

The word "DORIS" in white, bold, sans-serif capital letters. The letter "O" is replaced by a blue circle containing a white silhouette of the African continent.

DORIS MISSIONS & System NEWS

DORIS MISSIONS

Today 7 satellites contribute to IDS / 14 missions have contributed since 1990

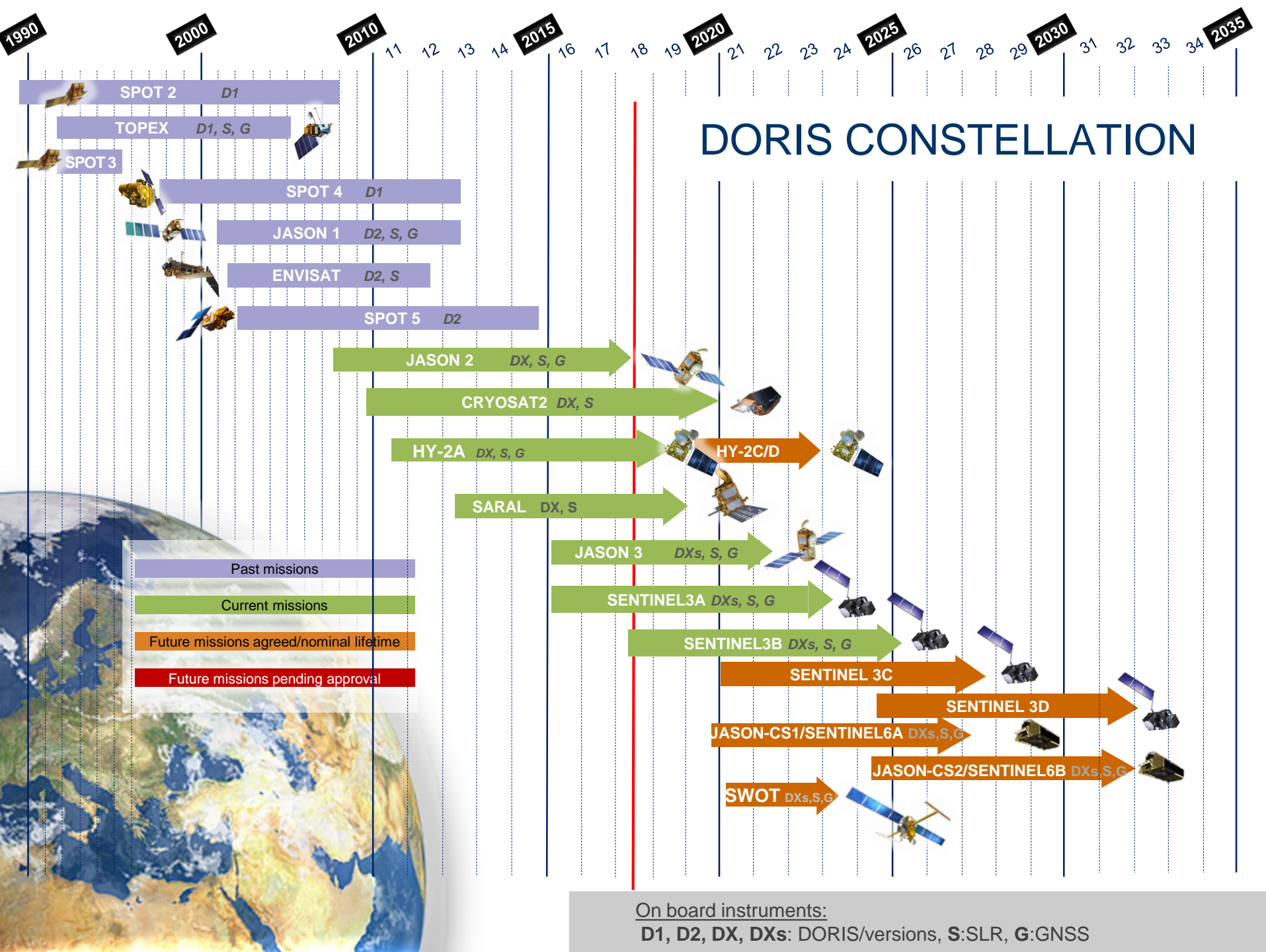
- **SENTINEL 3B (GMES) : 814km, 98.6° April 25th 2018 → 2026 (DGXXS+LRA+GPS)**
 - → data soon available at IDS Data Centers (stable orbit since June 6th, Rinex data will be made available from the beginning)
- **SENTINEL 3A (GMES) : 814km, 98.6° Feb. 16th 2016 → 2024 (DGXXS+LRA+GPS)**
- **JASON3 (Eumetsat/NOAA/NASA/CNES) : 1336 km, 66° January 17th 2016 → 2022 (DGXXS+LRA+GPS)**
- **SARAL (CNES/ISRO): 800km, 98.5° February 2013 → 2019 (DGXX+LR)**
- **HY2-A (CNSA, NSOAS): 960km, 99° August 2011 → 2019+ (DGXX+LRA+GPS)**
- **CRYOSAT-2 (ESA): 717 km, 92° April 2010 → end 2020 (DGXX + LRA)**
- **JASON2 (Eumetsat/NOAA/NASA/CNES): 1336 km, 66° June 2008 → 2019 (DGXX+LRA+GPS)**

