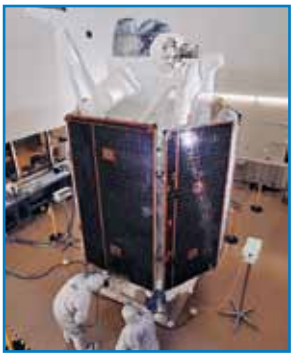
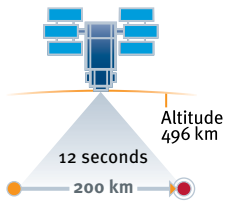
WORLDVIEW GLOBAL ALLIANCE™

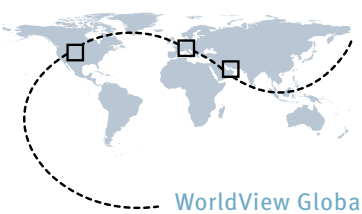
WorldView-1

DigitalGlobe has established itself as the world's most prominent supplier of high-resolution commercial satellite imagery. DigitalGlobe's constellation of satellites is unprecedented in the commercial imaging industry, enabling commercial and government customers around the globe to access a broad selection of geospatial information products from a single source.



WorldView-1 Altitude and Slew Time





WorldView-1, launched September 2007, is the first of our next-generation satellites—the most agile satellites ever flown commercially. The high-capacity, panchromatic imaging system features half-meter resolution imagery. Operating at an altitude of 496 kilometers, WorldView-1 has an average revisit time of 1.7 days and is capable of collecting up to 750,000 square kilometers (290,000 square miles) per day of half-meter imagery. The satellite is also equipped with state-of-the-art geolocation accuracy capabilities and exhibits stunning agility with rapid targeting and efficient in-track stereo collection.

Features

- Very high resolution
  - 50 cm panchromatic at nadir
  - 55 cm GSD at 20° off-nadir
- Industry-leading geolocation accuracy
  - Ultra-stable platform, high-precision attitude sensors and GPS
- Highest capacity over a broad range of collection types
  - 17.7 km width imaging swath (wider than any competitor)
  - Bi-directional scanning
  - Rapid retargeting using Control Moment Gyros (>2x faster than any competitor)
  - 2199 gigabits on-board storage
  - 800 Mbps X-band data downlink
- Direct downlink to customer sites available using same high-speed 800 Mbps X-band downlink
- World-class telescope
  - High contrast (MTF) and signal to noise ratio
  - Selectable Time Delay Integration (TDI) levels
  - 11-bit dynamic range
- Frequent revisits at high resolution
  - 1.7 days at 1 meter GSD or less
  - 5.4 days at 20° off-nadir or less (55 cm GSD)

Benefits

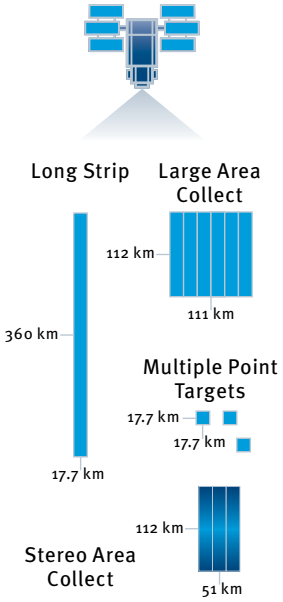
- Provides highly detailed imagery for precise map creation, change detection and in-depth image analysis
- Allows the creation of accurate maps in remote areas, maximizing the utility of whatever resources are available:
  - Geolocation accuracy specification of 6.5 m CE90 at nadir, with actual accuracy in the range of 4.0 - 5.5 m CE90 at nadir, excluding terrain and off-nadir effects
- Collects, stores and downlinks a greater supply of frequently updated global imagery products than competitive systems:
  - DigitalGlobe ImageLibrary filled with unrivaled speed
  - Broadest range of collection sizes, without sacrificing capacity from small points to long strips and large areas
  - Stereoscopic areas on a single pass, ensuring image continuity and consistency of quality
- Extends the range of suitable imaging collection targets and enhances image interpretability, because images can be acquired at even the lowest light levels
- Frequent revisits increase image collection opportunities, enhance change detection applications and enable accurate map updates

WorldView-1

Design and Specifications

Launch Information	Date: September 18, 2007 Launch Vehicle: Delta 7920 (9 strap-ons) Launch Site: Vandenberg Air Force Base, California
Orbit	Altitude: 496 kilometers Type: Sun synchronous, 10:30 am descending node Period: 95 minutes
Mission Life	7.25 years, including all consumables and degradables (e.g. propellant)
Spacecraft Size, Mass and Power	3.6 meters (12 feet) tall x 2.5 meters (8 feet) across 7.1 meters (23 feet) across the deployed solar arrays 2500 kilograms (5500 pounds) 3.2 kW solar array, 100 Ahr battery
Sensor Bands	Panchromatic: 400 - 900 nm
Sensor Resolution	50 cm Ground Sample Distance (GSD) at nadir 55 cm GSD at 20° off-nadir
Dynamic Range	11-bits per pixel
Time Delay Integration (TDI)	6 selectable levels from 8 to 64
Swath Width	17.7 kilometers at nadir
Attitude Determination and Control	3-axis stabilized Actuators: Control Moment Gyros (CMGs) Sensors: Star trackers, solid state IRU, GPS
Pointing Accuracy and Knowledge	Accuracy: <500 meters at image start and stop Knowledge: Supports geolocation accuracy below
Retargeting Agility	Acceleration: 2.29 deg/s/s Rate: 4.45 deg/s Time to Slew 200 kilometers: 10 seconds
Onboard Storage	2199 gigabits solid state with EDAC
Communications	Image and Ancillary Data: 800 Mbps X-band Housekeeping: 4, 16 or 32 kbps real-time, 524 kbps stored, X-band Command: 2 or 64 kbps S-band
Max Viewing Angle / Accessible Ground Swath	Nominally +/- 45° off-nadir = 1,035 km wide swath Higher angles selectively available
Max Contiguous Area Collected in a Single Pass (30° off-nadir angle)	Mono: 111 x 112 km (6 strips) Stereo: 51 x 112 km (3 pairs)
Revisit Frequency (at 40°N Latitude)	1.7 days at 1 meter GSD or less 5.4 days at 20° off-nadir or less (0.55 meter GSD)
Geolocation Accuracy (CE90%)	Specification of 6.5 m CE90 at nadir, with actual accuracy in the range of 4.0 - 5.5 m CE90 at nadir, excluding terrain and off-nadir effects With Registration to GCPs in Image: 2.0 meters (6.6 feet)

Collection Scenarios
(30° off-nadir angle)



Sensor Bands

Panchromatic

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