

REMOTE SENSING APPLICATIONS AND SERVICES

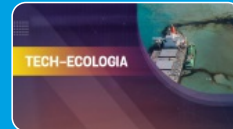
GGPEN offers the most modern technological solutions for detection and asset monitoring in the Remote Sensing domain.

TECH-GEST is a solution that uses updated, high-resolution satellite imagery and drones, aligned with artificial intelligence for building infrastructure monitoring and asset management. The solution was categorized as excellent on top 100 of the best projects in the world in artificial intelligence.

TECH-AGRO is an application for monitoring and mapping agricultural fields, automatic identification of types of crops, and estimating harvest productivity.

TECH-ECOLOGIA is a solution that uses satellite imagery to detect, monitor, and provide evidence for Oil spills and slicks in the sea.

TECH-MINAS is a solution that uses artificial intelligence on satellite images to support and monitor mining activities, planning, location of minerals, and mapping mining hotspots.



OTHER SERVICES

- Support in environmental impact assessment;
- Provision of digital elevation models;
- Provision of satellite and drone images (optical, radar and orthophoto, 30 cm, 50 cm and 1.5m);
- Training in remote sensing and GIS techniques;
- Creation of thematic maps;
- Creation of WebGIS applications;
- Urban planning: monitoring the construction of transport infrastructure;
- Monitoring the growth and development of infrastructures;
- Monitoring areas of interest.



BENEFITS

- Optimization in the use of resources;
- Reduction of operating costs;
- Added value in service provision;
- Competitive prices;
- Increases productivity.

PRODUCTS AND SERVICES OF THE NATIONAL SPACE PROGRAMME

PARTNERS



CLIENTS



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GGPEN

The National Space Program Management Office (GGPEN) was created under the presidential decree n° 154/13 of October 9 to manage and monitor the development of the National Space Program and is superintended by the Ministry of Telecommunications, Information Technology, and Social Media.

ANGOLAN SPACE PROGRAM

Angola has successfully launched a government high-throughput Communications Satellite (HTS), named Angosat-2, which is currently supplying satellite communication services to the major telecommunications operators in the African continent and contributing to minimizing the digital divide.

Moreover, Angola is actively using different remote sensing applications integrated with Artificial intelligence to support the different sectors of the Angola economy, such as construction, education, agriculture, oil and gas, and mines. Thus, using space technology to support the Angolan Government and the African continent with socio-economic development and accelerating the implementation of the United Nations 17 Sustainable Development Goals (SDG).

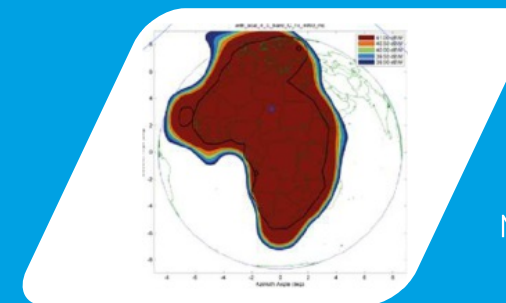
CONECTA ANGOLA

The Conecta Angola project was launched on 13 June, during the official opening of ANGOTIC 2023, and aims to boost startups, micro, small and medium-sized companies using the signal provided by ANGOSAT-2. This project provides a kit made up of an antenna, modem, wireless device and access management and billing system, enabling internet services to be provided in more remote areas.

ANGOSAT-2 SPECIFICATIONS AND COVERAGE AREAS

ANGOSAT-2 is optimized for clients operating broadband data, telecommunications, and backhauling services.

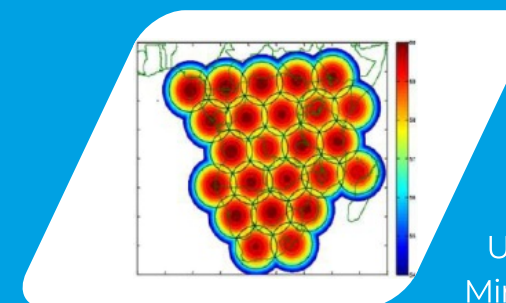
The satellite is operated at a Mission and Control Center in Luanda, with an NOC (Network Operating Center) team available 24/7.



EIRP C BAND

C BAND

Transponders: 6, each 72 MHz, covering Africa & Europe
Frequency Range:
Downlink 3694 – 4166 MHz, RHCP circular polarization
Uplink: 5919 – 6391 MHz, LHCP circular polarization
Minimum EIRP: 41 dBW and G/T of Transponders: -5.5 dB/K



USER EIRP HTS KU BAND (dBW)

Ku BAND - HTS

Spot Beams: 24, each with 112.5 MHz for Forward link and q108 MHz for return links.
Frequency Range:
Downlink: 10950 – 11200 MHz
Uplink 14000 – 14250 MHz
Minimum Beam EIRP: 55 dBW and G/T: 7.3 dB/K
Polarization: Linear (V&H)
Coverage Zones: All Southern Africa & part of Central and East Africa
Operation Mode:
Ku band TWT at 3 dB OBO for the forward link
Ka band TWT at 5 dB OBO for the return link.

Ka BAND – HTS Gateway

Spot Beam: 1 with size of 3000 MHz,
Downlink Frequency Range: 17300 – 18800 MHz
Uplink Frequency Range: 27.5 – 28.5 GHz & 30.0 – 30.5 GHz
Minimum Beam EIRP: 59 dBW and Beam G/T: 17.4 dB/K
Polarization: Circular (RHCP & LHCP)
Converge zone: Luanda