10 years on June 20th !



Many future missions

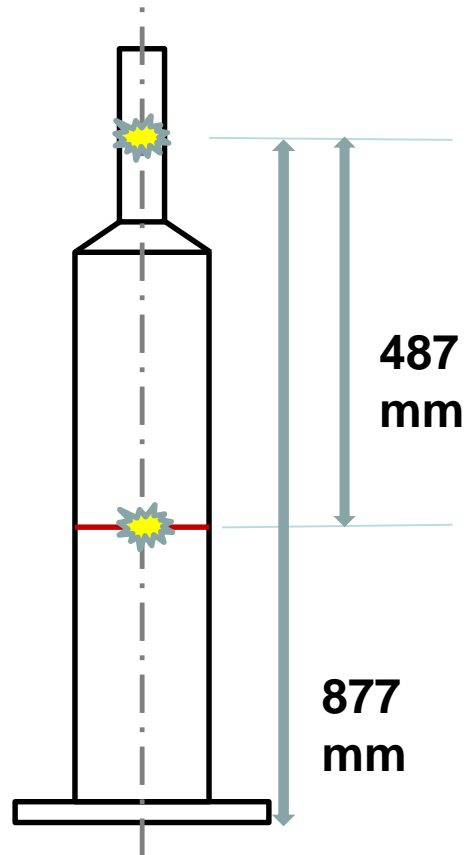
- ☐ Sentinel 3C, 3D
DORIS instrument development on going
2020, 2025 (7 years)
- ☐ HY2-C (NSOAS)
October 2019
- ☐ HY2-D
Oct. 2020
- ☐ HY2E-F-G-H : *(DORIS not confirmed)*
2024
- ☐ JASON-CS1/ SENTINEL 6A (ESA/Eumetsat/EU/Cnes/Noaa/Nasa)
JASON-CS2/SENTINEL 6B
end 2020 (7 years)
DORIS instrument development on going (*DGXX-s with mini-OUS*)
2025 (7 years)
- ☐ SWOT (Cnes/Nasa/CSA/UKSA) : 970km, 78°
(3 years)
DORIS instrument development on going
2021



New ground Antenna STAREC D

- ❑ **20 + 20 antennas (batches 2016-2017)**
- ❑ **NEW RF characteristics (vs STAREC B, C)**
 - New center of phase 2 GHz (34 mm lower than on STAREC B,C)
 - New center of phase 400 MHz (39 mm lower than on STAREC B, C)
 - New phase law (vs STAREC B,C) → definition and validation in progress
- ❑ Will be deployed from 2019
- ❑ → IDS will be informed by DORISmail, and the documentation will be updated accordingly

