



SPACE

Global GNSS network data provision service

What is GMV's GGRN?

- **GMV's privately owned and operated** Global GNSS Reference Network (GGRN).
- **40 GNSS reference stations.**
- **Triply redundant** GNSS reference stations.
- Stable timing reference thanks to **Atomic Frequency Standards.**
- Data centralized within **two redundant physical data centers** on different continents.
- **Multi-constellation and multi-frequency** GNSS navigation and observation data.
- **RTCM, RINEX and raw data** provision are supported.

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What makes our service different?

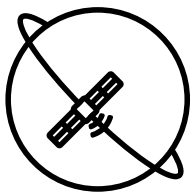
- **Redundancy:** Each of GMV's reference stations has been designed with triple redundancy level for maximizing availability, and guaranteeing a constant data provision.
- **Time reference stability:** Some of GMV's reference stations are equipped with Atomic Frequency Standard technology with the aim of providing a stable time reference, for the most demanding GNSS applications.
- **Security:** Independent security layers, including anti-tampering measures have been implemented within each station to enable the usage of data for safety critical applications.

What does the service provide?

- GNSS Observations in RTCM-MSM7 format.
- Consolidated GNSS Ephemeris in RTCM format.
- Raw Navigation data in SBF format.
- On-demand GNSS Observations in RINEX format.
- Station monitoring notifications to contribute to service planning.



Applications & uses



PRECISE ORBIT DETERMINATION



GNSS PERFORMANCE MONITORING



REAL-TIME ENVIRONMENTAL MONITORING



ASSISTED GNSS DATA SERVICES