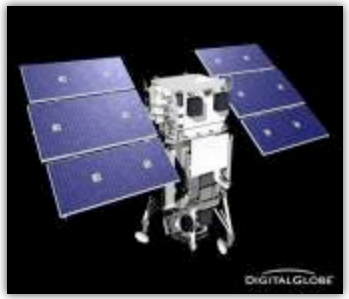
WorldView-2 Overview

Most Advanced Satellite Constellation

- Finest available resolution showing crisp detail
- Greatest collection capacity
- Highest geolocation accuracy
- Largest high resolution swath width
- Rapid targeting and in track stereo collection
- Aggregate Capacity of 1,935,000 km² per day with intra-day revisits

DigitalGlobe Satellites	QuickBird	WorldView - 1	WorldView-2 (Q3-09)
Resolution	60 cm	50 cm	50 cm
Swath Width	16.5 km	17.6 km	16.4 km
Avg. Revisit	2.4 days	1.7 days	1.1 days
Slew Time	62 seconds	9 seconds	9 seconds
Spectral Bands	Pan + 4 MS	Pan	Pan + 8 MS
*Accuracy Spec.	24M CE90	6.5M CE90	6.5M CE90
Collection	210,000 km^2 per day	750,000 km^2 per day	975,000 km^2 per day

*At nadir on flat terrain



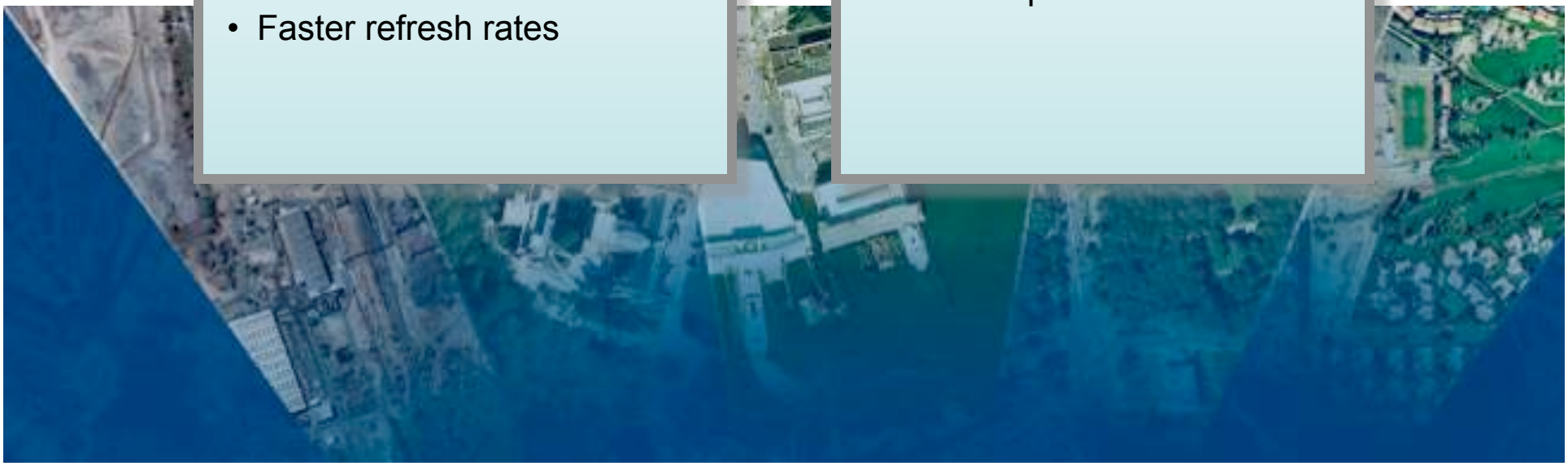
Looking Forward With WorldView-2

Content & Capacity

- More Capacity (WorldView-2)
- Refined strategic collects to support comprehensive content plan
- Faster refresh rates

Product

- New products
- Additional band options
- Online tools
- Vertical specific



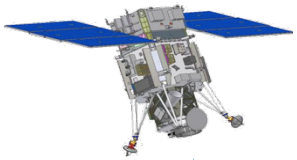
Slew Time - Agility Comparisons

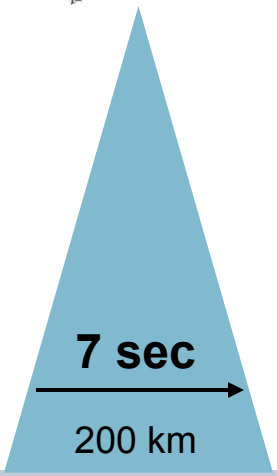
WorldView-1 and WorldView-2's Control Moment Gyros (CMGs) provide an acceleration **more than 10X better** than competition

Better Agility

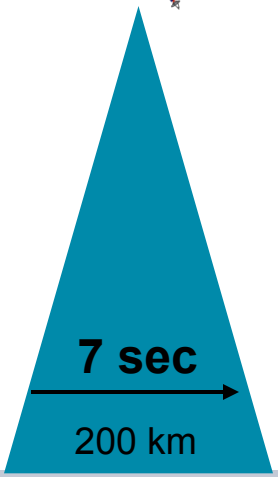
- Improves collection efficiency
- Permits rapid collection of point targets and stereo
- Increases imaging capacity

