



# WORLDVIEW-3

DATA SHEET



## WorldView-3

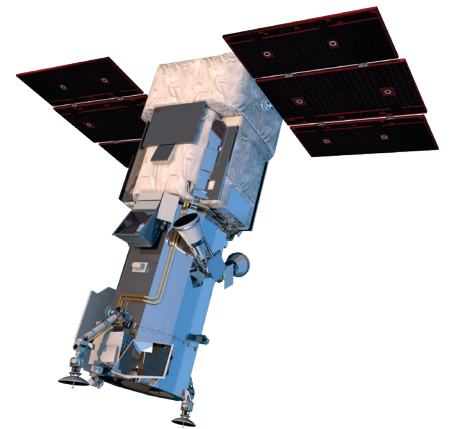
WorldView-3 is the industry’s first multi-payload, super-spectral, high-resolution commercial satellite. Operating at an altitude of 617 km, WorldView-3 provides 31 cm panchromatic resolution, 1.24 m multispectral resolution, 3.7 m short-wave infrared resolution, and 30 m CAVIS resolution. WorldView-3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

### Features

- 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

### Benefits

- 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 sq km 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

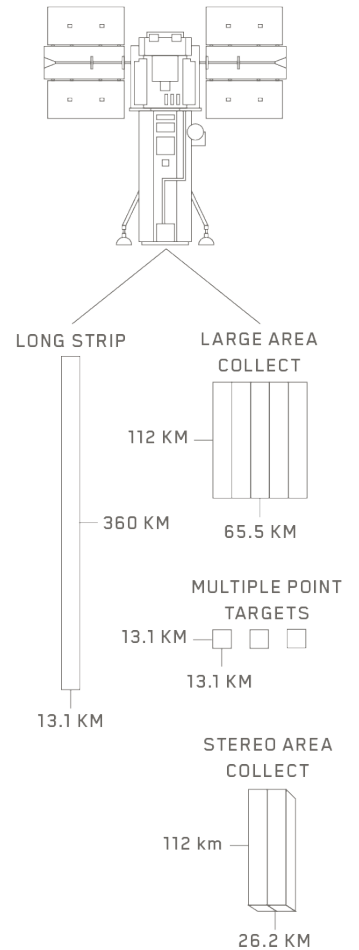
# MAXAR

# Specifications






<b>Orbit</b>	Altitude: 617 km Type: Sun synchronous, 10:30 am descending node Period: 97 min
<b>Life</b>	Spec mission life: 7.25 years Estimated service life: 10 to 12 years
<b>Spacecraft size, mass and power</b>	Size: 5.7 m (18.7 ft) tallx2.5 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
<b>Sensor bands</b>	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-3: 2105-2245 nm Water-2: 897-927 nm      Aerosol-3 P: 2105-2245 nm
<b>Sensor resolution (or GSD, Ground Sample Distance; off-nadir is geometric mean)</b>	Panchromatic nadir: 0.31 m 20 degrees off-nadir: 0.34 m Multispectral nadir: 1.24 m 20 degrees off-nadir: 1.38 m SWIR nadir: 3.70 m 20 degrees off-nadir: 4.10 m CAVIS nadir: 30.00 m
<b>Dynamic range</b>	11-bits per pixel pan and MS; 14-bits per pixel SWIR
<b>Swath width</b>	At nadir: 13.1 km
<b>Attitude determination and control</b>	Type: 3-axis Stabilized Actuators: Control Moment Gyros (CMGs) Sensors: Star trackers, precision IRU, GPS
<b>Pointing accuracy and knowledge</b>	Accuracy: <500 m at image start/stop Knowledge: Supports geolocation accuracy below
<b>Retargeting agility</b>	Time to slew 200 km: 12 sec
<b>Onboard storage</b>	2199 GB solid state with EDAC
<b>Communications</b>	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
<b>Max Contiguous Area Collected in a Single Pass (30 degrees off-nadir angle)</b>	Mono: 66.5 kmx112 km (5 strips) Stereo: 26.6 kmx112 km (2 pairs)
<b>Revisit frequency (at 40 degrees North latitude)</b>	1 m GSD: <1.0 day 4.5 days at 20 degrees off-nadir or less
<b>Geolocation accuracy (CE90)</b>	Predicted <3.5 m CE90 without ground control
<b>Capacity</b>	680,000 sq km per day

# COLLECTION SCENARIOS

(30 degrees off-nadir angle)



# SENSOR BANDS

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

