

WorldView-2

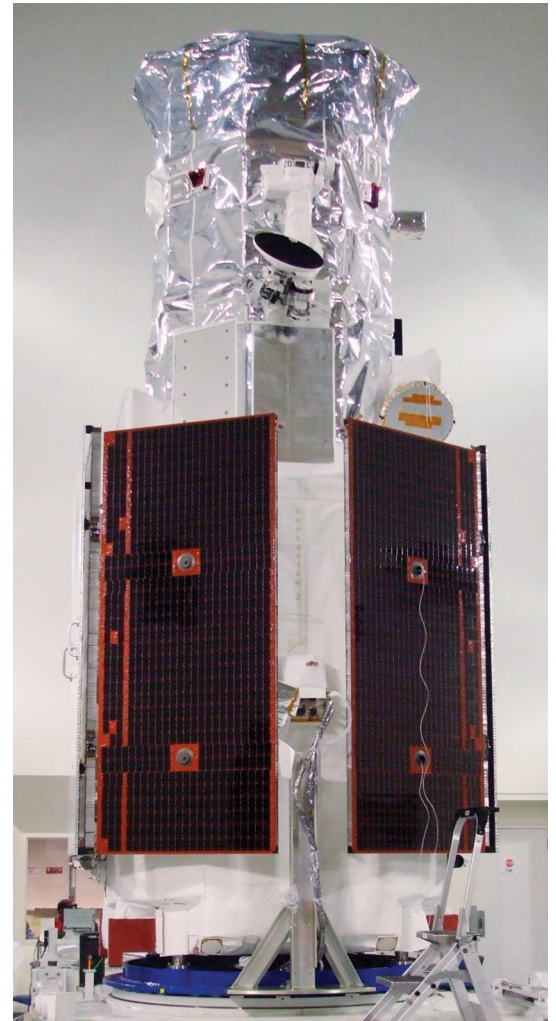
WorldView-2, launched October 2009, is the first high-resolution 8-band multispectral commercial satellite. Operating at an altitude of 770 km, WorldView-2 provides 46 cm panchromatic resolution and 1.85 m multispectral resolution. WorldView-2 has an average revisit time of 1.1 days and is capable of collecting up to 1 million km² of 8-band imagery per day, greatly enhancing DigitalGlobe's multispectral collection capacity for more rapid and reliable collection. WorldView-2 substantially expands imagery product offerings to all DigitalGlobe customers.

Features

- Very high resolution
- The most spectral diversity commercially available
 - 4 standard colors: blue, green, red, near-IR1
 - 4 new colors: coastal, yellow, red edge, and near-IR2
- Industry-leading geolocation accuracy
- High capacity over a broad range of collection types
- Bi-directional scanning
- Rapid retargeting using Control Moment Gyros (>2x faster than any competitor)
- Direct downlink to customer sites available
- Frequent revisits at high resolution

Benefits

- Provides highly detailed imagery for precise map creation, change detection, and in-depth image analysis
(Note: imagery must be re-sampled to 50 cm for non-US Government customers)
- Geolocate features to less than 5 m to create maps in remote areas, maximizing the utility of available resources.
- Collects, stores, and downlinks a greater supply of frequently updated global imagery products than competitive systems
- Stereoscopic collection on a single pass, ensures image continuity and consistency of quality
- Provides the ability to perform precise change detection, mapping and analysis at unprecedented resolutions in 8-band multispectral imagery



WorldView-2 clean room pre-launch preparations. The third of DigitalGlobe's state-of-the-art high-resolution commercial imagery satellites.

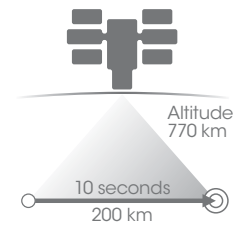


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Design and Specifications

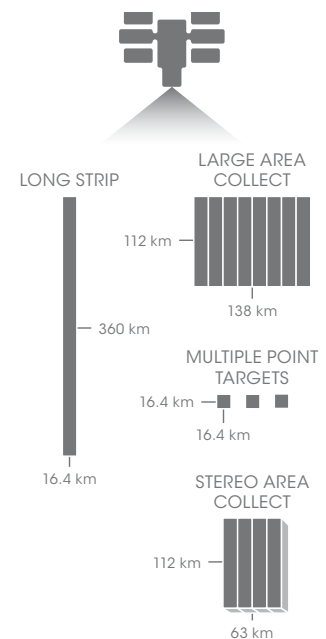
Launch Information	Date: October 8, 2009 Launch Vehicle: Delta 7920 (9 strap-ons) Launch Site: Vandenberg Air Force Base, California
Orbit	Altitude: 770 km Type: Sun synchronous, 10:30 am descending node Period: 100 min.
Mission Life	10-12 years, including all consumables and degradables (e.g. propellant)
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	16.4 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	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 Contiguous Area Collected in a Single Pass (30° off-nadir angle)	Mono: 138 x 112 km (8 strips) Stereo: 63 x 112 km (4 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

Altitude and Slew Time



Collection Scenarios

(30° off-nadir angle)



Sensor Bands

- Panchromatic
- Multispectral
- 4 Additional Multispectral Bands