



S P A
C E
W I L L

SpaceWill Info. Co., Ltd.

✉ globalteam@spacewillinfo.com

🌐 www.spacewillinfo.com

☎ +86.10.5881 8811



ABOUT SPACEWILL

Located in Beijing, SpaceWill Info. Co., Ltd. (SpaceWill) is a leading provider of Earth Observation Satellite Data and Geospatial Information Services. The company business covers optical and SAR satellite imagery, data processing, value-added products, software, and solutions for RS Satellite Ground Receiving Station.

Commercial Marketing Operator of SuperView

SpaceWill is the global marketing operator for SuperView-1 constellation. The resolution of SuperView-1 is 50cm and the revisit time is shortened to 1 day with 4 satellites.

Authorized Distributor of Chinese Imaging Satellite Data

Authorized by Chinese government, SpaceWill is the global distributor of Chinese EO satellite data. The satellites include GF-6, GF-5, GF-4, GF-3, GF-2, GF-1 A/B/C/D, ZY-3, ZY3-02 etc.

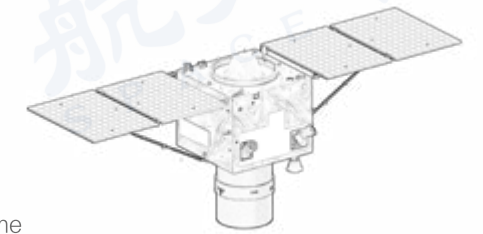
Global Market Expansion

SpaceWill has been expanding the global market since 2016 with more than 40 Resellers in 20 countries worldwide. SpaceWill possesses various satellite resources to create the best solutions for the global clients. If you are interested in being a part of SpaceWill's resellers, please kindly contact us at globalteam@spacewillinfo.com.



SuperView-1

SuperView-1 (SV-1) is composed of 4 identical VHR EO satellites running along the same orbit and phrased 90° from each other. The first two satellites were launched in December 2016 and the second two were launched in January 2018. More follow-on satellites will join the constellation up to 2022, ensuring continuity of Earth imaging services for global clients.



Launch time	SV-1 01 / 02: 28 Dec. 2016
	SV-1 03 / 04: 09 Jan. 2018

Orbit	Altitude: 530 km
	Type: Sun-synchronous
	Period: 97 minutes

Design life	8 years
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Sensor bands	Panchromatic: 450-890 nm
	Blue: 450-520 nm
	Green: 520-590 nm
	Red: 630-690 nm
	Near-IR: 770-890 nm

Spatial resolution	PAN: 0.5 m, MS: 2 m (Nadir)
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Dynamic range	11 bits
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Swath width	12.1 km (Nadir)
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Onboard storage	4.0 TB
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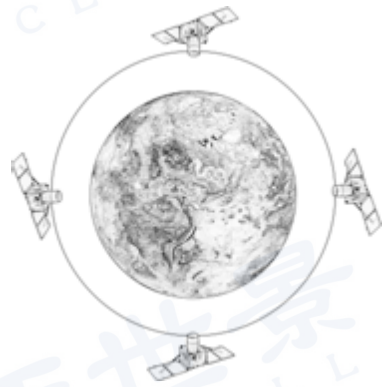
Stereo imaging	Yes
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Revisit time	within 1 day/4 satellites
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Positioning accuracy	9.5m CE90 (Nadir)
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Data transmission	2 * 450 Mbps
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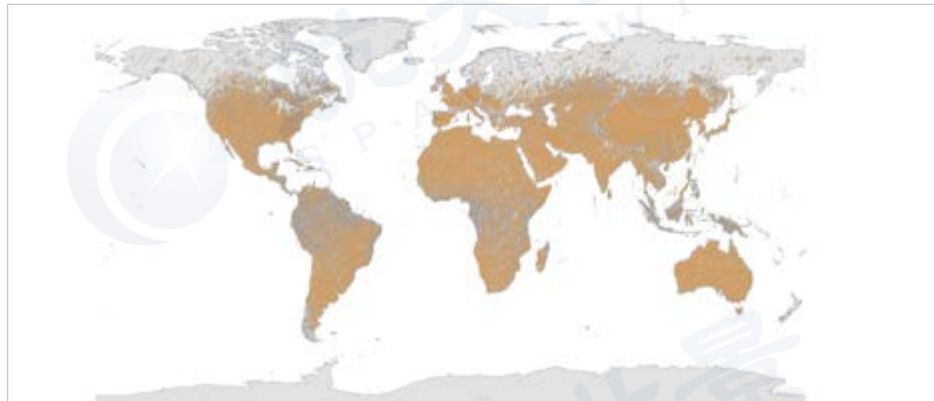
Daily capacity	600,000 km ² /satellite
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SuperView-1

Powerful Collection

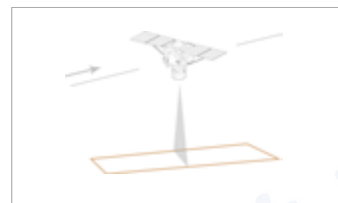
From the year beginning of 2018, SuperView-1 is composed of 4 identical VHR EO satellites running along the same orbit and phrased 90° from each other. When 4 SuperView-1 satellites work concurrently, they are capable of collecting over 2 million square kilometers every day and revisiting any target on the Global within 1 day.



