



DIGITALGLOBE®

The DigitalGlobe Constellation:

MDA Mission Potential

Presentation at TEXAS IV

29 Sep 2010

Neal Anderson

VP, Technology Development



The DigitalGlobe
CONSTELLATION

**INTRA-DAY
REVISIT**
to any place
ON EARTH

QuickBird



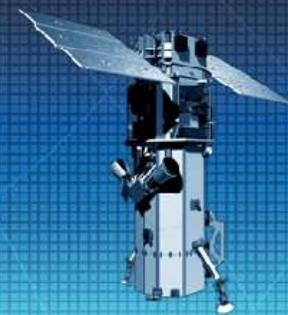
The first 60 cm
commercial satellite.

WorldView-1



Fast, agile and
highly accurate.

WorldView-2



The first commercial high
resolution 8-band multispectral.



Athens, Greece
Natural Color QuickBird Image



Amami Oshima Island, Japan
Natural QuickBird Image

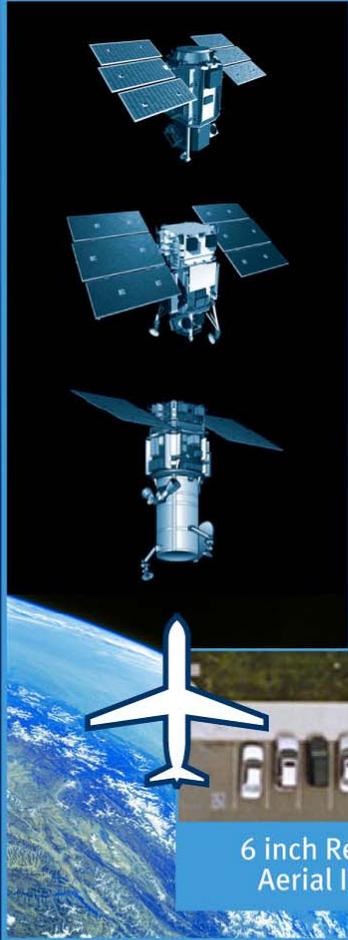


Washington, D.C., USA
Panchromatic WorldView-1 Image



Doha, Qatar
Natural Color QuickBird Image

COLLECTION



GROUND STATIONS

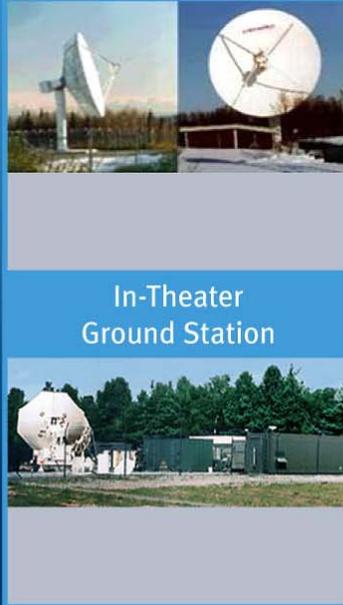
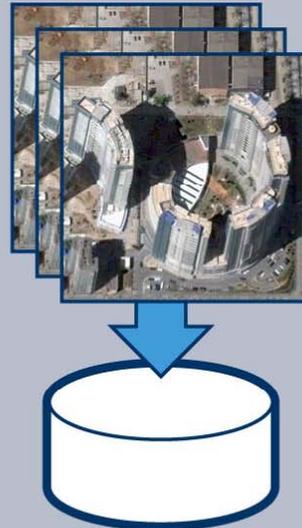


