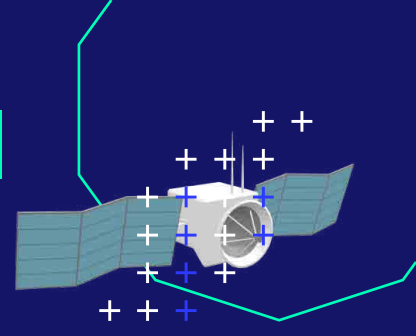


# High-revisit **hydrological** space infrastructure



At least 30.000 freshwater level measurement points updated everyday will be made available from space sensors

## A constellation of nanosatellites equipped with miniaturized altimeters

### Why are daily water levels measurements necessary?

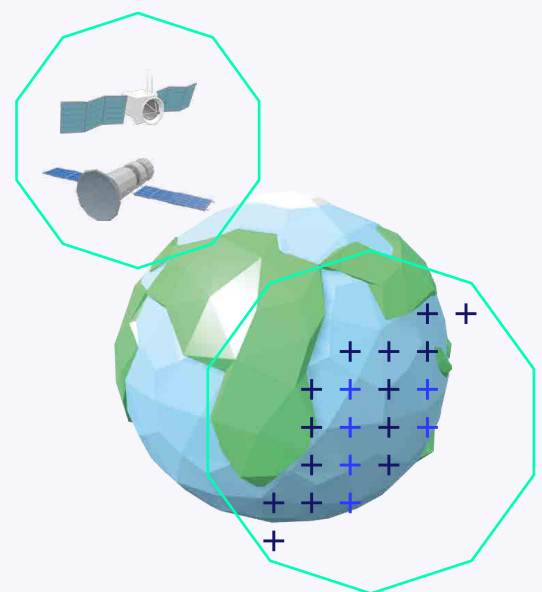
Existing altimetry satellites are not sufficient as slow repeat cycles end up in hydroclimatic disaster blindness.

### The missing link in altimetry: high temporal resolution

The BWI constellation, of high temporal resolution, is the perfect complement to SWOT and soon-to-be Sentinel-3 TOPO NG which are of much higher spatial resolution.

### A breakthrough for science and operational applications

1-day revisits will be a revolution in Earth Observation, as current satellites repeat cycles are between 10 and 90 days! We may expect that the understanding of the water cycle will reach new heights with daily updated water level points all over the World.

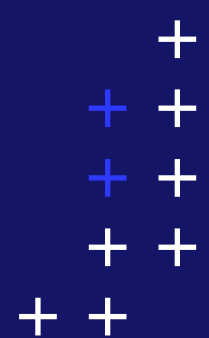
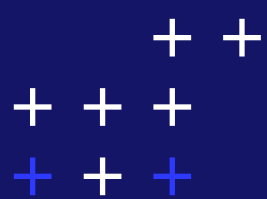


We bring **hydrological expertise** to the table

A **legacy** of excellence

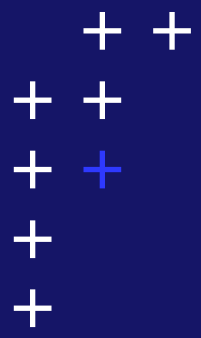
All satellites on a **Sun-Synchronous Orbit (SSO)**

A demonstrator for a start, **and then a constellation**

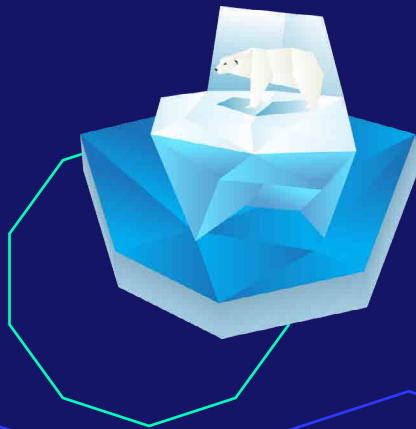


High-revisit hydrological space infrastructure

# Inland water level measurement stations made global and affordable



**What is a virtual station?**  
A virtual station is located at the crossing between satellite tracks (500km intertracks with 2 satellites, 300km intertracks with 10 satellites) and water bodies and will measure the water height of the exact same water body on a daily basis.



**What is the potential number of virtual stations?**  
Up to 50 000 virtual stations will provide daily water level measurement data around the world with a constellation of 10 nanosatellites. Long term, we want to reach the number of 80 nanosatellites in orbit to maximize global geographic coverage of the virtual stations network.

**BWI constellation economic advantage**  
Ground measurement stations cost approximately 5.000€ per year. One virtual measurement station costs approximately 250€ per year, assuming a global network of 30.000 virtual stations. The BWI constellation divides existing freshwater height monitoring costs by a factor of 20!



## A necessary space infrastructure

### Scale on-demand

Every 24 hours for ascending and descending tracks (separated by ~12 hours).

### Twice a day revisit of a hydrological basin

NRT snapshot of water surface elevations for all the basin (70 min for Congo basin).

### A tool for science for policy-making and for business

The BWI constellation will provide inland water height data for free to the scientific community, and will be made available after subscription to governments and businesses.

