High-Resolution Gazing Imagery Using Microsatellites

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Imaging Systems Team
July 16, 2014
The Skybox Imaging Vision
Combine high-revisit imagery with large-scale analytics

Using microsatellites, Skybox delivers:
- High-resolution terrestrial imagery
- High-definition terrestrial video
Collection Strategy

TDI (pushbroom) sensor

Framing sensor
Sensor Configuration

Sensor 2

- PAN
- B
- G
- R
- n-IR

Sensor 1

Sensor 3
<table>
<thead>
<tr>
<th>Specification</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Life</td>
<td>6+ years</td>
</tr>
<tr>
<td>Dimensions (stowed)</td>
<td>60 cm x 60 cm x 95 cm</td>
</tr>
<tr>
<td>Satellite Mass</td>
<td>120 kg</td>
</tr>
<tr>
<td>LEO Orbit</td>
<td>600 km sun synchronous @ 10:30AM rise time</td>
</tr>
<tr>
<td>Launch</td>
<td>November 21, 2013, Dnepr</td>
</tr>
</tbody>
</table>

- Calibration completed in March 2014
- Commercial operations upcoming
Video Products

Full Motion Video

SkySat-1 Video of Muir Glacier
May 23, 2014

- Meter class spatial resolution
- Panchromatic (450 nm - 900 nm)
- 30 frames per second
- Up to 90 seconds in length

- Raw frames (11-bit TIF format)
- RPC file for each frame
- Satellite ephemeris data
- Sensor geometry
Imaging System Calibration

**Radiometric accuracy**

Relative calibration
- Gain/offset correction
- Bad pixel replacement
- Flat field correction

**Geometric accuracy**

CE 90 < 100 m
- GCP-based calibration
- Validated every month

**Targeting accuracy**

250 m radius coverage
- Checked before delivery

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[Diagram of pixel responses and radiance relationship]

[Diagram of GCP location with estimated location and target within a video frame]
Video Applications Today

Starting to work with partners to define the applications of today

3-D reconstruction (along-track stereo)

BRDF

Requires absolute radiometric calibration
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<td>July 8, 2014, Soyuz (scheduled)</td>
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</table>
Skybox’s Access Roadmap

Average # of collection revisits per day

Latitude

2014

6 Sats

9 Sats

12 Sats

15 Sats

18 Sats

21 Sats

24 Sats

2 Sats
Video Applications of the Future

The Skybox constellation will enable video applications of the future

Repeat stereo/BRDF
Change detection
Persistent imaging
Geohazard monitoring
Worldwide glacier characterization
And more...
Get in Touch.

We are continually seeking to expand our partner network. Technology innovators, data providers, service providers, distributors, software integrators - we’d love to talk to you.

Feel free to email us at partners@skybox.com.

We look forward to hearing from you.

www.skybox.com