

NATIONAL SPACE CONFERENCE 2025

www.spaceconference.co.za

Space for Societal Resilience, Transformation and Intelligence

DATE: 20 – 22 August 2025

VENUE: CSIR ICC, Tshwane, South Africa



science, technology
& innovation

Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA



sa air force

Department:
Defence
REPUBLIC OF SOUTH AFRICA



HIGHLIGHTS

Lulu Makapela

National Earth Observations and Space Secretariat (NEOSS)
“an initiative of the DSTI , hosted and Managed by the CSIR “



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NSC 2025 Support and Collaboration

HOST



Co-organisers



Partners



Sponsors



ALIENS



SIMERA
SENSE



National Space Conference Dashboard



science & innovation
DEPARTMENT OF SCIENCE AND TECHNOLOGY
REPUBLIC OF SOUTH AFRICA



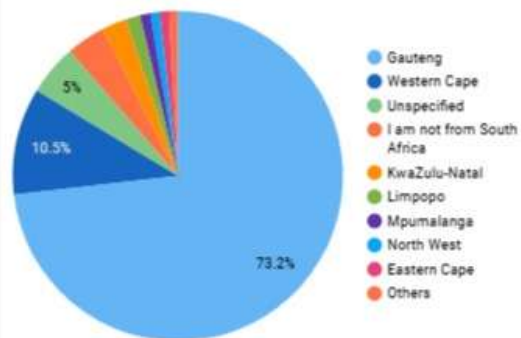
Event: Space Conference 2025

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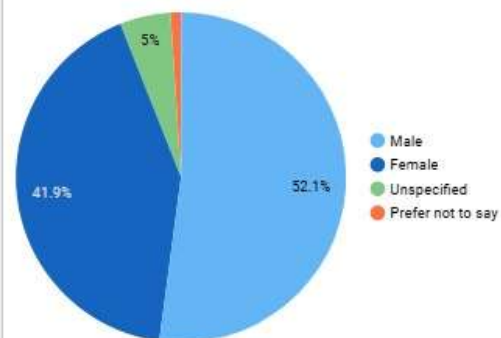
Total Participants

