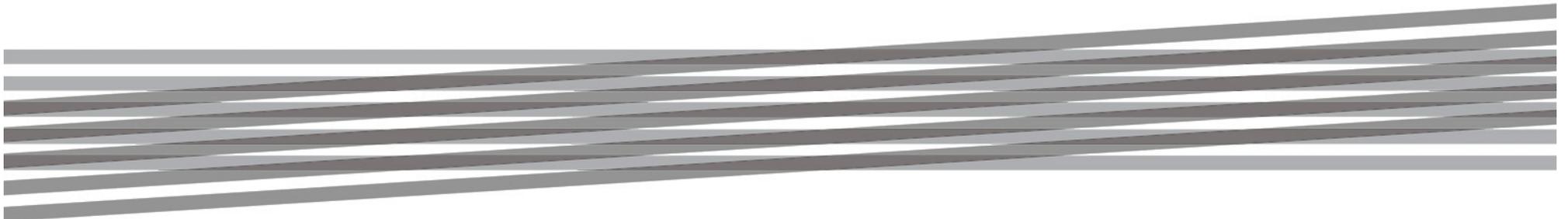




# RapidEye – A Novel Approach to Space Borne Geo-Information Solutions

Civil Commercial Imagery Evaluation Workshop  
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F. Jung-Rothenhäusler RapidEye Inc., Germany



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- > Business Concept
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## Business Concept

Global supplier of agricultural, cartographic and geo-information products and services on a worldwide basis

delivering **frequent**, **reliable** supply of **near real-time**, **customized** information- and data products and services

or:

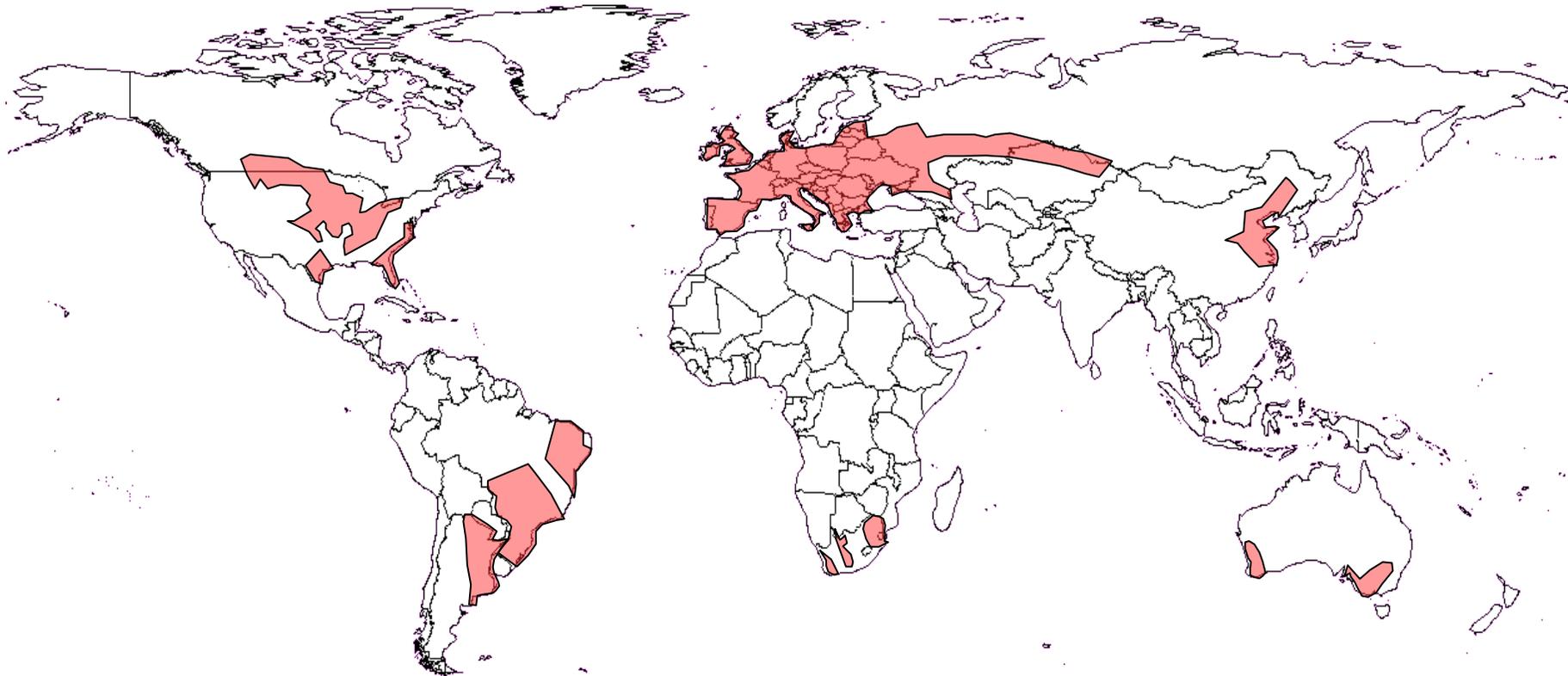
- **What changed** where during the last few days?
- **What** is growing **where**, **how** and **how much?**

