

# Alpha from above: spaceborne insights come of age

QWAFAFEW | March 2017  
David Potere, CEO

# On the menu tonight...

① Why spaceborne imagery matters for investors?

- *Key concepts in spaceborne imagery*
- *What are the limits of what we can know? How are they shifting?*
- *Why does a spaceborne perspective (still) matter for financial intelligence?*

② Deep dive on one application area: Agriculture

- *What we can know from space in agriculture?*
- *Putting satellite imagery to work: the 2016 Kernel Beta from TellusLabs*
- *How it works and what's next*

# Why spaceborne imagery (still) matters?



VS.



- Global reach
- Rapid coverage
- High accuracy
- Granular data
- Long-term record
- Efficient capture

# Why spaceborne imagery matters for investors?



Energy



Manufacturing



Mining



Agriculture



Forestry



Water



Roads



Air



Shipping / rail



Real estate



Macro




Retail



-  USA
-  JAPAN
-  SOUTH KOREA
-  INDIA
-  CHINA
-  FRANCE
-  RUSSIA

-  NOAA
-  EUMETSAT
-  EUROPEAN COMMISSION
-  NATIONAL SPACE ORGANIZATION (NSPO)
-  EUROPEAN SPACE AGENCY

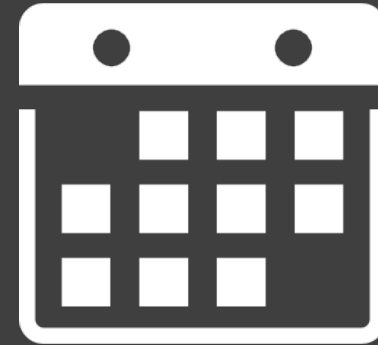
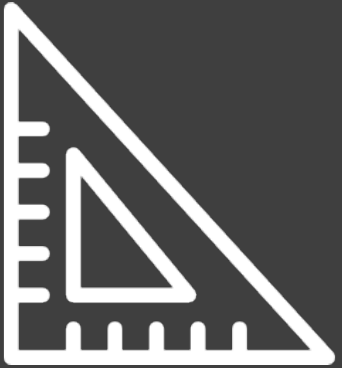


