydrology-including floods and emergencies
- To generate operative soil moisture maps
- To explote SAR interferometric capability

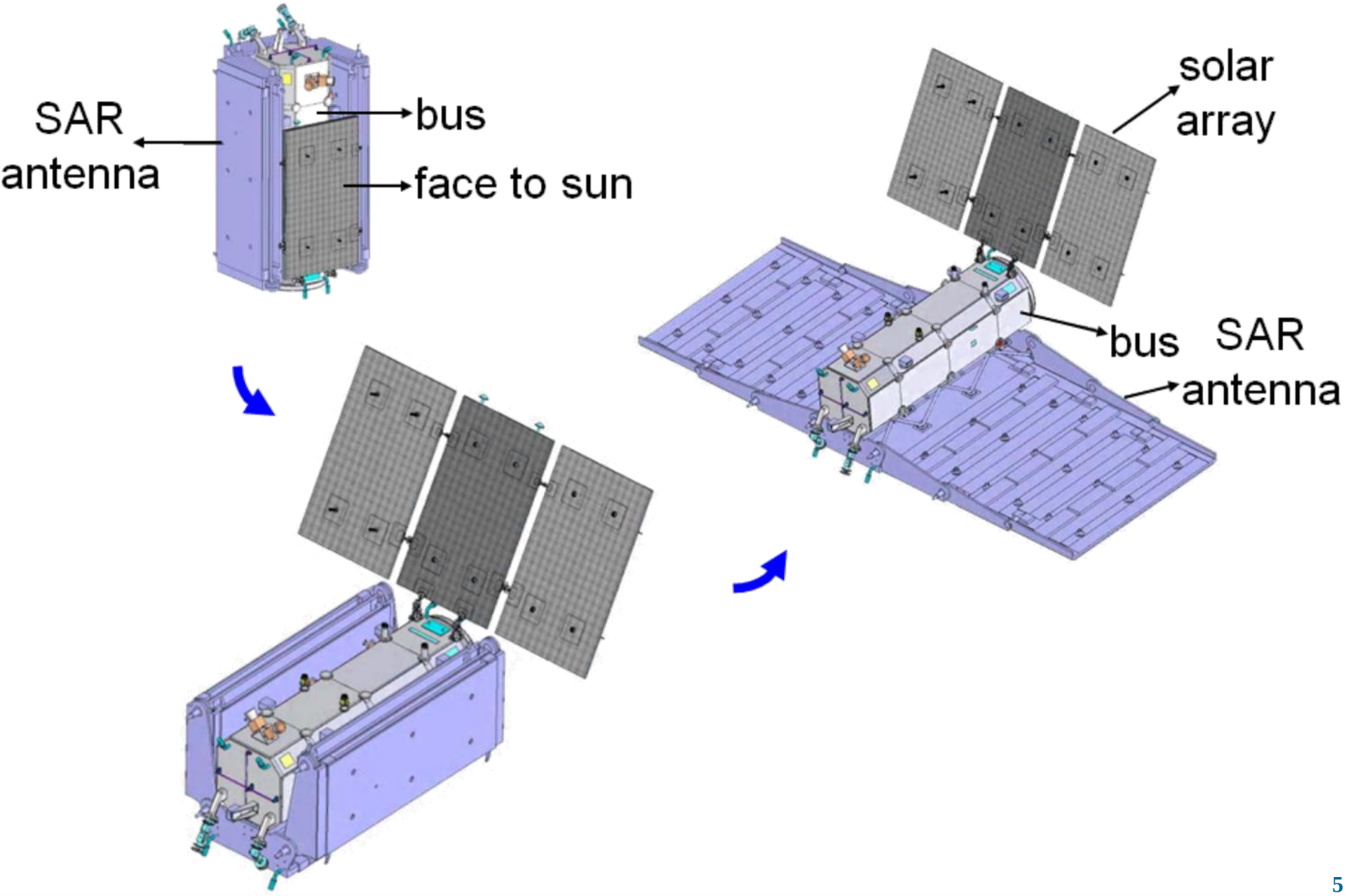
SAOCOM Mission General Features (1/2)

mission	constellation of two identical satellites (SAOCOM 1A/SAOCOM 1B) located at 180° one from each other
payload (each satellite)	polarimetric L band SAR-1,275 GHz
mission lifetime	5 years
orbit	sun synchronous nearly circular frozen polar
commissioning	6-9 months
altitude	620 km
inclination	97.89°
local time of asc. node	06:12 am
time for one orbit	97.2 minutes
revisit	**16 days** (1 satellite)/**8 days** (constellation)
orbits per cycle	237
cycle per year	23