IMAGE LIBRARY



PRODUCTION



DISTRIBUTION

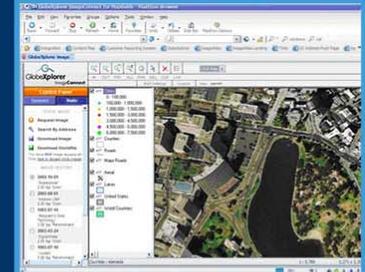
Off-line Distribution



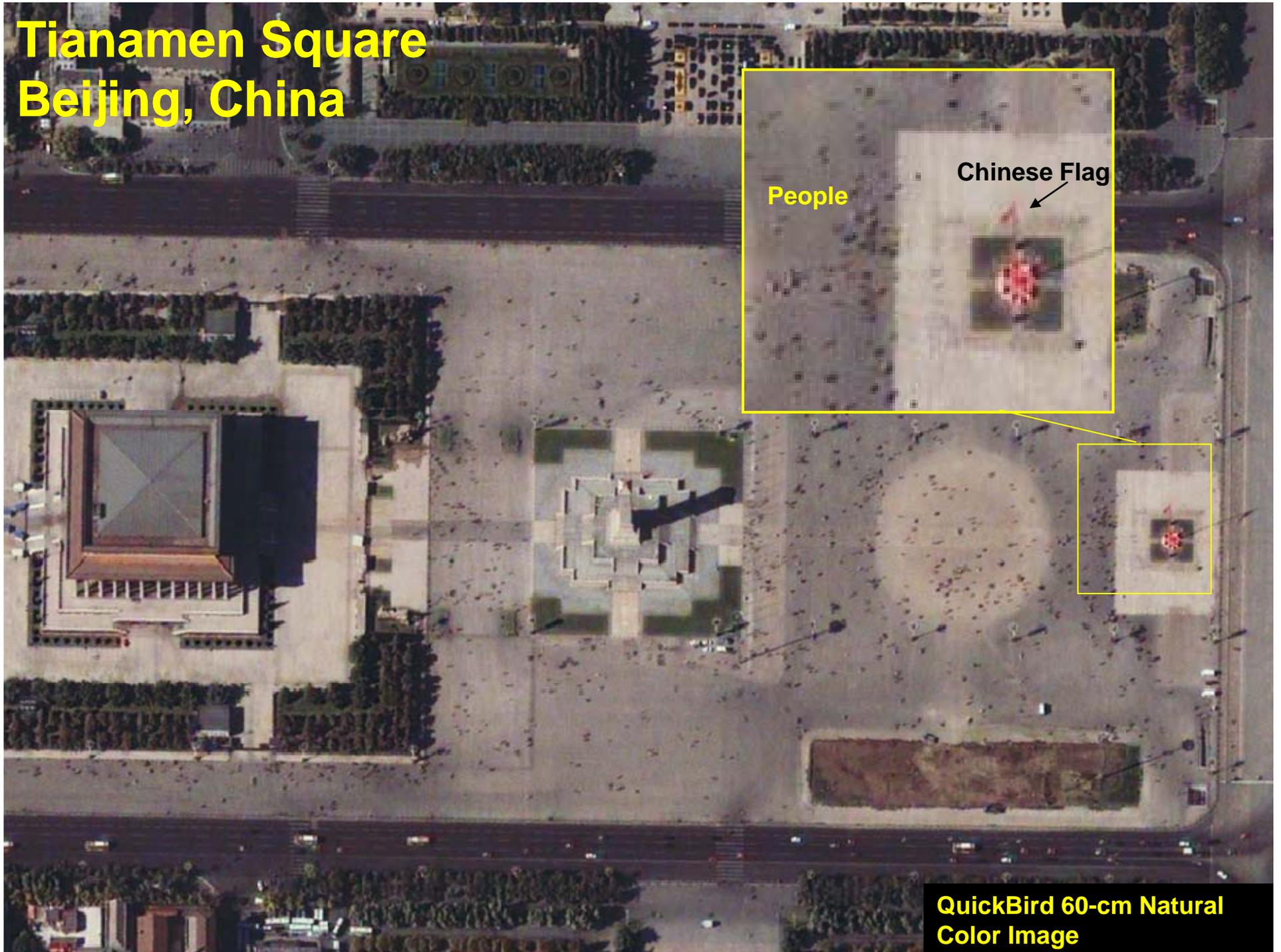
Web Services



Desktop Applications



Tianamen Square Beijing, China



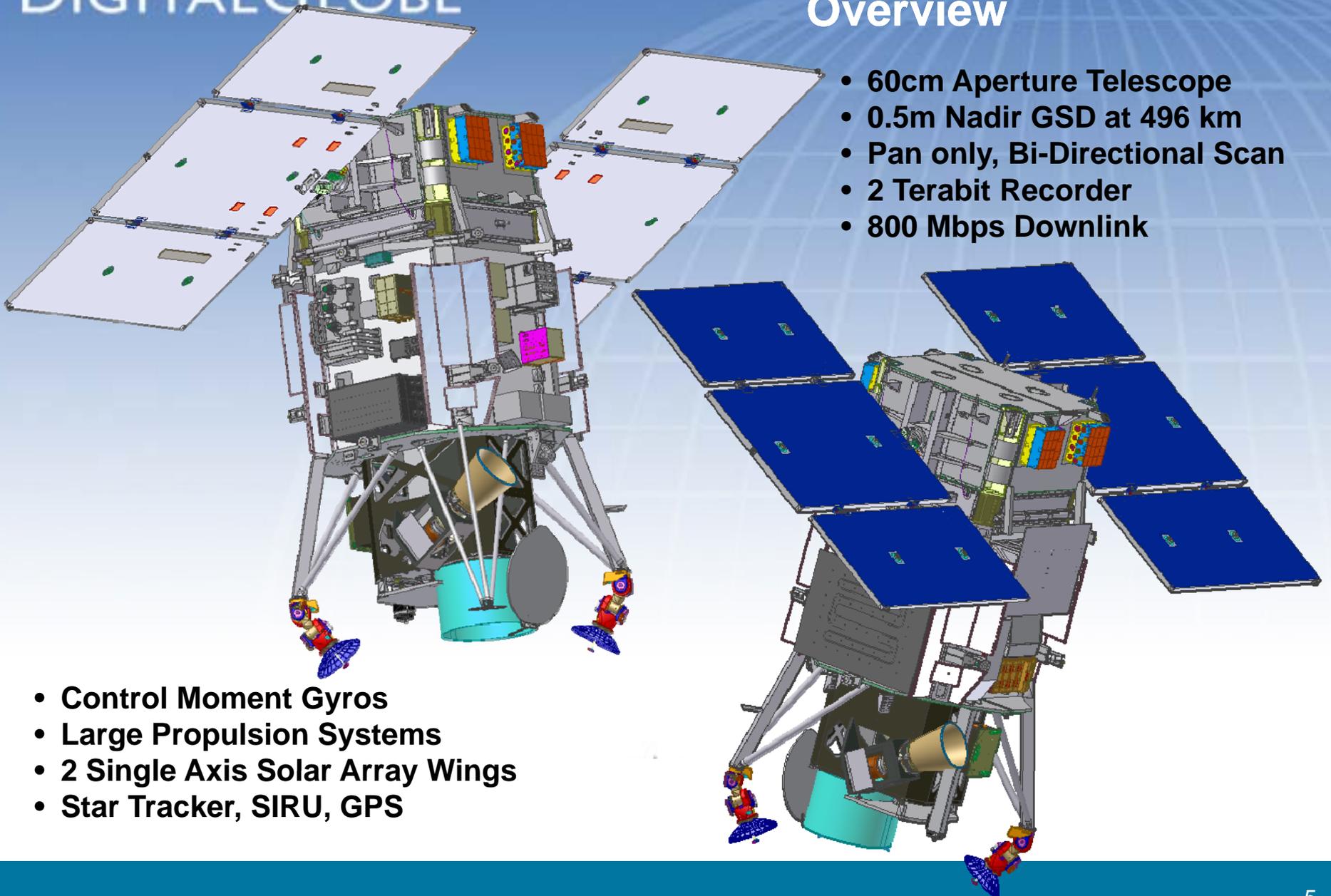
People