# What is Growing? ....



 **Crop typing**

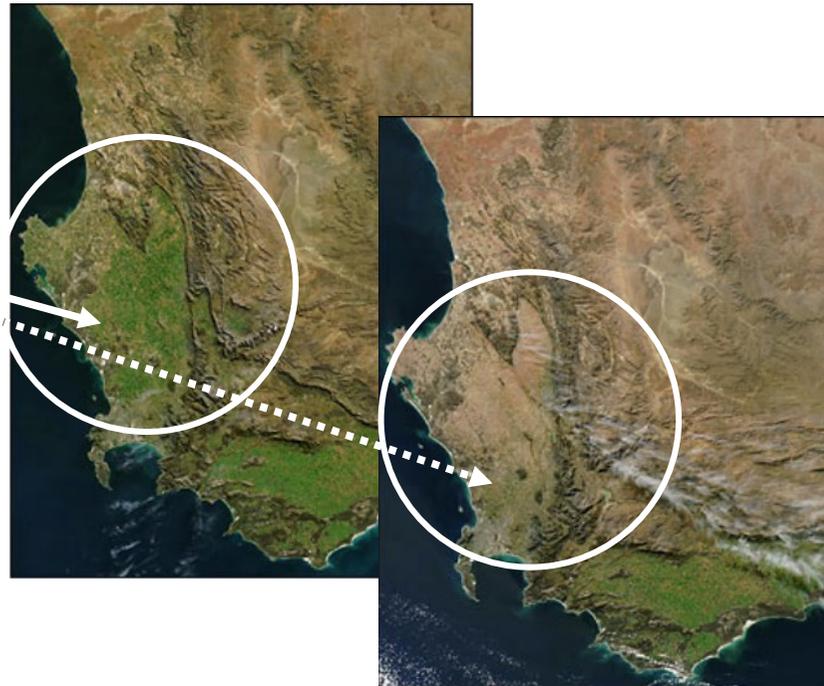
....Where?



 **everywhere** in the world (shown: **main agricultural areas**)

## ... How and How Much?

- crop vigor and damage assessment



 **quantification** by monitoring large areas

## Customer Demands – RapidEye Provides

- > **Guaranteed data availability**

- > daily access of every point on earth possible
- > reliability by proven technology and system redundancy

