

NATIONAL SPACE CONFERENCE 2025

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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



SAAF Dashboard

Lt Col K. Chetty
Staff Officer Combat Plans



SHOWCASING SESSION 2

SAAF Dashboard

SHORT BIO

SAAF Strike Navigator

- Operationally qualified Flight Leader on Gripen
- A-Category Instructor
- Aircraft Accident Investigator
- Combat Specialist on Space Command Integrated Planning Team



Lt Col Koobendra Chetty

Staff Officer Combat Plans
South African Air Force



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Introduction

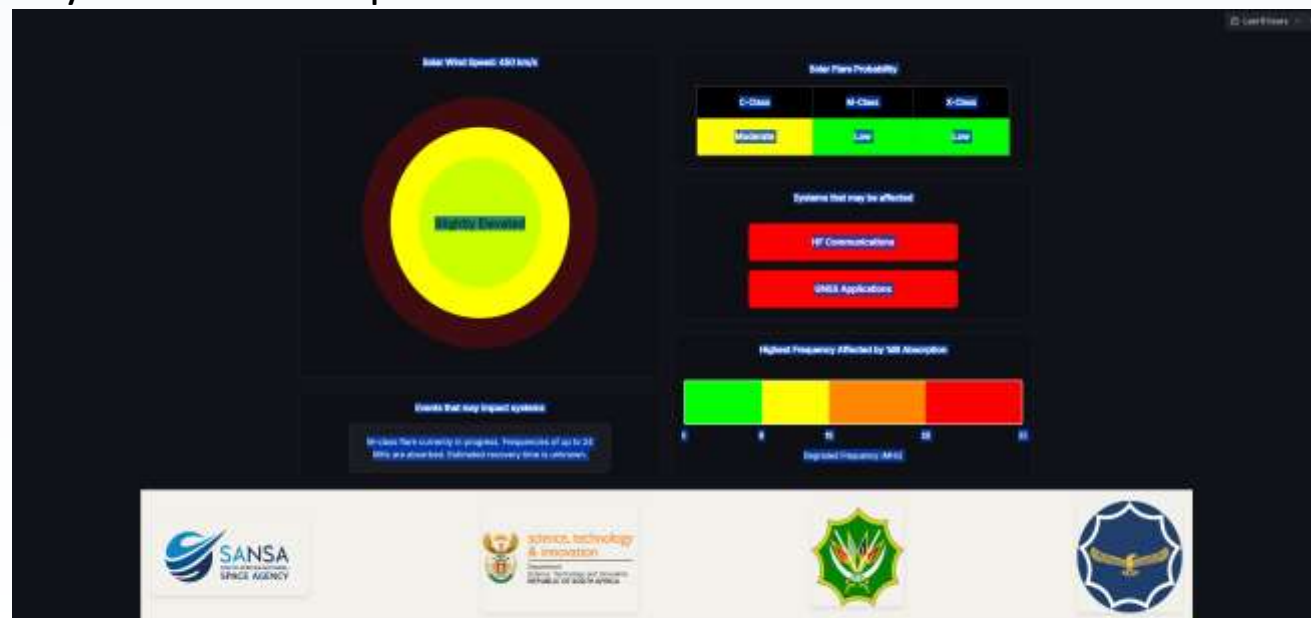
- *Space weather:*
 - Solar flares, geomagnetic storms, cosmic activity
- *Satellite tracking:*
 - Monitoring orbits & preventing collisions
- Critical to national security and defence operations



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Impact of Space Weather

- Disrupts radio communications & GPS signals
- Affects power grids and pipelines
- Risks for aviation safety and satellite operations



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Benefits of Monitoring Space weather

- Early warning of geomagnetic storms
- Protection of critical infrastructure
- Improved safety for aviation and navigation



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Satellite Tracking

Definition

- Monitoring satellite orbits and positions
- Detecting and predicting debris collisions
- Ensuring operational safety of space assets

Benefits

- Avoidance of satellite collisions
- Extension of satellite mission lifespan
- Protection of billion-dollar national assets



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Satellite Tracking

National Security Applications

- Secure military communications
- Missile early warning via satellite sensors
- Monitoring activities of foreign satellites



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Case Study

Africa: South African National Space Agency (SANSA)

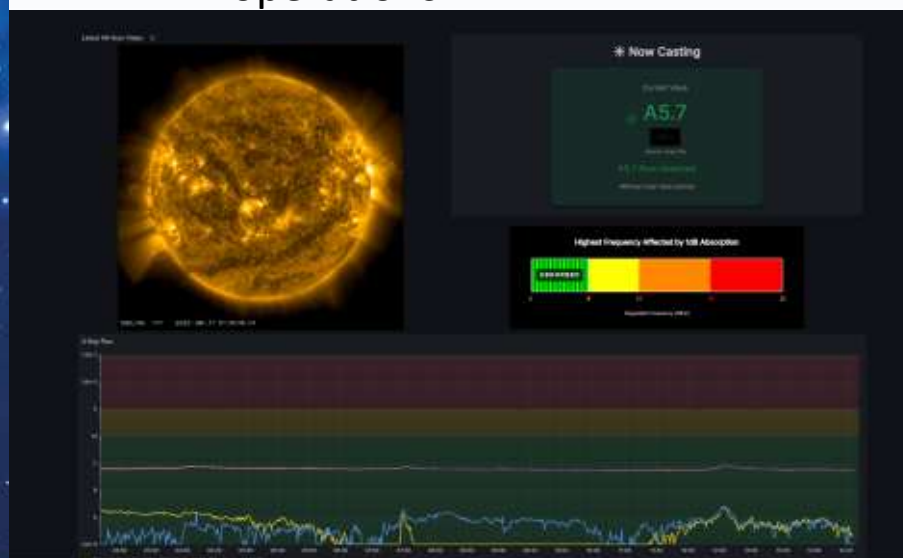
- **Event:** On **7 December 2020**, a significant solar storm occurred, releasing high-energy particles that threatened satellite operations and aviation communications



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Conclusion

- Space weather monitoring protects sovereignty & infrastructure
- Satellite tracking ensures safety & resilience
- Both are vital for national security and economic stability
- It allows the SANDF to respond with agility and ensure security of Military operations



Thank You



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