783

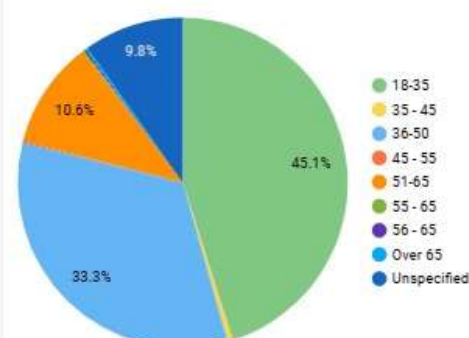
Locations Represented



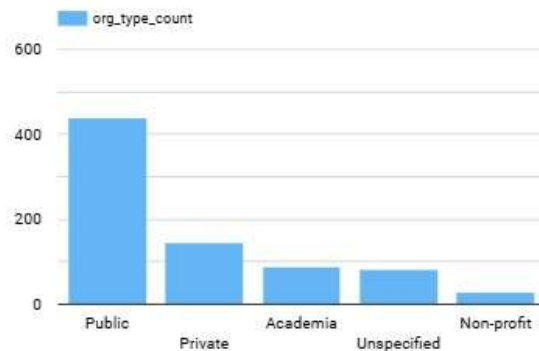
Gender Groups Represented



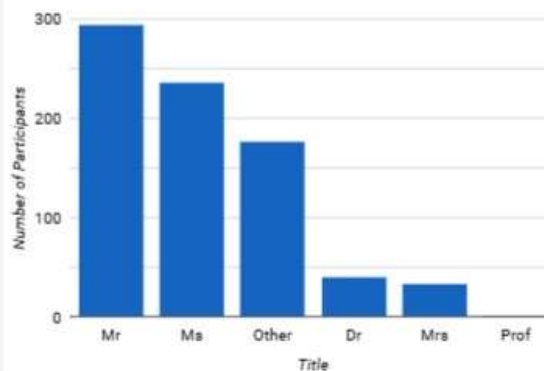
Age Groups



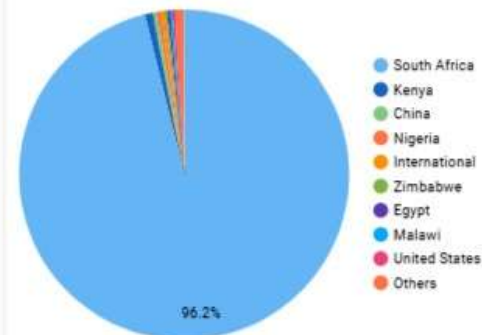
Organisation Types Represented



Participants Title



Participant Nationalities



1

2

3

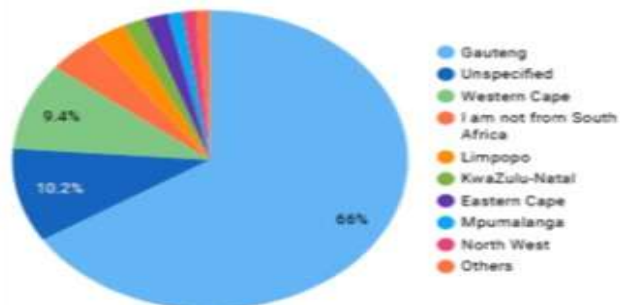
National Space Conference Dashboard



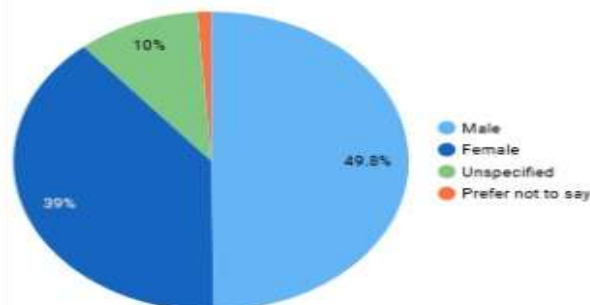
Event

Total Participants
2,628

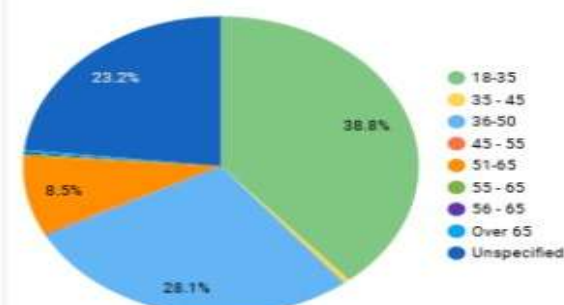
Locations Represented



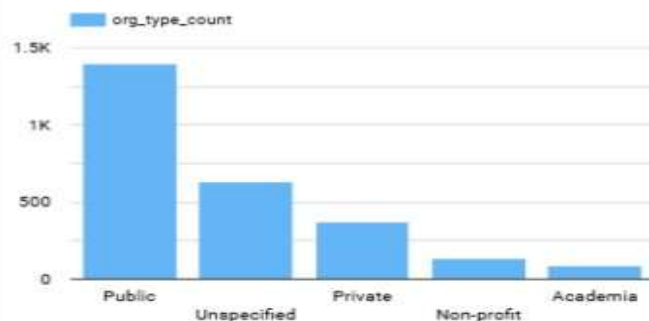
Gender Groups Represented



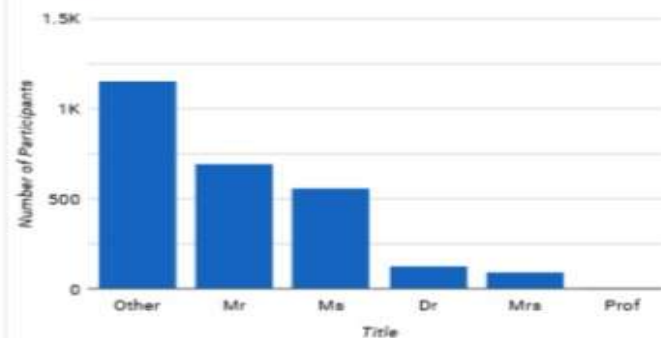
Age Groups



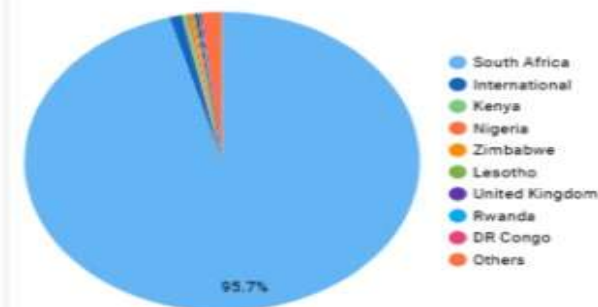
Organisation Types Represented



Participants Title



Participant Nationalities





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NSC 2025 Programme at a Glance

Opening Session

Setting the vision: Space for Resilient and Inclusive Societies

Special Session

Industry Reflections: Pathways to Resilience, Intelligence & Transformation

Showcasing Sessions (x2)

SANSA Space Weather, GNSS & EO (Day 1)

Intelligence-Driven Platforms (Day 2)

Technical Sessions (x2)

Space Engineering, Security & Systems Innovation (Day 2)

Public Value & Development Impact (Day 3)

Plenaries (x3)

Opening Plenary (Day 1)

Space Intelligence: EO, AI & Decision-Making (Day 2)

Resilient & Transformative Space Future (Day 3)

E-Posters & Exhibitions

Daily exhibitions and interactive poster sessions

Welcome Reception & Networking

Reception (Day 1 – STAR.VISION)

Networking Session (Day 3 – MFTZ)



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Opening session

Safety Moment and SAAF Choir

Welcome Address – Humbulani Mudau (CEO, SANSA)

“Earth intelligence... can transform the lives of our citizens and build resilience to climate and geopolitical challenges.”

SANSA to host 6th Space Economic Leaders Meeting (SELM) at G20, September – enabling African participation with G20 space agencies.