Chinese Flag

QuickBird 60-cm Natural
Color Image

DIGITALGLOBE™

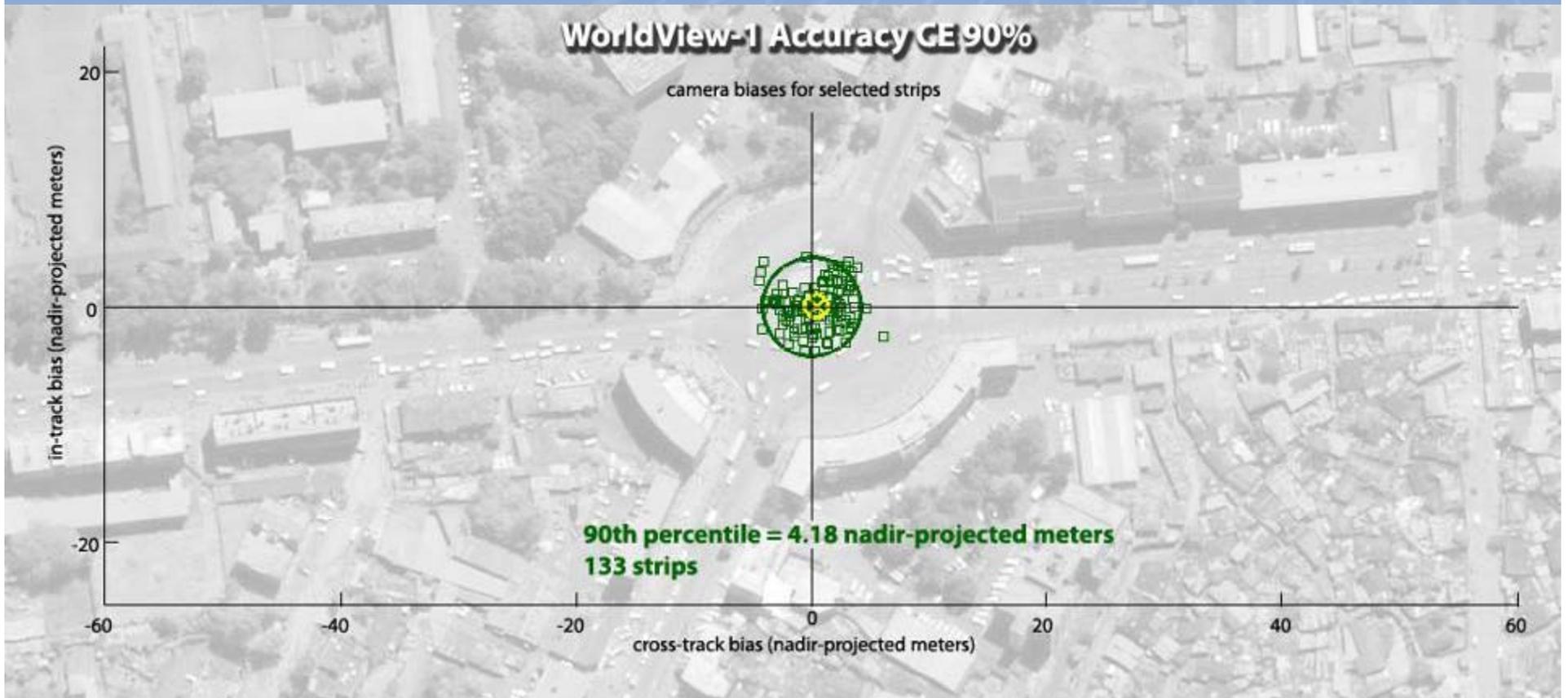
WorldView-1 Satellite Overview



- 60cm Aperture Telescope
- 0.5m Nadir GSD at 496 km
- Pan only, Bi-Directional Scan
- 2 Terabit Recorder
- 800 Mbps Downlink

