

NATIONAL SPACE CONFERENCE 2025

Space for Societal Resilience, Transformation and Intelligence

EVENT PROGRAMME

DATE: 20 – 22 August 2025



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NATIONAL SPACE CONFERENCE 2025

VENUE: CSIR International Convention Centre, Tshwane, South Africa

DATE: 20 – 22 August 2025

DAY 1 20 August 2025 THEME: Space and Socio-economic Resilience	DAY 2 21 August 2025 THEME: Space and Earth Intelligence	DAY 3 22 August 2025 THEME: Space for Transformative Development
08:00 – 08:45 REGISTRATION AND NETWORKING		
09:00 – 10:30 OPENING SESSION	09:00 – 10:30 PLENARY 1	09:00 – 10:30 PLENARY 2
Space for Resilient and Inclusive Societies	Space Intelligence: Earth Observation, AI and Decision-Making	Pathways to a Resilient and Transformative Space Future
10:30 – 11:30 E-POSTERS, EXHIBITION AND NETWORKING BREAK		
11:30 – 13:00 SPECIAL SESSION	11:30 – 13:00 TECHNICAL SESSION 1	11:30 – 13:00 TECHNICAL SESSION 2
Industry Reflections: Pathways to Resilience, Intelligence and Transformation.	Space Engineering, Security and Systems Innovation	Space for Transformation: Public Value and Development Impact
13:00 – 14:30 LUNCH BREAK AND EXHIBITION		
14:30 – 16:00 SHOWCASING SESSION 1	14:30 – 16:00 SHOWCASING SESSION 2	14:30 – 16:00 CLOSING SESSION
SANSA: Space Weather, GNSS and Earth Observation for Prediction and Resilience	Intelligence-Driven Platforms for Smart, Resilient Infrastructure	Highlights and Closing Remarks
16:15 – 17:30 WELCOME RECEPTION	16:00 – 17:30 NETWORKING SESSION	



Space for Societal Resilience, Transformation and Intelligence

The 2025 conference will examine how space-based and Earth observation tools – spanning both upstream infrastructure and downstream applications – can unlock innovative solutions to South Africa’s most pressing challenges, including climate change, energy transitions, food system vulnerabilities, and rapid urbanisation. The event will highlight their role in strengthening public services, enhancing resilience, and accelerating inclusive development.

The three-day programme will follow the conference sub-themes:

- **Resilience:** Day one will explore how space technologies can bolster national capacity and public services in the face of environmental and societal shocks.
- **Intelligence:** Day two will examine the intersection of digital intelligence and space data to improve decision-making and planning across multiple sectors.
- **Transformation:** The final day will focus on inclusive, transformative, and space-driven solutions that support long-term sustainability and development.

In addition to thematic discussions, NSC 2025 will serve as a strategic platform for stakeholders from government, academia, industry, civil society, and youth to exchange knowledge, shape policy dialogue, and drive innovation. It will foster greater collaboration and alignment across national programmes and priorities to build a resilient and intelligent space ecosystem for South Africa.

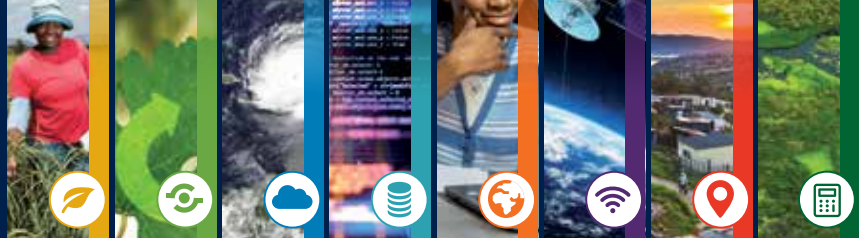
#NSC2025 • #NationalSpaceConf • #SpaceTransformation