By September 2019, SuperView-1 constellation had collected 2,040,000 scenes, around 108,440,000 square kilometers over the land of the Earth.

High Agility

Working on an agile platform allowing up to $\pm 30^\circ$ for normal collections and $\pm 45^\circ$ for exceptional collections. SuperView-1 satellite offer four collection modes including long strip, multi-strip, multi-point and stereoscopic collections.



Long Strip



Stereo Imaging

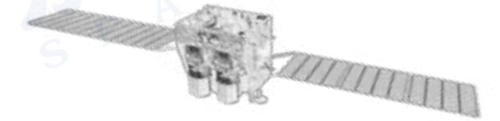


Multiple Point Targets



Multiple Strips

GF-1



GF-1 includes 4 identical satellites, the first one was launched in April 2013, and the other 3 were launched in March 2018. It mainly applies in land resource investigation, mineral resource management, atmospheric and water environment quality monitoring, and natural disaster emergency response and monitoring. GF is the Chinese abbreviation for GAO FEN - meaning 'high-resolution'.

Launch time

GF-1 A: 26 April 2013

GF-1 B / C / D: 11 April 2018

Altitude: 645 km

Orbit

Type: Sun-synchronous

Period: 97 minutes

Sensor bands

PAN: 450-900 nm (PMC only)

Blue: 450-520 nm

Green: 520-590 nm

Red: 630-690 nm

Near-IR: 770-890 nm

Spatial resolution

PMC: 2 m for PAN,

8 m for MS

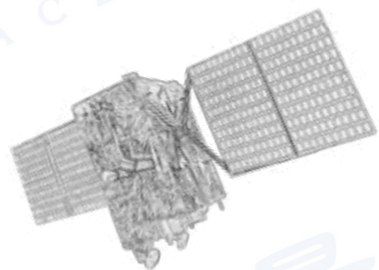
WFI: 16m for MS

Swath width

PMC: 70 km, WFI: 800km

Revisit time

4 days



GF-2

GF-2 is a follow-on mission of the GF-1 technology demonstration mission, a series of high-resolution optical Earth observation satellites of CNSA (China National Space Administration), Beijing, China. GF-2 is part of the CHEOS (China High Resolution Earth Observation System) family with the objective to provide high accuracy geographical mapping, land and resource surveying, environment change monitoring, near real-time observation for disaster prevention and mitigation, as well as for agriculture and forest estimation.

Launch time	19 August 2014
Orbit	Altitude: 631 km Type: Sun-synchronous Period: 97 minutes
Sensor bands	PAN: 450-900 nm Blue: 450-520 nm Green: 520-590 nm Red: 630-690 nm Near-IR: 770-890 nm
Spatial resolution	PAN: 0.8 m, MS: 3.2 m
Swath width	45 km (Nadir)
Revisit time	5 days

GF-2 | Beijing, China

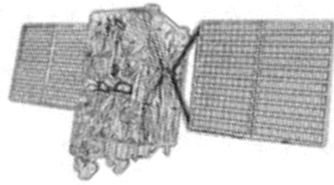


GF-3

The satellite is equipped with a multi-polarized C-band Synthetic Aperture Radar (SAR) at meter-level resolution. Its imaging modes include spot mode, strip-map mode and scan mode. GF-3 is the first Chinese high-resolution SAR satellite to acquire multi-polarized SAR image with resolution of 1-500 meters and cover a total swath of 10-650 kilometers. The maximum working duration is 50 minutes.

