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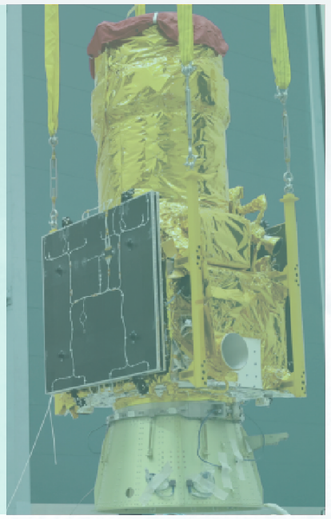
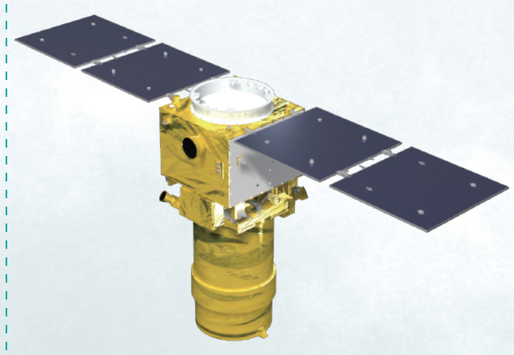
XR-7

Optical Remote Sensing Satellite

XR-7, a leading commercial high-resolution optical remote sensing satellite, was launched in Q1 2022. Weighing approximately 250 kg, it features a precision high-resolution optical payload and a lightweight universal satellite platform. Using advanced optical technology and specialized lens components, XR-7 captures high-definition, high-contrast, multi-spectral ground images at 0.5m resolution.

This capability enables detailed identification of ground features such as vehicles and buildings. XR-7's remote sensing products are widely applied in finance, insurance, Urban Planning, mining, and security.





Key Features

- Panchromatic Resolution: 0.5m
- Multispectral Resolution: 2m
- Swath Width: Over 12km
- Emergency Task Response: Near-real-time
- Maximum Single Capture Length: About 1800km

Applications

Urban Planning

Delivers high-resolution, near-real-time city imagery for tracking land-use changes, aiding scientific decision-making in urban development.

Precision Agriculture

Utilizes satellite imagery to capture vegetation ecology, optimizing farming activities like irrigation and fertilization for smart, efficient agriculture.

Mining Monitoring

Remote monitoring of ore quantity, transportation routes, and mining environment in extraction areas ensures safe and efficient mining operations.

Environmental Monitoring

Monitors industrial waste, discharge points, and gas emissions, promoting regulatory compliance and driving environmental governance.

Disaster Response

Detect multiple indicators such as fire sources, water changes, and ground displacement, supporting emergency rescue decisions to minimize losses from disasters.

Financial Risk Management

Periodic surveillance of project construction and operation progress, offering multi-dimensional, full-cycle risk assessment for financial institutions.

Insurance Claims

Provides exhaustive data on global disaster risks, supporting insurance product design and full-cycle risk management to enhance the sustainability in insurance ance services.

Military Security

High-resolution satellite imagery for monitoring border areas, providing critical intelligence for military security and strengthening national defense.

Features & Advantages

High Resolution

Captures ground details of vehicles and buildings with a 0.5-meter resolution, catering to diverse application needs.

Precise Positioning

Utilizes advanced satellite positioning measurement systems and in-house data processing systems to deliver meter-level image positioning accuracy.

Rapid Response

In emergency mode, acquires and produces data from request to completion in just a few hours.

Flexible Scheduling

Tailored rapid and flexible observation mission adjustments based on specific customer needs or emergent situations.

Multispectral Observation

Supports visible and near-infrared spectrum observations, suitable for a variety of applications.