DAY ONE: 20 AUGUST 2025

Space and Socio-economic Resilience

08:00 – 09:00	ARRIVAL, REGISTRATION AND WELCOME TEA
09:00 – 10:30	OPENING SESSION: Space for Resilient and Inclusive Societies This high-level session will explore how investments in space science, technology, and innovation can strengthen South Africa's resilience across infrastructure, applications, and public services. Statements will reflect on the broader policy vision for inclusive national development and highlight the critical role of public institutions in fostering equitable access to innovation, data, and space-enabled services. SESSION MODERATOR: <i>Fikiswa Majola</i> – Acting Director, Space Systems 09:00 – 09:30 <i>Safety Moment</i> , CSIR ICC Representative <i>Opening performance</i> , South African Air Force (SAAF) Choir 09:30 – 10:00 OPENING STATEMENTS: <ul style="list-style-type: none">Welcome Address: <i>Mr Humbulani Mudau</i> – CEO, SANSAKeynote Address: <i>Lieutenant General Wiseman Mbambo</i> – Chief, South African Air Force (SAAF)Strategic Address: <i>Dr Thulani Dlamini</i> – CEO, CSIR 10:00 – 10:30 OPENING ADDRESS: <i>Dr Mlungisi Cele</i> – Director General, DSTI GROUP PHOTOGRAPH: Photograph to be taken in plenary room and transition to Exhibition Area
10:30 – 11:30	E-POSTERS, EXHIBITION AND NETWORKING BREAK
11:30 – 13:00	SPECIAL SESSION: Industry Reflections: Pathways to Resilience, Intelligence and Transformation This session offers a strategic industry response to the Opening Ceremony, with insights from both private and public sector leaders across space, defence, energy, engineering, Earth observation, policy, etc. Leaders from both the public and private sectors will share real experiences, lessons, and bold ideas about how innovation in South Africa's space economy is helping tackle urgent challenges while opening doors to global opportunity and identifying the enabling conditions needed to unlock inclusive growth through space-based technologies. SPECIAL SESSION MODERATOR: <i>Ms Tinisha Chetty</i> – NEOSS CoP Co Chair and Centre for Water Resources Research, UKZN <ul style="list-style-type: none">Policy and institutional support for a thriving national space industry <i>Ms Nomfuneko Majaja</i> – Chief Director, Space Affairs, dticNational security imperatives in a growing space domain <i>Major General Mathebula</i> – Deputy Vice Chief, SAAFSouth Africa's sovereign space capabilities <i>Mr O.T. Monaheng</i> – CEO, Denel GroupAdvanced manufacturing and global positioning <i>Mr Bryan Dean</i> – CEO, DragonflyLessons and opportunities from building coordinated space infrastructure locally <i>Mr Ntoshane Mohlamonyane</i> – Strategic Manager to the CEO, SANSAHarnessing Space and Earth Observations to strengthen transmission infrastructure and national resilience <i>Ms Tshisikhawe Mphaphuli</i> – NEOSS EO Infrastructure CoP Co-Chair and Chief Advisor, Geoscience, NTCSADefence industry collaboration and manufacturing innovation <i>Mr Sandile Ndlovu</i> – Executive Director, AMD and CEO, SAAMDEC



13:00 – 14:30

LUNCH BREAK AND EXHIBITION

14:30 – 16:00

SHOWCASING SESSION 1: SANSA: Space Weather, GNSS and Earth Observation for Prediction and Resilience

This session showcases how SANSA's Space Weather and Earth Observation programmes work together to safeguard critical infrastructure. The Space Weather component focuses on the October 2024 geomagnetic storm, which significantly impacted GNSS applications, featuring expert analysis, real-world user experiences, and insights into forecasting tools that protect aviation, power grids, and navigation networks. The Earth Observation component highlights the development of the South African Earth Observation System of Systems (SAEOSS) and the use of autonomous agents to monitor agriculture and natural resources, demonstrating the value of integrated space-based and Earth-based solutions for national resilience.

