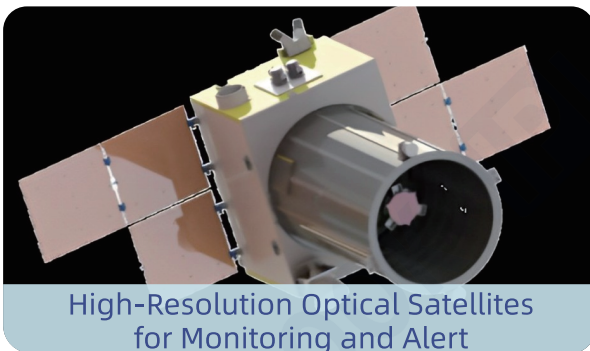
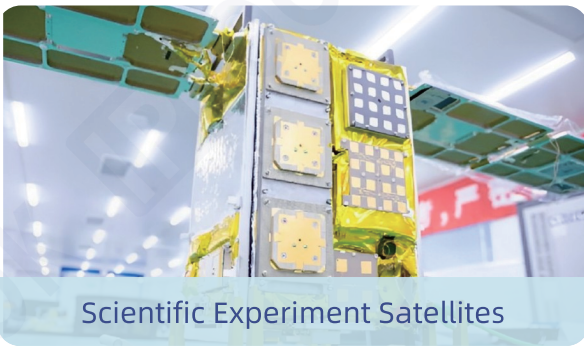


# Remote-Sensing Satellite Solution

This solution supports customized satellite platforms ranging from 10kg to 300kg, capable of accommodating payload capacities at different levels. Currently, over twenty customized satellites have been successfully launched, accelerating the construction of constellation networks.

We support numerous commercial enterprises and research institutions, including **China Aerospace Science and Technology Corporation** and **Tsinghua University**, in achieving breakthroughs of significant space missions.

## Applications



We design, manufacture, and launch customized satellites based on different requirements: obtaining on-orbit business data automatically and stably; deploying constellation networks rapidly and achieving high-performing spatial data infrastructure.

## Featured Services



Launch Satellites



Frequency Services



On-Orbit O&M



On-Orbit Mission Definition



Whole Satellite Development



On-Site Visit for Satellite Launch

# Satellite Parameters

## TY-20 VS TY-50

Item	TY-20	TY-50
Orbit	500km~1000km Sun-Synchronous Orbit	500km~1000km Sun-Synchronous Orbit
Satellite Weight	≤20kg	≤50kg
Payload Weight	≥10kg	≥25kg
Volume	Customizable Design	Customizable Design
Attitude Control Accuracy	Attitude Control Pointing Accuracy: Standard Spec<0.05° (3σ); High Spec<0.01° (3σ) Attitude Control Stability: Standard Spec<0.01°/s (3σ); High Spec<0.002°/s (3σ)	
Telemetry and Control	Uplink Rate: 4.8kbps Downlink Rate: 4.8kbps~19.2kbps Optional	
Data Transmission	X-band: Downlink Rate 1/10/20/50/100Mbps Configurable Uplink Rate 256kbps, 1Mbps Configurable	
Real-Time Orbit Determination Accuracy	Position Accuracy: 10m (1σ) Speed Accuracy: 0.2m/s (1σ)	
Power Source	Standard Spec: Solar Array: 68W; Storage Capacity: 236Wh High Spec: Solar Array: 160W; Storage Capacity: 472Wh	
Design Life	1 to 3 years	1 to 3 years
Platform Characteristics	High Integration; Low Cost; Short Cycle	High Integration; High Performance
Application Areas	Medium-Resolution Remote Sensing; Narrowband Communication; Navigation Enhancement; Scientific Research Validation	High-Resolution Remote Sensing;

