

IDS AWG

DORIS SYSTEM NEWS

November 28th & 29th 2023

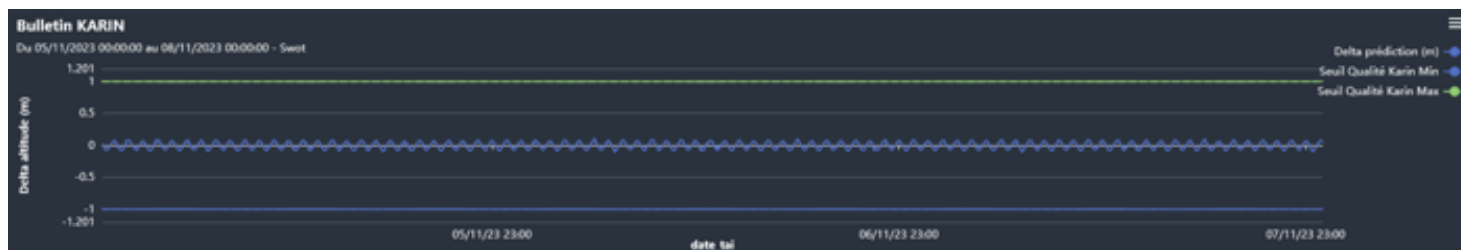
François Didelot, Claude Boniface



**INTERNATIONAL
DORIS
SERVICE**

■ SWOT mission

- DORIS « ON » in January 2023
 - Primary payload KaRin fed by so-called DORIS « **KaRin packets** »
- prediction of altitude with an accuracy $< 10\text{cm}$ in practice



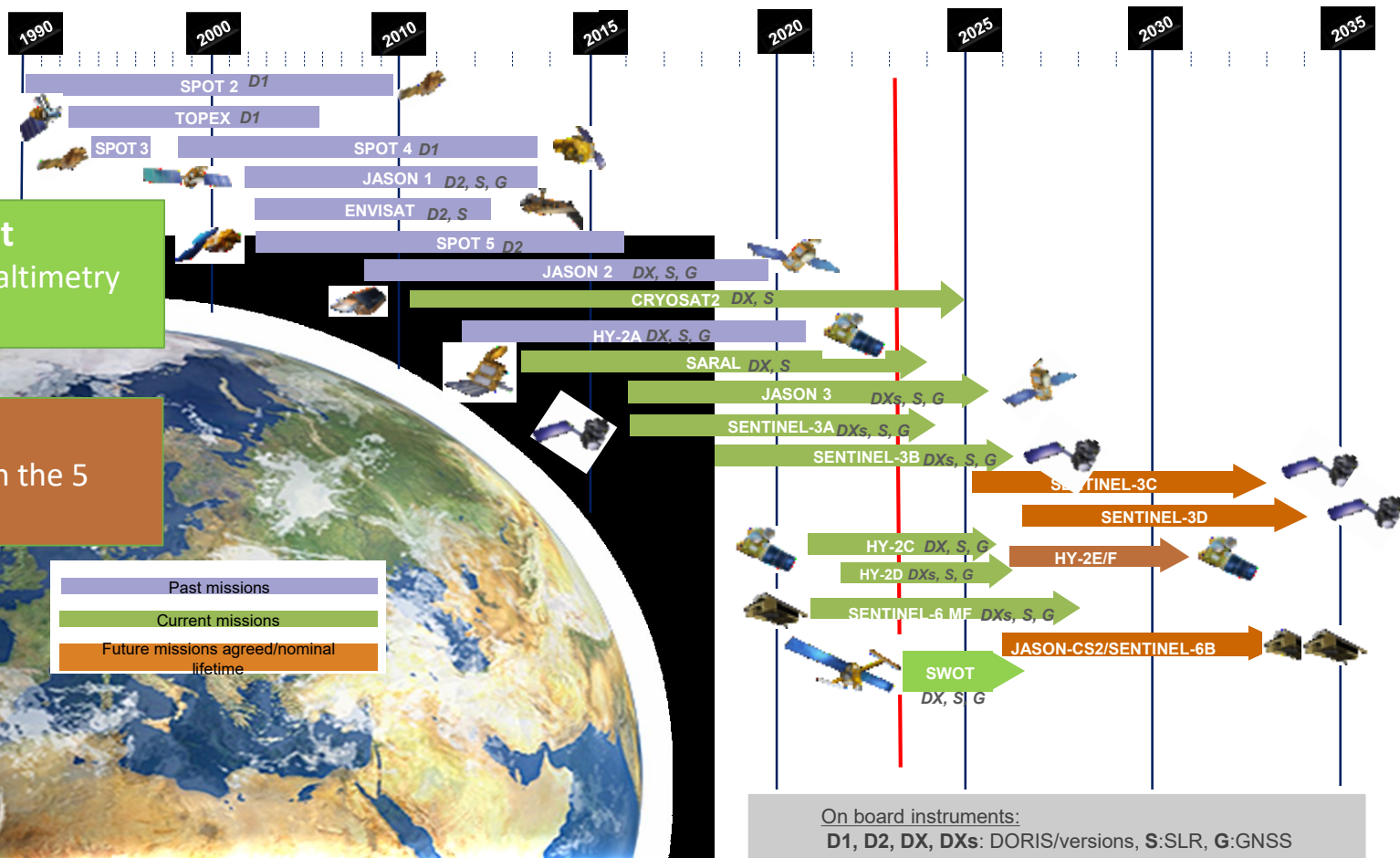
■ Extensions of in-orbit missions:

- Cryosat-2 (2025 at least), Saral (2024), Jason-3 (2025), Sentinel-3A (TBC)

■ Future missions:

- Sentinel-6B (nov 2025), HY-2E (mid-2025), Sentinel-3C (end 2024), Sentinel-3D (end 2028), HY-2F (date TBD), Genesis (2027 TBC)...S3-NG, S6-NG...

DORIS CONSTELLATION



■ DORIS « NEO »

- New architecture considered by T-DMS (equivalent of Phase A done)
- Technological refresh with recent components and techniques (SDR)

→ Kick off of Phase B in the coming weeks

→ PDR end of 2024

■ R&D to design a **mixed DORIS/GNSS receiver** (Syrlinks, SAFRAN subsidiary)

- Significant reduction of Mass, Cost, Volume (use of SDR techniques)
- Activities initiated these past years to be finalised

→ in order to consolidate the technology maturity: complementary work requested in early 2024

■ R&D action to characterize the effect of **resonators** irradiations and also to characterize the benefits of a strong pre-irradiation of the resonators

→ Conclusion report under redaction

- **Master Beacons and Time Beacons equipment**
 - Obsolescence of TA and Time Receiver => **TMG** under validation
 - Technology / strategy watch on the atomic clocks market

- **Connection of beacons to atomic clocks** (part of IDS strategic plan)
 - Wettzell, Ny-Alesund and Yellowknife connected to masers (VLBI)
 - HBK to be connected next week, Greenbelt and Kauai under discussions

- End of manufacturing of beacons of 4th generation

- Retrofit of antennas due to lack of protection on printed circuit board (400Mhz)