SHOWCASING SESSION MODERATOR:

Mpho Tshisaphungo – Head of Space Weather, SANSA Space Science

- The Impact of an Extreme Space Weather Storm on GNSS Applications in South Africa
Ms Boitumelo Makobe – Space Weather Forecaster, SANSA Space Science
- The October 2024 Geomagnetic Storm Impact: End User Testimonial
Mr Greg Ritz – Manager, Air Race X Patrick Davidson
- Role of Ground-Based Instruments in Space Weather Monitoring (Regional Impact)
Miss Nkosinathi Masango – Space Weather Forecaster, SANSA Space Science
- Benefits of Informed Decision-Making in the Aviation Industry
Col Mark Wilson – South African Air Force (SAAF)
- Updates on the Development of the South African Earth Observation System of Systems (SAEOSS) Portal
Mr Moloko Sebake – Chief Data Systems Manager, SANSA Earth Observations
- Autonomous Agents for Monitoring Agriculture and Natural Resources
Dr Cecilia Masemola – Principal Scientist, SANSA Earth Observations

16:15 – 17:30

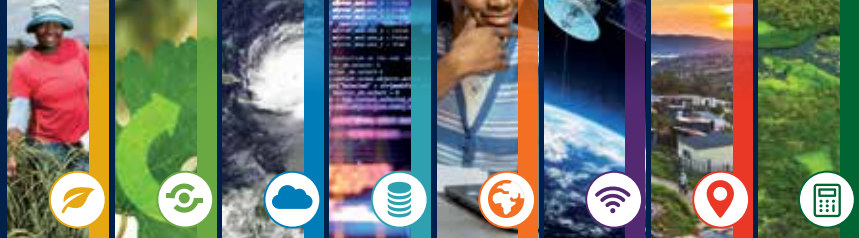
WELCOME RECEPTION – Platinum Sponsor: STAR.VISION



DAY TWO: 21 AUGUST 2025

Space and Earth Intelligence

08:00 – 08:45	REGISTRATION AND NETWORKING
09:00 – 10:30	<p>PLENARY 1: Space Intelligence: Earth Observation, AI and Decision-Making</p> <p>This session explores how cutting-edge space technologies, including Earth observation, AI, and data fusion are transforming evidence-based planning across government, industry, and research. Panellist will discuss how intelligent systems can support more equitable service delivery, responsive governance, and inclusive data access to empower decision-makers at all levels.</p> <p>SESSION MODERATOR: <i>Thongwane Namane</i> – SCS Space</p> <ul style="list-style-type: none">• Eyes in the Sky, Intelligence on the Ground: Enabling Equitable Governance through EO and AI <i>Mr Avin Mansookram</i> – Director, MFTZA• Enabling Impactful Applications with Geospatial Foundation Models <i>Mr Etienne Vos</i> – IBM Research• The Future of Earth Observation: How High-Resolution Satellite Imagery is Transforming Africa's Development <i>Ms Turcia Busakwe</i> – Regional Sales Director: Southern and Eastern Africa, OMEO Space• How to Create the First "Airbus of Africa" <i>Mr James Barrington-Brown</i> – Co-Founder, Newcraft Aerospace• VDES from Space: Leveraging Sovereign Next-Gen AIS 2.0 Capability for Maritime Domain Awareness <i>Dr Rob Van Zyl</i> – Managing Director, Clyde Space Africa• A Sustainable Space Program through Strategic Investment <i>Dr Sias Mostert</i> – CEO, SCS Space
10:30 – 11:30	E-POSTERS, EXHIBITION AND NETWORKING BREAK
11:30 – 13:00	<p>TECHNICAL SESSION 1: Space Engineering, Security and Systems Innovation</p> <p>This session explores the pivotal role of robust space infrastructure and secure operations in driving sustainability, enhancing resilience, and addressing global challenges. Experts will present innovations that improve operational efficiency, strengthen the security and reliability of space systems, and integrate space-based infrastructure with terrestrial networks to maximise societal, environmental, and economic benefits. Presentations will span from advanced engineering solutions and on-orbit AI processing to sustainable innovation ecosystems, offering insights into how space systems can serve as catalysts for long-term resilience and inclusive growth.</p> <p>SESSION MODERATOR: <i>Mr Francois Denner</i> – Director, The Enceladus Group</p> <ul style="list-style-type: none">• Innovation Ecosystems: Lessons in Sustainability from Three Decades of Public Sector EO Service Development in Africa <i>Dr Stewart Bernard</i> – NEOSS Natural Capital Accounting Co-Chair & EO Consultant and Hon Research Associate• Integrating GIS and Remote Sensing for Sustainable Grid in Hydrologically Sensitive Areas of South Africa's Central Grid <i>Mr Sixolise Melapi</i> – National Transmission Company of South Africa (NTCSA), Officer Spatial Data• Science and Technology in Amateur Radio Satellites <i>Mr Hans van de Groenendaal</i> – President, SA Amateur Radio Satellite Association (AMSAT SA)• Space Intelligence for Water Sustainability: The SafiFlow Initiative <i>Dr Mpho Mashego</i> – CEO, Inchub Mpumalanga Centre for Innovation and Entrepreneurship• Edge Computing and AI in Space: The Future of On-Orbit Processing <i>Mr Lancelot Nyachoto</i> – CEO, Kombuta• Commercial Leadership & the Orbital Launch Value Chain in South Africa <i>Mr Frederik de Ridder</i> – CEO, Mura Space



