



EMPOWERING AFRICA'S COASTAL STEWARDS THROUGH SATELLITE MASTERY

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IAF/ UN WORKSHOP, 26.09.2025 SYDNEY



Overview

Why Space for Ocean?

Case Studies: BOTSAT-1 and TANSAT-1

Ecosystem Preservation

Policy Translation

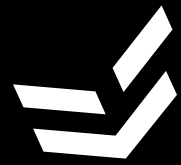
Partnership for Resilience

Challenges and Improvements



Where Celestial Aspirations Meet Terrestrial Commitments

Introducing the “Space for Oceans” initiative—leveraging space technology to protect and restore marine ecosystems in alignment with SDG 14: Life Below Water



Why Space for Oceans?

Marine ecosystems like mangroves, wetlands, and coastal forests are under threat.

Space-based monitoring offers:

- ✓ High-resolution, real-time data, coverage of remote marine regions
- ✓ Long-term ecosystem tracking
- ✓ Enables detection of illegal fishing and pollution events
- ✓ Early warning systems for degradation
- ✓ Supports climate modeling and sea-level rise monitoring





Case Studies

BOTSAT1

Botswana International University of Science & Technology (BIUST) in partnership with EnduroSat launched a 3U CubeSat mission equipped with a multispectral camera for advanced Earth Observation. Over a 15-month period, this mission will enable weather forecasting and landscape monitoring, and a range of environmental applications critical for sustainable development.

TANSAT1

This mission harnesses a 1U CubeSat equipped with M2M/ IoT technology to safeguard natural resources and wildlife habitats. By collecting real-time data from ground-based sensors on boundary beacons and environmental parameters, the CubeSat helps detect unauthorized changes to protected area boundaries and monitors signs of environmental degradation.



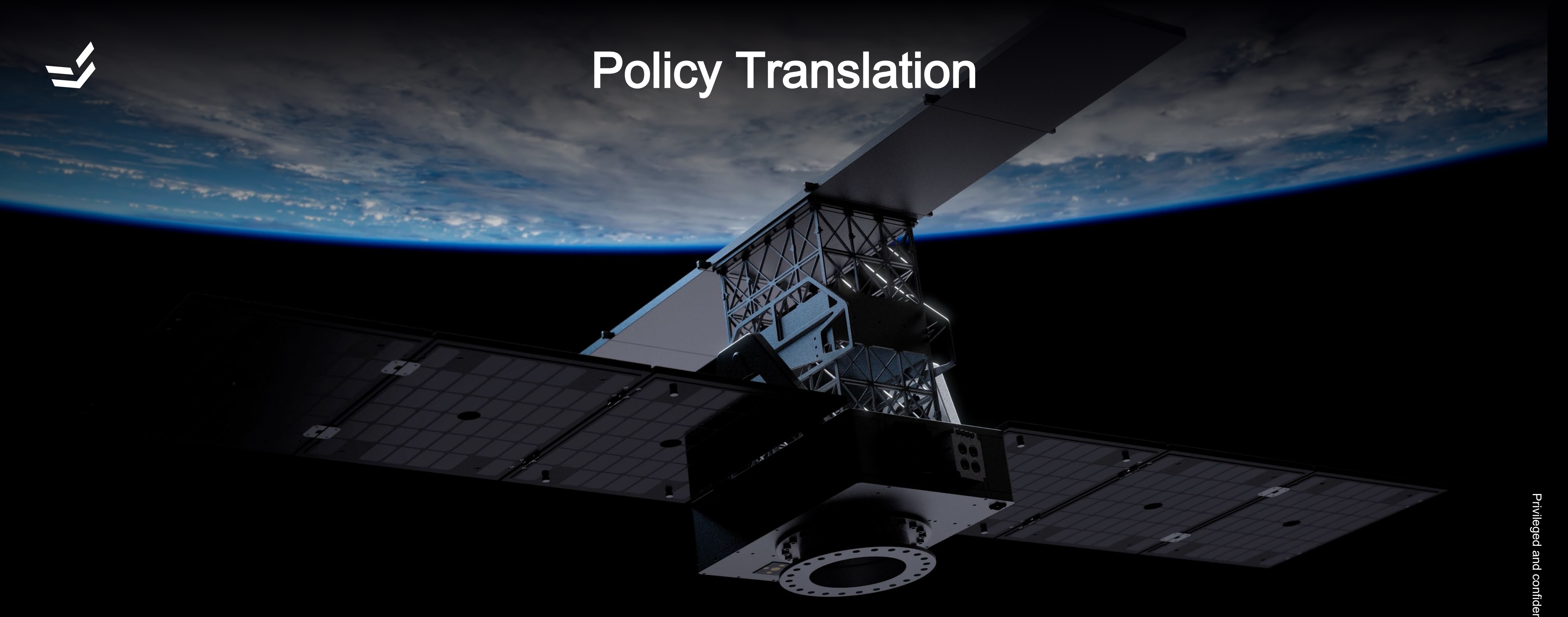
Ecosystem Preservation

- ✓ Satellites detect changes in vegetation, water quality, and land use
- ✓ AI-powered analytics identify degradation hotspots
- ✓ Enables targeted restoration of mangroves, wetlands, and coastal forests
- ✓ Facilitates biodiversity assessments and habitat mapping
- ✓ Supports restoration planning through historical data analysis