WorldView-1





WorldView-2

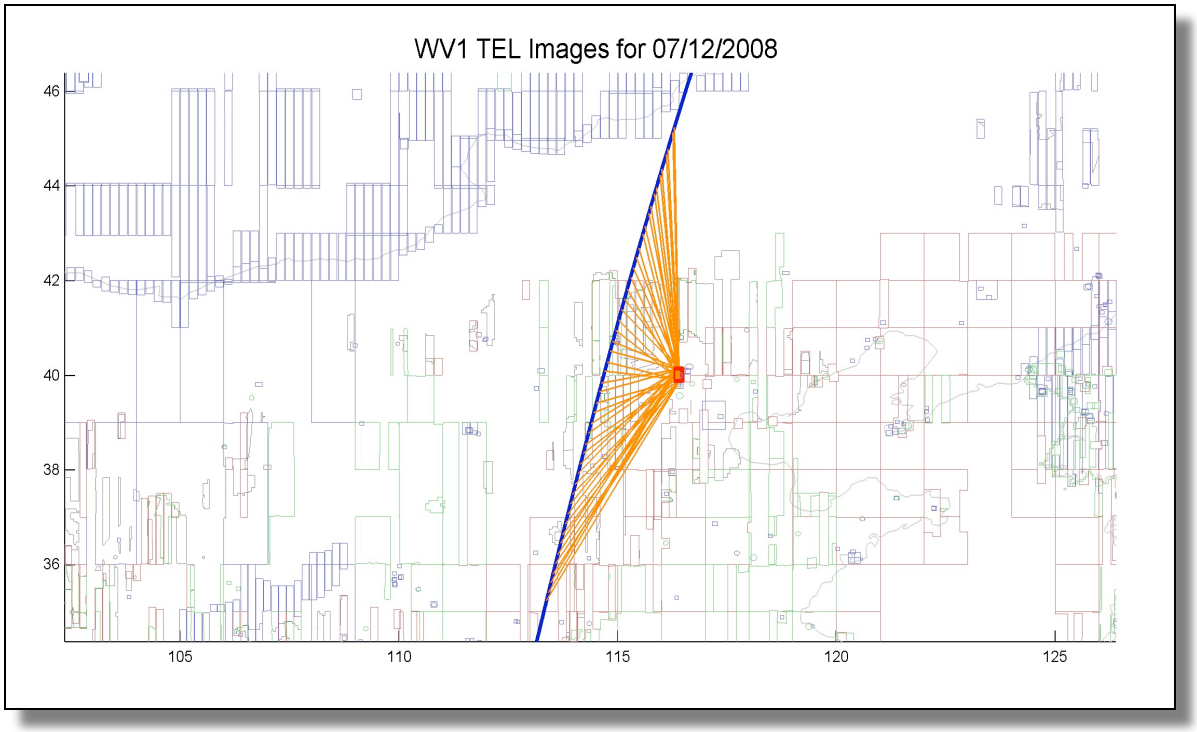


Collection Capabilities – Large Areas

Point Targets, Strips and 1-Degree Cells Separated by 200 km	Area Collection Potential for 10 satellite passes	
	WorldView-1	WorldView-2
All Point Targets or Single Scenes	49,200 km²	45,510 km²
All 50 km Strips	100,860 km²	90,810 km²
All 1-Degree Cells	152,550 km²	132,210 km²
1/3 Points, 1/3 Strips, 1/3 1-Degree Cells	100,870 km²	89,510 km²

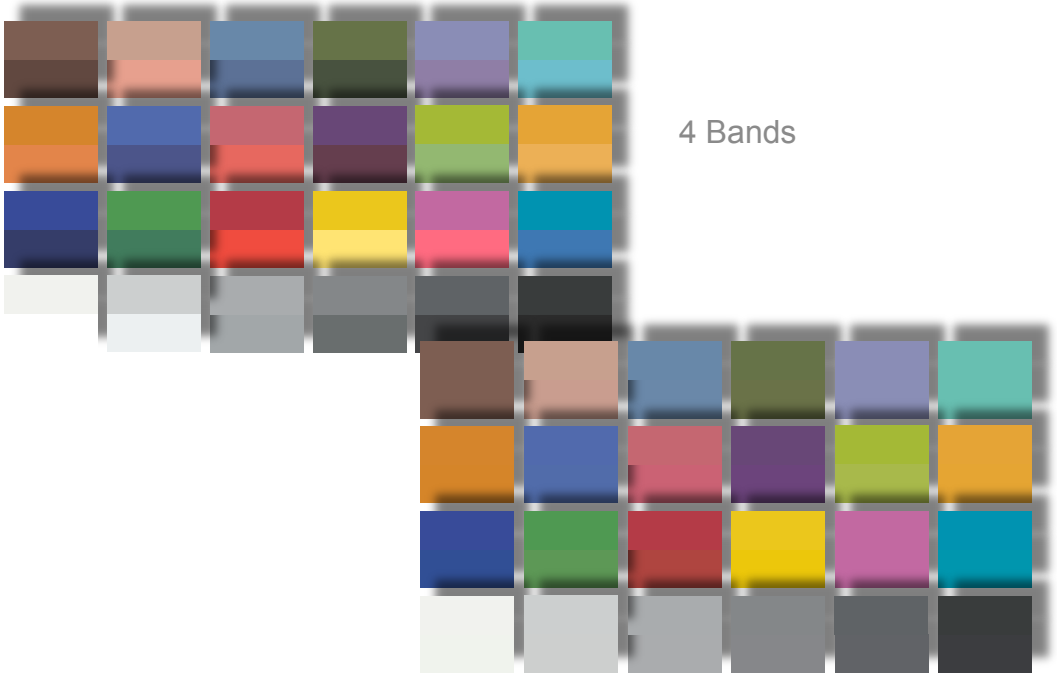
Faster Synoptic Collects

WorldView-2 will be the fastest for synoptic collects of targets and large areas while providing 8 spectral bands



Note: Information based on WV-1 collects and all collections < 45 degrees off-nadir