 GEOSTATIONARY ORBIT

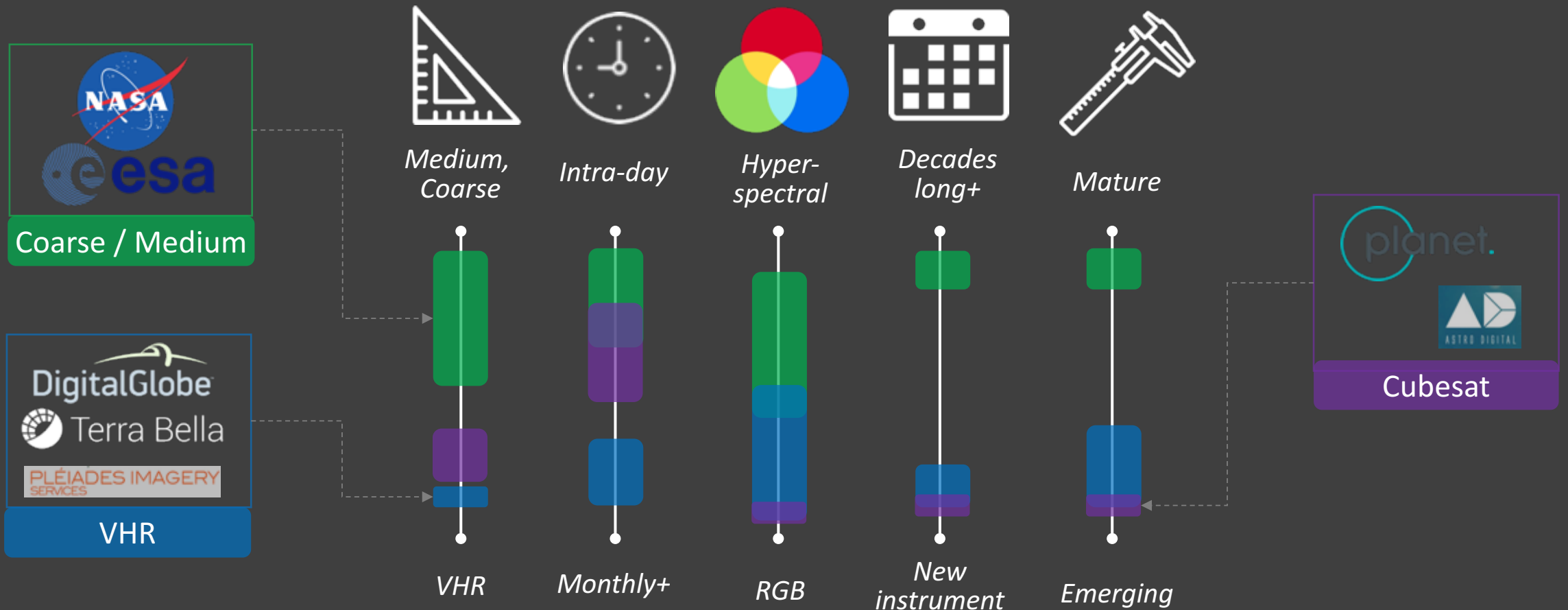
 NEAR-POLAR ORBIT

 LAGRANGE POINT 1

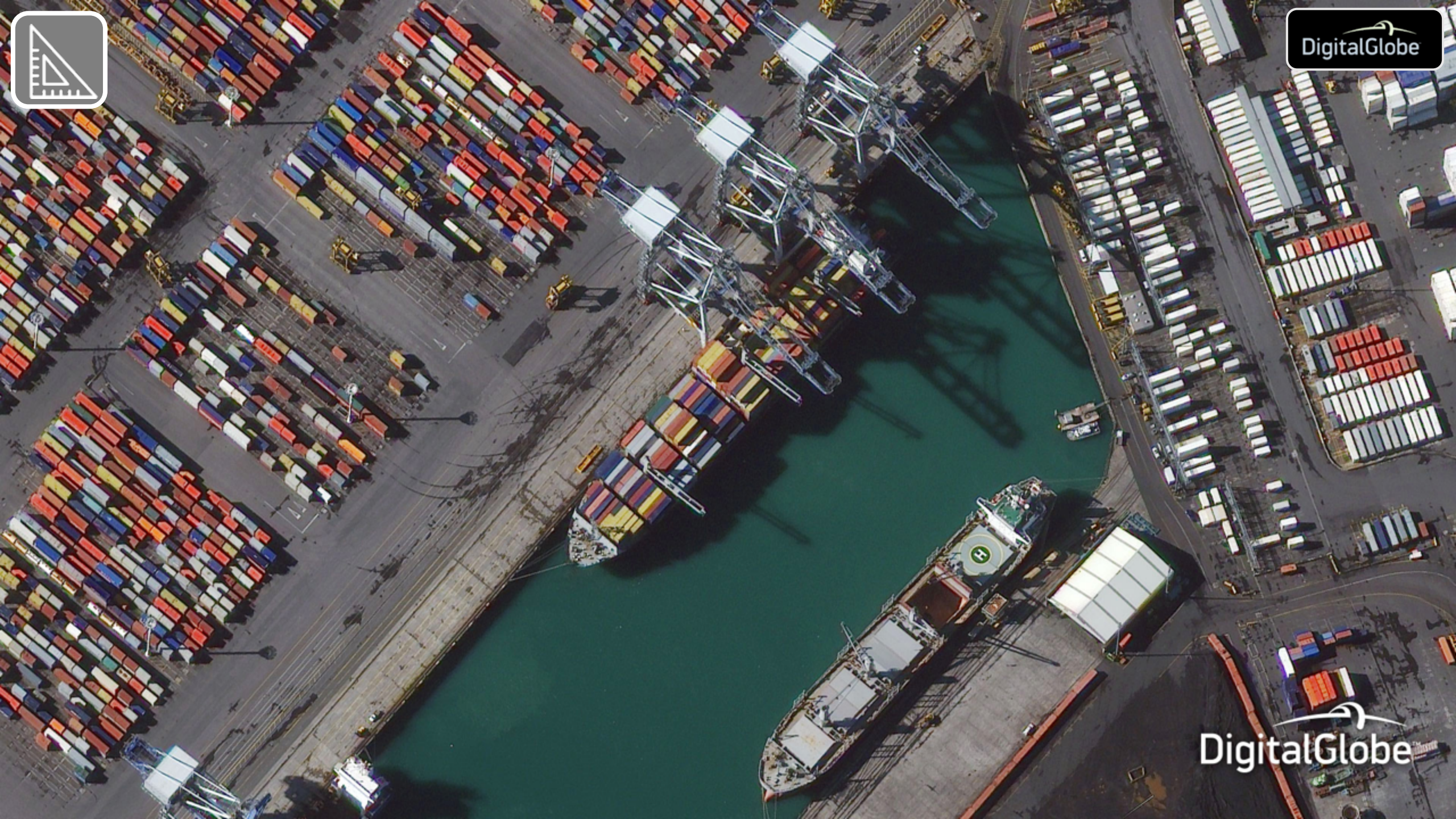
# Designing a satellite is an exercise in making tradeoffs around five key dimensions