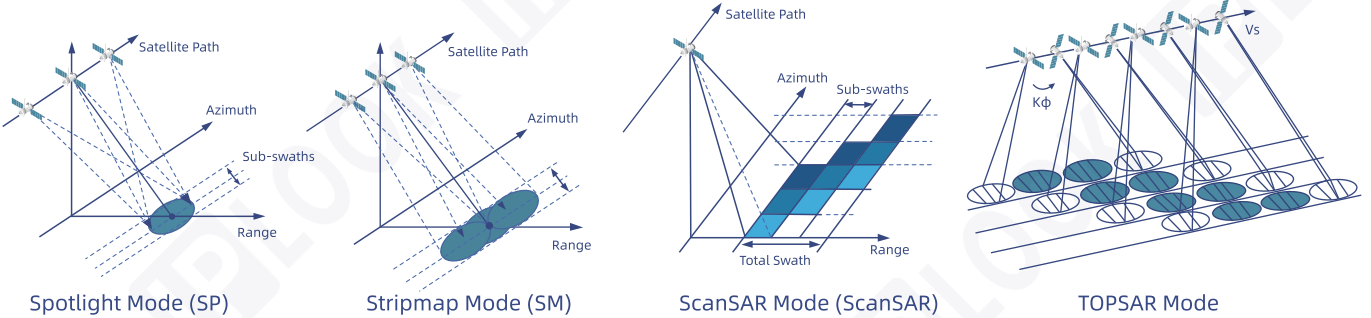
## TY-100 VS TY-300

Item	TY-100	TY-300
Orbit	500km~1000km Sun-Synchronous Orbit	500km~1000km Sun-Synchronous Orbit
Satellite Weight	≤100kg	≤300kg
Payload Weight	≥50kg	≥150kg
Volume	Customizable Design	Customizable Design
Attitude Control Accuracy	Attitude Control Pointing Accuracy: Standard Spec<0.05° (3σ); High Spec<0.01° (3σ) Attitude Control Stability: Standard Spec<0.01°/s (3σ); High Spec<0.0005°/s (3σ)	
Telemetry and Control	Uplink Rate: 4.8kbps Downlink Rate: 4.8kbps~19.2kbps Optional	
Data Transmission	X-band: Downlink Rate 1/50/100/300/600Mbps Configurable Uplink Rate 256kbps, 1Mbps Configurable	
Real-Time Orbit Determination Accuracy	Position Accuracy: 10m (1σ) Speed Accuracy: 0.2m/s (1σ)	
Power Source	Solar Array: 160W~320W Configurable Storage Capacity: 236Wh~708Wh Configurable	
Design Life	3 to 5 years	3 to 5 years
Platform Characteristics	High Integration; High Performance	High Performance; High Reliability
Application Areas	High-Resolution Remote Sensing; Narrowband/Broadband Communication; Navigation Enhancement; Scientific Experimentation	High-Resolution Remote Sensing; High-Performance Broadband Communication; Highly Reliable Scientific Experimentation

# Remote-Sensing Satellite Data Products

Multiple high-performance Synthetic Aperture Radar (SAR) satellites have been developed, launched, and operated. These satellites are capable of providing SAR data services for any location worldwide within 24 hours.

## SAR Imaging Modes



**Spotlight Mode (SP):** A high-resolution imaging mode suitable for fine imaging of objects. The synthetic aperture antenna continuously points at the imaging target for long-term observation.

**Stripmap Mode (SM):** A basic mode of SAR for large-scale mapping. The synthetic aperture antenna points fixedly parallel to satellites' flight track, producing radar images of the strip area.

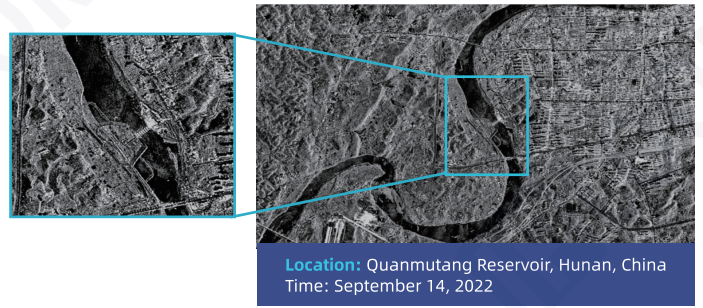
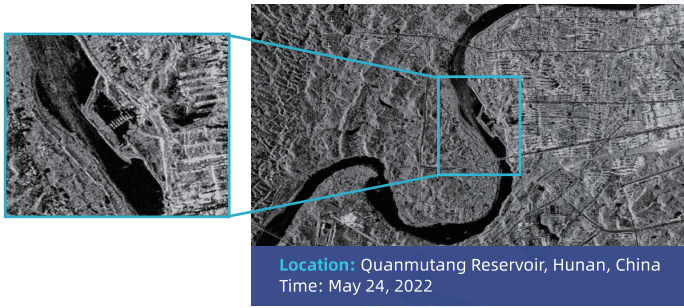
**ScanSAR Mode (ScanSAR):** Suitable for ultra-wide area observation. The synthetic aperture antenna scans along the range direction via electronic beam steering, generating multiple sub-strips in the target area. Multiple antenna beams achieve wider swath for large-area imaging coverage.