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



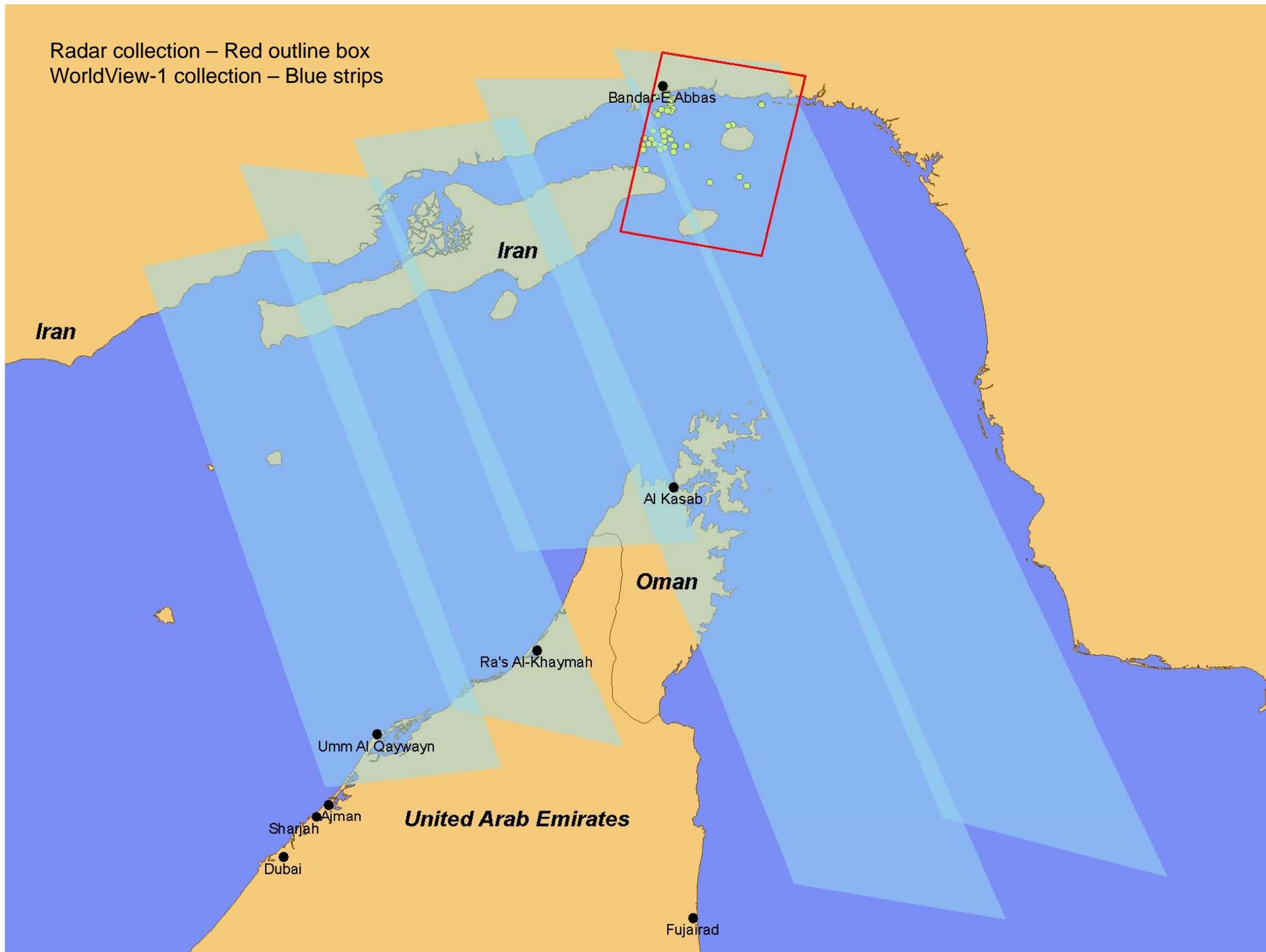


DIGITALGLOBE™

Bandar Abbas
Nov 16, 2008



Radar collection – Red outline box
WorldView-1 collection – Blue strips



Ship Number 26



A tanker ship

255m

Ship Number 27



238m

Possibly a tanker or