Launch time	19 April 2014				
Orbit	Altitude: 755 km Type: Sun-synchronous Local time: 6:00 and 18:00				
Name of the mode		Resolution	Swath	Incidence	Polarization
Spotlight(SL)		1m	10 km* 10 km	20°-50°	Optional single
Strip	Ultra fine strip(UFS)	3m	30 km	20°-50°	Optional single
	Fine strip 1 (FS 1)	5m	50 km	19°-50°	Optional dual
	Fine strip 2 (FS 2)	10m	100 km	19°-50°	Optional dual
	Standard strip(SS)	25m	130 km	17°-50°	Optional dual
	Full polarized strip 1	8m	30 km	20°-41°	Full
	Full polarized strip 2	25m	40 km	20°-38°	Full
Scan	Narrow(NSC)	50m	300 km	17°-50°	Optional dual
	Wide(WSC)	100m	500 km	17°-50°	Optional dual
	Global observation	500m	650 km	17°-53°	Optional dual

GF-3 | Wuhan, China

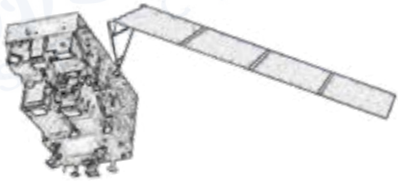


GF-4

GF-4 satellite is the first Chinese geosynchronous orbit remote sensing satellite and equipped with one stare camera with resolution of 50-m VNIR (Visible Light Near Infrared) and 400-m MWIR (Medium Wave Infrared) spectrum and 400-km swath. It is based on area array staring imaging and boasts capability of visible light, multi-spectrum and infrared imaging. It observes China and the surrounding areas by pointing control. GF-4 provides fast, reliable and stable optical remote sensing data to support disaster response, forestry, earthquake and meteorology applications, and supplements an advanced technology for alerting natural disasters, monitoring wild fires or typhoon. GF-4 satellite data is mainly applied in the industries as environment, marine, agriculture and water resources in China and neighbor countries.

Launch time	29 December 2015
Orbit	Altitude: 36,000 km Type: Geo-synchronous Fixed point location: 105.6°E
Design life	8 years
Sensor bands	VNIR: Blue: 450-900 nm Green: 450-520 nm Red: 630-690 nm Near-IR: 760-890 nm MWIR: 3500-4100 nm
Spatial resolution	VNIR: 50 m, MWIR: 400 m
Dynamic range	10 bits
Swath width	400 km
Revisit time	20 seconds

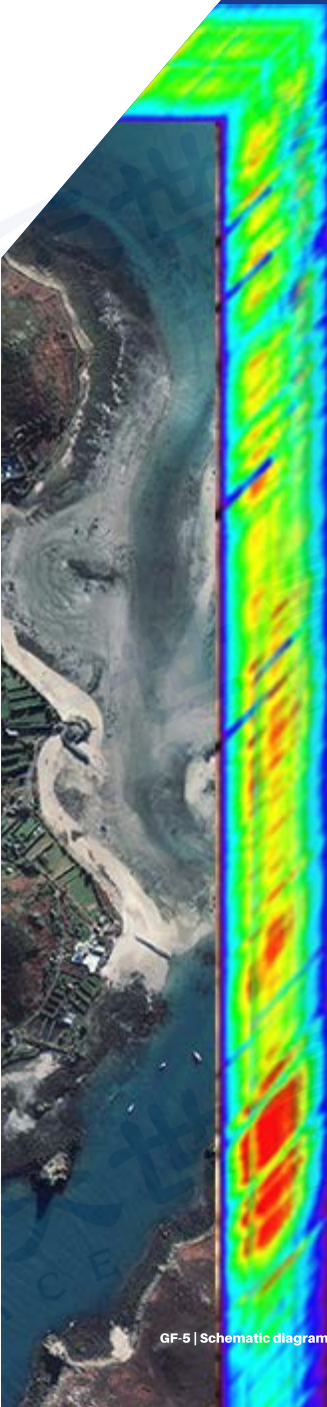
GF-4 | Beijing, China



GF-5

GF-5 is the first satellite in the world to observe both land and atmosphere simultaneously. It was launched in May 2018 and carried with six payloads at the first time. GF-5 possesses the first hyperspectral camera with features of both wide coverage and wide spectral band in the world. GF-5 can effectively detect the inland water bodies, land surface ecological environment, eroded minerals, rock and mineral categories, and also provide a good quality and high reliability of hyperspectral data for environmental monitoring, resource exploration, disaster prevention and mitigation and other industries.