# On every dimension, our ability to connect with an overhead view of the planet is expanding rapidly





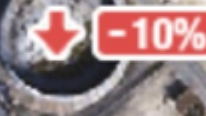




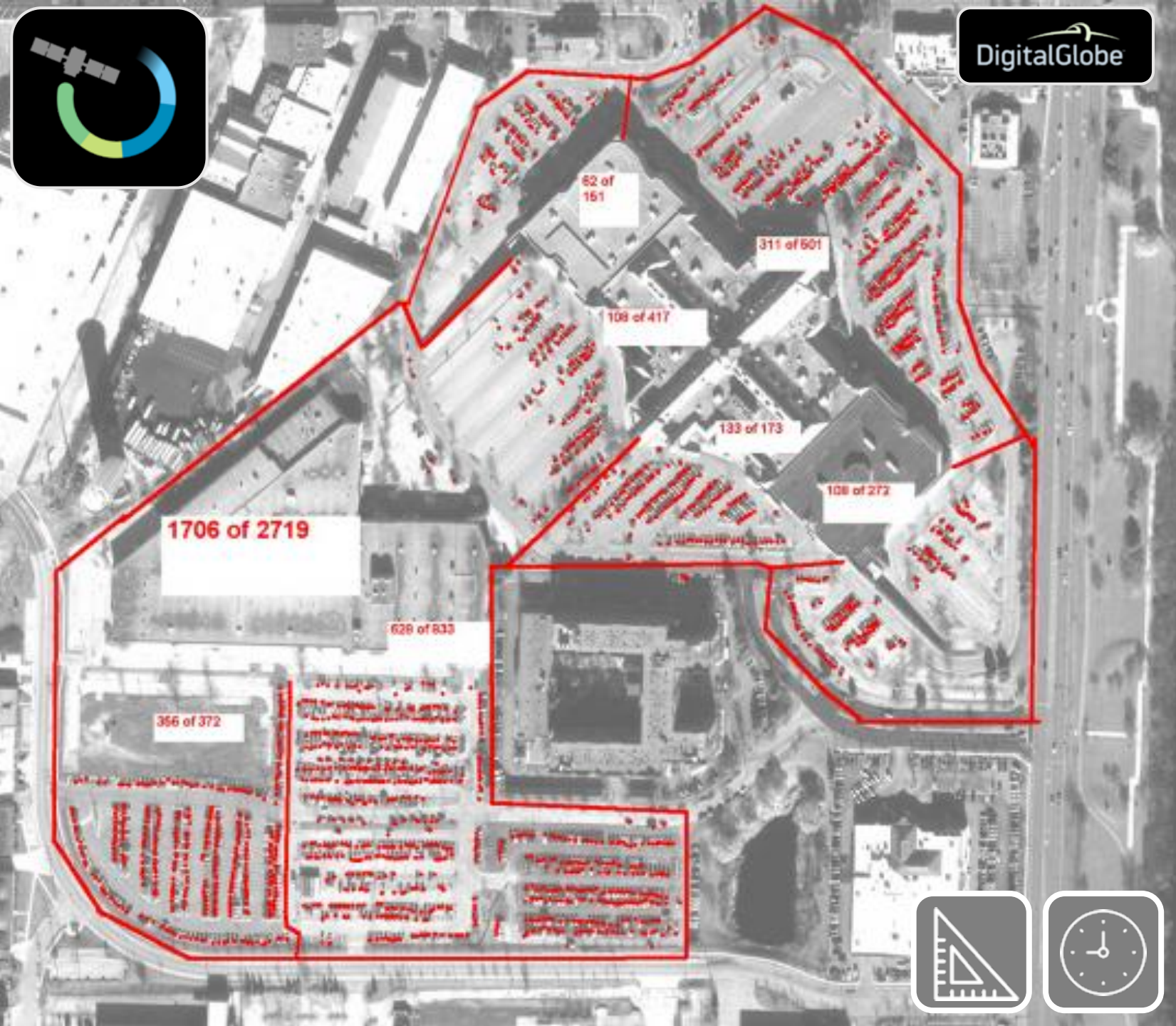
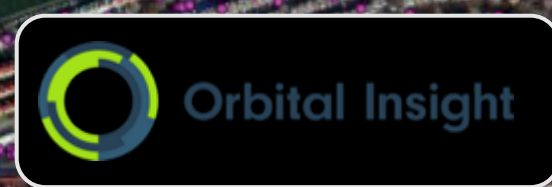


