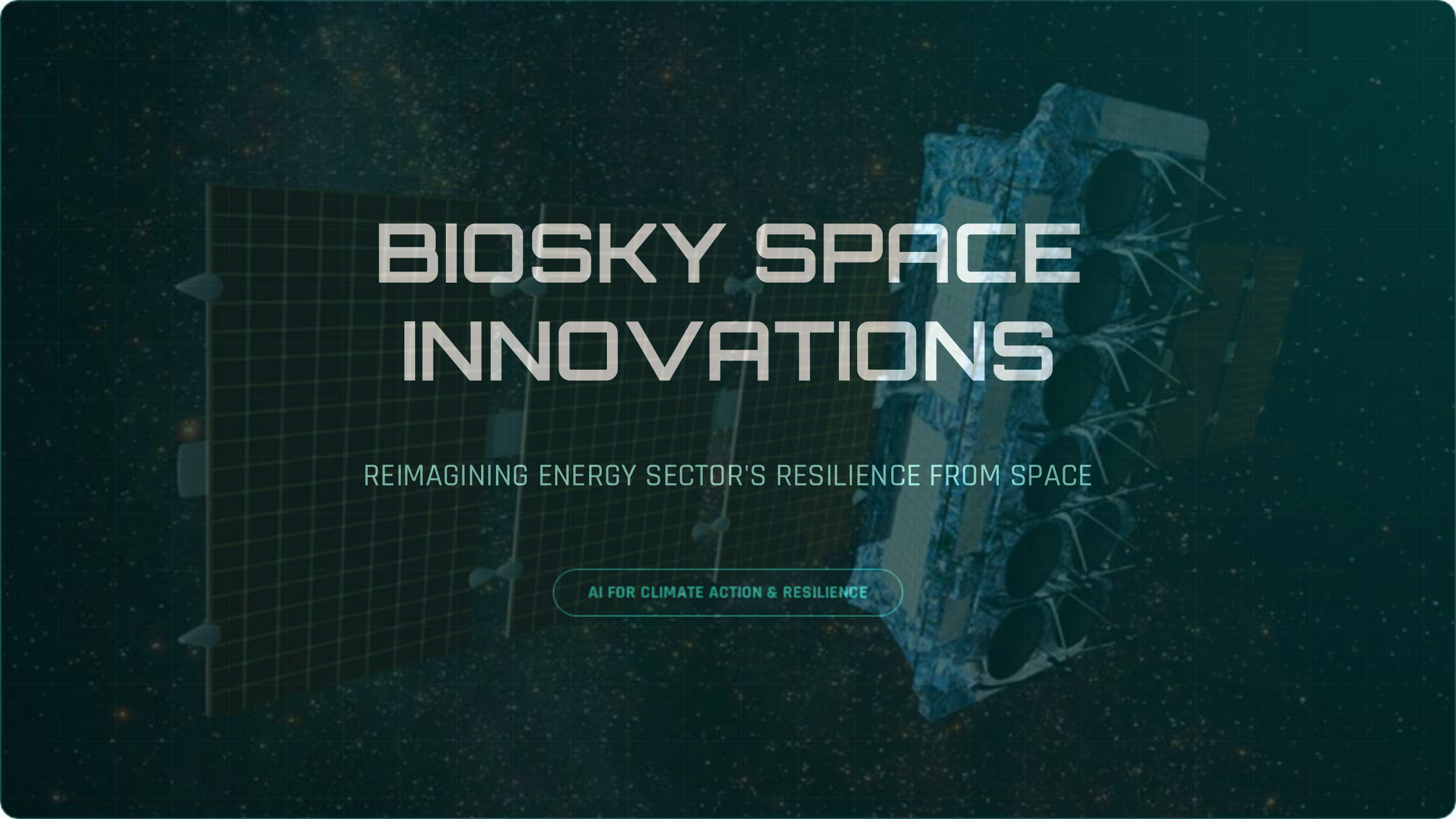

BIOSKY SPACE
INNOVATIONS
REIMAGINING ENERGY SECTOR'S RESILIENCE FROM SPACE
AI FOR CLIMATE ACTION & RESILIENCE

DRIVING IMPACT THROUGH ALIGNMENT

BioSky is built to address critical gaps in the Asia-Pacific energy transition, directly supporting the UN ESCAP agenda for scalable, technology-driven climate action.

SDG 7

Affordable & Clean Energy

Optimizing renewable efficiency.

SDG 11

Sustainable Cities

Resilient urban power infrastructure.

SDG 13

Climate Action

Mitigating grid risks from extreme weather.

THE CHALLENGE: GRID INSTABILITY

CLEAN ENERGY IS GROWING, MANAGEMENT IS NOT

As the Asia-Pacific transitions to renewables, grid volatility is becoming a critical failure point.

- **$5 Billion/Year:** Projected revenue loss for India alone by 2030 due to forecasting inaccuracies.
- **Infrastructure Vulnerability:** Extreme weather events are destabilizing transmission networks.
- **The Gap:** Current statistical models fail in the mid-latitudes (Asia-Pacific) leading to massive penalty payouts.

THE BIOSKY ENERGY STACK

ONE UNIFIED INTELLIGENCE LAYER

We deliver actionable intelligence for critical infrastructure, leveraging space technology where it holds a clear advantage.

