WorldView-4:

WorldView-4 is the latest earth observation satellite operated by DigitalGlobe launched on 11th November 2016 from Vandenberg Air Force Base Space Launch Complex 3E. Worldview-4 provides similar imagery as WorldView-3 with highest resolution of 31 cm. It is designed and built by ITT Exelis and Harris having 1.1m in diameter.

WorldView-4 will provide products such as satellite imagery, geometrically corrected products, terrain corrected or ortho-rectified products, stereo pair products and large-area mosaics and feature maps. Advantages of the satellite are high resolution and multi-spectral imagery, remove all the errors such as temporal variation and reducing slew time, precision geo-location possible without ground control points.
WorldView-4 Satellite Specifications are as follow-

**Launch Information:**
- **Date:** 11 October, 2016
- **Launch Vehicle:** Atlas V 401, AV-062
- **Launch Site:** Vandenberg Air Force Base Space Launch Complex 3E.

**Operator:**
- DigitalGlobe.

**Orbit:**
- **Altitude:** 617 km above earth’s surface.

**Type:**
- Sun-synchronous, 10:30 am descending Node.

**Life:**
- 10 to 12 years.

**Period:**
- 97 min.

**Inclination:**
- 97.98 degrees.

**Spacecraft Size:**
- **Size:** 5.3 m (17.7 ft.) tall x 2.5 m (8 ft.) across x 7.9 m (26 ft.) across deployed solar arrays.

**Aperture:**
- Aperture: 1.1m

- Panchromatic: 450 - 800 nm
- 4 Multispectral:
  - Red:655 - 690 nm
  - Green:510 - 580 nm
  - Blue:450 - 510 nm
  - Near-IR:780 - 920 nm

**Sensor Resolution:**
- **(GSD, Ground Sample Distance, geometric mean)**
  - 56° Off-Nadir:1.00 m
  - 65° (earth limb):3.51 m
  - Multispectral Nadir:1.24 m
  - 20° Off-Nadir:1.38 m
  - 56° Off-Nadir:4.00 m
  - 65° (earth limb):14.00 m

**Dynamic Range:**
- 11-bits per pixel.

**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
<table>
<thead>
<tr>
<th><strong>Retargeting Agility:</strong></th>
<th>Time to Slew 200 km: 10.6 sec</th>
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<tbody>
<tr>
<td><strong>Onboard Storage:</strong></td>
<td>3200 Gb solid state with EDAC</td>
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<td><strong>Communications:</strong></td>
<td>Image &amp; Ancillary Data: 800 Mbps X-band</td>
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<td>Housekeeping: 120 kbps real time, X-band</td>
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<td>Command: 64 kbps S-band</td>
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<td><strong>Max Contiguous Area Collected in a Single Pass:</strong></td>
<td>Mono: 66.5 km x 112 km (5 strips)</td>
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<td>(30° off-nadir angle)</td>
<td>Stereo: 26.6 km x 112 km (2 pairs)</td>
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<tr>
<td><strong>Revisit Frequency:</strong></td>
<td>1 m GSD: &lt; 1.0 day</td>
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<td>(at 40°N Latitude)</td>
<td>Total constellation &gt;4.5 accesses/day</td>
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<tr>
<td><strong>Geolocation Accuracy:</strong></td>
<td>Predicted &lt;4 m CE90 without ground control</td>
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<td>(CE90)</td>
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<tr>
<td><strong>Capacity:</strong></td>
<td>680,000 km² per day</td>
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<tr>
<td><strong>Main telescope name:</strong></td>
<td>GeoEye Imaging System-2</td>
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First image was taken on 26th November, 2016 and published on 2nd December, 2016, below are some sample imageries of WorldView-4.