

# Antariksh

Space AI Platform. From satellite operations to actionable earth intelligence.

**Space data for everyone. Space-grade AI for those who need it.**

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**5+**  
SECTORS SERVED

**TB**  
DAILY PROCESSING

**10m**  
RESOLUTION

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# Who Is Antariksh For?

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Antariksh serves two distinct customer segments with different needs but shared infrastructure.

## Space Operators

Building satellites, launch vehicles, or ground systems? Antariksh provides mission intelligence, space situational awareness, and operations AI.

**For:** ISRO & partners, Satellite operators & EO startups, Launch vehicle providers, Ground segment companies

## Earth Intelligence Users

Need insights from satellite data? Antariksh turns imagery into actionable intelligence for agriculture, urban planning, disaster response, and more.

**Target:** Government agencies, Agriculture & insurance, Infrastructure companies, Disaster management

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You don't need to understand satellites. **You need answers.**

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## For Space Operators

01

### Mission Intelligence

Orbital mechanics AI. Trajectory optimization. Conjunction analysis. Anomaly detection. Ground station scheduling.

02

### Space Situational Awareness

Debris tracking. Collision avoidance. RF interference detection. Space weather impact. Real-time conjunction alerts.

03

### Ground Segment AI

Pass scheduling optimization. Telemetry analysis. Command validation. Health monitoring. Predictive maintenance.

04

### Edge-Cloud Architecture

Heavy compute in cloud. Lightweight models at edge. Store-and-forward. Bandwidth optimization. Latency tolerance.

# From Imagery to Action

Antariksh processes satellite imagery through AI pipelines to deliver actionable insights, not raw data.

## Use Cases by Sector

### Agriculture

Crop health monitoring. Yield prediction. Irrigation optimization. Pest/disease early warning. Insurance claim verification.

[Agri-tech, insurers, state agriculture depts](#)

### Urban & Infrastructure

Encroachment detection. Construction monitoring. Urban sprawl tracking. Road/rail condition assessment. Pipeline monitoring.

[Municipalities, NHAI, infrastructure cos](#)

### Disaster Management

Flood mapping. Fire detection. Cyclone damage assessment. Relief planning. Recovery monitoring.

[NDMA, state disaster agencies, relief orgs](#)

### Environment & Resources

Deforestation alerts. Water body monitoring. Mining activity tracking. Pollution source detection. Carbon monitoring.

[MoEF, forest depts, mining companies](#)

### Defense & Security

Border surveillance. Activity monitoring. Change detection. Reconnaissance support. Maritime awareness.

[Defense, BSF, Coast Guard, state police](#)

### Financial Services

Asset verification. Supply chain monitoring. Warehouse inventory estimation. Credit risk assessment via economic activity.

[Banks, NBFCs, commodity traders](#)

## Processing Pipeline

### CAPTURE

[Multi-spectral](#) [SAR](#) [Thermal](#) [High-resolution optical](#)

### ANTARIKSH PROCESSING

[Correction](#) [Fusion](#) [AI Classification](#) [Change Detection](#) [Alerting](#)

### DELIVERY

[Dashboards](#) [APIs](#) [Reports](#) [Webhooks](#)

# Antariksh SDK

Build your own applications on top of Antariksh with our Python SDK and REST APIs.

## SDK Features

- Full type hints for IDE support
- Pandas & GeoPandas integration
- Built-in visualization helpers
- Async/await for concurrent ops
- Jupyter notebook friendly
- STAC catalog compatible

## Data Formats

- GeoTIFF / Cloud-Optimized GeoTIFF
- Shapefile export
- S3-compatible bulk access
- GeoJSON / TopoJSON
- NetCDF for time-series
- OpenAPI 3.0 documented

## Space Industry Standards

Standard	Description	Antariksh Support
CCSDS	Space data protocols	Native support
STK / GMAT	Mission analysis tools	Import/Export
OpenMCT	Mission control integration	Plugin available
Orekit	Orbital mechanics library	Interoperable
STAC	SpatioTemporal Asset Catalog	Full compliance

## RotaStellar Integration

Antariksh SDK works seamlessly with RotaStellar's Python SDK for end-to-end space AI workflows. RotaStellar provides on-board runtime for satellite computing. Antariksh provides ground intelligence and analytics.

### RotaStellar (On-board)

Space software runtime. Satellite computing. Edge AI in orbit. Autonomous decision-making.

### Antariksh (Ground)

Ground intelligence. Earth observation analytics. Mission operations support. Data processing.

# Engagement Models

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## SaaS Platform

Multi-tenant cloud for startups and enterprises.

## Private Instance

Dedicated deployment for sensitive missions.

## On-Premise

For defense and classified applications.

## Research Partnership

Joint development with ISRO, universities.

## Academic & Research Access

Universities and research institutions can apply for free API access for non-commercial research. Contact us with your .edu or .ac.in email.

## Ready to Launch?

Space data for everyone. Space-grade AI for those who need it.

[Request Platform Access](#)

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