DATA SHEET

WORLDVIEW-3

See a better world.®

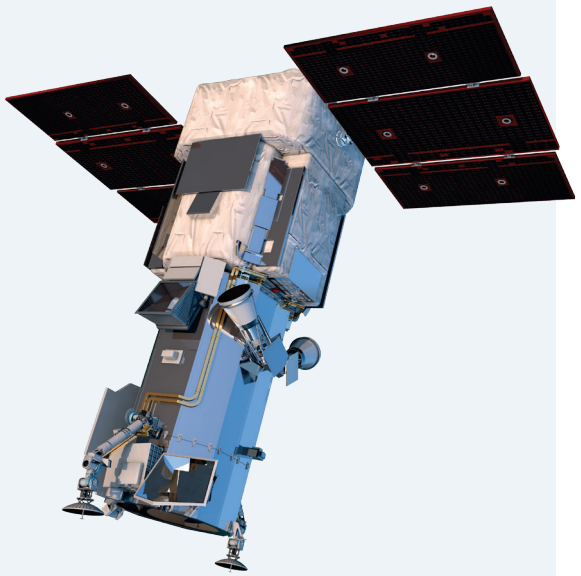
DigitalGlobe

WorldView-3

WorldView-3 is the industry's first multi-payload, super-spectral, high-resolution commercial satellite. Operating at an altitude of 617 km, WorldView-3 provides 31 cm panchromatic resolution, 1.24 m multispectral resolution, 3.7 m short-wave infrared resolution, and 30 m CAVIS resolution. WorldView-3 has an average revisit time of <1 day and is capable of collecting up to 680,000 sq km per day, further enhancing the DigitalGlobe collection capacity for more rapid and reliable collection.

Features & Benefits

- Very high-resolution
- Panchromatic 31 cm
- Visible & near-infrared 1.24 m
- Short-wave infrared 3.7 m
- CAVIS 30 m
- The most spectral diversity commercially available:
  - Panchromatic band
  - 4 standard VNIR colors: blue, green, red, near-IR1
  - 4 added VNIR colors: coastal, yellow, red edge, and near-IR2
  - 8 SWIR bands: Penetrates haze, fog, smog, dust, and smoke
  - 12 CAVIS bands: Maps clouds, ice and snow, corrects for aerosol and water vapor
- Industry-leading geolocation accuracy
- High capacity in various collection modes
- Bi-directional scanning
- Rapid retargeting using Control Moment Gyros (two times faster than any competitor)
- Direct Access tasking from and image transmission to customer sites
- Daily revisits
- Simultaneous, high resolution,
- Super-spectral imagery
- Large area mono and stereoscopic collection eliminates temporal variations
- Precision geolocation possible without ground control points
- Global capacity of 680,000 km sq per day
- New and enhanced applications, including:
  - Mapping
  - Land Classifications
  - Disaster Preparedness/Response
  - Feature Extraction/Change Detection
  - Soil/Vegetative Analysis
  - Geology: Oil & Gas, Mining
  - Environmental Monitoring
  - Bathymetry/Coastal Applications
- Superior haze penetration

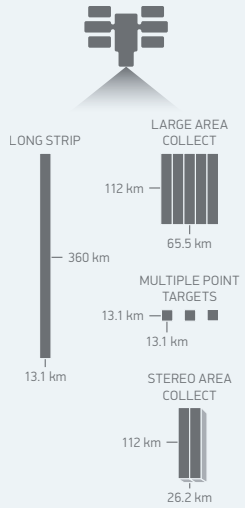


WorldView-3 artist rendering

Design and specifications

Orbit	Altitude: 617 km Type: Sun synchronous, 10:30 am descending node Period: 97 min.
Life	Spec Mission Life: 7.25 years Estimated service life: 10 to 12 years
Spacecraft size, mass and power	Size: 5.7 m (18.7 ft) tall x 2.5 m (8 ft) across 7.1 m (23 ft) across deployed solar arrays Mass: 2800 kg (6200 lbs) Power: 3.1 kW solar array, 100 Ahr battery
Sensor bands	Panchromatic: 450–800 nm 8 Multispectral: Coastal: 397–454 nm; Red: 626–696 nm Blue: 445–517 nm; Red Edge: 698–749 nm Green: 507–586 nm; Near-IR1: 765–899 nm Yellow: 580–629 nm; Near-IR2: 857–1039 nm 8 SWIR Bands: SWIR-1: 1184–1235 nm; SWIR-5: 2137–2191 nm SWIR-2: 1546–1598 nm; SWIR-6: 2174–2232 nm SWIR-3: 1636–1686 nm; SWIR-7: 2228–2292 nm SWIR-4: 1702–1759 nm; SWIR-8: 2285–2373 nm 12 CAVIS Bands: Desert Clouds: 405–420 nm; Water-3: 930–965 nm Aerosol-1: 459–509 nm; NDVI-SWIR: 1220–1252 nm Green: 525–585 nm; Cirrus: 1365–1405 nm Aerosol-2: 635–685 nm; Snow: 1620–1680 nm Water-1: 845–885 nm; Aerosol-1: 2105–2245 nm Water-2: 897–927 nm; Aerosol-2: 2105–2245 nm
Sensor resolution (or GSD, Ground Sample Distance; off-nadir is geometric mean)	Panchromatic nadir: 0.31 m; SWIR nadir: 3.70 m 20° off-nadir: 0.34 m; 20° off-nadir: 4.10 m Multispectral nadir: 1.24 m; CAVIS nadir: 30.00 m 20° off-nadir: 1.38 m
Dynamic range	11-bits per pixel Pan and MS; 14-bits per pixel SWIR
Swath width	At nadir: 13.1 km
Attitude determination and control	Type: 3-axis Stabilized Actuators: Control Moment Gyros (CMGs) Sensors: Star trackers, precision IRU, GPS
Pointing accuracy and knowledge	Accuracy: <500 m at image start/stop Knowledge: Supports geolocation accuracy below
Retargeting agility	Time to Slew 200 km: 12 sec
Onboard storage	2199 Gb solid state with EDAC
Communications	Image & Ancillary Data: 800 and 1200 Mbps X-band Housekeeping: 4, 16, 32, or 64 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: 66.5 km x 112 km (5 strips) Stereo: 26.6 km x 112 km (2 pairs)
Revisit frequency (at 40°N Latitude)	1 m GSD: <1.0 day 4.5 days at 20° off-nadir or less
Geolocation accuracy (CE90)	Predicted <3.5 m CE90 without ground control
Capacity	680,000 sq km per day

Collection scenarios



Sensor bands

- Panchromatic
- Multispectral
- 4 additional multispectral bands
- 8 SWIR bands
- 12 CAVIS bands