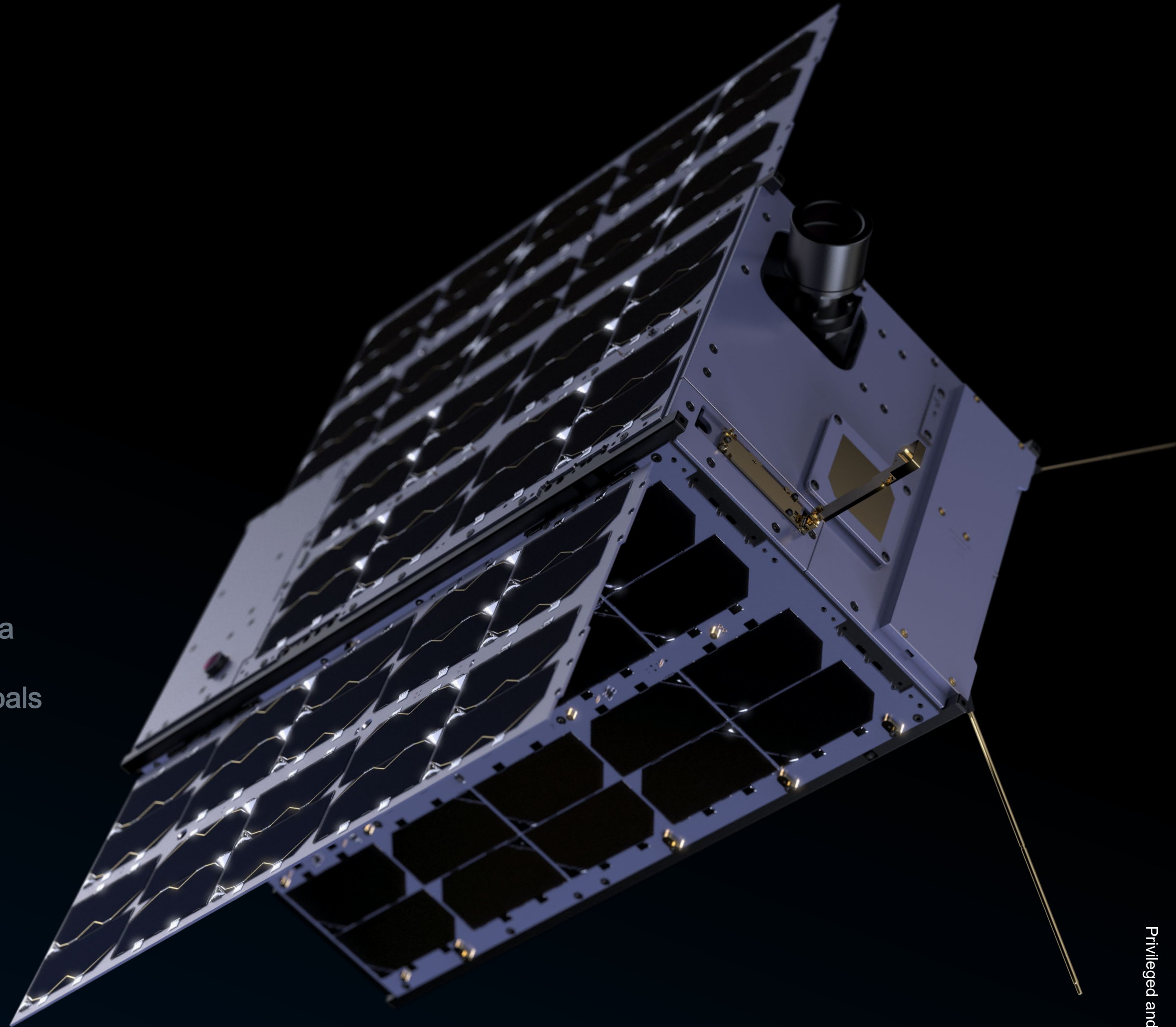
Policy Translation

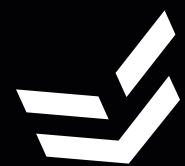
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- 01 Data dashboards for policymakers
- 02 Integration with local governance systems
- 03 Enables transparent reporting and compliance tracking
- 04 Facilitates stakeholder engagement through visual storytelling
- 05 Real-time analytics enable faster decision-making
- 05 Community-driven enforcement supported by satellite evidence



Partnership for Resilience

- ✓ Small satellites = affordable, scalable
- ✓ AI = predictive modeling for climate resilience
- ✓ Cloud platforms = democratized access to space data
- ✓ Builds trust and shared ownership of conservation goals
- ✓ Enhances local response capabilities through training and tools





Challenge

Limited data literacy
in local communities

Gaps in policy integration

Infrastructure constraints

Improvements

Expand training programs

Foster cross-sector dialogue

Invest in ground stations
and data hubs

Captured by EnduroSat Satellites

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