Typical Clients

Government institutions

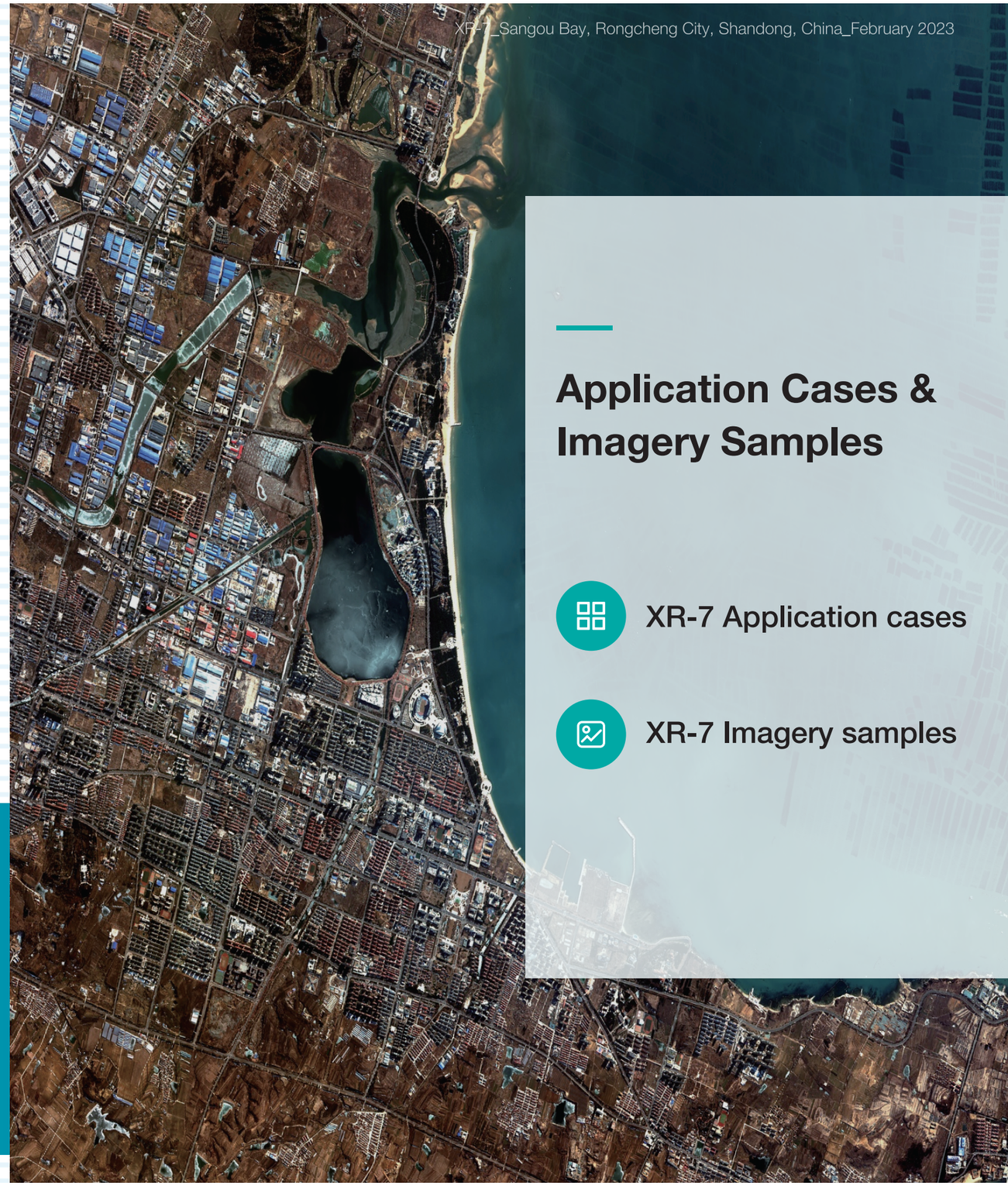
Enterprises

Financial and insurance sectors

Defense departments

Research institutions

Insights from Space



Application Cases & Imagery Samples

XR-7 Application cases

XR-7 Imagery samples

【Finance Application Case】

Smart Inspection for New Energy Projects, Facilitating Post-Loan Risk Management for Banks

Utilizing advanced remote sensing and AI technologies to establish a satellite big data-based inspection system for new energy projects.

➢ **During Construction Phase:** Regular assessment of project construction progress. Establish key performance indicators for new energy projects, and generate risk assessment reports.

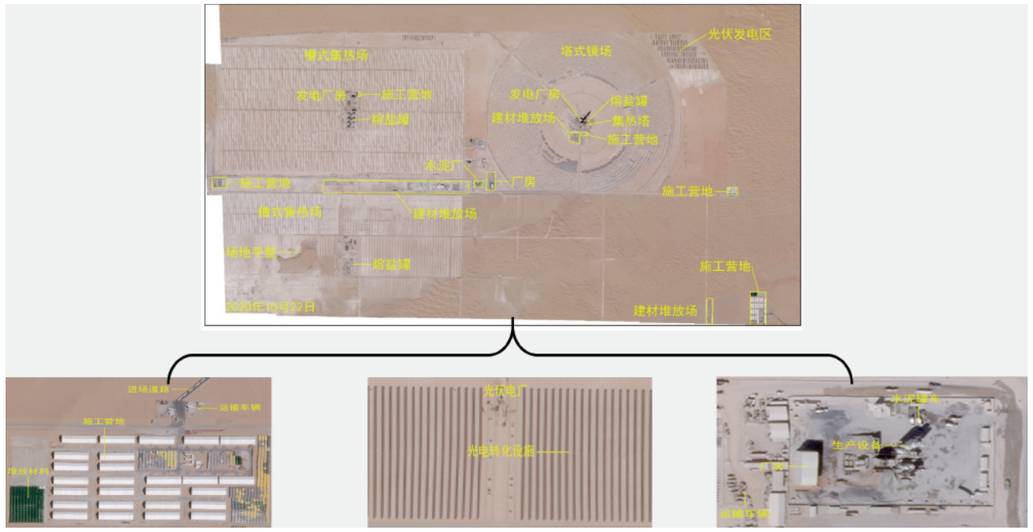
➢ **During Operation Phase:** Real-time analysis of power station operational status. Swift identification of potential capacity discrepancies, and making timely decisions to mitigate potential business risks.