a bulk carrier

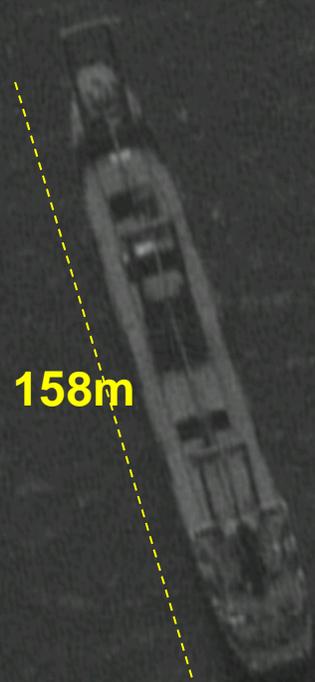


Ship Number 32

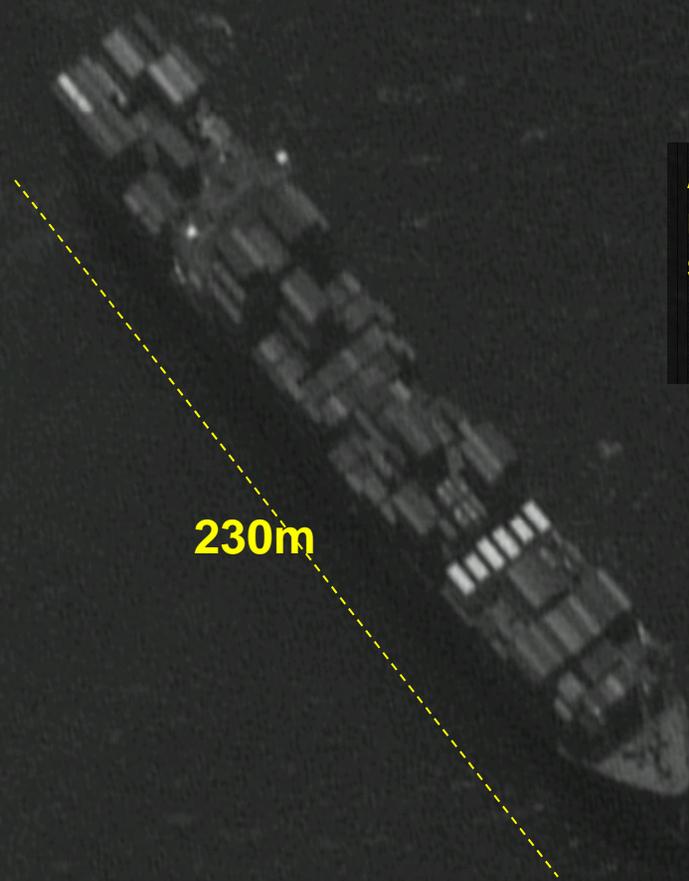


158m

Probable bulk cargo
ship



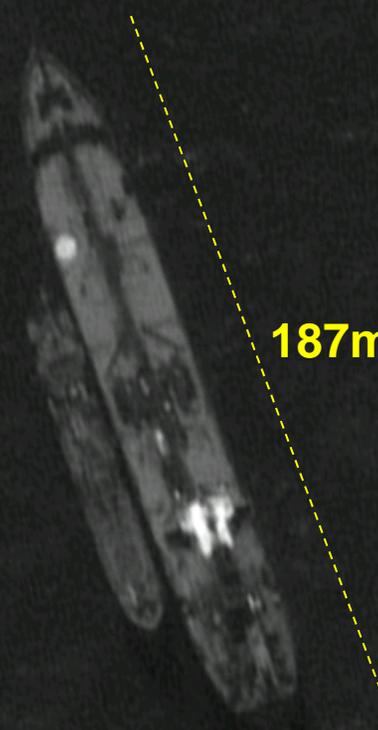
Ship Number 35



A container ship,
note the irregular
stack height and
refer back to the
radar image.

