

59TH SESSION OF THE SCIENTIFIC AND TECHNICAL COMMITTEE (STSC)

SOUTH AFRICA

AGENDA ITEM 7

*MATTERS RELATING TO REMOTE SENSING OF THE EARTH BY SATELLITE,
INCLUDING APPLICATIONS FOR DEVELOPING COUNTRIES AND MONITORING
OF THE EARTH'S ATMOSPHERE.*

Chairperson, Distinguished Delegates

A key factor in sustainable development is the knowledge and understanding of the nature and dynamics of existing resources so that appropriate management strategies can be formulated. Remote sensing satellites provide more frequent information on the effects of changing climate and weather patterns, as well as human activity, on a variety of critical resources such as land, water and air. Such monitoring allows for the rapid assessment of the impact of various policies, to enable changes where necessary. To date, South Africa has launched seven locally manufactured remote sensing satellites, and my delegation is pleased to present a brief update on the latest satellite launch.

Chairperson,

As previously reported in our country statement, a constellation of 3 locally manufactured nanosatellites were launched earlier this year. Manufactured by the Cape University of Technology (CPUT), the Maritime Domain Awareness satellite constellation (MDASAT-1) is a constellation of nanosatellites that will provide cutting-edge Very High Frequency Data Exchange Communication Systems (VDES) to the maritime industry, as a contribution to Operation Phakisa; a national initiative to unlock the economic potential of South Africa's oceans.

MDASat-1 mission will be an operational nanosatellite constellation with an envisioned future extension that will detect, identify and monitor vessels in near real-time within South African and global oceans to aid in maritime domain awareness.

For the purpose of this space mission, the South African user community for MDASAT-1 will comprise users of the National Oceans and Coastal Information Management System

(OCIMS), and mission objectives have been defined to best augment data delivery to the OCIMS Integrated Vessel Tracking (IVT) Decision Support Tool, within the technical and programmatic constraints of the system.

The constellation will act as an enabler to demonstrate and mature other services that are as yet not economically feasible via satellite communication due to inherent high costs. This is made possible through the reconfigurable communications payload (software-defined radio) at the core of the technology that will allow remote data exchange (rural connectivity) and in-situ monitoring applications using the same constellation.

Although the constellation will have worldwide coverage, the initial ground segment will be based in South Africa, to enable the rapid download of maritime data collected over South African waters. Over time, the constellation's services can be extended into other Southern African Developmental Communities (SADC) countries or internationally as needed.

Chairperson, Distinguished delegates

MDASAT-1 is currently being commissioned, and expect full commissioning of the constellation's attitude determination and control system in the coming week, before the commissioning of the payload begins.

In closing, I would like to bring our attention to the geomagnetic storm that that headed towards the Earth last week, affecting several satellites in low earth orbit. We are fortunate and pleased that MDASAT-1 was not affected by such a storm, however, this served as a reminder of the importance of the work that Member States are undertaking in Space Weather forecasting and space weather research, and the impact of these phenomena on our space resources and remote sensing efforts.

I thank you for your kind attention.