Spectral Bands



4 Bands

8 Bands

Benefits of 8 Bands – Color Accuracy

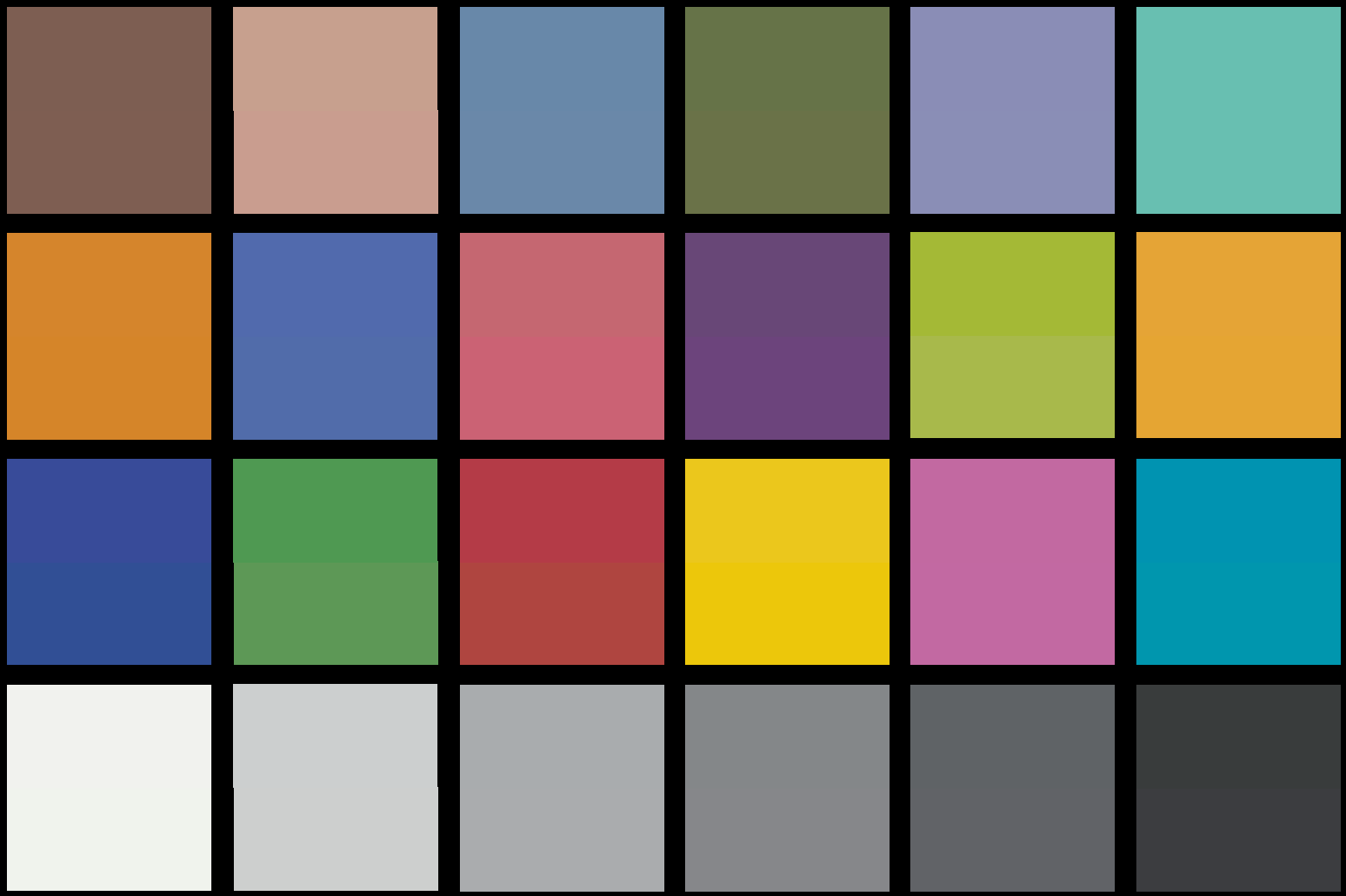
Truth

QB

Benefits of 8 Bands – Color Accuracy

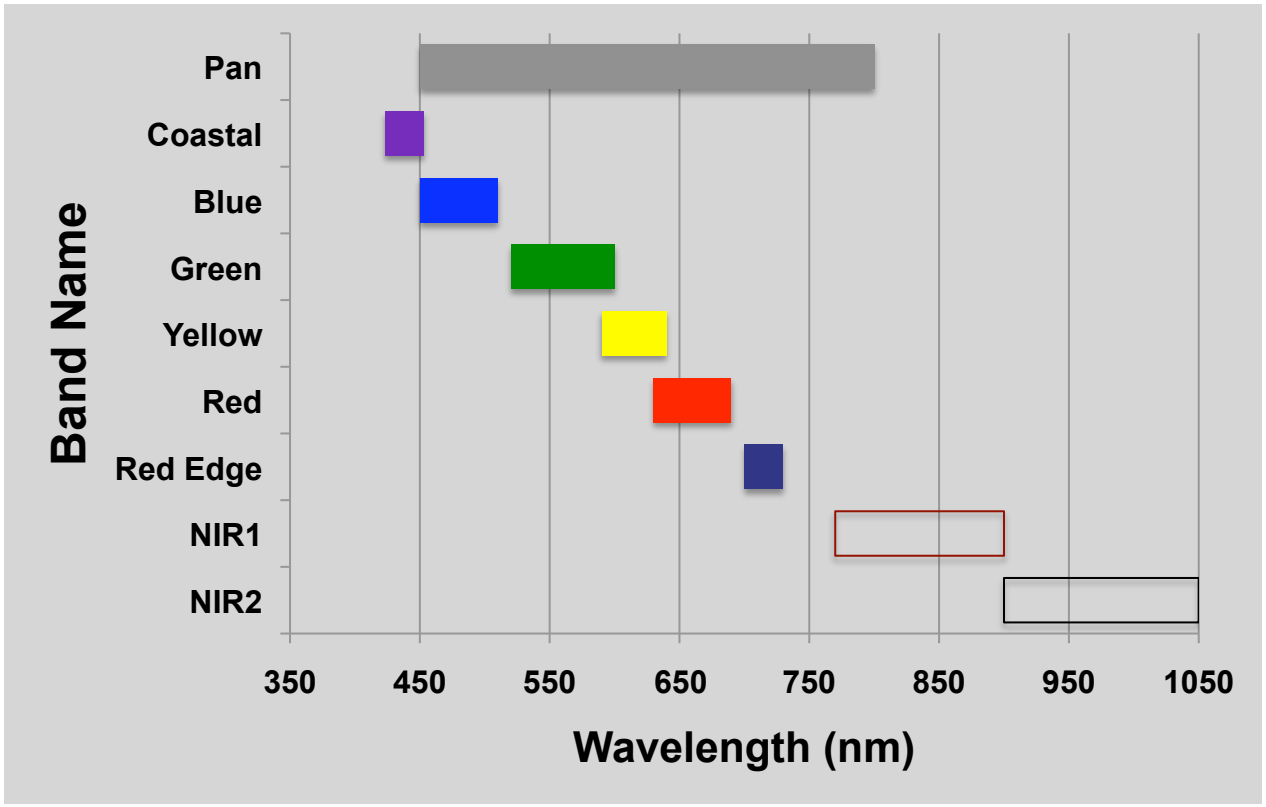
Truth

WV-2



WorldView-2 Unique Spectral Bands

New MS Bands



WorldView-2 Spectral Bands – Applications

Coastal Band (400 - 450 nm):

- This band supports *vegetation identification* and *analysis*, and supports *bathymetric studies* based upon its chlorophyll and water penetration characteristics. Also, this band is subject to atmospheric scattering and will be used to investigate *atmospheric correction techniques*.

Yellow Band (585 - 625 nm):