SAOCOM Mission General Features (2/2)

orbits per cycle	237
cycle per year	23
looking direction	right (nominal)/left (capability)
↳ right looking	✓ continuous acquisitions of **10 minutes** when the satellite is in visibility of ETC ✓ **15 minutes** per orbit as an average on a daily basis ✓ **20 minutes** of non continuous acquisitions in an orbit
↳ left looking	up to **5 minutes**
acquisition modes	real time/stored
coverage	world wide
σ° (measurement range)	-35 to 5 dB
satellite body	~ 4.7 m x 1.2 m
active antenna	10 m x 3.5 m with140 T/R modules
solar array	~ 12 m^2
weight	~ 3 tons

Deployment

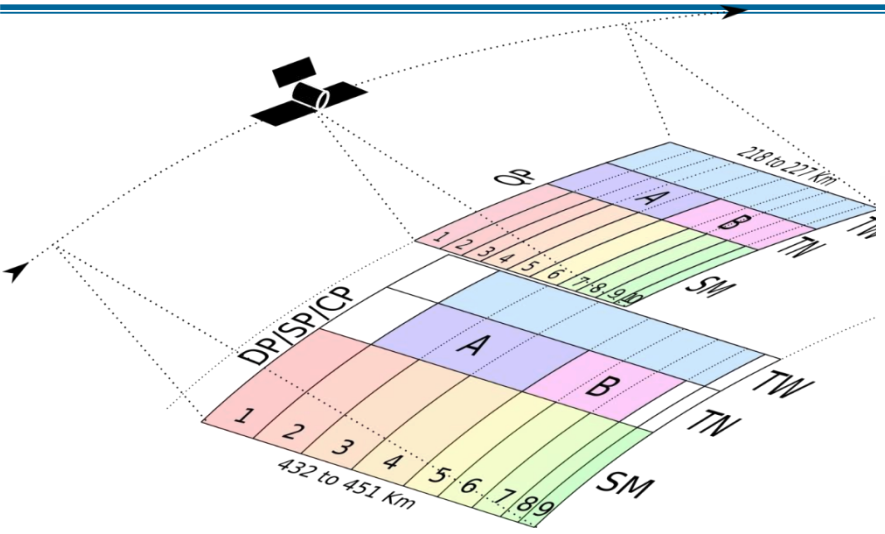


SAOCOM Nominal Modes Features

acquisition mode	polarization mode	swath width	spatial resolution	minimum incidence angle range
StripMap	SP: HH or HV or VH or VV	> 40 km	< 10 m	21° - 50°
	DP: HH/HV or VV/VH	> 40 km	< 10 m	21° - 50°
	QP: HH/HV/VH/VV	> 20 km	< 10 m	20° - 35°
TOPSAR Narrow	SP: HH or HV or VH or VV	> 150 km	< 30 m	25° - 45°
	DP: HH/HV or VV/VH	> 150 km	< 30 m	25° - 45°
	QP: HH/HV/VH/VV	> 100 km	< 50 m	20° - 35°
TOPSAR Wide	SP: HH or HV or VH or VV	> 350 km	< 50 m	25° - 45°
	DP: HH/HV or VV/VH	> 350 km	< 50 m	25° - 45°
	QP(1): HH/HV/VH/VV	> 220 km	< 100 m	20° - 35°
	CL-POL: RH/RV or LH/LV	> 350 km	< 50 m	25° - 45°