- > **Rapid response after unforeseen events**

- > fast acquisition re-scheduling and data processing

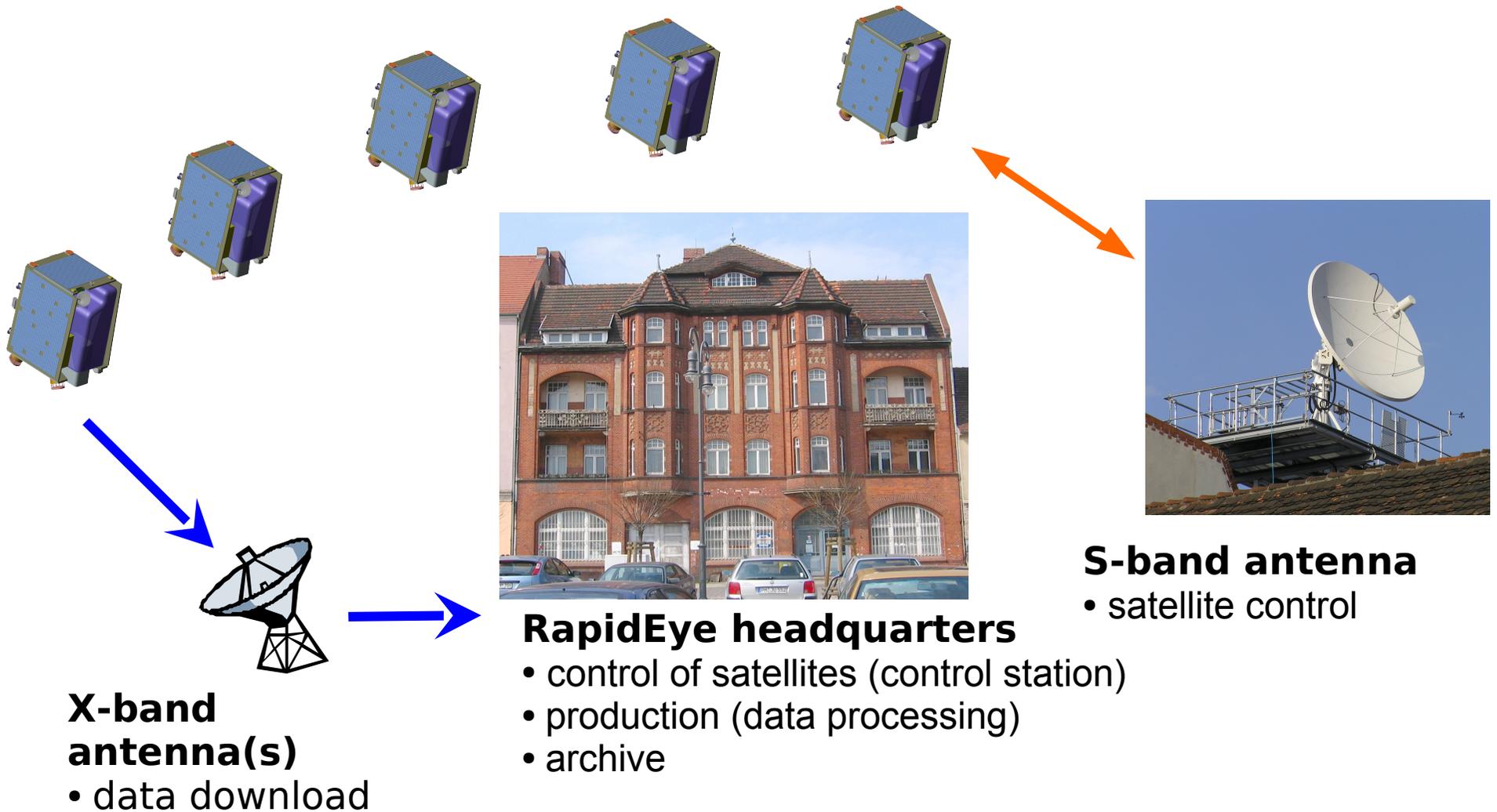
- > **Continuous monitoring of agricultural areas around the world**

- > large area coverage (~ 4 million sqkm per day)
- > multispectral sensor (→ crop determination)

