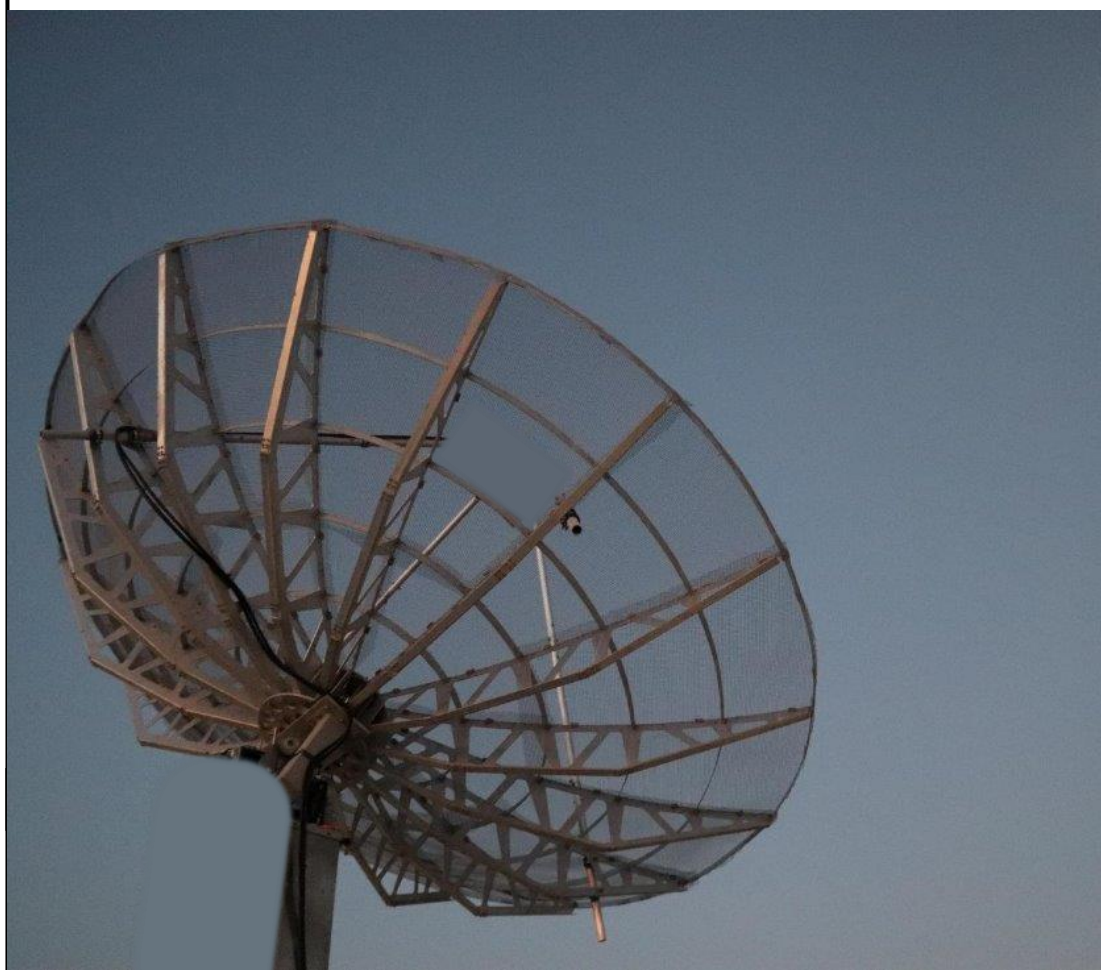


SGRS-12P

UHF/S-Band GROUND STATION
for Sovereign Earth-Observation capabilities



Company Overview Presentation

[SatRev](#) (prev. SatRevolution) is a pioneering NewSpace company based in Wrocław, Poland, offering complete nanosatellite systems and solutions, aimed at Earth-Observation services.

To date, [SatRev](#) has manufactured 18 satellites, where 16 of them were operated by the company on the Low Earth Orbit. As a leader in the Polish space industry, [SatRev](#) is dedicated to providing space sovereignty by democratizing access to Earth-Observation systems worldwide.



Summary of past and planned SatRev missions

SatRev has undertaken a number of missions and projects, including:

On-going mission: 6U XL standard satellite with optical payload designed for blue carbon monitoring. Launched 14th January 2025 with SpaceX Transporter-12 mission.

[SOWA-1](#)

6U CubeSat platform scheduled to launch in Q2 2025 with PSLV rocket. Earth-observation enabled satellite with dual optical payload, multispectral capability, on-board AI and image processing, and capacity for external payloads. In-orbit and downstream Earth-observation services.

[STORK Constellation](#)

A family of 7x nanosatellites in 3U standard with in-house made optical payload, launched in years 2021-2023. STORK is a pioneering, cost-efficient platform with medium resolution capabilities, pathing way to reach REC – Real-time Earth-observation Constellation project.

[SW1FT](#)

Innovative Earth-observation shared service mission deployed in April 2022. This 3U form-factor CubeSat provide space and capacity for rapid in-orbit demonstration and services for external payloads.

[LabSat](#)

3U CubeSat platform for in-orbit scientific experiments, launched in January 2022 by SpaceX Transporter-3 mission.

[SteamSat-1](#) and [AuroraSat-1](#)

CubeSat based technology demonstrators for SatRev's customers, scheduled to launch in 2020 and 2021 respectively.