Construction Progress Monitoring

Item	Status	Construction progress
Site Preparation Status	Tower-type power generation area ground leveling completed, while part of the trench-type power generation area ground is leveled.	The total leveled area is 29.8303 km². There are 5 construction camps with a total area of 219,688 m².
Cement Plant	Completed and operational. Visible cement tanker trucks and a large number of transport vehicles.	Covering 26233m².
Building Material Stockpile Area	Fully operational with various construction materials, including heliostat bases.	Covering 575,268m².
Molten Salt Tanks	Some of the molten salt tanks have been completed.	Ten molten salt tanks constructed, with foundations completed for eight.
Tower-Type Mirror Field	Installation of heliostat bases in progress.	Covering an area of 7,571,666 m², with 5,027,046 m² for heliostat installation.
Trough-Type Mirror Field	Partial completion of trough-type mirror field.	Covering an area of 7,571,666 m² 5,027,046 m² for heliostat installation.
Heat Collection Tower	Ongoing construction.	With a large crane nearby.
Power Generation Facilities	Tower-type power generation facilities completed, trough-type facilities under construction, and photovoltaic power generation facilities yet to commence.	Covering 5,123m².
Photovoltaic Solar Plants	Distributed across spare areas within the plant site, with the installation of photovoltaic conversion equipment in progress.	Covering 364,158m².