Launch time	9 May 2018	
Atmospheric trace gases differential optical absorption spectrometer (EMI)	Spectral range(/μm)	0.240-0.315; 0.311-0.403 0.401-0.550; 0.545-0.710
	Spectral resolution(/nm)	0.3-0.5
	Spatial resolution(/km)	48(Trajectory direction)*13(Along-track direction)
Major greenhouse atmospheric gas detector (GMI)	Central wavelength(/μm)	0.765 (O2); 1.575 (CO2) 2.05 (CO2); 1.65 (CH4)
	Spectral range(/μm)	0.45-0.52 (O2); 1.568-1.583 (CO2) 2.043-2.058 (CO2); 1.642-1.658 (CH4)
	Spectral resolution(/cm)	0.6; 0.27
Multi-angle polarization atmospheric detector (DPC)	Spectral range(/μm)	0.433-0.453; 0.480-0.500(P) 0.555-0.575; 0.660-0.680(P) 0.758-0.768; 0.745-0.785 0.845-0.885(P); 0.900-0.920
	Spatial resolution(/km)	≥3.5
Atmospheric Infrared Ultra-spectral Sounder (AIUS)	Spectral range(/μm)	2.4-13.3
	Spectral resolution(/cm ⁻¹)	0.03
Atmospheric visible-shortwave infrared Hyperspectral Imager (AHSI)	Spectral range(/μm)	0.4-2.5
	Spatial resolution(/m)	30
	Swath width(/km)	60
	Spectral resolution(/nm)	VNIR:5;SWIR:10
Full-spectrum spectral imager (VIMS)	Spectral range(/μm)	0.45-0.52; 0.52-0.60; 0.62-0.68 0.76-0.86; 1.55-1.75; 2.08-2.35 3.50-3.90; 4.85-5.05; 8.01-8.39 8.42-8.83; 10.3-11.3; 11.4-12.5
	Spatial resolution(/m)	20 (0.45-2.35 μm) 40 (3.5-12.5μm)
	Swath width(/km)	60



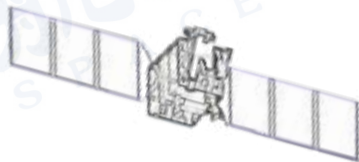
GF-5 | Schematic diagram



GF-6

Launched in June 2018, GF-6 is equipped with one 2 m Panchromatic and 8 m multispectral cameras (PMC), and one wide field imagers (WFI) with 16 m MS medium-resolution and a combined swath of 800 km. The revisit frequency of the spacecraft is ≤4 days and the observation range of the mission covers a region from 80°N to80°S. It mainly applies in precision agriculture observation, forestry resources survey, land resource investigation, mineral resource management, atmospheric and water environment quality monitoring, and natural disaster emergency response and monitoring. GF is the abbreviation for ‘GAO FEN’ - meaning ‘high-resolution’.

Launch time	2 June 2018	
	Altitude: 645 km	
	Type: Sun-synchronous	
Orbit	Period: 97 minutes	
	Design life: 5-8 years	
Life	1 * PMC	1 * WFI
	PAN: 450-900 nm	8 multispectral:
		B01: 450-520 nm
		B02: 520-590 nm
		B03: 630-690 nm
Sensor bands	4 multispectral:	Near-IR: 770-890 nm
	Blue: 450-520 nm	B05: 690-730 nm (Red Edge I)
	Green: 520-590 nm	B06: 730-770 nm (Red Edge II)
	Red: 630-690 nm	B07: 400-450 nm
	Near-IR: 770-890 nm	B08: 590-630 nm
Spatial resolution	PAN (Nadir): 2 m	MS (Nadir): 16 m
	MS (Nadir): 8 m	
Dynamic range	12 bits	12 bits
Swath width	90 km (Nadir)	800 (Nadir)
Onboard storage	3.75 TB	
Revisit time	4 days	



ZY-3/ZY3-02

Ziyuan (ZY) satellites currently consist of 2 satellites, ZY-3 and ZY3-02. Both are high-resolution stereoscopic Earth mapping satellites working as a team. The satellite carries three high-resolution panchromatic cameras and 1 infrared multispectral scanner (IRMSS). The panchromatic cameras are positioned at the front-viewing, vertical-viewing and rear-viewing positions, and they collect imagery of the Earth from different perspectives at the same time, allowing precise determination of the exact locations of different areas of interest on the Earth, resulting in ideal production of large-scale maps. At the same time, the payloads can also provide high-resolution infrared and stereoscopic images to satisfy the demands of the users from resource mapping, environmental surveying, disaster monitoring, city planning and national security segments.

Launch time	ZY-3 : 26 April 2013
	ZY3-02: 30 May 2016
Orbit	Altitude: 505 km
	Type: Sun-synchronous
	Period: 97 minutes
Design life	8 years
Mass	2500 kg
Sensor bands	PAN: 500-800 nm
	Blue: 450-520 nm
	Green: 520-590 nm
	Red: 630-690 nm
	Near-IR: 770-890 nm
Spatial resolution	ZY-3 : PAN: 2.1 m (Nadir), 3.5 m(Front/Rear)
	MS: 6 m
	ZY3-02: PAN: 2.1 m (Nadir), 2.5 m(Front/Rear)
Dynamic range	MS: 5.8 m
Swath width	10 bits
	PAN: 51 km(Nadir), 52 km(Front/Rear)
Onboard storage	MS: 51 km
	3.75 TB
Stereo Imaging	Yes
Revisit time	3-5 days per satellite