

ORB

Ominous Rebroadcast

Facts and figures booklet



PROVIDING EASY TO RECEIVE SATELLITE IMAGERY IN EUROPE AND AFRICA

The Ominous Rebroadcast (ORB) system brings timely weather satellite imagery in an innovative, reliable and easy to use way

Traditionally, the preferred method of data dissemination from geostationary satellites has been via L-band rebroadcasts from the same satellites that hosted the imaging and sounding sensors. Systems included the analogue WEFAX, and later the digital LRIT and HRIT systems. Many amateurs and professionals are familiar with these systems, and many around the world still receive them on a daily basis.

However, European and African amateurs are not so lucky. After a power amplifier failure on Meteosat-8, the transmissions from geostationary satellites were moved on the EUMETCAST system and eventually, the LRIT and HRIT services on the

subsequent Meteosat satellites were terminated in 2018.

While EUMETCAST is, on paper, a good supplement to L-band systems, it lacks the ease of use and general availability of them.

ORB aims to restore an easy to receive, easy to use and reliable way to receive geostationary weather satellite data in Europe and Africa, while also improving on the legacy L-band systems.

Our aim is also to provide timely weather information to locations where Internet access is not available, such as boats, mountain refuges and many more.

PRODUCTS, APPLICATIONS AND BENEFITS

ORB rebroadcasts data from geostationary weather satellites in an easy to receive way, enabling reception with minimal effort

MULTI-PURPOSE TRANSMISSION

ORB can not only transmit satellite imagery, but also other data that is useful for weather forecasting, disaster monitoring and safety.

Data is acquired from a variety of sources, including Elektro-L geostationary satellites and national weather agencies.

EASY TO RECEIVE

The signal is broadcast in the Ku-band and it is designed to be received with a standard TV satellite dish of small diameter and standard TV LNB. A simple and inexpensive software defined radio and a small computer, or even a smartphone, completes all that is needed at the user's ground station. There is no need to purchase expensive hardware or order a licensing key, nor to register the station.

AVAILABLE EVERYWHERE

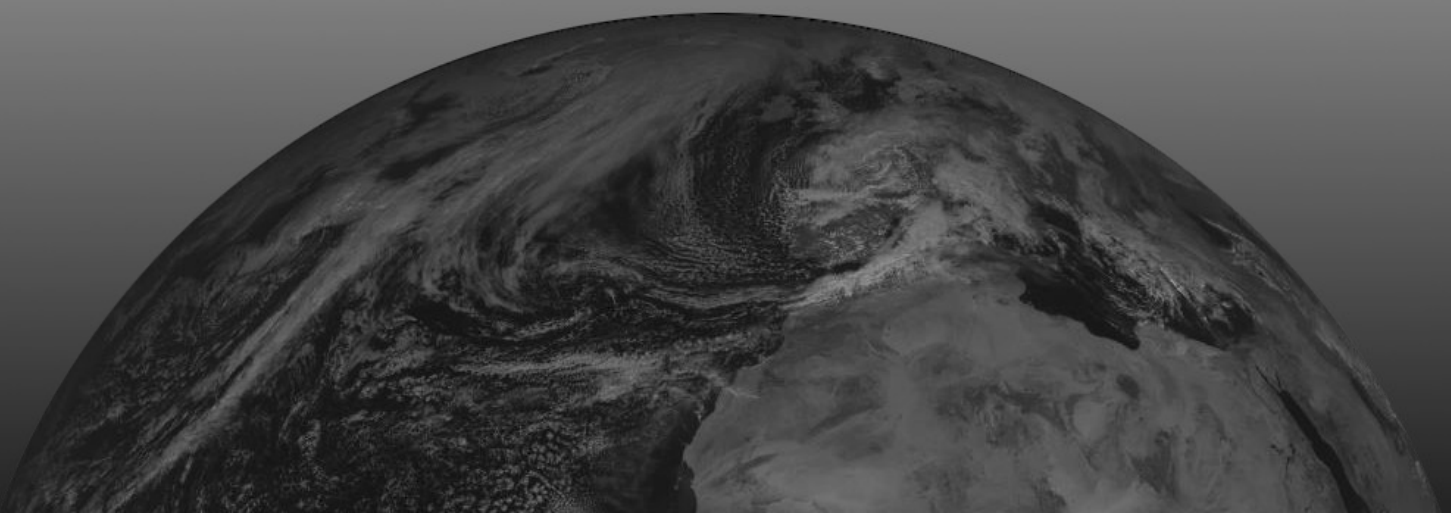
Any user located in the footprint of the Es'Hail 2 (QO-100) satellite can receive ORB, even on the go or without the Internet.

OPEN SOURCE, OPEN DATA

We believe weather satellite data should be free to use with no licensing restrictions, as the lives of people may depend on its availability. ORB is built around open source software, its specification is freely available and the data broadcast is public domain.

FUTURE PROOF

ORB is extensible and can carry many types of data. No changes are required at the user's ground station beyond a simple software update.