(1) TOPSAR Wide QP assigned for Strategic Applications

Standard Product Sizes and Relative Positions



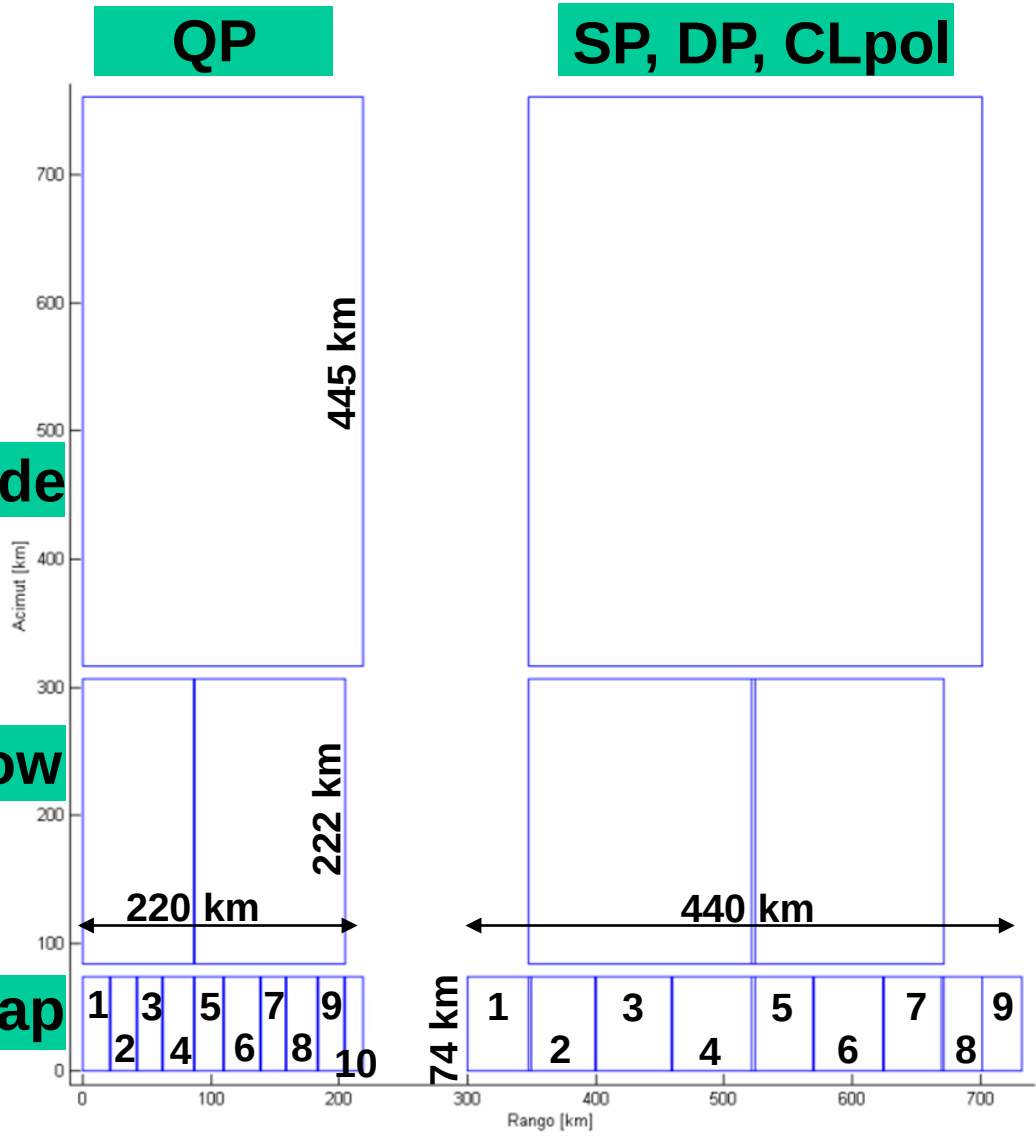
TOPSAR Wide

- TOPSAR Wide: twice longer than TOPSAR Narrow

TOPSAR Narrow

- TOPSAR Narrow: three times longer than StripMap

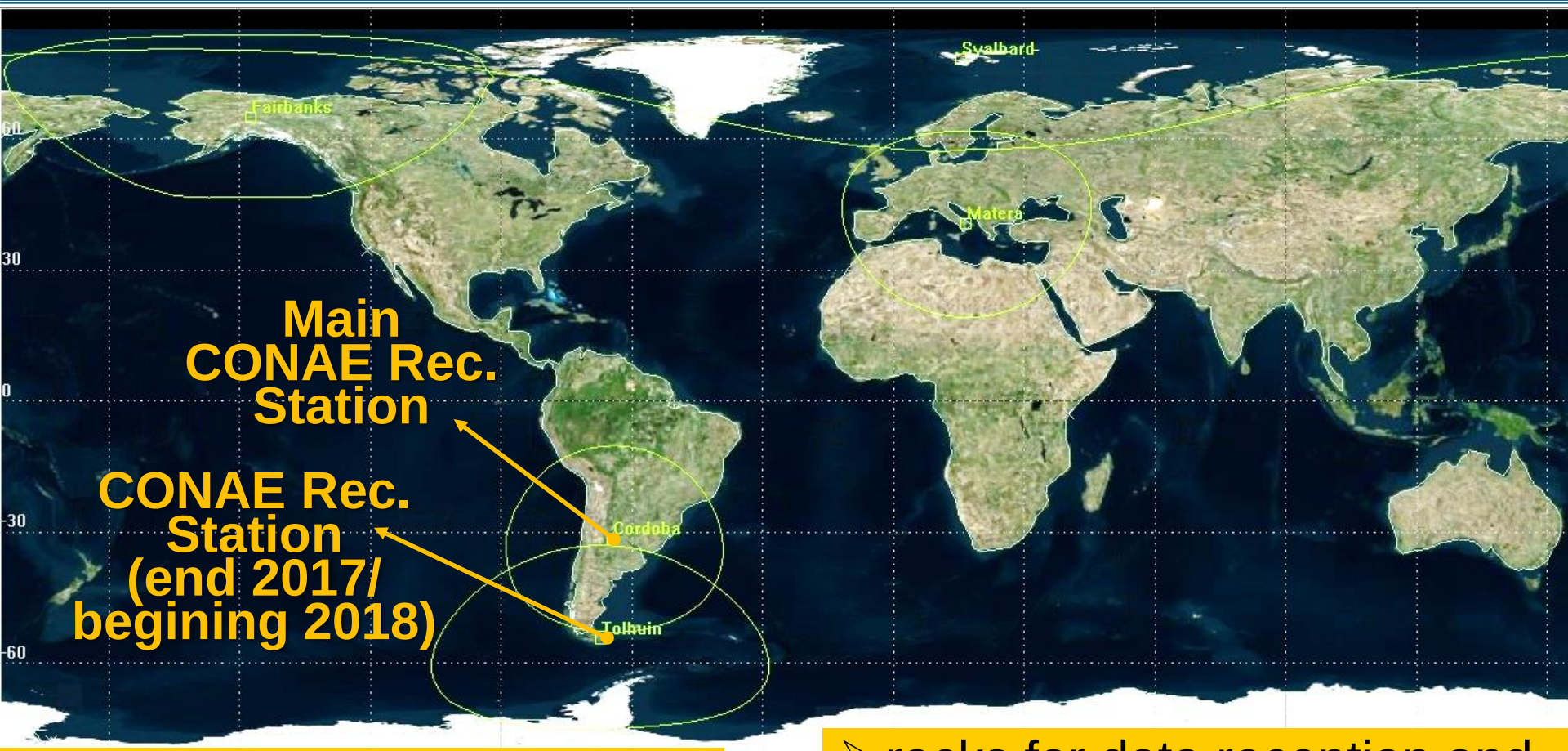
StripMap



Products Processing Levels

- ✓ **RAW** data products (data stream),
- ✓ **Level 0** products (Annotated RAW data-AR)
- ✓ **Level 1** products
  - ↳ **Level 1A**: Single Look Complex-SLC,
  - ↳ **Level 1B**: Detected Image-DI,
  - ↳ **Level 1C**: Ground Ellipsoid Corrected-GEC,
  - ↳ **Level 1D**: Geocoded Terrain Corrected-GTC
- ✓ **Higher** level products
  - ↳ on **Main Driver** basis