13:00 – 14:30

LUNCH BREAK AND EXHIBITION

14:30 – 16:00

SHOWCASING SESSION 2: Intelligence-Driven Platforms for Smart, Resilient Infrastructure

This session will feature a range of national platforms that harness data, technologies, and innovation to support planning, service delivery, and systems management across sectors. It will highlight efforts to ensure equitable access to these platforms, improve data governance and sharing, and promote inclusive participation in the design and use of space-enabled solutions for public benefit.

SESSION MODERATOR:

Bulelwa Semoli – Director, Land Reform and Rural Development

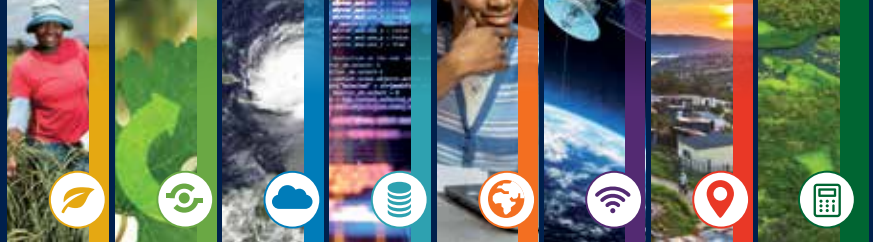
- [Data Centers in Space: Value from Space Applications and Positive Societal Impact](#)
Dr Ayodele Periola – Academic Researcher, Cape Peninsula University of Technology
- [Harnessing Satellite Data: Combating Rabies in Northern South Africa](#)
Dr George Chirima – Natural Resources and Engineering, Agricultural Research Council (ARC)
- [Satellite Water Leak Detection in Bulk Water Pipelines: A Hammanskraal Pilot Project](#)
Mr Obakeng Rankhumise – FieldServe
- [Invasive Alien Plant Species \(IAPS\) Biomass Mapping and Estimation through Geospatial Analytics](#)
Mr Fawaaz Davids – Data Applications Developer, Astrofica Technologies
- [Simulating Disaster Before It Strikes – Earth Observation and AI-Driven Risk Modelling for Climate Resilience in South Africa](#)
Ms Nandi Mtethwa – Engagement Manager, The Research Institute for Innovation and Sustainability (RIIS)
- [Satellite-Derived Assessment of Rangeland Productivity in Blouberg Municipality in a Changing Climate](#)
Mr Theophilus Thembani Mashava – University of Limpopo (Centre for Global Change)
- [SAAF Dashboard](#)
Lieutenant Colonel K. Chetty – SAAF