Keynote Address – Lt. Gen. Wiseman Mbambo (Chief, SAAF)

Call for sovereign space capabilities to reduce reliance on foreign assets.

Vision: South Africa evolves into a space force protecting national assets & citizenry.

Opening Address – Dr Mlungisi Cele (DG, DSTI)

Science, technology & innovation positioned at the centre of government, society and environment.

Challenge: make space a growth frontier for Africa. Shift from consumers to creators & innovators in space technologies.

Strategic Address – Dr Thulani Dlamini (CEO, CSIR)

CSIR's historic role in industrialisation & space innovation.

Foresight of founding leaders laid foundations for SA's space sector.



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Special Sessions –Industry Reflections

Reflections from DTIC, SAAF, DENEL, Dragonfly Aerospace, SANSA & NTCSA

The dtic: National Space Policy positioned as framework for self-sufficiency, competitiveness & societal benefit

SAAF: National security imperatives: collaboration in a congested & contested space domain

DENEL: Integrate civil & defence initiatives; prioritise youth training for security & growth

SANSA: Reinforced strategic value of national space capabilities, products & services

Dragonfly: SA components contribute to almost every satellite launched globally

NTCSA: practical use of remote sensing to solve infrastructure & operational challenges

Overall: innovation addressing urgent challenges, opening markets, enabling inclusive growth



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Showcasing Sessions (1&2)

SHOWCASING 1 : SANSA SPACE WEATHER & EO

Space Weather & GNSS

- Space weather has global & local impacts (mid-latitudes like South Africa)
- GNSS-dependent industries: aviation, banking, power grids, sports
- October 2024 geomagnetic storm (Kp=9) showed:
 - Significant GNSS disruptions
 - Threats to aviation & communication
 - Need for timely forecasting

Ground-based observation as vital as satellite data
Collaboration across ecosystem critical for resilience

Earth Observation (EO)

South African Earth Observation System of Systems (SAEOSS) development

Integrated data streams for agriculture & natural resource monitoring

Use of autonomous agents to enhance monitoring & forecasting

Demonstrated value of linking space & Earth-based solutions

Turning EO data into actionable intelligence for resilience

SHOWCASING 2 : INTELLIGENCE DRIVEN PLATFORMS

- Showcased EO-based monitoring tools & platform developments
- Tools presented have clear policy & medium-term relevance for:
 - Infrastructure resilience
 - Disaster preparedness
 - Climate adaptation
- Focus on monitoring sovereignty & national security
- Support evidence-based decision-making aligned with geospatial policies & global goals (SDGs, Paris Agreement)
- Highlighted development of a data centre in space to advance digital transformation & secure data governance



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Plenary (1&2)

SPACE INTELLIGENCE

- Cutting-edge technologies – EO, AI & data fusion – transforming evidence-based planning
- Enabling more equitable service delivery, responsive governance & inclusive data access
- AI foundation models reshaping climate forecasting & grid management
- Affordable high-resolution imagery now accessible in Africa (via aggregators like Omnispace)
- Edge computing critical to overcome satellite data bottlenecks → near real-time intelligence
- Maritime resilience key for Africa's economy → VDES/AIS 2.0 vital for trade & security

TRANSFORMATIVE SPACE FUTURE

- Deliberate support for startups & SMMEs to access the space economy
- Demonstrations showed strong progress, attracting wide participant interest
- Need to link national support to pan-African EO initiatives for broader skills & opportunities
- Innovative outreach & awareness essential to develop the future workforce
- Inclusive space economy depends on collaboration & partnerships – sharing resources, experiences & opportunities
- Shared growth is key to building a resilient & transformative space future



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Technical Sessions (1&2)

SPACE ENGINEERING, SECURITY AND SYSTEMS

- Industry leadership is essential – private sector drives, government enables
- Human capital & mentorship are the cornerstone of resilience
- Public–private partnerships unlock growth & sustainability
- Africa's opportunity: build indigenous EO, satellite & launch ecosystems
- Goal: sovereignty, socio-economic benefit & global competitiveness

SPACE FOR TRANSFORMATION

- Transformative power of remote sensing, spectral analysis & machine learning
- Applications across agriculture, environment & conservation
- Improved soil moisture prediction & soil carbon management
- Enhanced climate resilience for smallholder farmers
- Detection of ocean plastic pollution
- Key message: data-driven, scalable technologies optimise resources, support sustainability & enable evidence-based



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E-Posters , Exhibitions , Networking and Closing Session

12 E Posters ,

29 Exhibitions ,

2 Networking sessions,

and Closing Sessions



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Organising Committee

DSTI

Itumeleng Mokōli
Fikiswa Majola
Kaizer Moroka
Lesedi Mogotsi
Muhummad Oumar

SANSA

Asanda Sangoni
Fumani Mdaka
Vaneshree Maharaj

SAAF

Major S Badenhorst
Col. K Chetty
Col. T Thomas-Herwels

CSIR & NEOSS

Nontobeko Zulu
Lulu Makapela
Christelle Taylor
NEOSS CoP Co-Chair
Kershani Chetty
Jessie Ndaba
Athina Kenned



Thank You



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