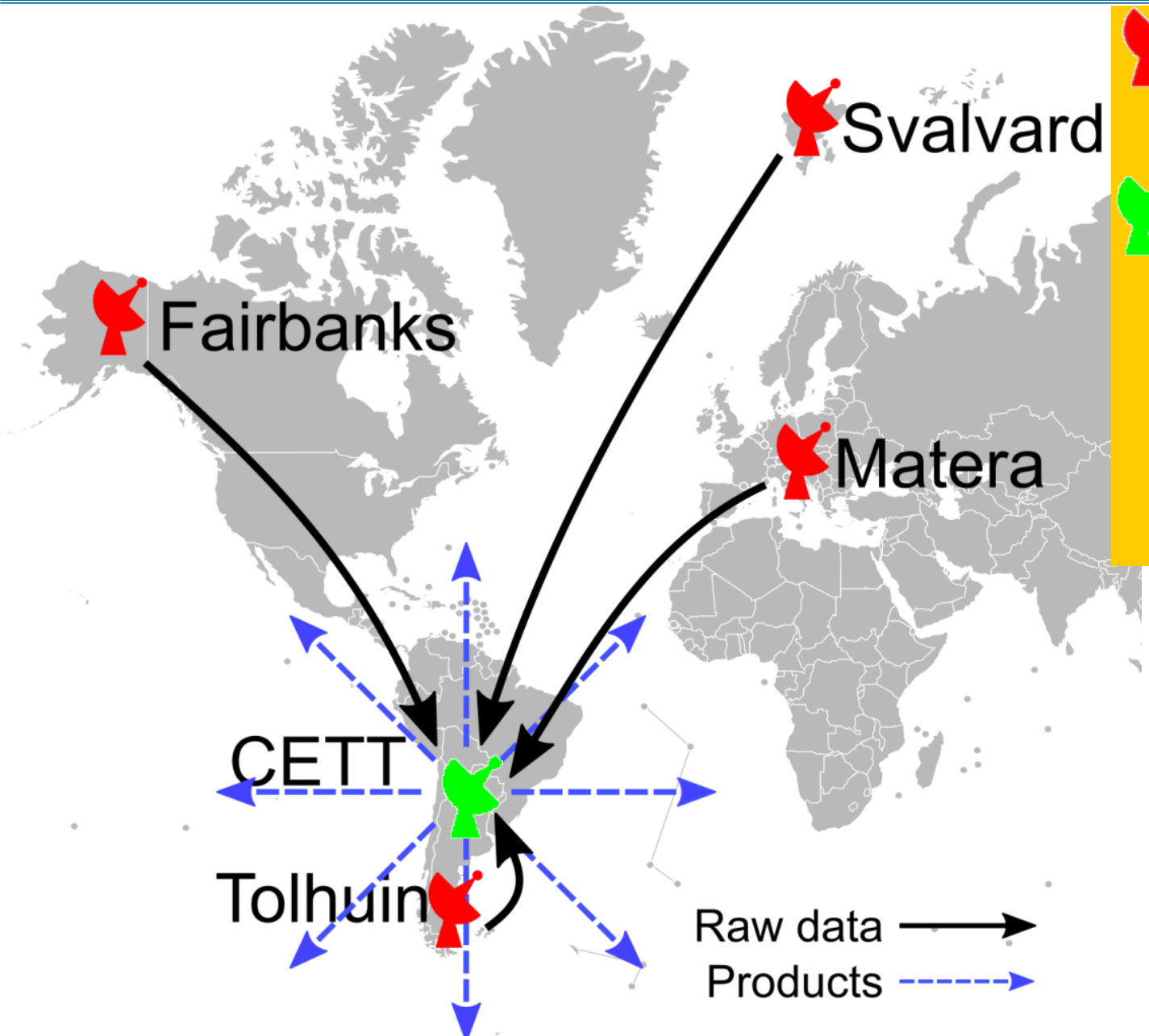
Data Download Capabilities



- image request:
  - ✓ through the web
  - ✓ catalogue
  - ✓ selection from the different acquisition possibilities

- racks for data reception and transfer
- processing and distribution at CONAE main Receiving Station in Córdoba

Data Reception and Distribution



racks for data reception and transfer

processing and distribution at CONAE main Receiving Station in Córdoba

Mission Acquisition Strategy (1/3)

Baseline mission
(fixed acquisitions)

- Soil moisture over Pampas-Strategic Applications

- Calibration purposes:
  - the rain forest
  - specific point targets

Foreground mission
(variable acquisitions)