- Used to identify "yellow-ness" characteristics of targets, important for *vegetation applications*. Also, this band will assist in the development of *"true-color"* hue correction for human vision representation.

Red Edge Band (705 - 745 nm):

- Aids in the analysis of *vegetative condition*. Directly related to *plant health* revealed through chlorophyll production.

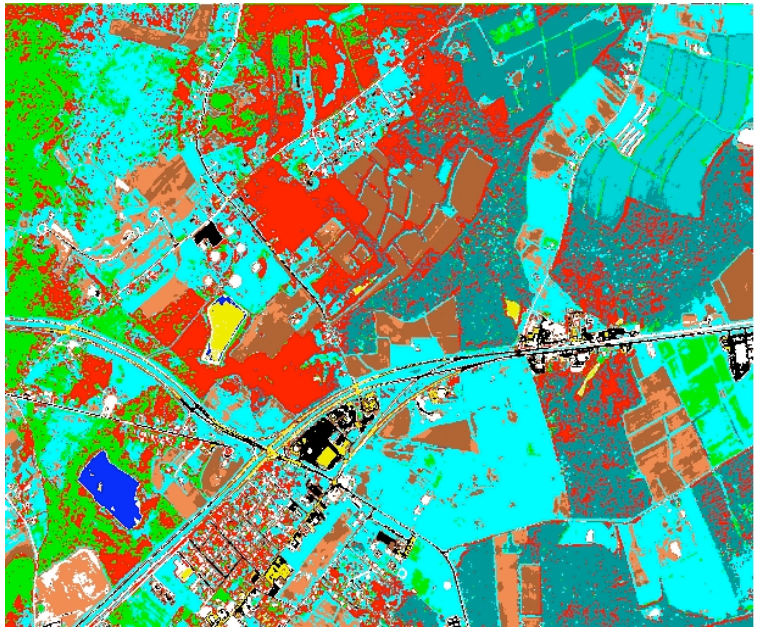
Near Infrared (IR) 2 Band (860 - 1040 nm):

- This band overlaps the NIR 1 band but is *less affected by atmospheric influence*. It supports *vegetation analysis* and *biomass studies*.

Benefits of 8 Bands – Classification Accuracy

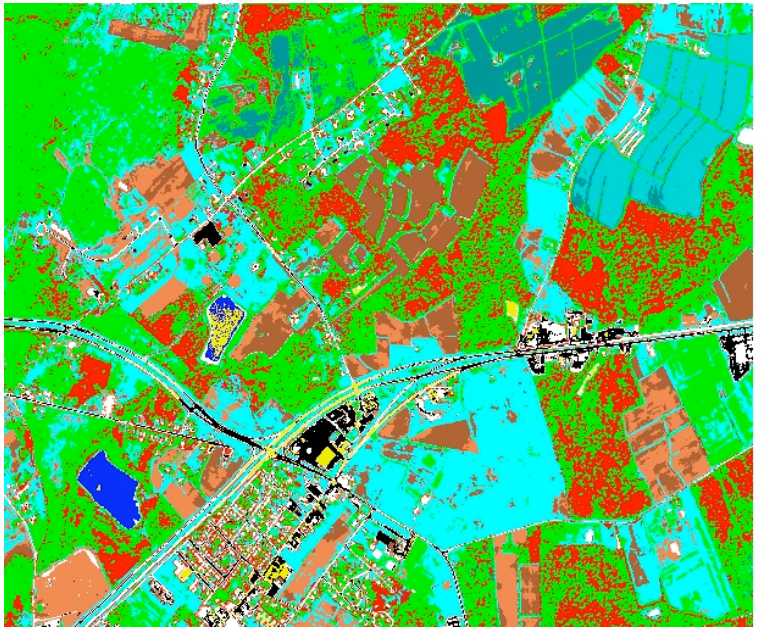
Example: Gaussian Maximum Likelihood (GML) Classification