Insights from Space

Dubai 950 MW Photovoltaic Concentrated Solar Power Plant

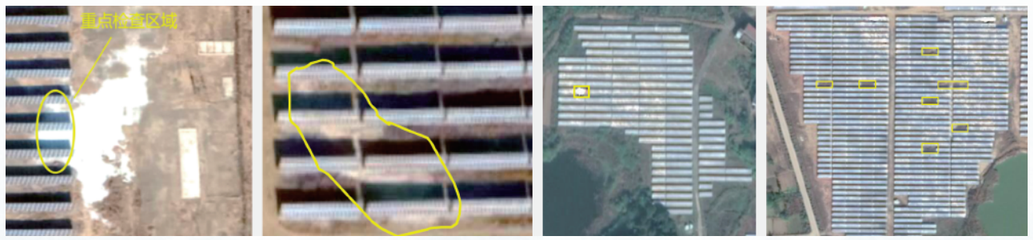


Assessment of construction camp status

Evaluation of photovoltaic power plant

Monitoring of cement plant

Construction Phase Assessment



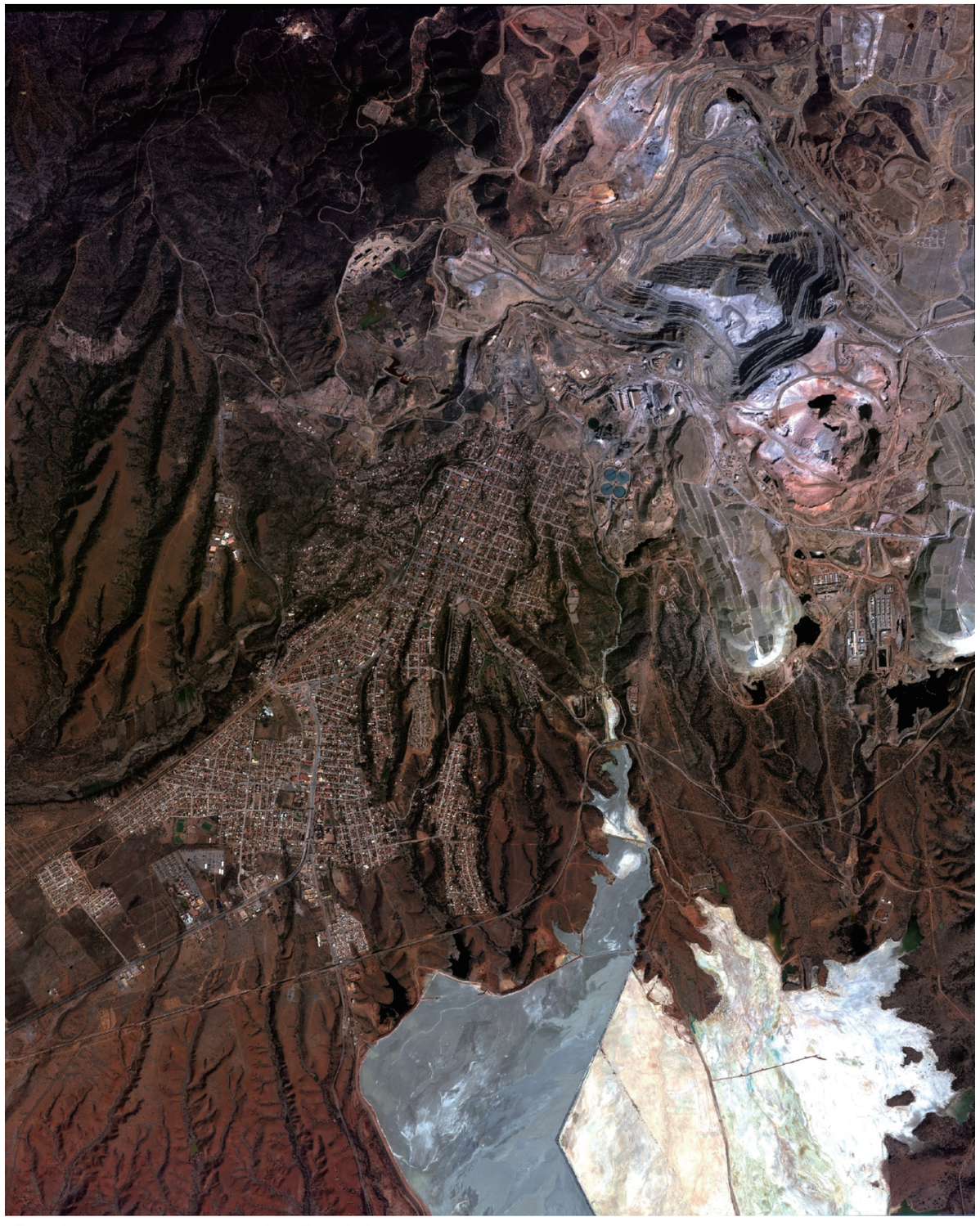
Detection of obstacles

Dust analysis

Damage assessment

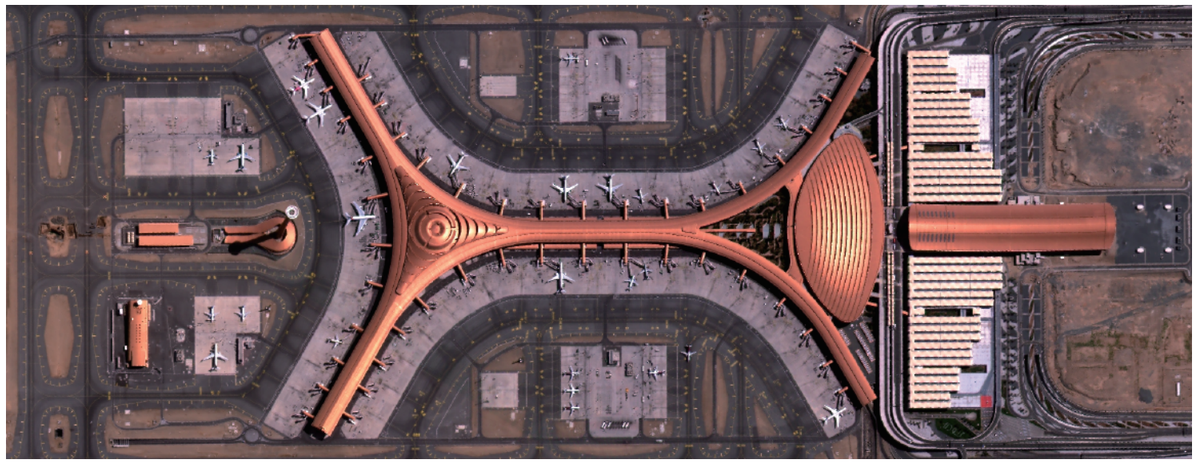
Detection of missing photovoltaic panels

