



GEOEYE-1: THE WORLD'S HIGHEST RESOLUTION COMMERCIAL EARTH-IMAGING SATELLITE

Sub-Half Meter Imaging and Collection Capabilities

The GeoEye-1 satellite is equipped with the most advanced technology ever used in a commercial remote sensing system. The satellite collects images at 0.41-meter panchromatic (black & white) and 1.65-meter multispectral resolution*. The satellite can collect up to 700,000 square kilometers of panchromatic (and up to 350,000 square kilometers of pan-sharpened multispectral) imagery per day. This capability is ideal for large scale mapping projects. GeoEye-1 can revisit any point on Earth once every three days or sooner.

Imagery Products

Customers have a choice of ordering half-meter Geo™, GeoProfessional™ and GeoStereo™ imagery products, as well as imagery-derived products, including DEMs (digital elevation models) and DSMs (digital surface models), large-area mosaics, and feature maps.

Satellite Technical Capabilities

A polar orbiting satellite, GeoEye-1 orbits the Earth 15 times per day flying at an altitude of 681 kilometers or 423 miles with an orbital velocity of about 7.5 km/sec or 17,000 mi/hr. Its sun-synchronous orbit allows it to pass over a given area at about 10:30 a.m. local time every pass. The entire satellite turns and swivels very quickly in orbit to point the camera at areas directly below, as well as from side-to-side and front-to-back. This agility enables it to collect more imagery during a single pass.



*Khalifa Sports City, Doha, Qatar
.50-meter resolution, pan-sharpened*

GEOEYE-1 IMAGING & COLLECTION SPECIFICATIONS

Launch Date	September 6, 2008 11:50:57 a.m. PDT		
Camera Modes	<ul style="list-style-type: none"> • Simultaneous panchromatic and multispectral (pan-sharpened) • Panchromatic only • Multispectral only 		
Resolution	0.41 m / 1.34 ft* panchromatic (nominal at Nadir) 1.65 m / 5.41 ft* multispectral (nominal at Nadir)		
Metric Accuracy/Geolocation	Mono: 5 m CE90, horizontal, without GCP, exclusive of terrain displacement Stereo: 4 m CE90, horizontal, without GCP 6 m LE90, vertical, without GCP These are specified as 90% CE (circular error) for the horizontal and 90% LE (linear error) for the vertical with no GCP (ground control point)		
Swath Widths & Representative Area Sizes	<ul style="list-style-type: none"> • Nominal swath width - 15.2 km / 9.44 mi at Nadir • Single-point scene - 225 sq km (15x15 km) • Contiguous large area - 15,000 sq km (300x50 km) • Contiguous 1° cell size areas - 10,000 sq km (100x100 km) • Contiguous stereo area - 6,270 sq km (224x28 km) (Area assumes pan mode at highest line rate)		
Imaging Angle	Capable of imaging in any direction		
Revisit Frequency at 681 km Altitude (40° Latitude Target)	Max Pan GSD (m)	Off Nadir Look Angle (deg)	Average Revisit (days)
	0.42	10	8.3
	0.50	28	2.8
	0.59	35	2.1
Daily Monoscopic Area	Up to 700,000 sq km/day (270,000 sq mi/day) of pan-only area (equivalent to about the size of Texas)		
Collection Capacity	Up to 350,000 sq km/day (135,000 sq mi/day) of pan-sharpened multispectral area (equivalent to about the size of New Mexico)		

*Data reflects ground sample distance resolution at Nadir for exclusive use by the U.S. government and any foreign government that the U.S. government may designate. Imagery sold to commercial customers will be resampled to 0.5-meter resolution. GeoEye's current operating license with NOAA does not permit the commercial sale of imagery below 0.5-meter resolution.

GEOEYE-1 TECHNICAL INFORMATION

Satellite Manufacturer	General Dynamics Advanced Information Systems
Electro-Optical Camera	ITT Corporation
Launch Facts	Boeing Corporation / Delta II vehicle / Vandenberg Air Force Base, CA
Satellite Weight	1955 kg / 4310 lbs
Satellite Storage and Downlink	1 Terabit recorder; X-band downlink (at 740 Mb/sec)
Operational Life	Fully redundant 7+ year design life; fuel for 15 years
Satellite Modes of Operation	<ul style="list-style-type: none"> • Store and forward • Real-time image and downlink • Direct uplink with real-time downlink
Orbital Altitude	681 kilometers / 423 miles
Orbital Velocity	About 7.5 km/sec or 17,000 mi/hr
Inclination/Equator Crossing Time	98 degrees / 10:30am
Orbit type/period	Sun-synchronous / 98 minutes

For More Information

For more information about GeoEye imagery products and solutions, visit geoeye.com/products, call **800.232.9037** / worldwide at **+1.703.480.5670**, or email info@geoeye.com.



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