**Terrain Observation by Progressive Scans (TOPSAR) Mode:** Cyclically switches the antenna beam in azimuth and elevation angles to achieve intermittent scanning between multiple adjacent sub-swaths, achieving large swath widths and enhanced radiometric performance.

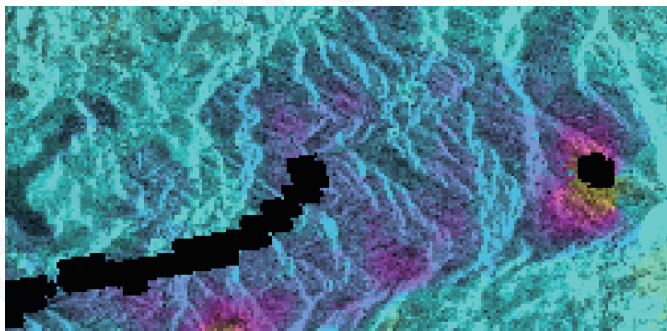
## Parameters

Imaging Mode	Spotlight Mode	Stripmap Mode	ScanSAR Mode	TOPSAR Mode
Spatial Resolution	Better than 1m	3m	12m (NS) 20m (ES)	10m
Standard Width	7x7km	25x25km	100x100km (NS) 170x170km (ES)	100x100km
Maximum Acquisition Length (MAL)	/	2000km	2000km	2000km
Equivalent Noise Level	≤-20dB	≤-22dB	≤-22dB	≤-22dB
Polarization Mode	VV			
Standard Incidence Angle Range	15° ~ 40°			

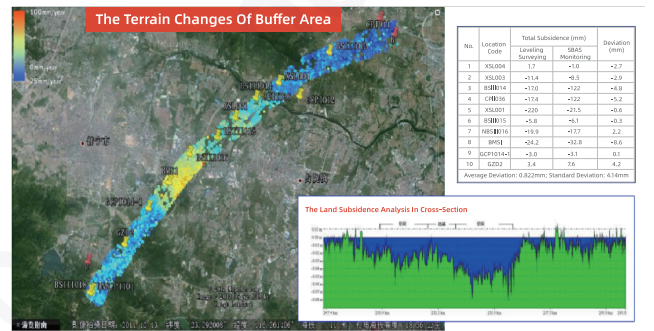
## Data Visualization



## Applications



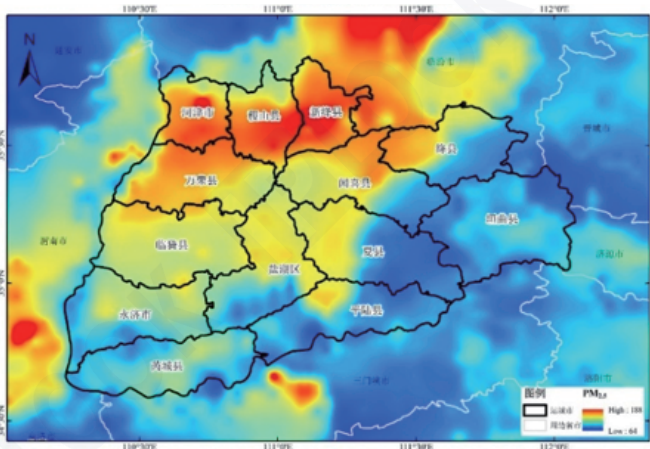
••• Landslide Prediction •••



••• Ground and Building Subsidence Monitoring •••

**Disaster Emergency Warning:** Focuses on the core business of disaster prediction and emergency command.

**Real-Time Disaster Monitoring:** Provides accurate data, high automated monitoring and timely detection of anomalies.



••• PM2.5 Concentration Spatial Distribution Monitoring •••



••• Water Governance •••

**Atmospheric Monitoring:** Enables high-precision and high-spatiotemporal-resolution monitoring of components and their concentrations.

**Water Environment Monitoring:** Achieves accurate identification, positioning, long-term governance of water environment and the assessment of its effectiveness.