

# Why Invest in Space

OUR IMPACT is derived from our national capacity, experience and expertise in space science and technology through six thematic focus areas:

- **Earth Observation** - SANSa collects, assimilates and disseminates Earth observation data to support South Africa's policy making, economic growth and sustainable development initiatives. Earth observation data is used for human settlement growth mapping, infrastructure monitoring, as well as disaster and water resource management. Earth observation satellite data contributes to monitoring environmental variables in the water cycle such as water quantity, quality, soil erosion and vegetative health which ensures water safety and security for the country.
- **Space Operations** - SANSa provides global competitive space operations and applications, tracking, telemetry and command services while managing ground stations for international clients. Space Operations provides world class launch support for space missions (from Earth into our solar system) and ensures satellites are continuously monitored when they are travelling over African skies.
- **Space Science** - SANSa conducts cutting edge space science research, development and magnetic technology innovation. Space science research is vital for gaining a deeper understanding of our space environment in order to protect essential infrastructure such as power grids and communication and navigation systems on Earth and in space. SANSa operates the Space Weather Regional Warning Centre for Africa, providing forecasts and warnings on space weather conditions. Extreme space weather may impact technological systems such as satellites, power grids, avionics and radio communication.
- **Space Engineering** - SANSa aims to provide access to state-of-the-art satellite assembly, integration and testing services, as well as satellite systems coordination and development, to ensure an environment conducive to industrial participation in satellite programmes.
- **Human Capital Development** - SANSa aims to advance human capital development to grow the knowledge economy and create awareness about opportunities in engineering, science and technology. This is achieved through scarce skills development, summer and winter schools, the supervision of MSc and PhD students, and teaching at partner universities.
- **Science Advancement and Public Engagement** - SANSa promotes science advancement and public engagement through participation in national science awareness events and through using the fascination of space to drive a greater uptake of studies in science, maths, engineering and technology.

In a country faced with numerous challenges in housing, crime, poverty and the provision of basic necessities, you may ask why invest in space?

**The answer is clear.**

**Space investment is essential for economic sustainability and development!**

Without space applications we would not be able to mitigate disasters or effectively manage our resources such as water, food, land and housing. Mobile phones, internet, GPS, ATMs, meteorological forecasting and safe land and sea travel all rely on satellites positioned in space. Government, industry and academia also rely on space data to deliver on their priorities through the creation of applied knowledge, products and services.

SANSa provides value-added products and services that are utilised in both space and non-space applications. Space information enables everyday decision making at all levels of society. SANSa has contributed towards goals within the National Development Plan (NDP) and the goals of the Department of Science and Technology (DST) by delivering products and services to its stakeholders and the public.

South Africa's next earth observation satellite is an example of one of these deliverables and is also one of the incredible opportunities to showcase the importance of investment in space science, engineering and technology and for South Africa to take its place in the global space arena.



SANSa provides state-of-the-art ground station facilities and services including satellite tracking, launch support, mission control and space navigation.



Satellite imagery helps manage food and water security as well as natural disasters on Earth like floods, droughts and fires.



SANSa monitors the Earth's magnetic field and space weather storms to assist in protecting technology on Earth and in space.

 @SANSa7

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