

SANSA

SPACE OPERATIONS

Utilising space science and technology for the benefit of humanity, bringing together diverse skills, expertise and perspectives in pursuit of a greater goal

SANSA Space Operations maintain exceptionally high service standards in an industry with little margin for error. Our 50-year track record of successfully supporting clients to complete their space missions and stakeholders to apply satellite technologies in all spheres of daily living for people across the African region, speaks for itself.

SANSA Space Operations, formerly the CSIR Satellite Applications Centre (SAC), became a directorate of the South African National Space Agency (**SANSA**) on 1 April 2011

SANSA's consolidation of South Africa's primary space entities has integrated the country's competence and expertise in satellite applications, engineering, earth observation and space science into three directorates:

Space Operations, Earth Observation & Space Science

Expertise

Since the advent of the space age in 1957, South Africa established a reputation for accuracy and reliability in the international space community. Today, **SANSA** is using the benefits of space science and technology to help grow and develop the African region

Stationed at the Hartebeesthoek ground station with its excellent infrastructure, cutting-edge communications, the exceptionally skilled operations team at **SANSA** Space Operations specialise in all aspects of space mission support, satellite operations, ground segment construction and hosting.

The journey started in 1960 when Hartebeesthoek became one of NASA's 14 similar Satellite Tracking and Data Acquisition Network (STADAN) stations established around the globe. Since 1982, the Hartebeesthoek team has supported more than 300 successful launches.

Services

Discovering new solutions, encouraging innovation, building alliances, expanding the frontiers of knowledge, this is the launch pad for our journey into tomorrow.

SANSA Space Operations manages and maintains more than 20 antennas and a number of ground stations at Hartebeesthoek. This includes nine full-motion TT&C antennas and five remote sensing systems across all frequency bands and in S-band for mobile support.

We offer:

- Applied research, development and innovation in key space operations and applications.
- Spacecraft launch, life-cycle, emergency, TT&C, TOC, IOT hosting and carrier monitoring services.
- Systems and radio-frequency engineering
- 24/7 project management and maintenance
- Antenna and ground station installation (procurement, import, logistics, soil testing, civil, electrical, HVAC works, construction, integration, acceptance testing and commissioning).



science
& technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



SANSA

SPACE OPERATIONS

Through innovation and foresight, we are expanding knowledge, fostering new technologies and developing space applications that will benefit society as a whole

NEW KU-IOT

The eagerly-awaited new Ku-IOT antenna has been completed. This facility consists of a new 10m Ku-DBS band antenna and an equipment room, outfitted with IOT equipment and infrastructure.

This Ku-IOT antenna has been procured in response to the growing demand by satellite owners for ground facilities essential to test the in-orbit communications performance of new geostationary satellites.

The Ku-IOT is a limited motion antenna. It has Ku-band up and downlink, as well as DBS band uplink capability.

Uplink performance is specified at an EIRP of 85dBW and downlink performance at better than 35 dB/K.

The antenna has been linked with **SANSA** Space Operations' new IOT facility once the facility has been completed.

South Africa is in an ideal position to assist satellite operators in the qualification and commissioning of their new satellites as we have a relatively radio quiet environment and a good geographic position. SANSA SO also has many years of experience and knowledge in the execution of IOT's.

The facilities will have a useful life stretching beyond the next ten years and will be upgraded continuously to ensure the best possible service for the international space industry.



Our History

This **SANSA** facility has years of experience and knowledge in the execution of IOT's.

In 2013 we supported the NASA LADEE launch. Using the 12m antenna as the size of the antenna creates more gain and reduces the risk to the mission.

In April 2011, SAC became part of South Africa's newly national space agency, **SANSA**, as its Space Operations Directorate.

During 1989, the Hartbeesthoek SRSC became the Satellite Applications Centre (SAC) in a CSIR-wide re-organisation.

Since 1984, the Hartebeeshoek facility has supported more than 450 successful launches, Space craft supports and In Orbit Tests.

The ground station at Hartbeesthoek was established in 1960 as one of NASA's 14 similar Satellite Tracking and Data Acquisition Network (STADAN) stations used to track and receive data from Earth-orbiting satellites.

Contact Us

SANSA Space Operations at Hartebeesthoek
Tel. +27 (0)12 334 5000 Fax. +27 (0) 12 334 5001

Email. information@sansa.org.za

Web. www.sansa.org.za

GPS. 25° 53' 07.809700" S - 27° 42' 24.989470" E



science
& technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