Operation Phase Fault Detectio



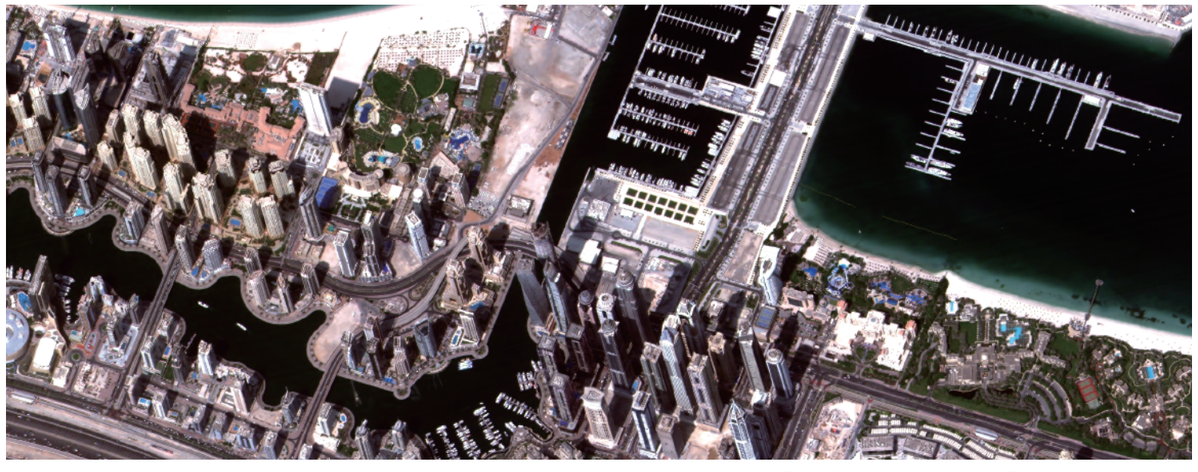
XR-7_Mexico - Cananea Copper Mine_Feb 2023

Insights from Space



XR-7_Aziz International Airport Apron_May 2023

XR-7_San Diego Port_August 2022



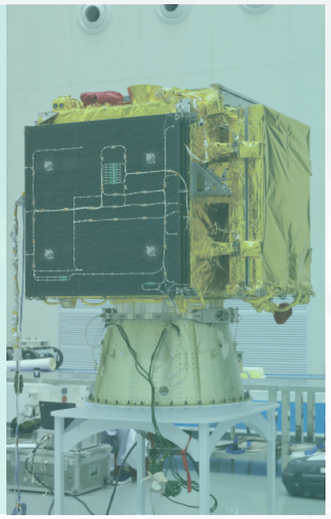
XR-7_Dubai, United Arab Emirates_April 2023

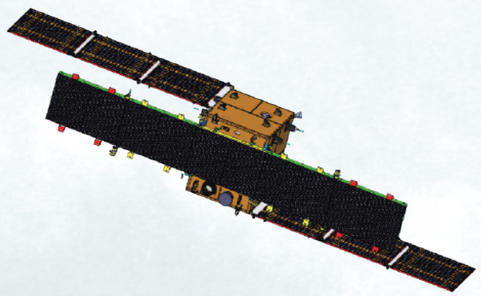
XR-9

Synthetic Aperture Radar (SAR) Satellite

XR-9, a leading X-band commercial SAR satellite in China, was launched and entered orbit in Q1 2022. Comprising SAR payload and a lightweight general-purpose satellite platform, XR-9 weighs approximately 350kg. It provides users with SAR imagery featuring details superior to 1-meter resolution, offering high-quality and cost-effective solutions.