4 MS Bands (QB)



Overall Accuracy = 47.3%

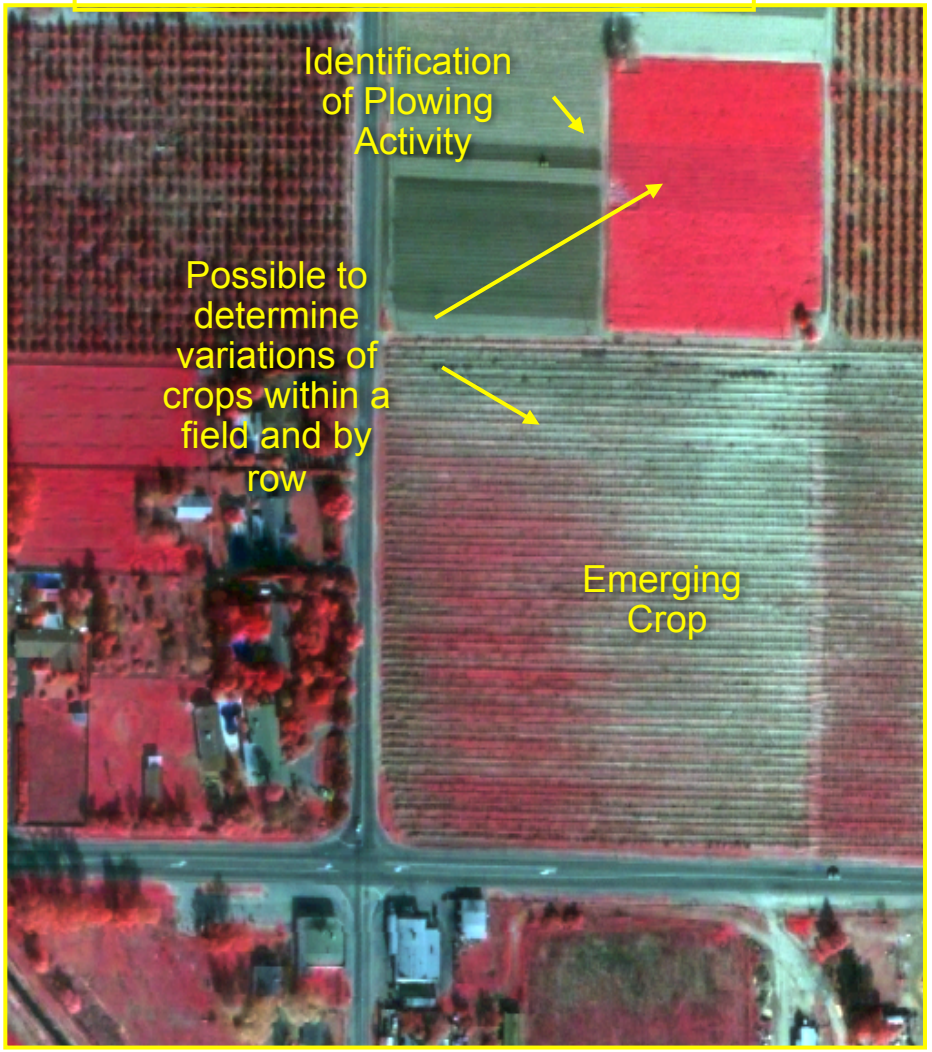
8 MS Bands (WV-2)



