

Seconds to Anywhere Abhineet Jain Technical Sales Manager



# Receding Waters from Tsunami: Kalutura, Sri Lanka



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# Banda Aceh: After the Tsunami



### **New Orleans: Aftermath of Hurricane Katrina**





Fire Line

QuickBird Color Infrared Imagery Coverage August 31, 2009

### DIGITALGLOBE

Relief Teams Setting up (after earthquake) Mais Gate Airport, Port-au-Prince, Haiti Coordinates: 18-34-45 N / 072-17-42 W





Temporary shelters raised by relief workers



HAIT Port-au-9



DigitalGlobe QuickBird Natural Color Image January 14, 2010

# Gulf of Mexico

# DIGITALGLOBE

DigitalGlobe's WorldView-2 Image Gulf of Mexico: June 15, 2010

# Aftermath of Earthquake: Concepcion, Chile



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# **Characteristics of disasters**

### Our Content of Cont

- Impact on society
- Many parties involved

and...



- Information is changing continuously
- Information should be shared on-demand, as-needed
- to the right people
- It's always about where and how many....



# GEOINT **RESPONDING TO CHALLENGES**



The term "geospatial intelligence" means the exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the earth. Geospatial intelligence consists of imagery, imagery intelligence, and geospatial information.

This de jure definition of Geospatial Intelligence as found in U.S. Code Title 10, §467, as it relates to NGA.

**Decision Superiority LOOP** 



# Process to Problem Solving Empowering the Geospatial User





# Leading the Evolution of Analytics

The Commercial Geospatial Intelligence industry has experienced four eras:

### 1st Era: **Resolution**

Customer needs evolve beyond aerial

### 2nd Era: Accuracy

Emergence of map making industry and greater accuracy drives growth

### 3rd Era: **Speed**

Reliance on imagery at an all-time high and customer priority becomes speed and relevancy

### 4th Era: Analytics

New valuable problemsolving uses emerging and priority becomes measuring on surface and below water



DigitalGlobe drives 8-band standard and custom analysis

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DigitalGlobe drives "one meter" standard DigitalGlobe drives the 5.0 meter CE90 spec

DigitalGlobe drives on-demand standard

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# Process to Problem Solving Empowering the Geospatial User





# Days to Hours - Remote Ground Terminals



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# Days to Hours







## **Constellation in Action in a Single Pass**



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# Power of Agility

V-2 Orbit Path

1.11

T



= WV2 Collects, Feb. 25, 2010

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# Single to Multiple Source



## **Radar Satellites**





# Process to Problem Solving **Empowering the Geospatial User**



# ONLINE, ON-DEMAND





# HIGH PERFORMANCE COMPUTING (HPC)



**Exploit Gaming Technology** 



Use of Graphic Processing Units (GPU) Deliver speeds 47 x faster than Central Processing Units (CPU)



# APPLICATIONS – Integrating When and Where You Want





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# Process to Problem Solving Empowering the Geospatial User



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## **Spectral Bands**



Additional Bands

# More Information, Higher Accuracy



4 band accuracy – 70%

8 band accuracy - 90%

More accurate identification of road features: better shadow delineation

## **Benefits**:

- 10% to 20% greater accuracy with additional 4 bands
- Reduces manual editing time by 3-6 months for a 200 sq km area
- Empowers analysts to focus on problems, speed decision-making



# **Unique Features**

## True Colour



## 8 Band Exploitation



## **Illegal Crop Analysis**

## Assessments for

- Monitoring Eradication Efforts
- Identifying Processing Labs
- Identification of New Growing Areas





#### 8 Band Analysis Central Afghanistan



# BATHYMETRY

#### Natural Colour

Coastal Blue Green



Enhanced Sea Floor and Aquatic Vegetation Detail

## WV2 Bathymetry

land
shadow
cloud
01m
02m
03m
04m
05m
06m
07m
08m
09m
10m
11m





## **Change Detection Applications**









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Absent in second image

# ANALYSIS

"The ultimate value of satellite data comes from integration with other technologies of the information age. Satellite data becomes much more useful after it has been analyzed and fused with other geospatial technologies..."



<sup>1</sup> David B. Sandalow; Assistant Secretary for Oceans and International Environmental and Scientific Affairs; June 6, 2000



# MONITORING – FirstLook





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#### Flooding in Victoria, Australia Kerang, Australia 35 44 53 S 143 55 18 E





DigitalGlobe's Natural Color Satellite Image January 22, 2011





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areas.



DigitalGlobe's Natural Color Satellite Image January 22, 2011











# Process to Problem Solving **Empowering the Geospatial User**



# **Facilitating Crowd Sourcing**

- Provides Web and Mobile Solution for federated analysts to annotate DigitalGlobe imagery and push data back to DG via web services
- Analysts can create mark up on top of imagery which is tied to a specific image and stored in a geo-spatial database
- Currently being utilized in the DigitalGlobe Analytics Center as proofof-concept



# **Crowd Sourcing - Concept**







We need to be prepared We do need the information infrastructure

Common operating framework + easy access to data imperative

"If we fail to prepare, we are preparing to fail"





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