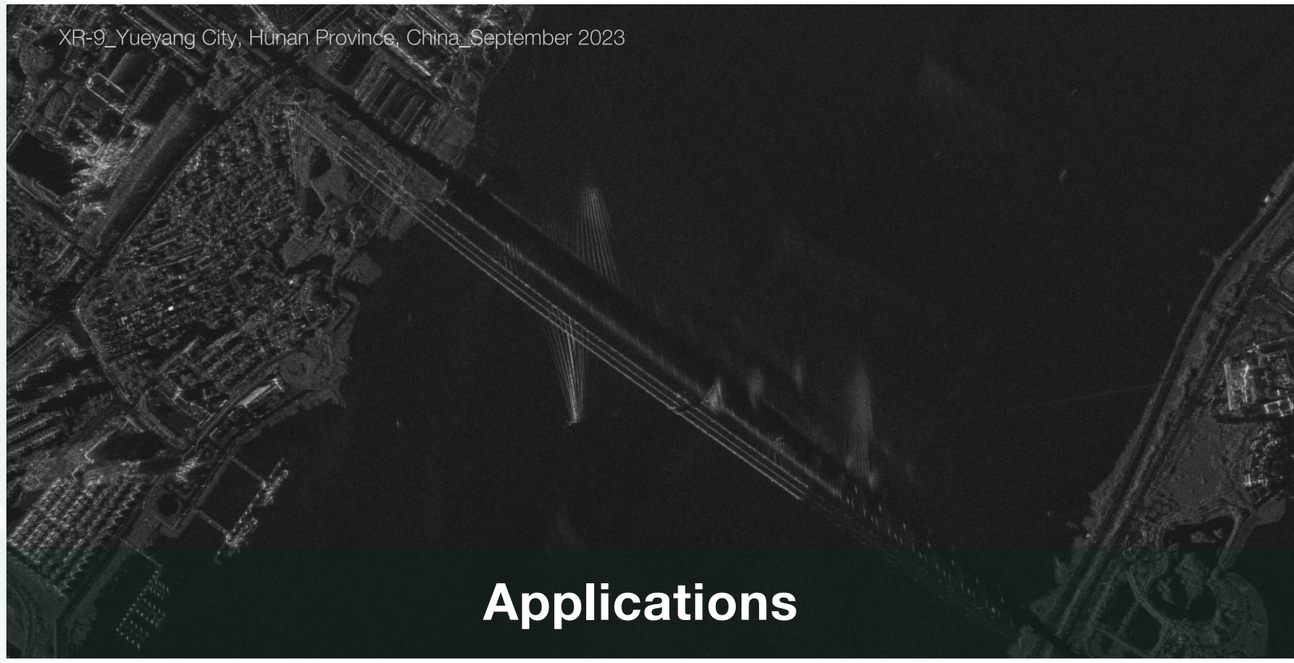
Leveraging InSAR technology, XR-9 can penetrate through forests, buildings, and other structures to observe terrain or concealed targets, unaffected by weather and lighting conditions, ensuring continuous operation 24/7.





Key Features

- Resolution: Better than 1m
- Incidence Angle: 20°~40°
- Imaging Modes: Spot and Strip
- Band: X



Applications

Maritime Monitoring

Supports ocean surface surveillance, vessel tracking, and fisheries management, providing warnings and rescue guidance for natural disasters like earthquakes, floods, landslides.

Energy Sector

Monitors changes in oil and gas storage facilities, supplying valuable information for energy trading and investment.

Defense and Security

Extensive SAR image applications for monitoring high-value plants and surrounding security situations.

Subterranean Pipeline Monitoring

InSAR technology assesses urban subsurface pipeline subsidence and deformation, offering timely feedback for infrastructure maintenance.

Geological Disaster Monitoring

InSAR is highly sensitive for monitoring geological disasters such as landslides and ground fissures, providing accurate early warnings to ensure infrastructure safety.

Land Subsidence Monitoring

InSAR technology, through microwave signals, tracks surface subsidence of large infrastructure projects like bridges, tunnels, dams, and subways, alerting to potential safety hazards in advance.

*InSAR: Interferometric Synthetic Aperture Radar

Features & Advantages

Unaffected By Weather

Provides Earth observation regardless of weather conditions such as clouds, rain, fog, and snow.

Unaffected By Light

Generates high-quality radar imagery even in pitch-black darkness with no ambient light.

High Penetrability

Radar microwaves penetrate obstacles like trees and non-metallic materials to gather surface target information.

Multi-Mode Observation

Choose the optimal radar mode for different requirements, such as high-resolution mode or wide-area scanning mode etc.

Data Security

Provide encrypted communication channels to ensure the security of data transmission, suitable for applications in sensitive areas.