DAY 3: 22 AUGUST 2025

Space for Transformative Development

08:00 – 08:45	REGISTRATION AND NETWORKING
09:00 – 10:30	<p>PLENARY 2: Pathways to a Resilient and Transformative Space Future</p> <p>This session gathers leading South African professionals, researchers, and innovators to share strategic insights, bold ideas, and actionable strategies for accelerating the country's space science and technology agenda. With an emphasis on industry growth, public engagement, and inclusive socio-economic benefits, the discussion will highlight practical initiatives that are shaping South Africa's space future.</p> <p>SESSION MODERATOR: <i>Dr Abel Ramoelo</i> – Executive Director, SANSA Earth Observations</p> <ul style="list-style-type: none">• The Neo Frontiers Programme as a Catalyst for Earth Observation Industry Development <i>Dr Naledzani Mudau</i> – Data Products and Services Manager, SANSA Earth Observations• Earth Intelligence for Inclusion: Shaping South Africa's Space-Driven Development Future <i>Ms Ndilisa Didiza</i> – Founder and Managing Director, Kgothatso Innovations, and NEOSS Co-Chair• ukuFundiSat Hands-On Satellite Training Course <i>Mr Dirk Slabber</i> – Founder, isiLimela Space Systems• Africa EO Challenges as a Platform for Innovation and Collaboration <i>Ms Maheen Parbhoo</i> – Analyst, The Research Institute for Innovation and Sustainability (RIIS)• Empowering Africa's Future Workforce through the Social and Economic Impact of the MaxIQ Space STEM Programmes <i>Ms Judi Sandrock</i> – Founder and Managing Director, MaxIQ Space
10:30 – 11:30	EXHIBITION, E-POSTER SESSION AND SHORT BREAK
11:30 – 13:00	<p>TECHNICAL SESSION 2: Space for Transformation: Public Value and Development Impact</p> <p>This session demonstrates how Earth Observation and satellite-enabled systems are delivering tangible improvements in service delivery, innovation, and sustainability across South Africa. Focusing on priority areas such as food security, climate monitoring, education, and emergency services, it showcases research and applications that translate space-based data into measurable public value.</p> <p>SESSION MODERATOR: <i>Dr Philemon Tsele Male</i> – Senior Lecturer University of Pretoria</p> <ul style="list-style-type: none">• Leveraging Soil-Property-Aware Reflectance Models for Scalable Soil Moisture Mapping Using Sentinel-2 in Support of Agricultural Resilience in South Africa <i>Ms Yonwaba Atyosi</i> – Candidate Researcher, CSIR• The Use of Sentinel-2 Combined with SAR Remotely Sensed Data in Assessing and Quantifying Soil Moisture Content for Optimisation of Maize Crop Production in Commercial Farming Systems <i>Ms Anela Mkhwenkwana</i> – Student, University of KwaZulu-Natal• Optimising Neglected and Underutilised Taro Crop Water Status Estimations Using UAV-Acquired Thermal and Multispectral Remotely Sensed Data <i>Ms Snethemba Ndlovu</i> – Doctoral Candidate, University of KwaZulu-Natal• Modelling Soil Organic Carbon at Multiple Depths in Woody Encroached Grasslands Using Integrated Remotely Sensed Data <i>Mr Sfundo Mthiyane</i> – Student, University of KwaZulu-Natal• Integrating Remote Sensing and Machine Learning for Ocean Plastic Litter Detection and Monitoring in South African Coastal Waters <i>Mr Tamuka Samuriwo</i> – Doctoral Student, Cape Peninsula University of Technology



13:00 – 14:30

LUNCH BREAK AND EXHIBITION

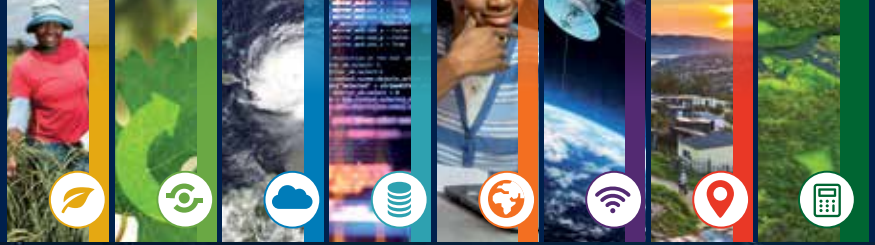
14:30 – 16:00

CLOSING SESSION:
Highlights and Closing Remarks

- National Space Conference Highlights
Adv Lulu Makapela – Manager, National Earth Observations and Space Secretariat (NEOSS), CSIR
- Closing Remarks
Mr Itumeleng Makoloi – Acting Chief Director, Department of Science and Technology and Innovation (DSTI)
- Closing Performance
SAAF Band (one hour)

16:15 – 17:30

NETWORKING SESSION – SPONSORED BY MFTZ



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