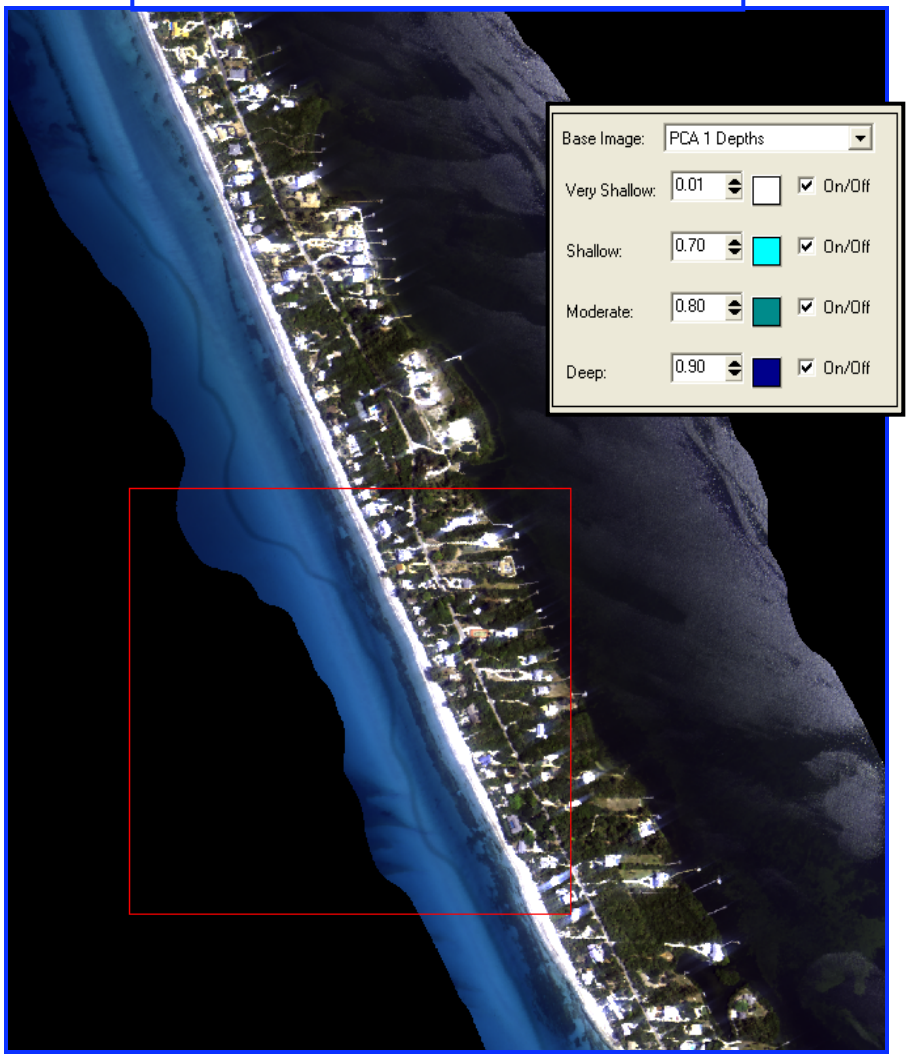
Overall Accuracy = 76.5%

WorldView-2 Product Applications

Agricultural Analysis



Littoral Analysis



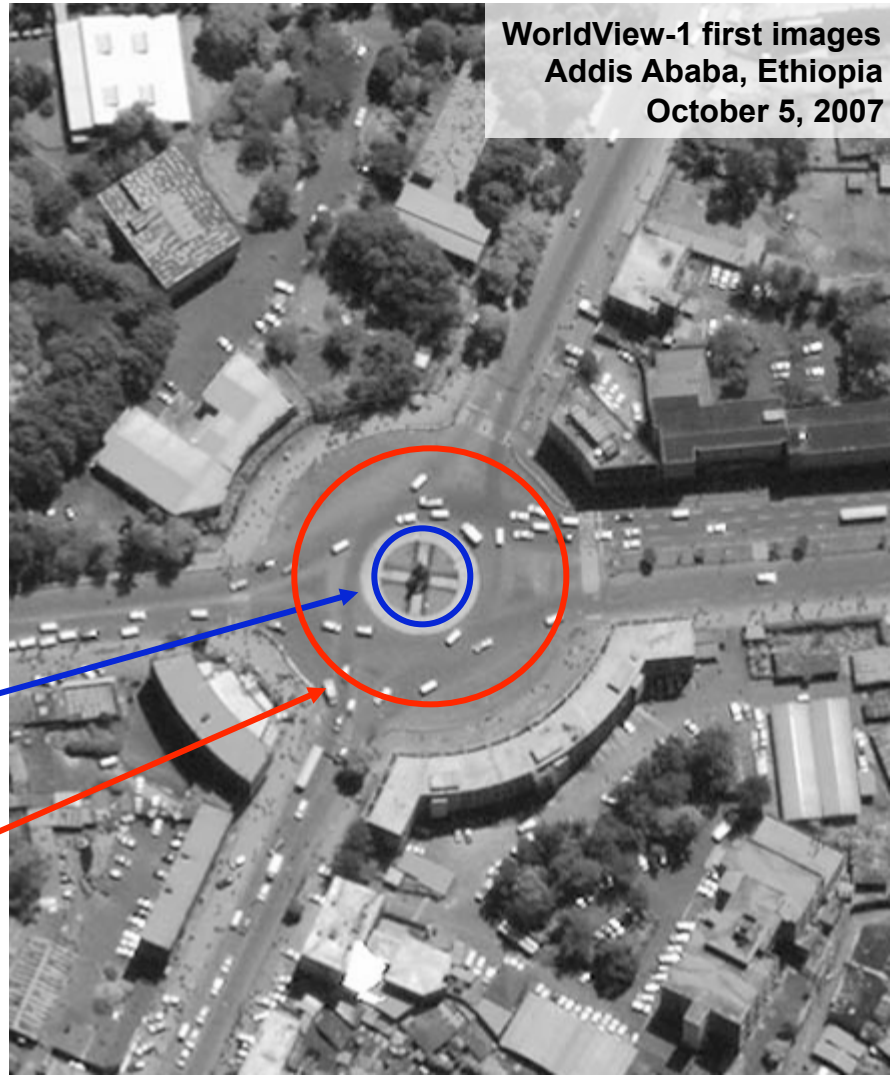
Accuracy and Resolution

QuickBird – 60 cm

WorldView-1 – 50 cm

WorldView-2 Resolution and Accuracy

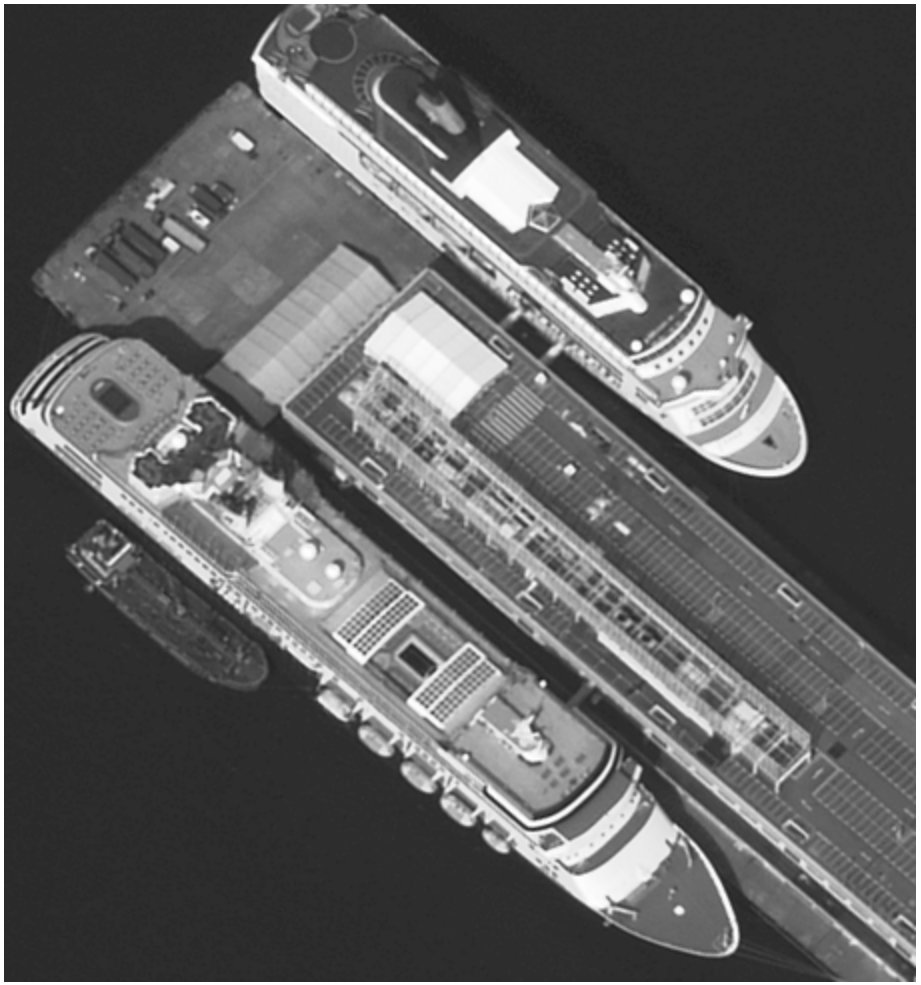
- WorldView-2 will have 50 cm resolution and comparable accuracy standards as WorldView-1
  - WorldView-1stand-alone accuracy certified at 4.1m CE90% or better without ground control at NADIR*