Typical Clients

Government institutions

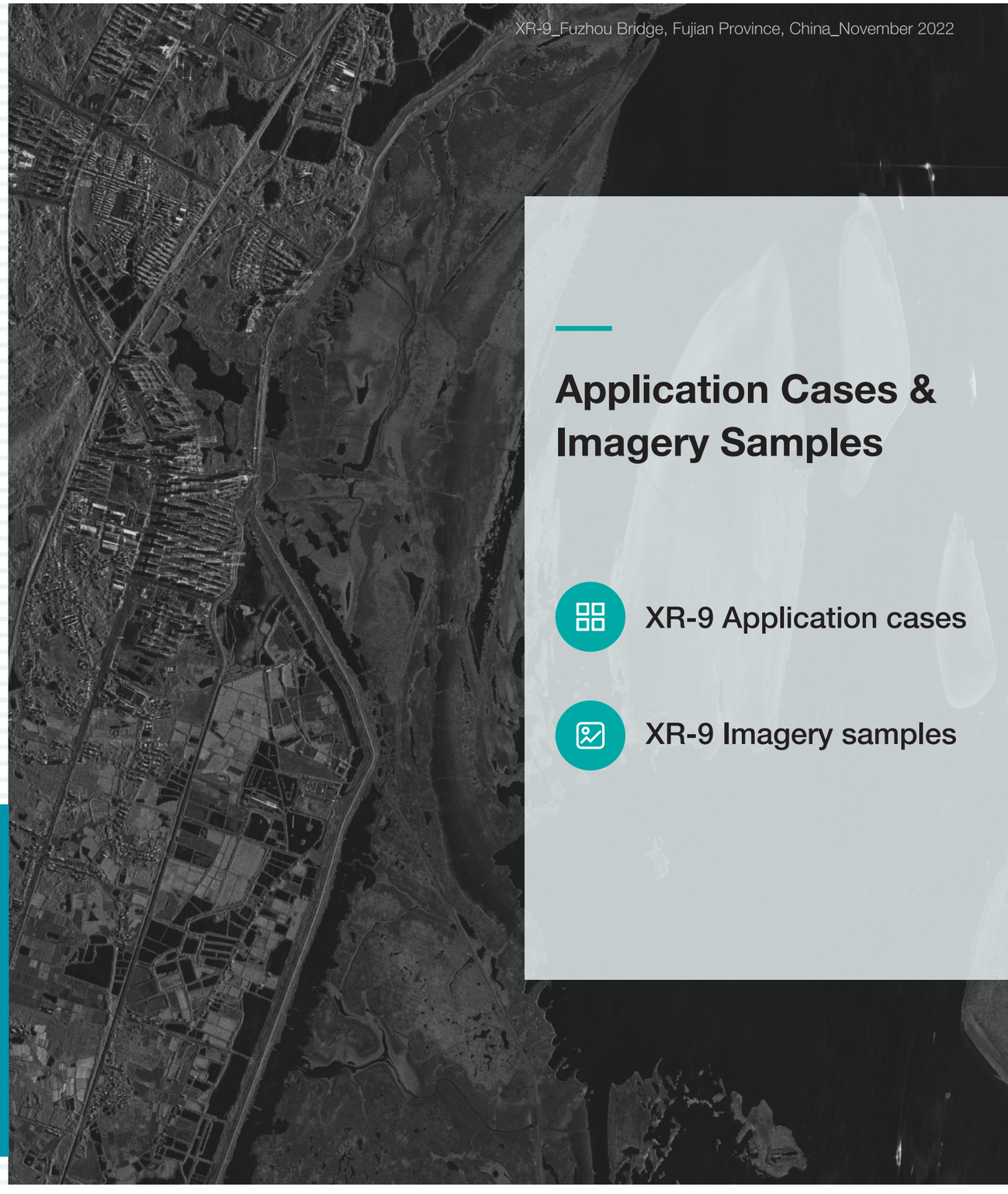
Enterprises

Financial and insurance sectors

Defense departments

Research institutions

Insights from Space



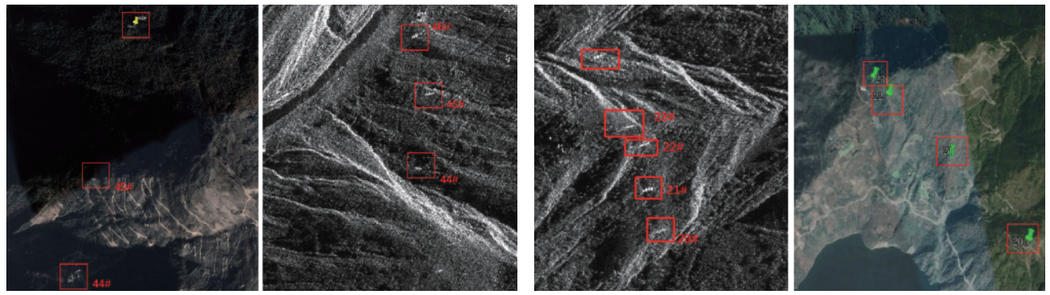
XR-9_Fuzhou Bridge, Fujian Province, China_November 2022

Application Cases & Imagery Samples

XR-9 Application cases

XR-9 Imagery samples

Emergency Monitoring of Transmission Line Towers in Luding, Sichuan Province, China.