Skybox Raster 1

Skybox Raster 2



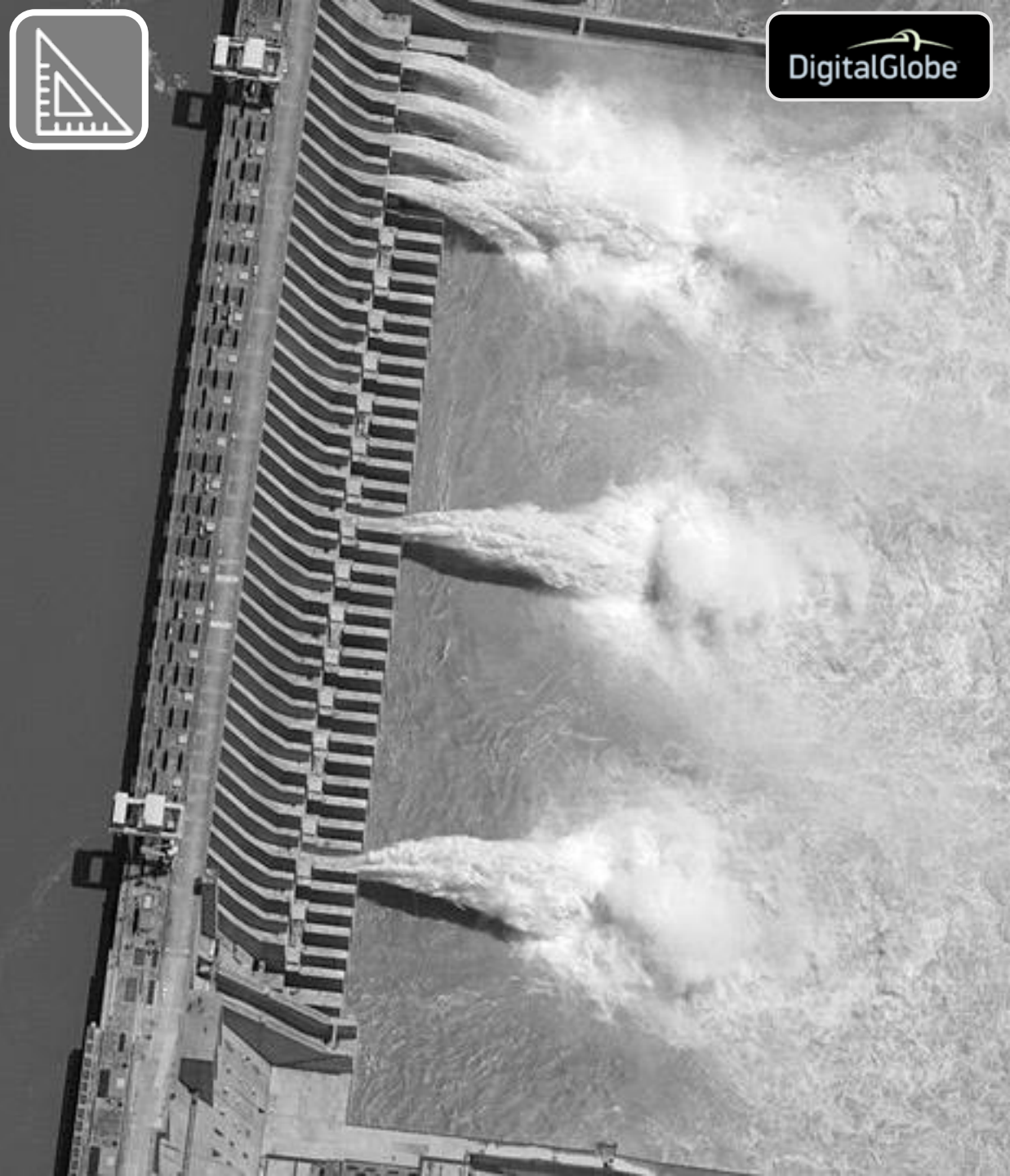
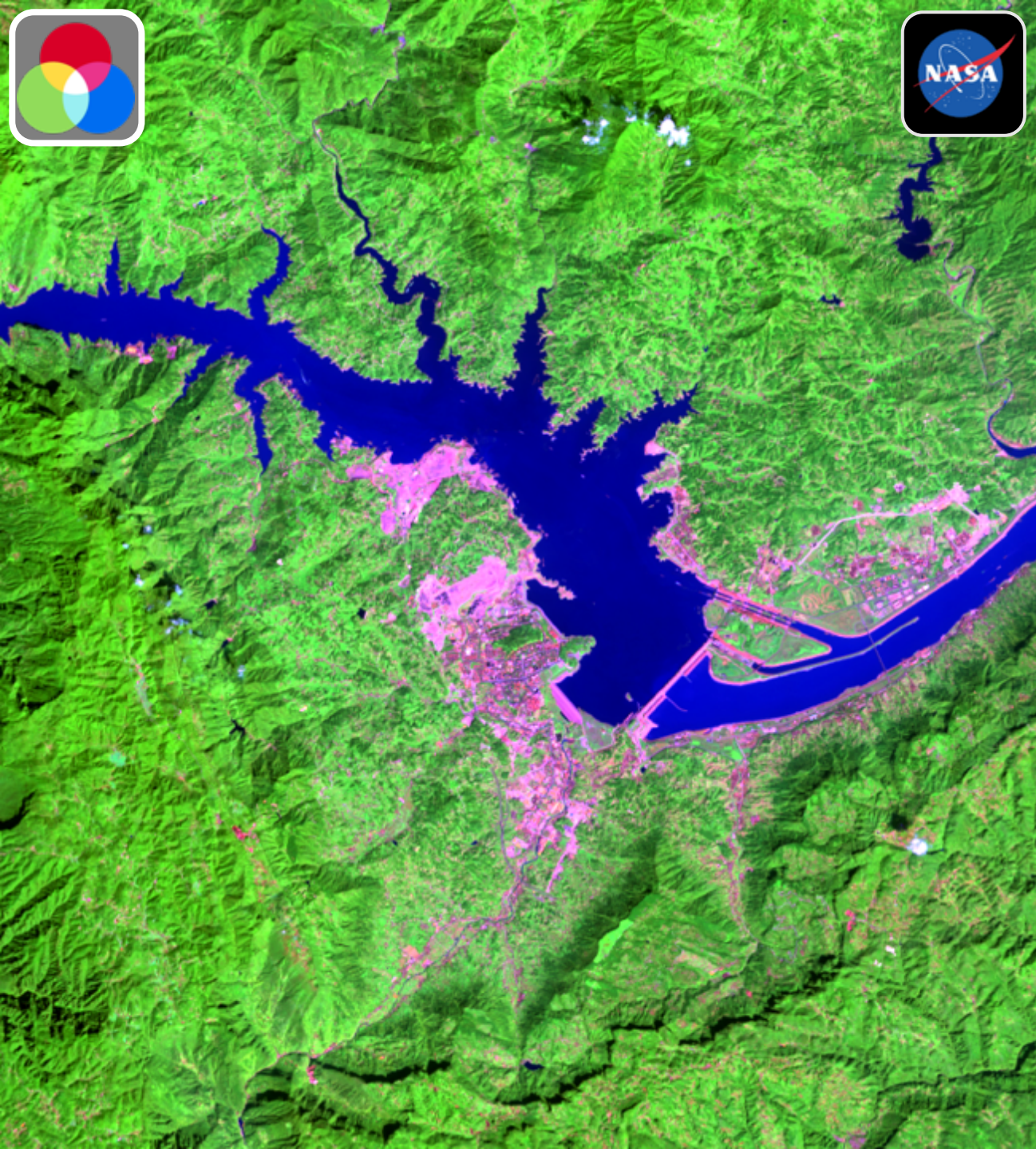