* Excludes terrain displacement and viewing angle distortion

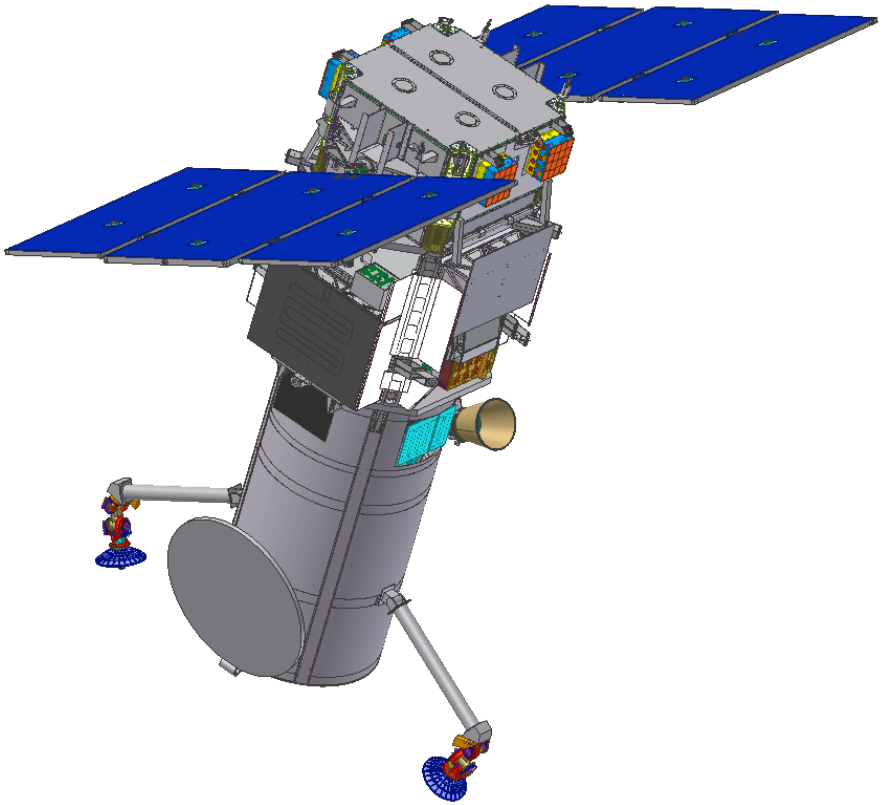
Accuracy Advantage

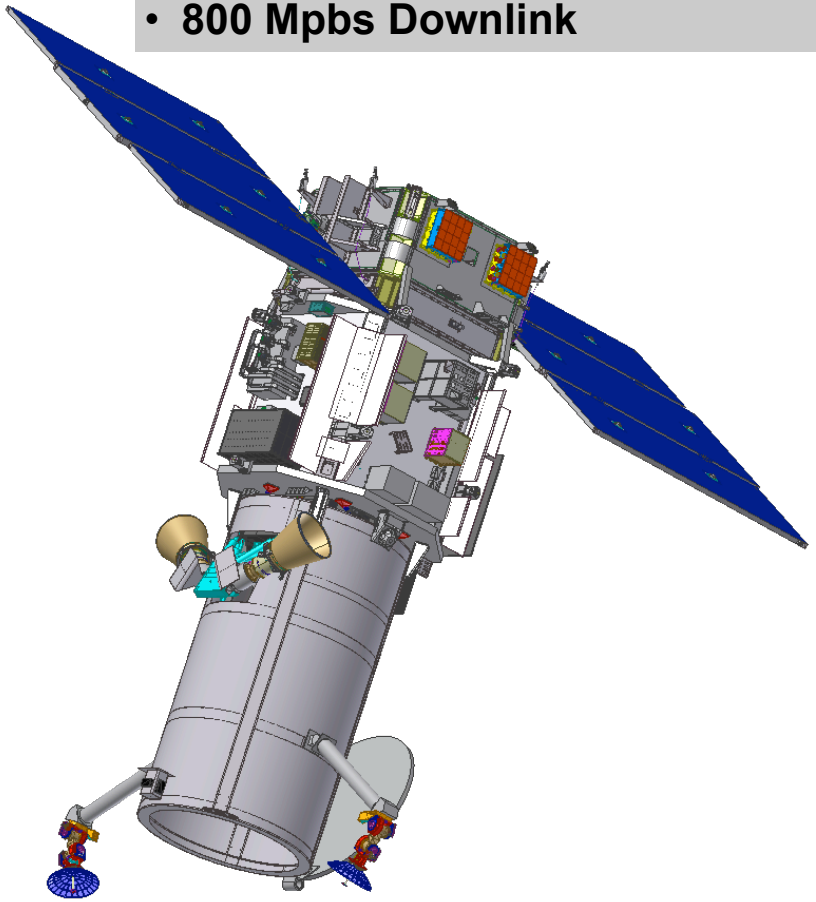
- For many applications, WorldView-2 accuracy specs will be good enough to use the imagery without further processing
- When additional processing such as Orthorectification is required, using a highly accurate image, such as WorldView-2, will speed up processing time and provide better results