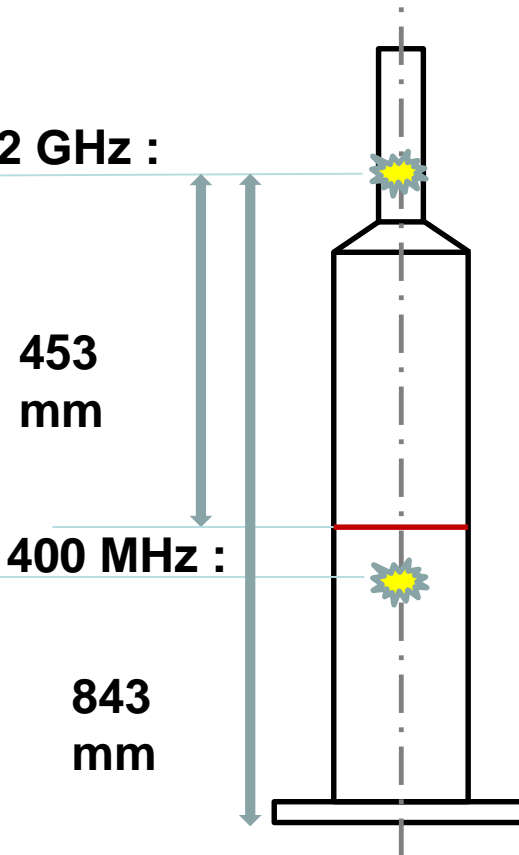
STAREC B & C :



Center of Phase 2 GHz :
34 mm

Centre de Phase 400 MHz :
39 mm

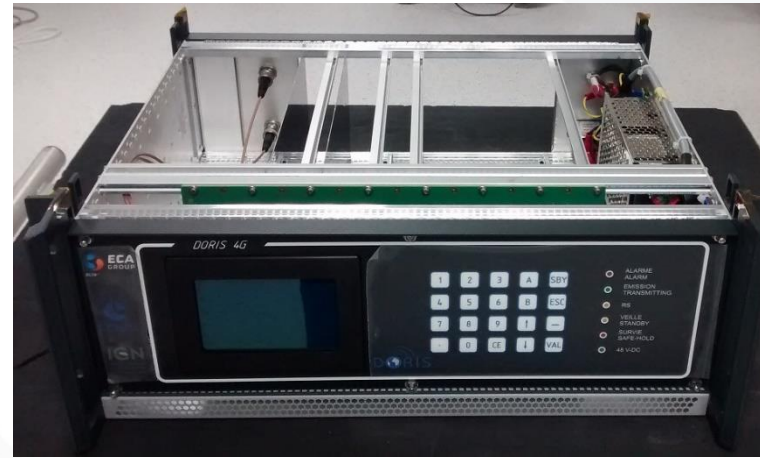
STAREC type D



453
mm

843
mm

Fourth generation Beacon B4G



❑ Designed to be operational up to 2033

- New electronic (with up to-date components)
- Better masks clearance expected thanks to longer distance between beacon and antenna (up to 50 m)

❑ Schedule : On time

- April 2018: Prototype installed at CLS (shifted frequency) : Test of 1 month of measurements , analysis in progress.
- Delivery of the pre-series model expected for June 2018
- Delivery of the first batch of series beacons: from March 2019

On board DORIS receiver / Perspectives

- ❑ Better characterization of OUS Radiation Sensitivity will be performed for future instruments → models of frequency correction **to be implemented in the ACs on-ground processing**
- ❑ Future R&T study : Reduce the Oscillators Radiation sensitivity and even better characterize them.
- ❑ Sentinel 3A, B, C, D, Jason CS1&2 : with coupled GNSS & DORIS → Real time observation of the DORIS OUS frequency (by the GNSS)
 - Available in the TM
 - useful to correct the SAA effect on ground processing,
 - → Process to be discussed and implemented
- ❑ On going R&T study: Architecture for a receiver using both DORIS and GNSS signals:
 - feasibility study,
 - evaluation of the complexity of integrated functions
 - impacts on performances of such an implementation
 - Estimation of the improvements in terms of mass-consumption-volume and cost



Service International DORIS

<http://ids-doris.org>

www.cnes.fr