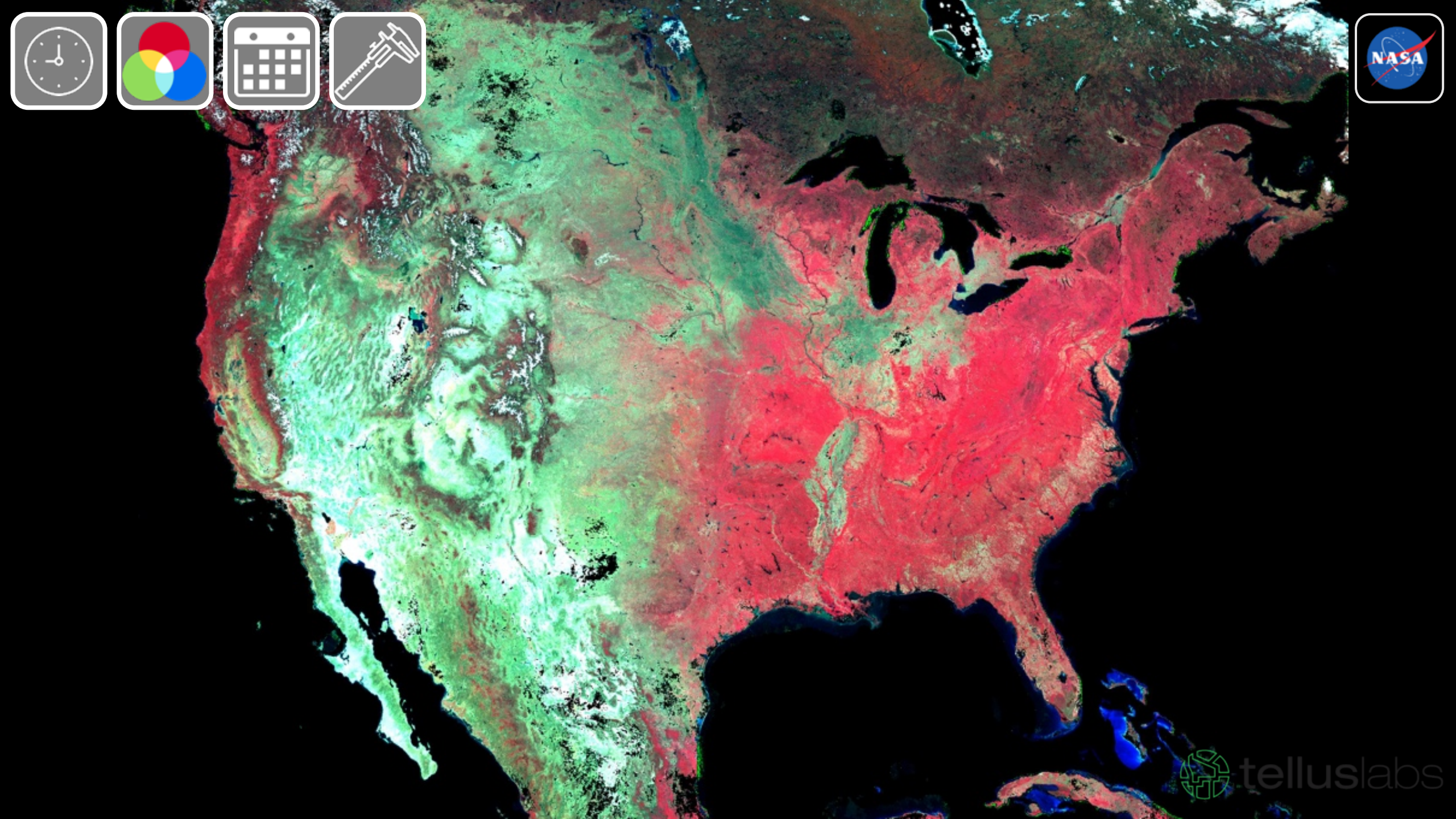




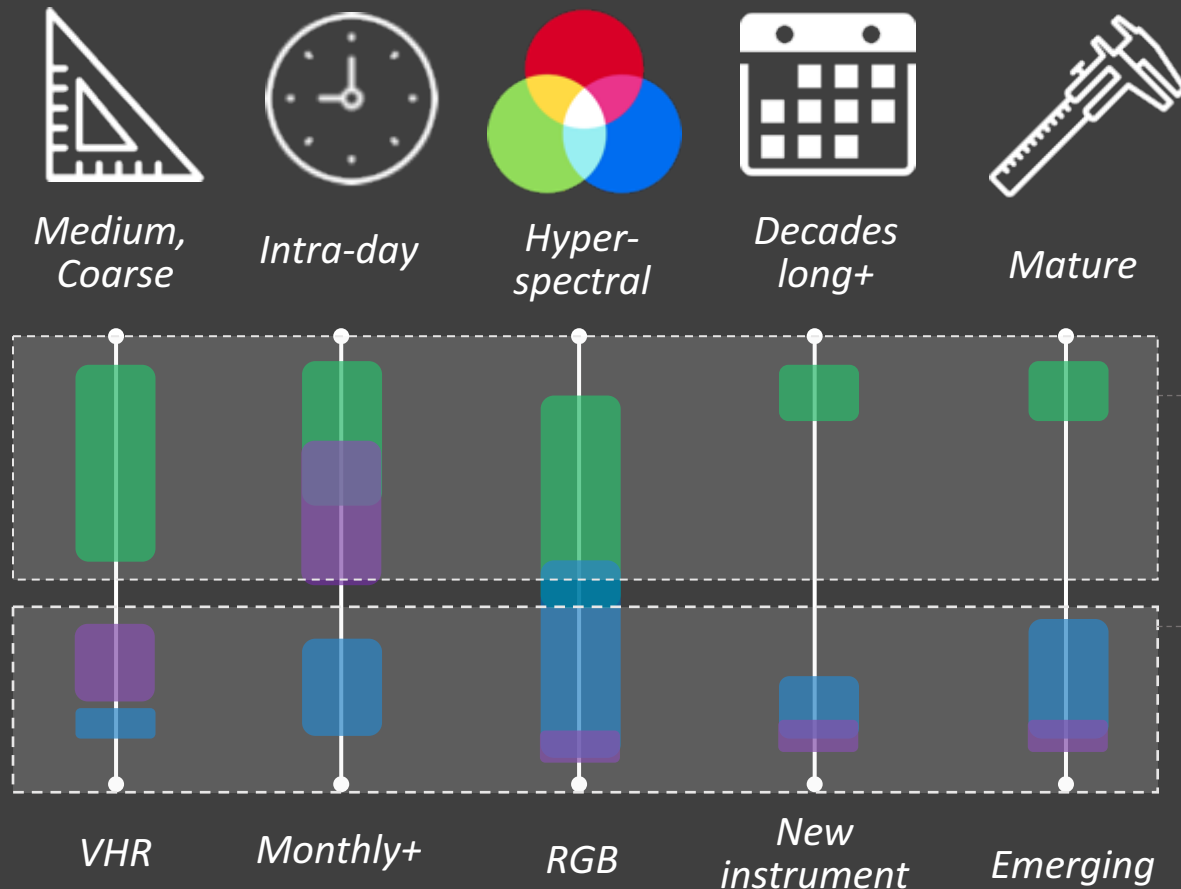




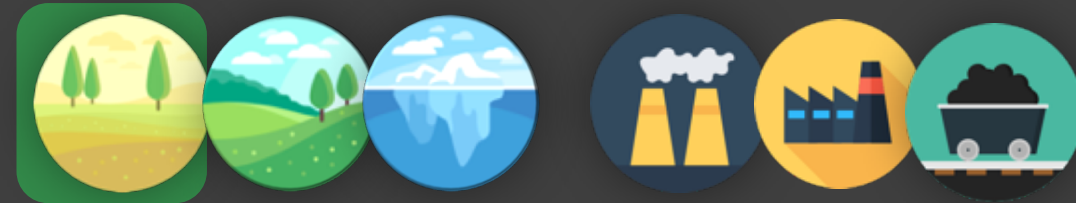




# Each class of imagery is suitable for targeting distinct opportunities (and requires distinct tech)



Requires: Machine learning + Applied geography + Weather and other geo data



Requires: Machine vision + super-massive compute





