

WorldView-2 Collection Capacity

Launched October 8, 2009, WorldView-2 is the first high-resolution commercial satellite to provide half-meter panchromatic and 2 meter multispectral resolution across 8 spectral bands.

With the addition of WorldView-2, 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-2 brings increased reliability to the acquisition of satellite imagery. With a collection capacity of up to 1 million km² per day (equivalent to the area of France and Germany combined), plus average revisit times of 1.1 days and large area/in-track stereo capabilities, WorldView-2 strategically collects high-resolution imagery and predictably refreshes our vast ImageLibrary. WorldView-2 enables the WorldView Global Alliance to make high-resolution multispectral imagery truly ubiquitous, by providing affordable access to current and comprehensive high-resolution imagery.

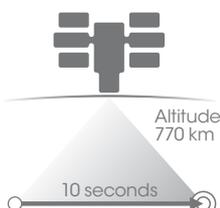
The combination of increased altitude, advanced agility, bi-directional detectors, and multiple ground stations will allow WorldView-2 to achieve such tremendous collection rates. WorldView-2's 770 km orbiting altitude combined with state-of-the-art Control Moment Gyros (CMG) provides rapid retargeting. And with the bi-directional push broom sensors, the CMGs will maneuver WorldView-2 like a paintbrush, acquiring a maximum area of over 10,000 km² in a single overhead pass. The agility and bi-directional scanning will also enable efficient in-track stereo collections of over 5,000 km².

Proven Technology

WorldView-1, the prelude to WorldView-2, has demonstrated the enormous collection capabilities that can be achieved with CMGs and bi-directional sensors. WorldView-1 has completely collected:

- The San Francisco Bay Area (7,700 km²) in a single pass, with low off-nadir imagery
- The Straits of Hormuz (37,058 km²) with 45° off-nadir imagery on single pass
- The SWAT Valley (711,453 km²) with repeat passes during the two month humanitarian crisis

Altitude and Slew Time



WorldView-2, with at least 25% more capacity than WorldView-1, doubles the overall collection capacity of the DigitalGlobe constellation, increases the collection of multispectral imagery by nearly 10 times, and provides highly accurate imagery that can support map creation around the globe. The entire constellation offers intraday revisits, creating a new standard on the availability of current high-resolution imagery.

WorldView Global Alliance™ delivers geospatial content the way you want it, when you want it. *We provide clearer, more accurate visual perspectives for spatial applications and decisions.*

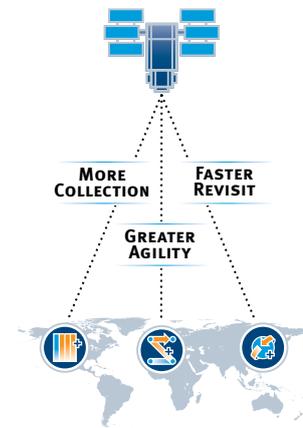




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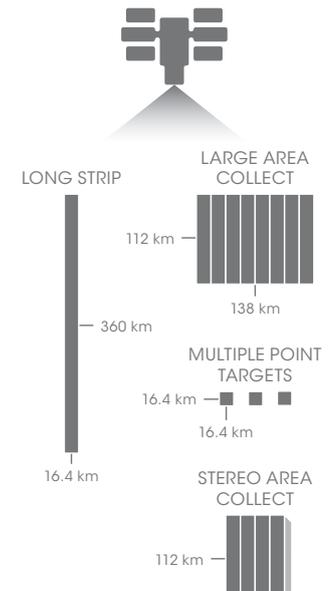
Design and Specifications

Launch Information	Date: October 8, 2009 Launch Vehicle: Delta 7920 (9 strap-ons) Launch Site: Vandenberg Air Force Base, California
Orbit	Altitude: 770 km Type: Sun synchronous, 10:30 am descending node Period: 100 min.
Mission Life	10-12 years, including all consumables and degradables (e.g. propellant)
Spacecraft Size, Mass and Power	5.7 m (18.7 ft) tall x 2.5 m (8 ft) across 7.1 m (23 ft) across the deployed solar arrays 2615 kg (5765 lbs) 3.2 kW solar array, 100 Ahr battery
Sensor Bands	Panchromatic: 450 - 800 nm 8 Multispectral: Coastal: 400 - 450 nm Red: 630 - 690 nm Blue: 450 - 510 nm Red Edge: 705 - 745 nm Green: 510 - 580 nm Near-IR1: 770 - 895 nm Yellow: 585 - 625 nm Near-IR2: 860 - 1040 nm
Sensor Resolution	Panchromatic: 0.46 m GSD at nadir, 0.52 m GSD at 20° off-nadir Multispectral: 1.85 m GSD at nadir, 2.07 m GSD at 20° off-nadir
Dynamic Range	11-bits per pixel
Swath Width	17.7 km 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 m at image start and stop Knowledge: Supports geolocation accuracy below
Retargeting Agility	Acceleration: 1.43 deg/s/s Rate: 3.86 deg/s Time to Slew 200 km: 10 sec
Onboard Storage	2199 Gb 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 = 1651 km wide swath Higher angles selectively available
Max Contiguous Area Collected in a Single Pass (30° off-nadir angle)	Mono: 138 x 112 km (6 strips) Stereo: 63 x 112 km (3 pairs)
Revisit Frequency (at 40°N Latitude)	1.1 days at 1 m GSD or less 3.7 days at 20° off-nadir or less (0.52 m GSD)
Geolocation Accuracy (CE90)	Demonstrated <3.5 m CE90 without ground control
Capacity	1 million km ² per day



Collection Scenarios

(30° off-nadir angle)



Sensor Bands

-  Panchromatic
-  Multispectral
-  4 Additional Bands

U.S. Regulation requires imagery to be resampled to a minimum of 50 cm pan and 2.0 m multispectral.

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WV2-Collection CapWVGA Rev 03/13