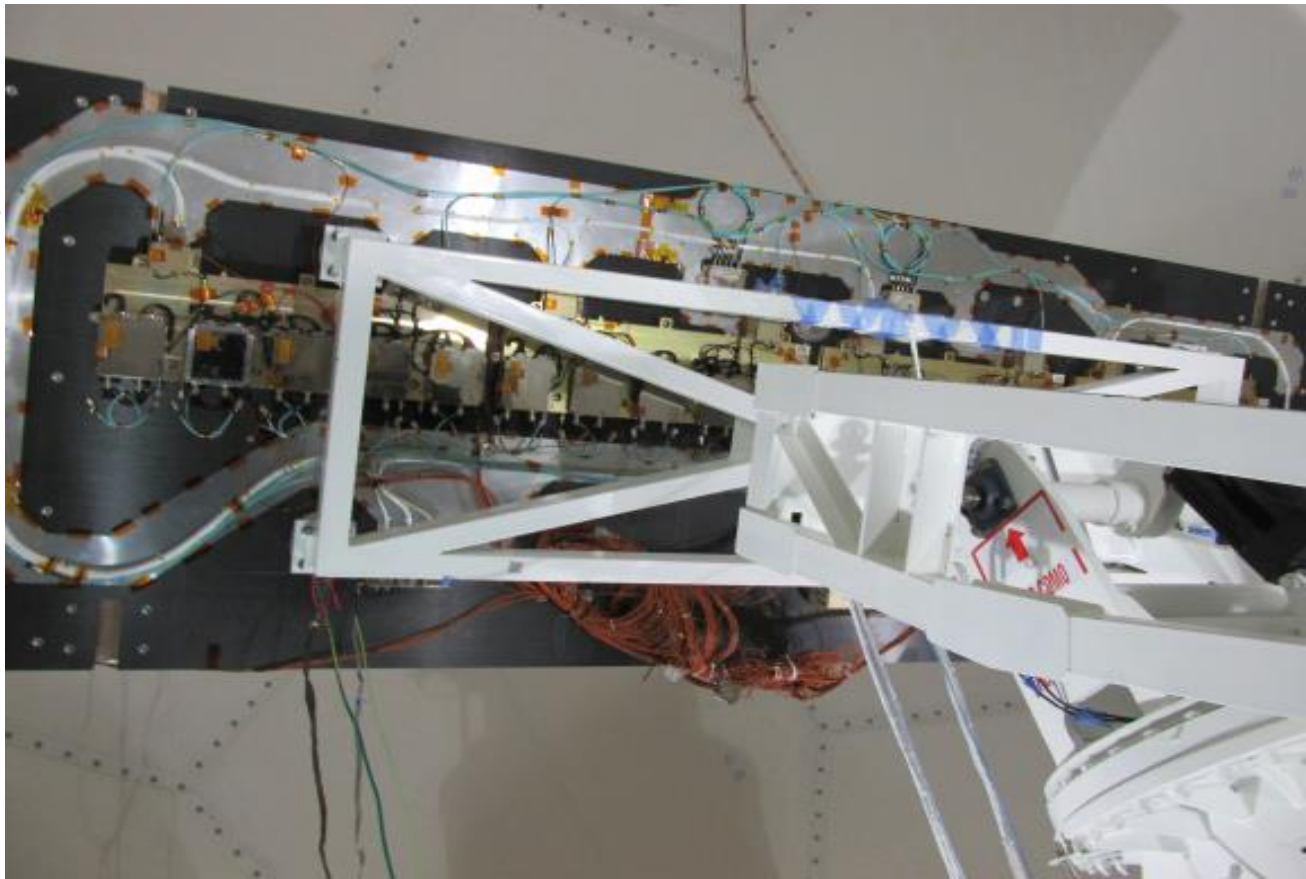
- User requests (national and international,
- ASI interest / exclusivity areas

Background mission
(useful data base)