230m

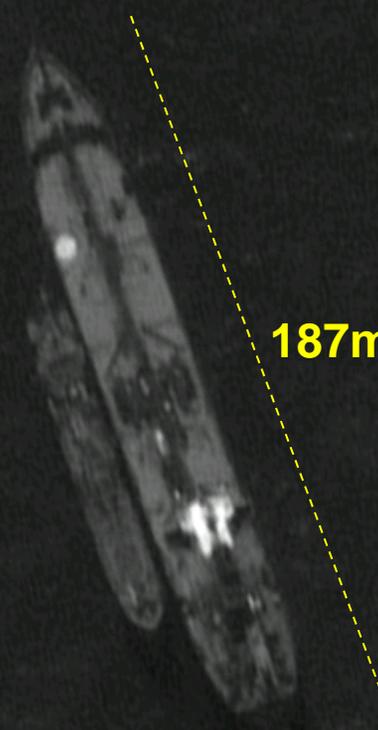
Ship Number 37



187m

A tanker with smaller vessel moored along side.

Ship Number 37



187m

A tanker with smaller vessel moored along side.

**DigitalGlobe initially collected a 54°
high off-nadir image of Busan, South
Korea on November 30, 2008.**



**Approximate position
Of WorldView-1 when imaging
Busan, South Korea on 30
November 2008.**





Off-Nadir imagery grants the ability to read alphanumeric designators on the side of vessels

Various Cargo Vessels

Budu Wharf
Busan, South Korea



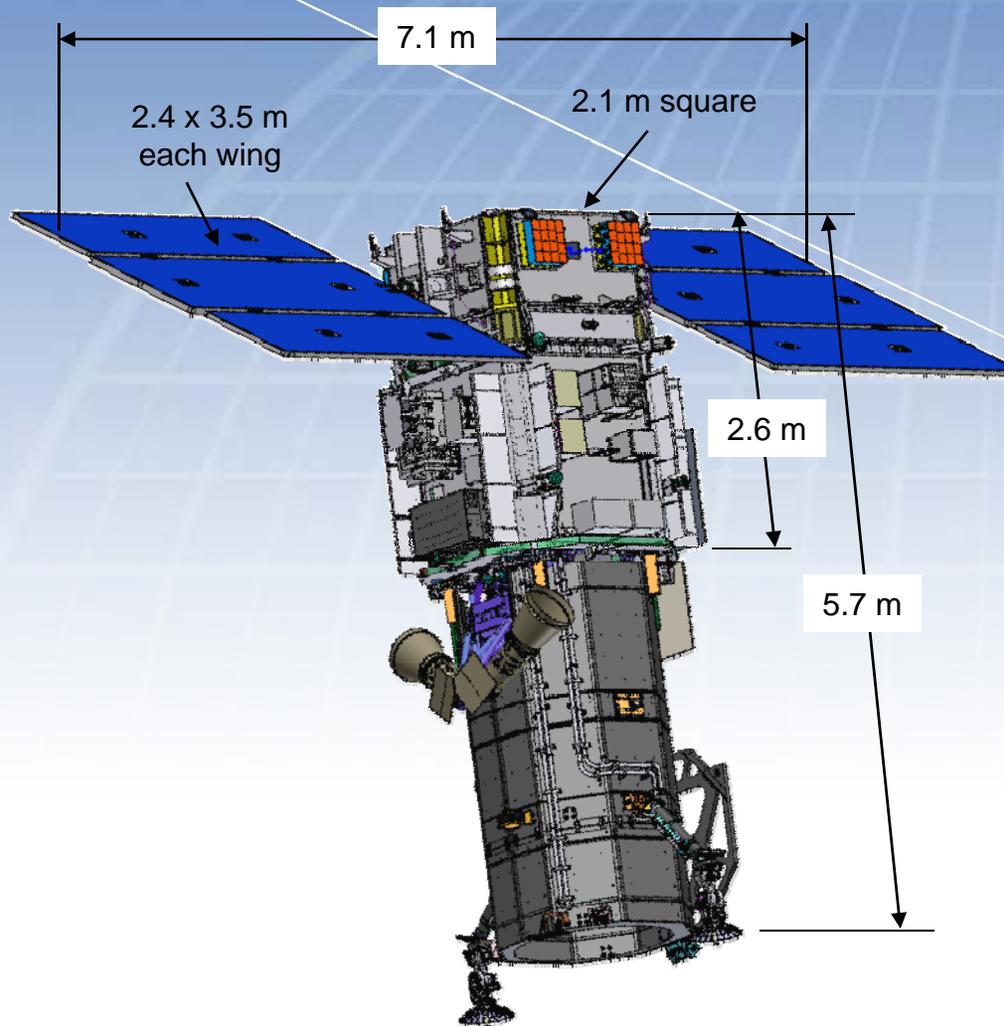
DigitalGlobe's Worldview-1 satellite
Imagery November 30, 2008