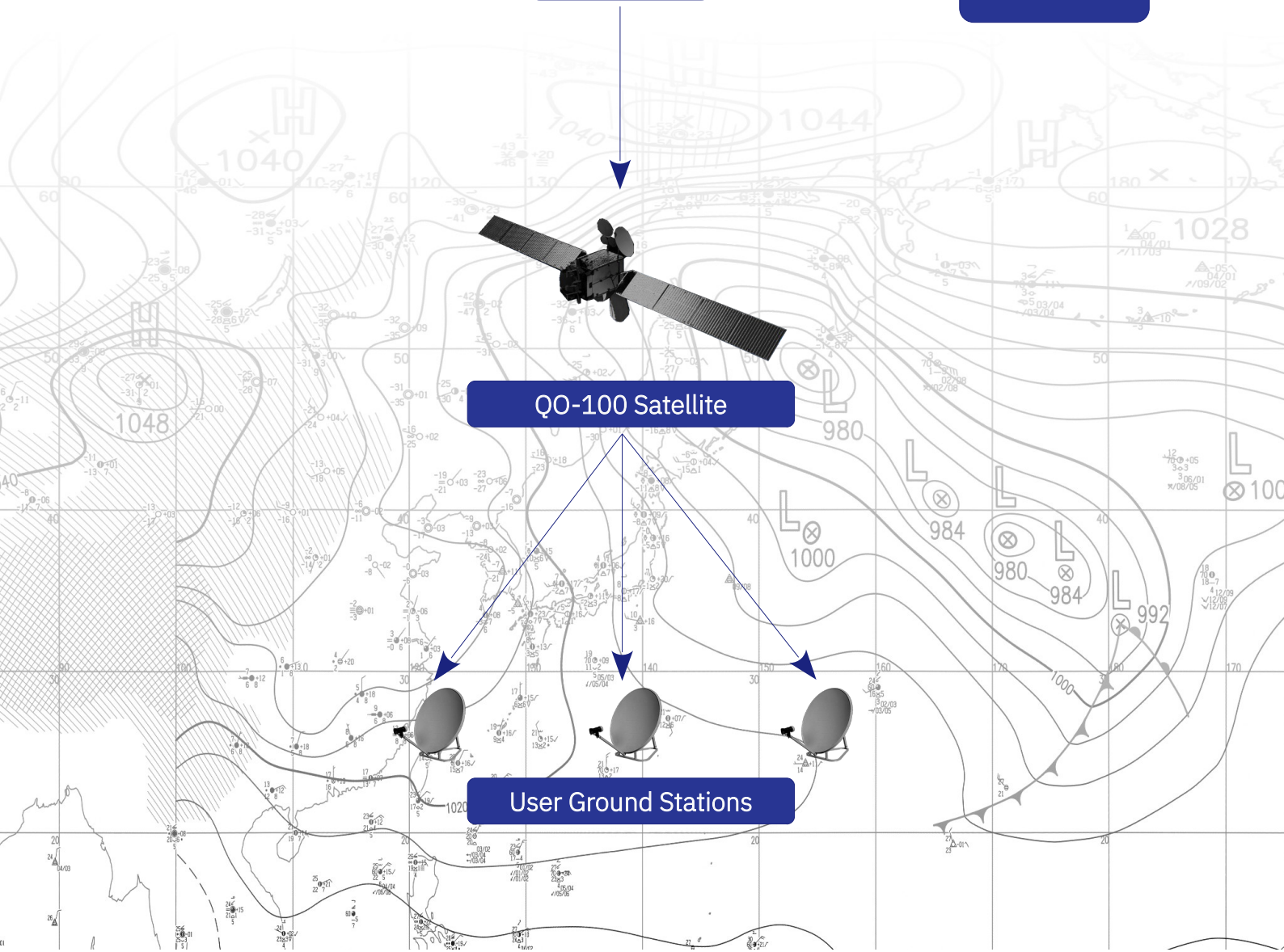
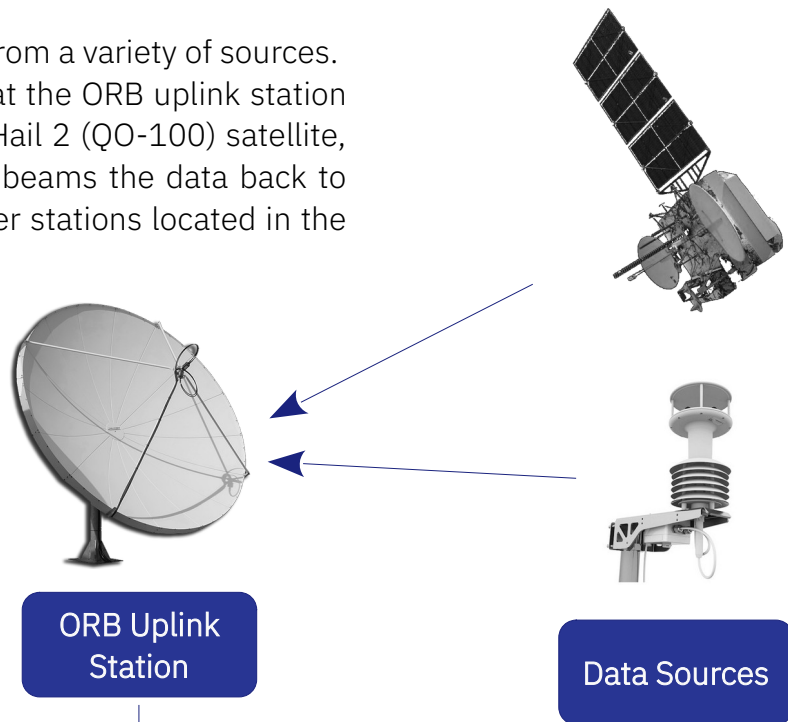


DATA FLOW

ORB leverages existing infrastructure to provide its service

Source data for ORB is collected from a variety of sources. After acquisition, it is processed at the ORB uplink station to be then transmitted to the Es'Hail 2 (QO-100) satellite, where its wideband transponder beams the data back to Earth, ready to be received by user stations located in the satellite's footprint.

This provides extensive range and covers the entirety of Europe and Africa (Svalbard islands excepted) at minimal cost and with maximum readiness. ORB is designed and ready to be deployed on other commercial satellites for more extensive coverage.



ORB coverage area



THE SATDUMP PROJECT



www.satdump.org

THE DEVELOPERS OF ORB



Aang23
Crosswalkersam
lego11
Zbychu