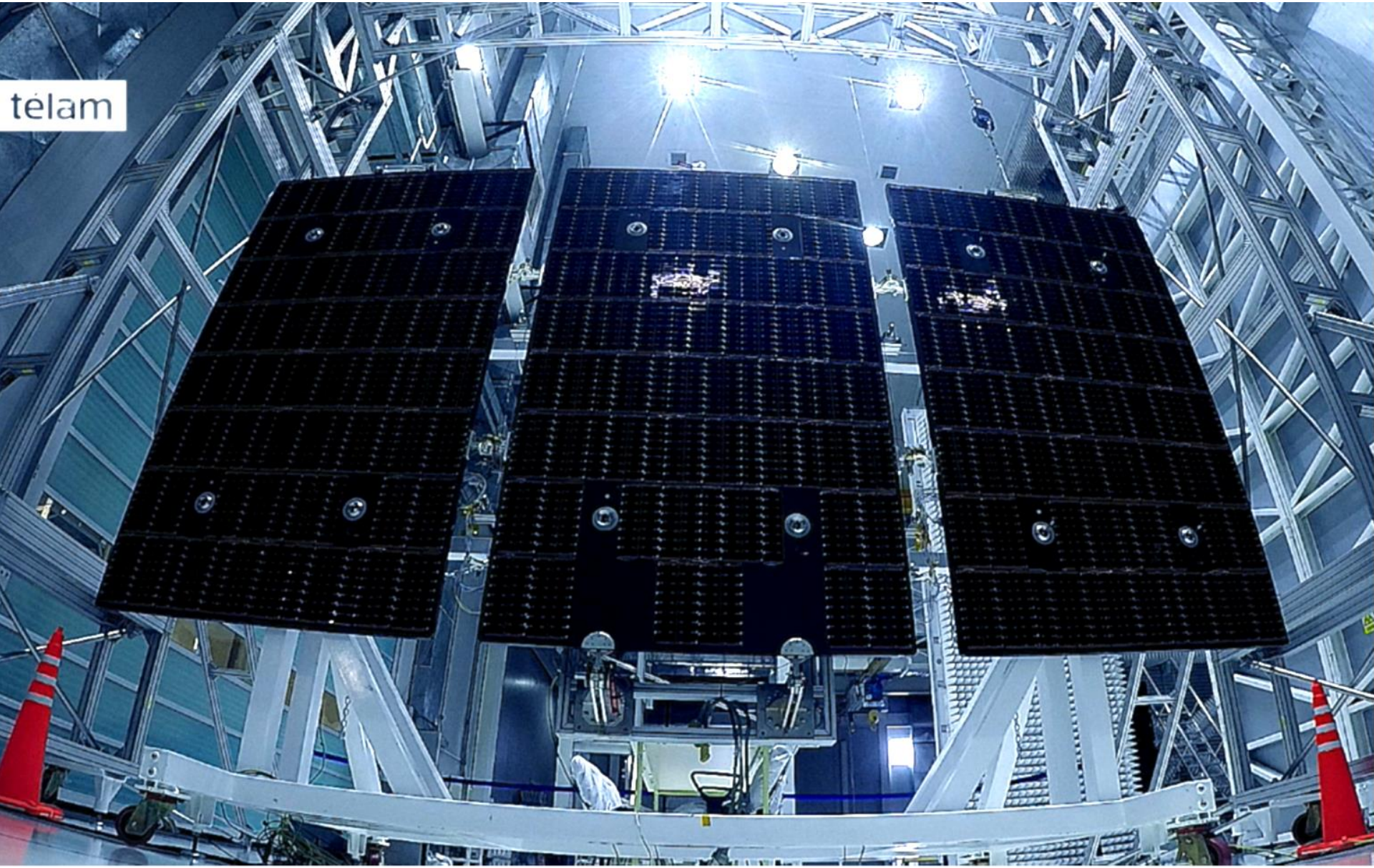
- Over Argentina:
  - emergencies
  - maritime
  - forest biomass
  - the mountain chain at the West (the Andes): plates and glaciers movement
- Outside of Argentina:
  - forest biomass
  - polar/ice regions

Next Main Milestones

- Antenna integration to platform: Nov, 2017
- Ground Segment Qualification Review: Feb, 2018
- PreShipment Review: May, 2018
- Window Launch for SAOCOM 1A: May to Sep, 2018
- Launch SAOCOM 1B: one year later



Solar Panels




INVAP

Thank you

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