- > **Customer-specific, low cost information**

- > customized service/product portfolio

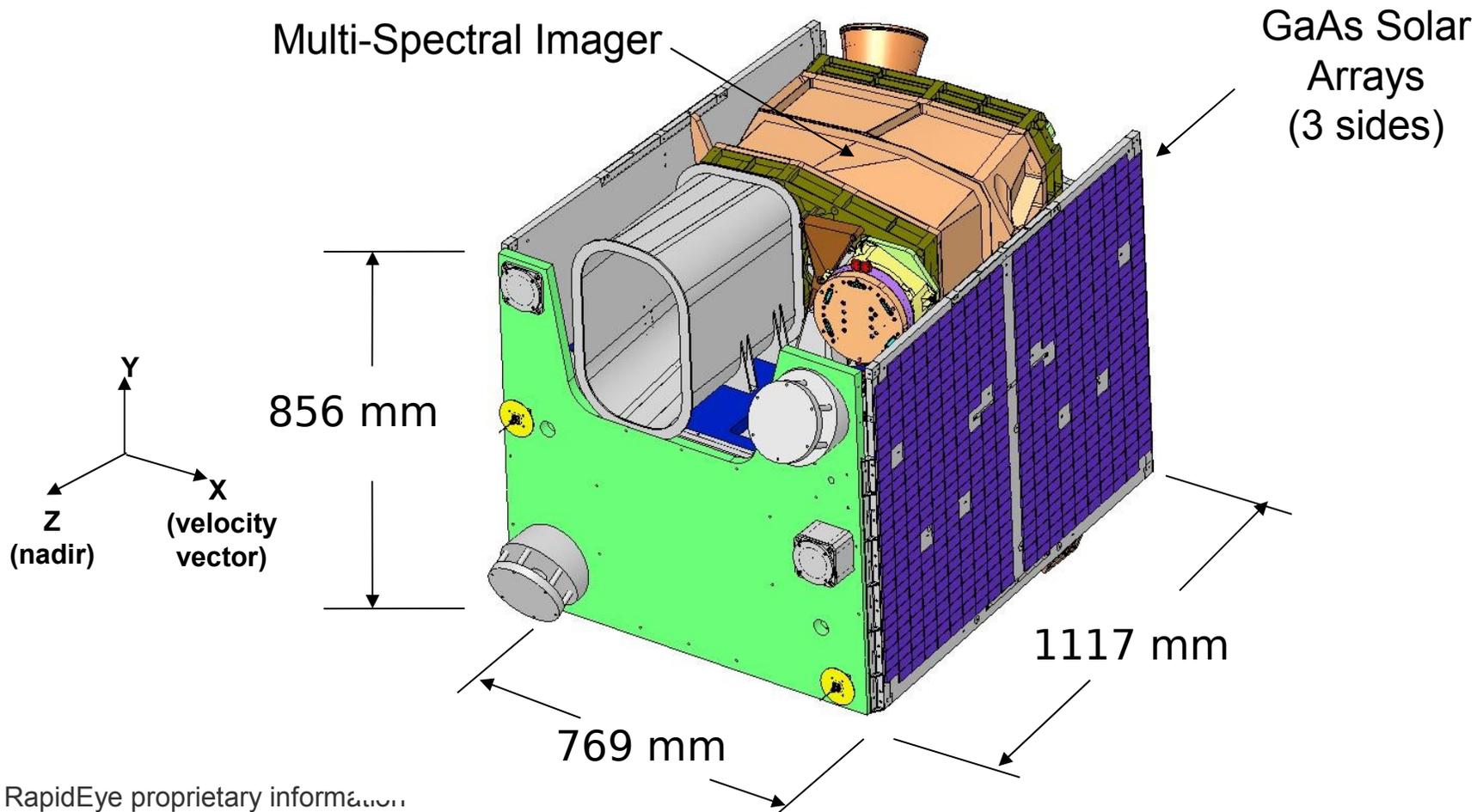
# RapidEye System Overview



# Technical System Details

- > 5 satellites
- > one near polar sun-synchronous orbit 630km
- > daily access of every point on Earth
- > 15 orbits per satellite per day
- > swath width 77 km
- > length of image take 1500 km
- > total imaging capacity of 4,000,000 km<sup>2</sup> per day
- > 6.5 m GSD, 5 m ortho-rectified image data
- > 5 bands (blue,green,red,red-edge,NIR)

# Satellite Technology



# RapidEye Markets

- > Biomass
  - > agricultural industry
  - > producers
  - > forestry
- > Geo-Spatial Solutions
  - > telecommunications
  - > mapping
- > Government and Security
  - > homeland security
  - > natural resources

# RapidEye Core Competencies

- > Crop Identification      What grows where?
- > Crop Monitoring      Crop growth assessment over time.
- > Damage Assessment      Multi-temporal image analysis
- > Yield Prediction      Weather-, soil- and imagery analysis.
- > Change Detection      Alert service at regular intervals.
- > Ortho-Rectification      Data delivery 1 day after image take.
- > Management Information      Information at your fingertips, utilize core competencies and deliver.

# Approach to Market

## **RapidEye**

large customers



joint service development



service

## **RapidEye & Partners**

fragmented and restricted markets



form service consortium



joint service development



service

# Realization

- > Experienced Prime Contractor - MacDonald Dettwiler & Associates
  - > turn-key contract - space and ground segment included
  - > „in-orbit“ delivery and acceptance
  - > firm fixed price
- > Low Risk, Proven Spacecraft Technology
  - > flight heritage used extensively
  - > no deployable parts
- > Redundant Design
  - > constellation level: one redundant satellite
  - > satellite level: cold redundant sub-systems, graceful degradation

## A few Schedule Highlights

- > Dec 1998 RapidEye incorporated
- > Mid 2002 Selection of the general contractor MacDonald Dettwiler & Associates (MDA), Vancouver / Canada
- > July 2004 Financing completed  
contracts signed and begin of construction
- > June 2005 Successful Mission Critical Design
- > Sept 2006 Successful Installation of Antenna and Control Center
- > Late 2007 Launch of all five spacecrafts
- > Early 2008 Fully operational