# In **agriculture** a spaceborne perspective is arriving just in time

- **Variability** and **volatility** around rainfall and temperature present **tremendous risk** to the supply side
- On the **demand side** we are headed to **shortage** in many key commodities



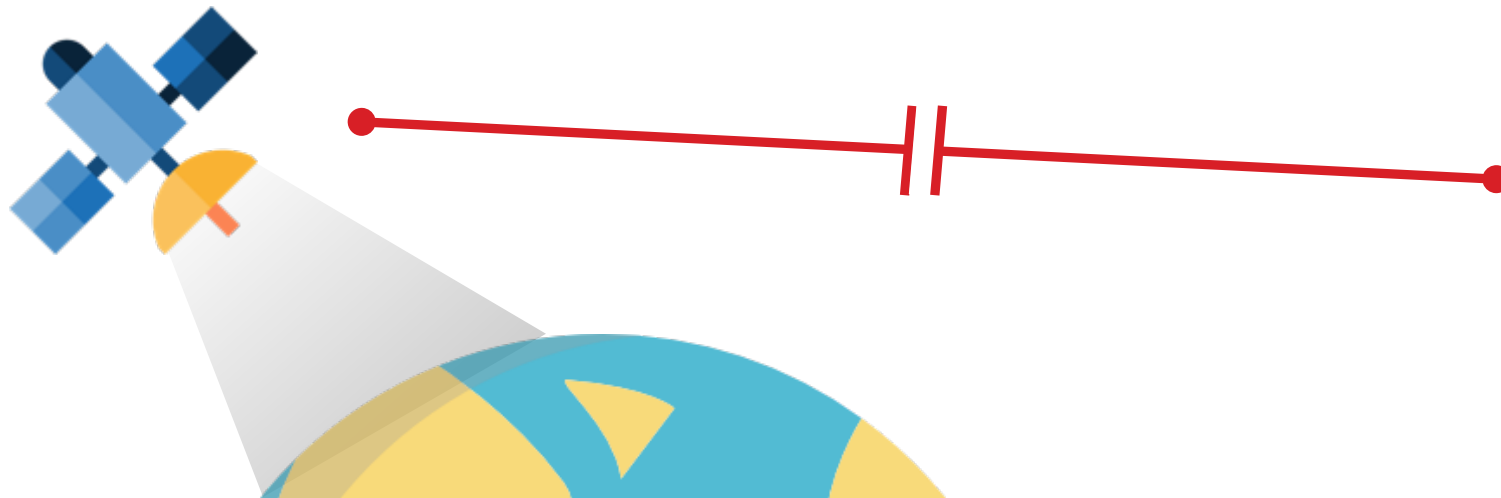
- **Growers** will grow more
- **Producers** will understand their supply chain and reduce waste
- **Traders** get a *literal* “birds-eye” view of the market