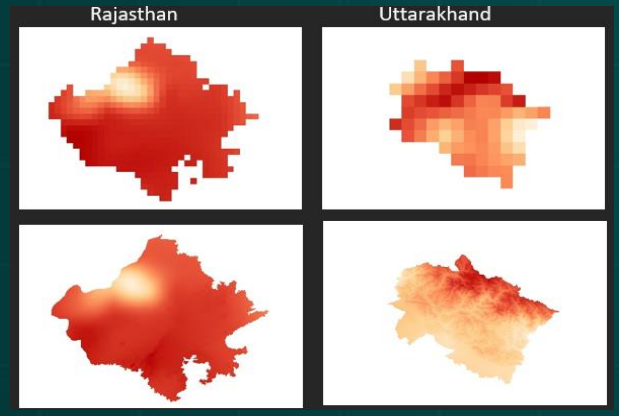
- **Generation:** Solar/Wind Forecasting & Site Opt.
- **Transmission:** Vegetation Monitoring & Anomaly Detection.
- **Distribution:** Urban Heat Mapping & Demand Analytics.

PHYSICS-DRIVEN AI

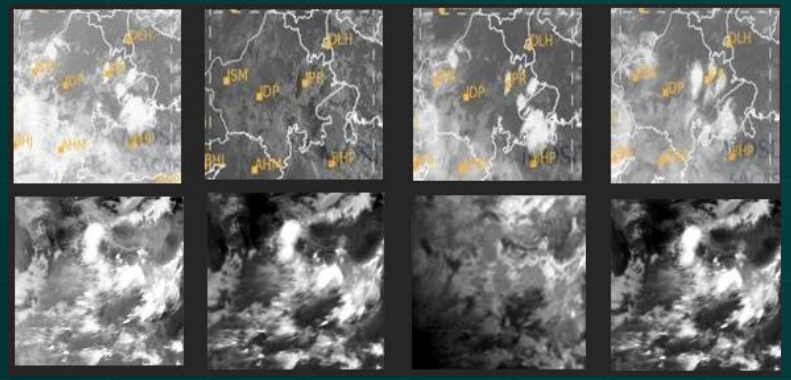
WHY WE WIN

Current solutions rely on statistical models that struggle with the complexity of tropical climates. BioSky changes the game.

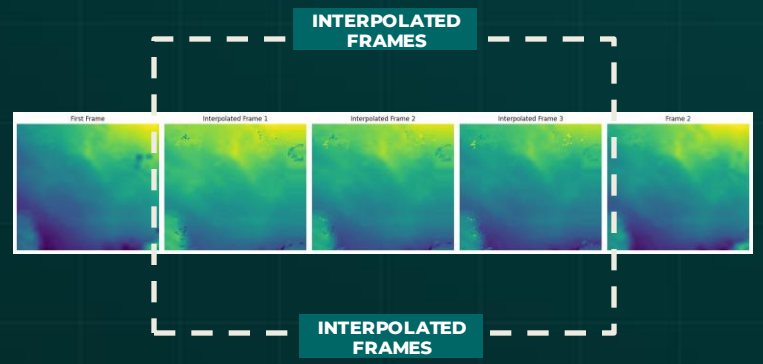
- **Proprietary Physics-Informed AI:** Fuses physical laws with machine learning for higher accuracy.
- **Multi-Source Data Fusion:** Integrates Earth Observation (EO) satellite data with ground sensors.
- **Hyperspectral Analysis:** Detects microscopic anomalies in solar panels before they cause failure.



0.01deg resolution enhancement by DEM



Real-time flow field reconstruction



Downscaled GHI frames for 1 hr. to 15 min interval

REAL WORLD IMPACT: SUNPOWER RENEWABLES

$5M

Annual Savings Potential

For a single 1GW Utility Scale Client

THE PROBLEM

Installed Capacity: 1 GW.

Penalty Payout (2025): **INR 46 Cr ($5M)** due to forecasting errors.

THE BIOSKY EFFECT

By improving forecasting accuracy by just 15-20% using our Space-AI stack, we can reduce penalty outflows by **50-70%**, directly recovering millions in lost revenue while stabilizing the grid.

SCALABILITY ACROSS ASIA-PACIFIC

The "Mid-Latitude" Challenge is not unique to India. The entire ESCAP region faces similar climatic volatility.

BioSky's satellite-first approach is borderless.

We can deploy our algorithms to support energy resilience in Southeast Asia and the Pacific Islands without heavy ground infrastructure investment.

BUILT BY SCIENTISTS & ENGINEERS

WORLD-CLASS EXPERTISE

A deep-tech team comprising 40% PhDs with core expertise from premier institutions (IIT, IIM) and hands-on experience in space research.

Saurabh Kapil
Co-founder, IIM Calcutta

Nimish Nama
Co-founder, IIT Bombay

Saurabh Kapil
Co-founder

IIM Calcutta MBA; **PwC Space** Practice

Nimish Nama
Co-founder

IIM Calcutta MBA
IIT Bombay B.Tech; **PwC Space** Practice

Archana Yadav
ML Scientist

IISER Bhopal, BS+MS (Data Science and Engineering)

Abhishek Yadav
Remote Sensing Scientist

IIT Kharagpur PhD, Remote Sensing (IIRS ISRO)

Hemraj Chakravarti
ML Engineer

IIM Calcutta PGDBA

SGSITS Indore, BTech CS

Q&A

PARTNERING FOR A RESILIENT FUTURE

BioSky Space Innovations

contact@biosky.tech | www.biosky.tech