[AMICal Sat](#)

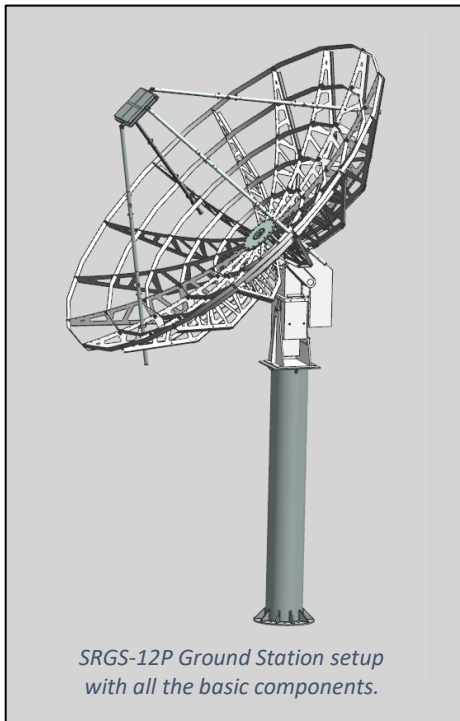
CubeSat based scientific mission designed for Auroras observations and studies. Payload provided by Grenoble University Space Centre (CSUG), launched in September 2020 by Vega small satellite mission service.

[KRAKsat](#)

1U CubeSat based Attitude control Proof of Concept. Experimental ferrofluid reaction wheel. Co-developed with AGH & UJ Universities. Deployed from ISS on July 3th 2019.

[Światowid](#)

SatRev's technology demonstration and first in house designed and developed Polish Earth Observation satellite. 4.6m GSD imaging capabilities. Deployed from ISS on July 3th 2019.



SGRS-12P GROUND STATION

SatRev's Ground Segment is a fully autonomous system that enables you to control satellite communications and transfer data from/to orbit.

Operating in UHF and S-Band to provide the connection, operations and data link for complete sovereign operations and assured communications access to satellites with short re-visit times and maximized data collection.

The implemented UHF subsystem provides redundant TT&C while S-band is used for data downlink.



Capabilities

With SRGS-12P you can:

- Track and communicate with LEO satellite
- Send and receive narrowband RF data in UHF
- Receive reduced bandwidth DVB-S2 data on S-band



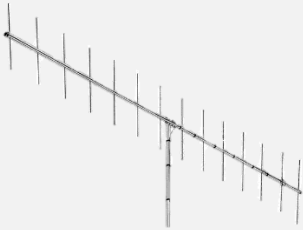
Applications

- Provision of space-based services and data
- Technology demonstration and development
- Supporting Earth-Observation systems
- Scientific research



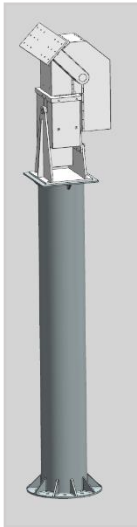
PLATFORM SUBSYSTEM DETAILS

Antenna Type

	
D-3.00M-3000A Prime Focus Mesh Satellite Dish Antenna	Y-3,0M-220A Yagi-Uda Antenna (optional)

Dimensions	3 m (diameter)	3 m x 0,4 m
Optimized for	2250 MHz	401 MHz
Frequency range	2000 MHz to 2300 MHz	400 MHz to 404 MHz
Polarization	RHCP	linear
Gain	32 dBiC	16 dBi
HPBW	3°	30°
Weight	60 kg	1 kg
Max Velocity	15°/s	15°/s
Max Acceleration	2.5°/s²	2.5°/s²
Max Wind Speed	100 km/h	120 km/h
Operating Temp.	-20°C to +55°C	-20°C to +55°C
Weatherproof	Yes	Yes
Connector Type	N Female	N Female

COMPLEMENTARY EQUIPMENT



SRR-420 Antenna Rotator

- Rotator configuration: X/Y
- Control software: SatRev software
- Max rotation speed: 9°/s
- Max acceleration: 2,5°/s²
- Max torque: 420 Nm
- Max holding weight: 100 kg
- Operating temperature: -20°C to +55°C
- Weatherproof: Yes
- Control interface: fully remote with source code
- Power consumption: 2.2 kW @230 VAC

SatRev Radio Set
GS-US-12-1A SDR
with High Power Amplifier

Advanced software-defined radio system designed for versatile satellite applications. It features a high-power amplifier to enhance signal strength and reliability, making it ideal for satellite communication use in various fields such as Earth Observation or IoT.

UHF – Signal Frequency	▪ TX frequency: 401,050 MHz ▪ RX frequency: 401,100 MHz ▪ RX/TX modulation: FSK 9600 bps, FEC3/4 RS ▪ Class of emission: 9K60 F1D CN
UHF TX	▪ Power EIRP: 7 dBW ▪ Power density: -32 dBW / Hz ▪ Antenna gain: 13 dBi ▪ Half pow. beam width: 35 deg. ▪ Polarization: RHCP ▪ Data rate: 9600 bps ▪ Filtering: 5-pole interdigital cavity filter
UHF RX	▪ System NF: ~ 2 dB (factor dependant) ▪ System noise temp. : 200K (factor dependant) ▪ Radio frequency stability , 1 ppm
S-BAND Modulation Schemes	DVB-S / DVB-S2 Receiver: ▪ QPSK FEC: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 ▪ 8PSK FEC: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 ▪ 16APSK FEC: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 ▪ 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
S-BAND Other Features	▪ ACM, VCM, Multi Input Stream ▪ Symbol rate: 200-45000 kSym/s ▪ Input filter ▪ Narrowband 5 section cavity filter ▪ Bandwidth: 40 MHz ▪ Insertion loss: 1dB

SATREV

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New perspectives from space.