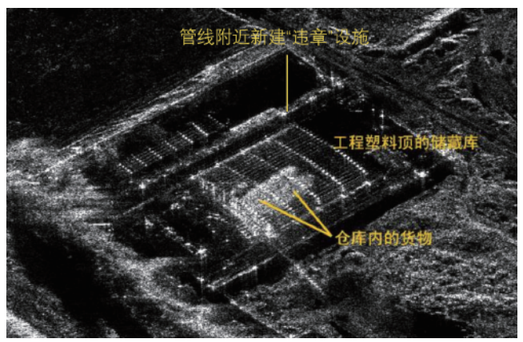


Three tower features appear different, suspected of collapsing.

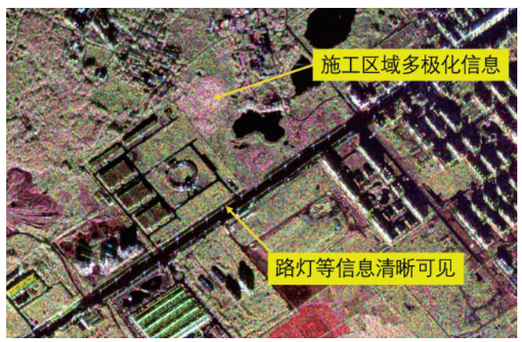
The SAR images display inconsistent scattering characteristics for the five towers, indicating a potential anomaly.

SAR Image Supplementing Optical Blind Spots.

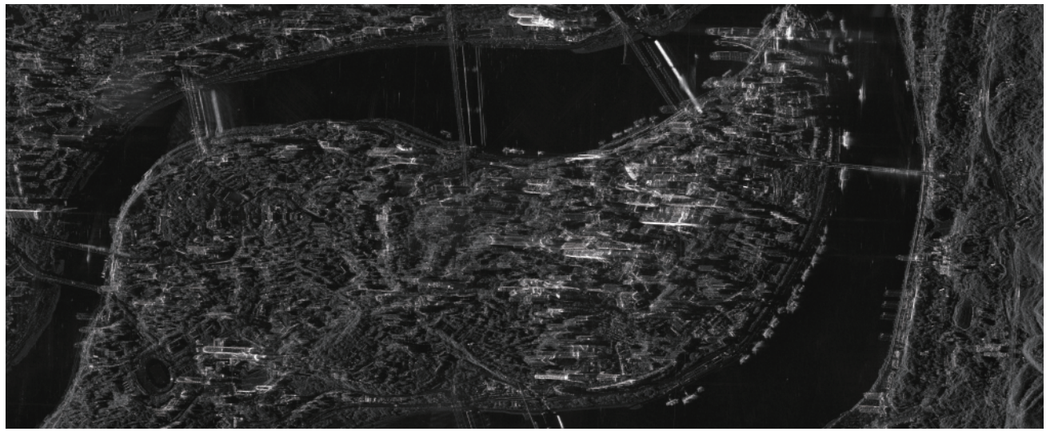
- Risk alert for suspended construction projects.



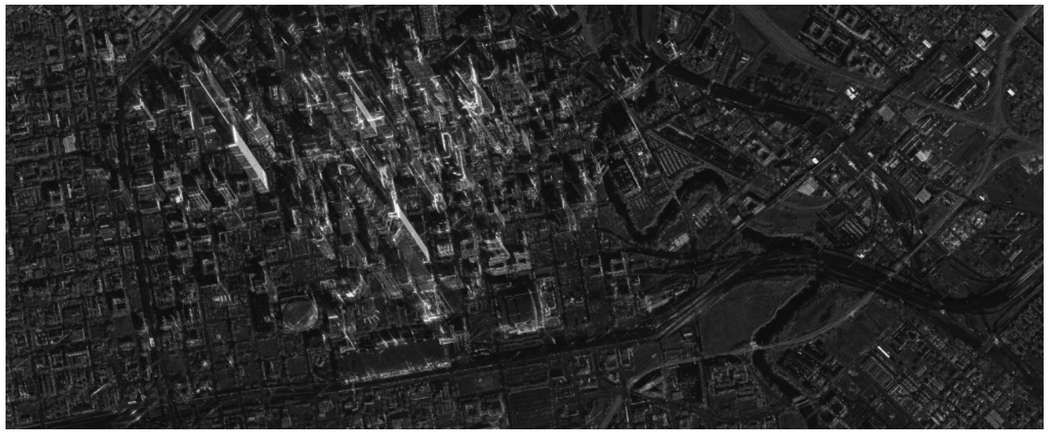
Continuous Nighttime Monitoring with Penetrating Capability



Polarized SAR images facilitate monitoring of construction along the pipeline route.



XR-9_Chongqing, China_September 2023



XR-9_Houston, USA_September 2023

XR-9_Moscow, Russia_July 2023