WorldView-2 Satellite Overview

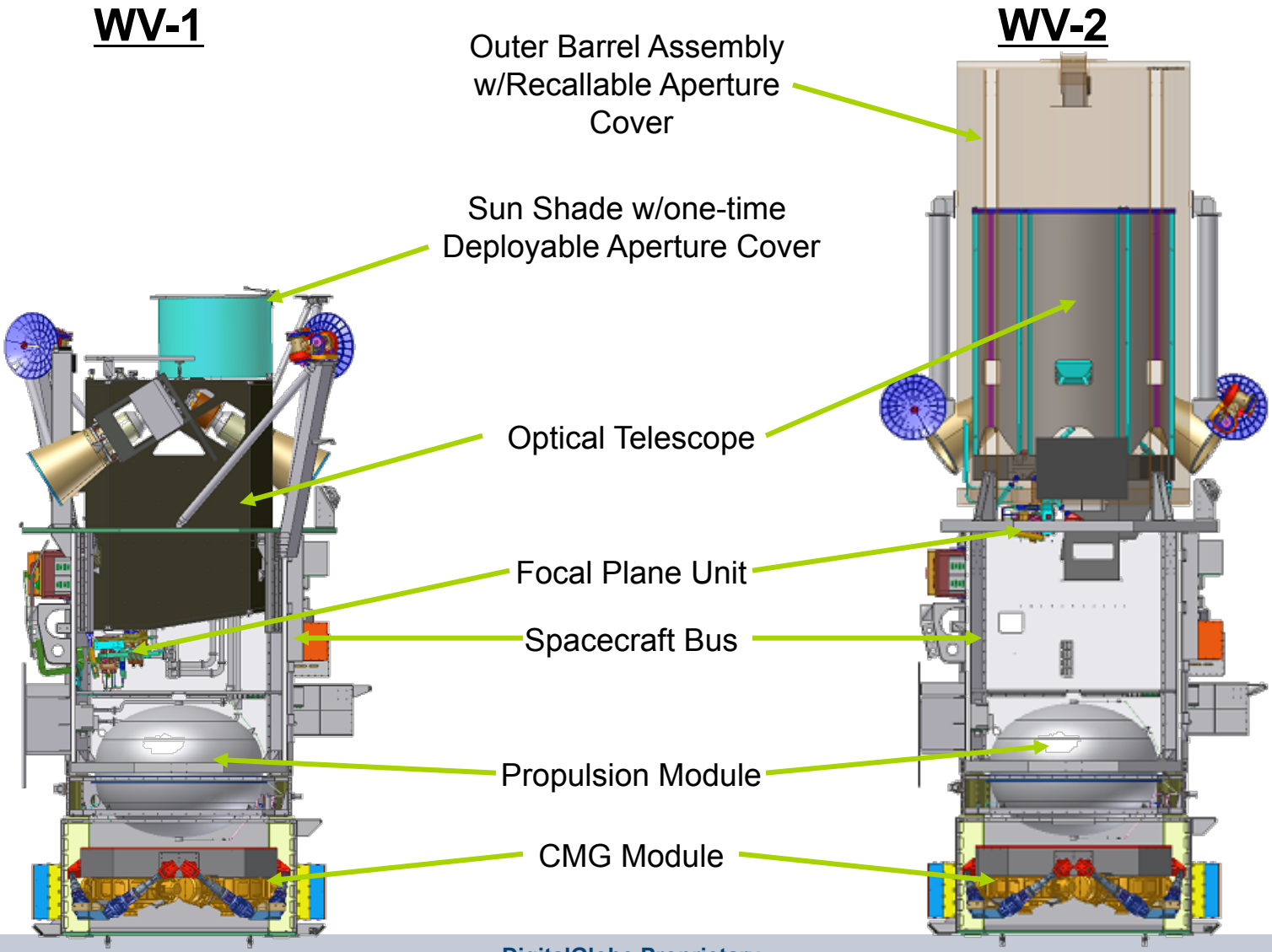
- 110cm Aperture Telescope
- <0.5m Nadir GSD at 770 km
- Pan & 8 MS, Bi-Directional Scan
- 2 Terabit Recorder
- 800 Mpbs Downlink





- Control Moment Gyros
- Large Propulsion Systems
- 2 Single Axis Solar Array Wings
- Star Tracker, SIRU, GPS

WorldView-1 & 2 – A Common Spacecraft Bus



WorldView-2 Progress