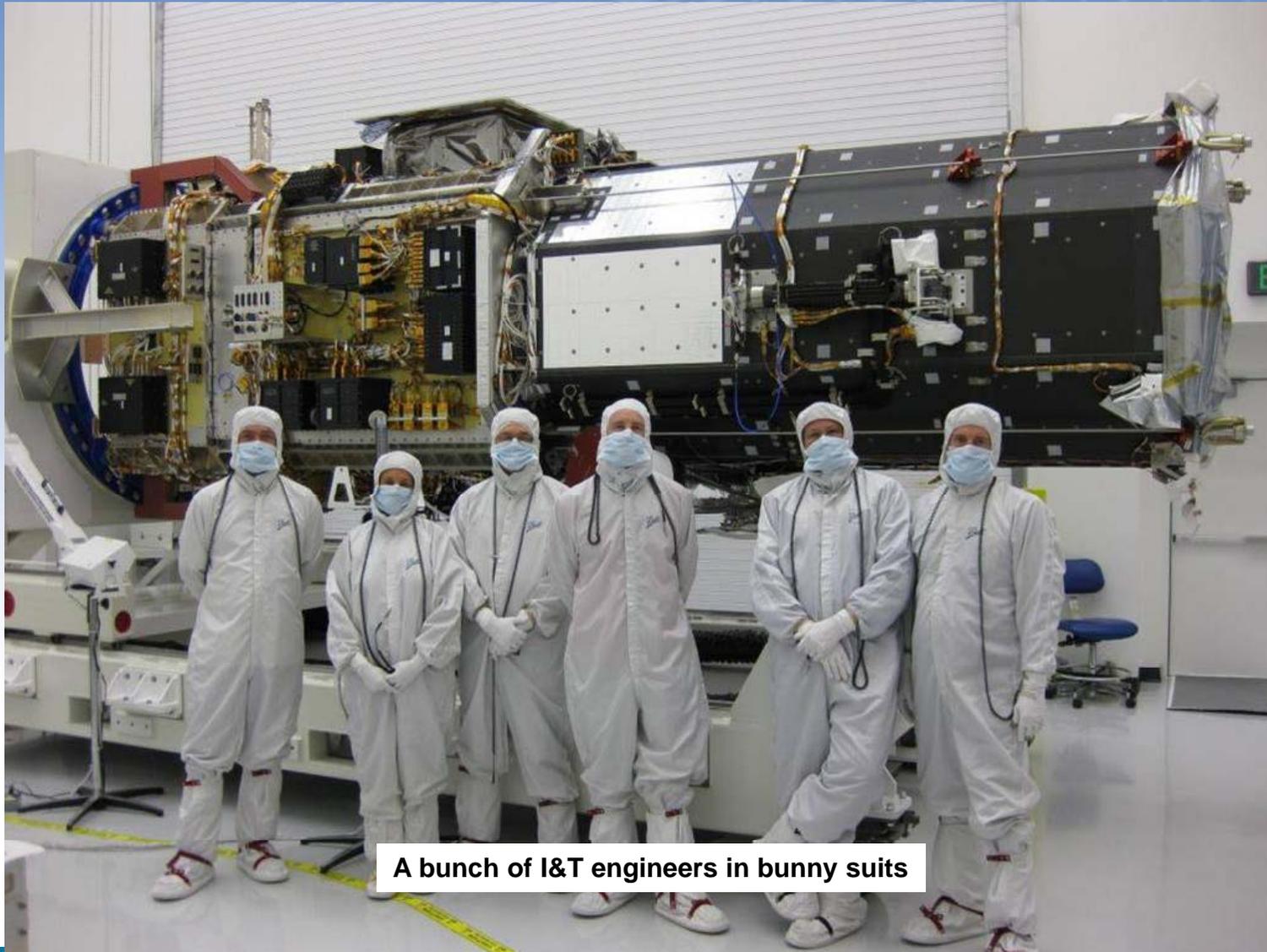
Busan, South Korea





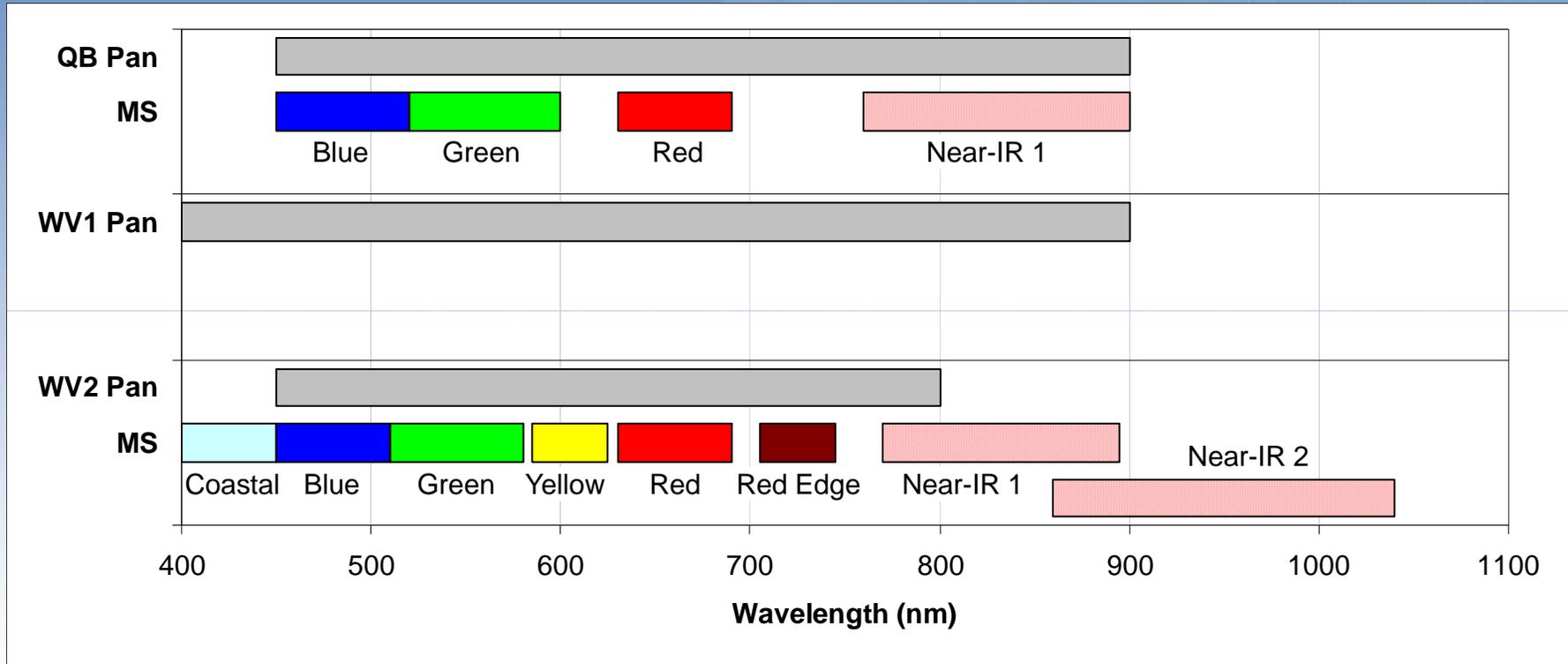
WorldView-2 Satellite Overview





A bunch of I&T engineers in bunny suits

Comparison Of Satellite Spectral Characteristics



- QuickBird: Panchromatic + 4 Multi-Spectral bands
- WorldView-1: Panchromatic only
- WorldView-2: QuickBird bands + 4 new Multi-Spectral bands

- An effective MDA System needs responsive, near-real-time, integrated:
 - Radar
 - AIS
 - EO
- High resolution EO is a key element permitting classification and potentially identification today:
 - QuickBird, WorldView 1, and WorldView 2 acquire over 1M sq km/day with substantial excess capability.
 - Agile EO systems can search large areas.
 - Tasking and down-linking occurs every orbit.
 - Direct tasking and direct down-linking is possible globally.
 - Broad ocean areas are not conflicted.
 - The US data policy is not restrictive other than no imagery can be sold commercially below 0.5m GSD.
 - WorldView 3 will be available in 2014.