# Challenge until now has been stranded data

**Data is available**  
(and growing)

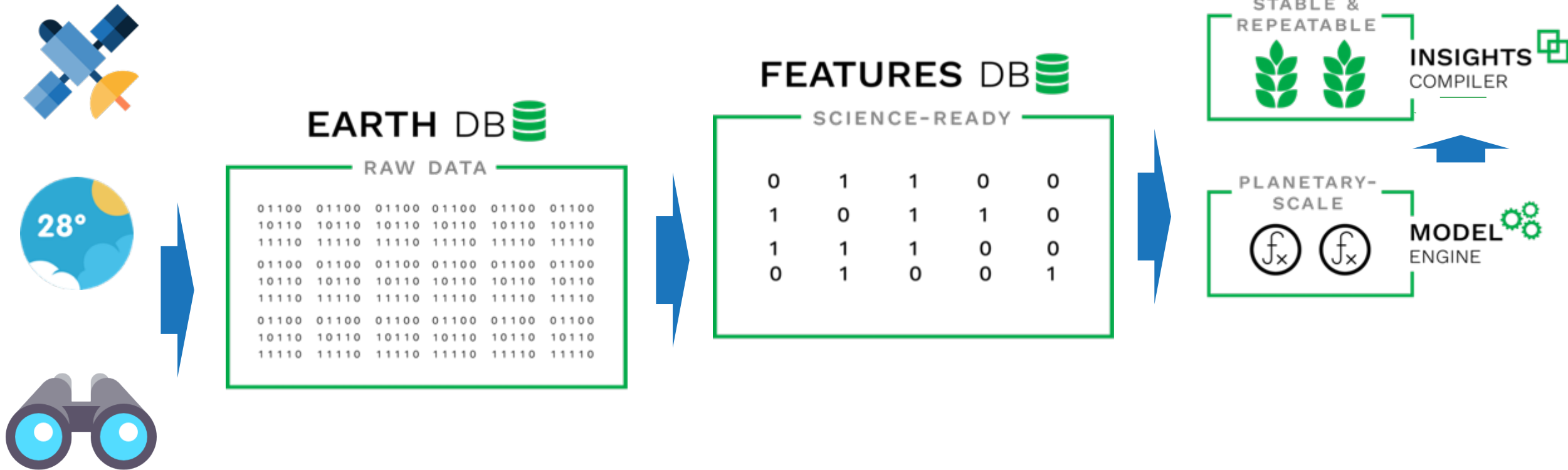
Compute and  
algorithms are  
**newly arrived**

Answers to key  
questions are  
**arriving now**





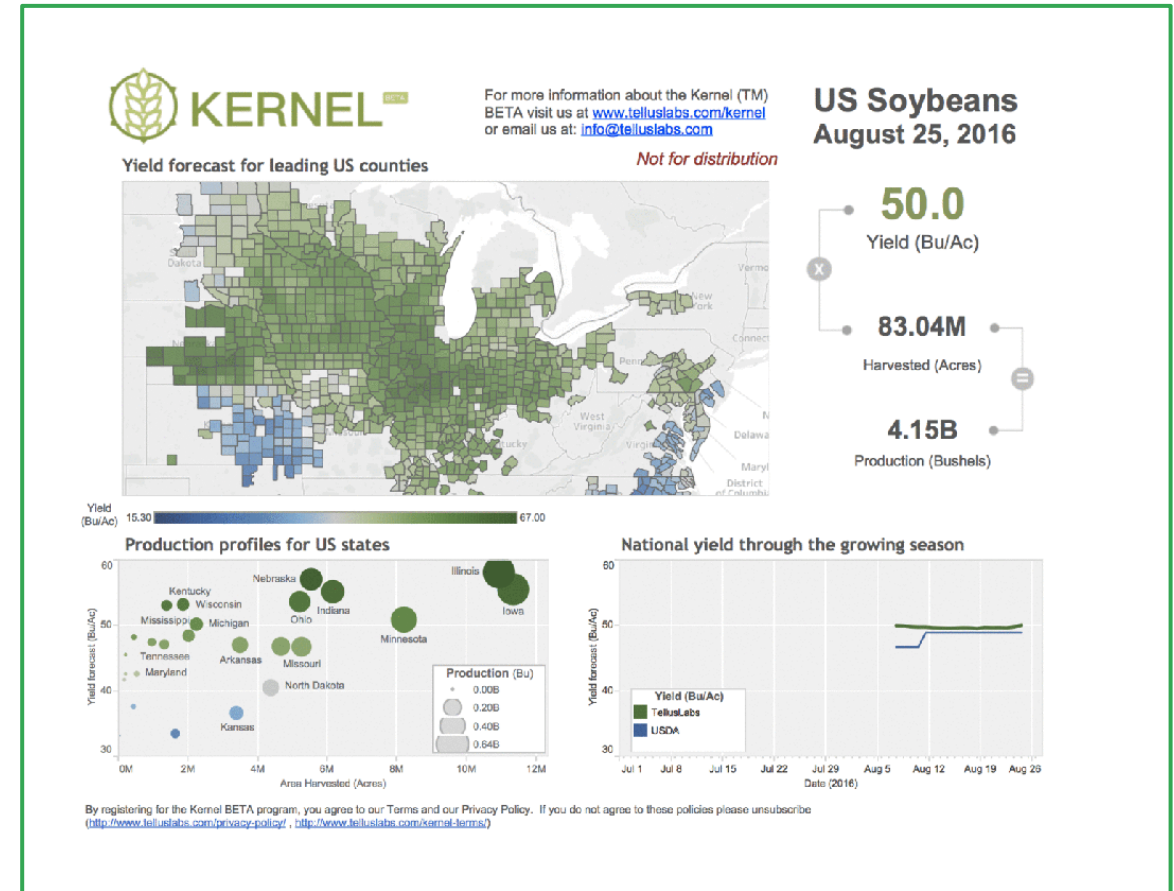
# We've built a path at TellusLabs from pixels to answers...



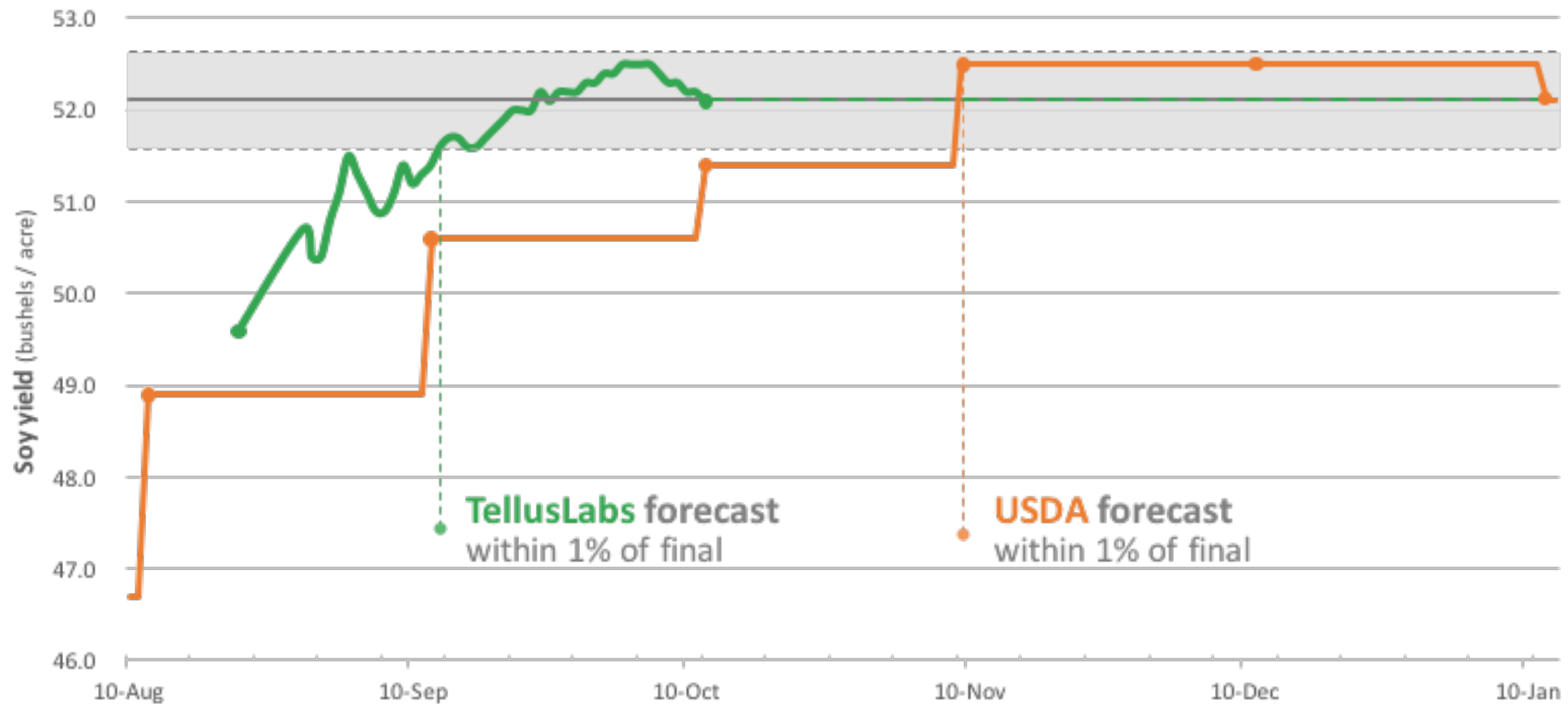
# Kernel: Timely and accurate agricultural intelligence



- TellusLabs' suite of agricultural intelligence products
- TB-scale satellite and weather database; updated every 24 hours
- Reporting at local and continental scales



# US Soy Harvest for 2016 (final results)



# US Corn and Soy is just the beginning...

