

# Enabling Artificial Intelligence for Time Dominant Operations

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DIGITALGLOBE

# DigitalGlobe is leading the imagery industry with high resolution imagery & geospatial analytics



**IKONOS®**

.82 meter  
resolution  
1999 - 2015  
9 m CE90



**QuickBird®**

.65 meter  
resolution  
2001 - 2015  
23 m CE90



**WorldView-1®**

.50 meter  
resolution  
2007  
<4 m CE90



**GeoEye-1®**

.46 meter  
resolution  
2008  
<3.5 m CE90



**WorldView-2®**

.46 meter  
resolution  
2009  
<3.5 m CE90



**WorldView-3®**

.30 meter  
resolution  
2014  
<3.0 m CE90



**WorldView-4®**

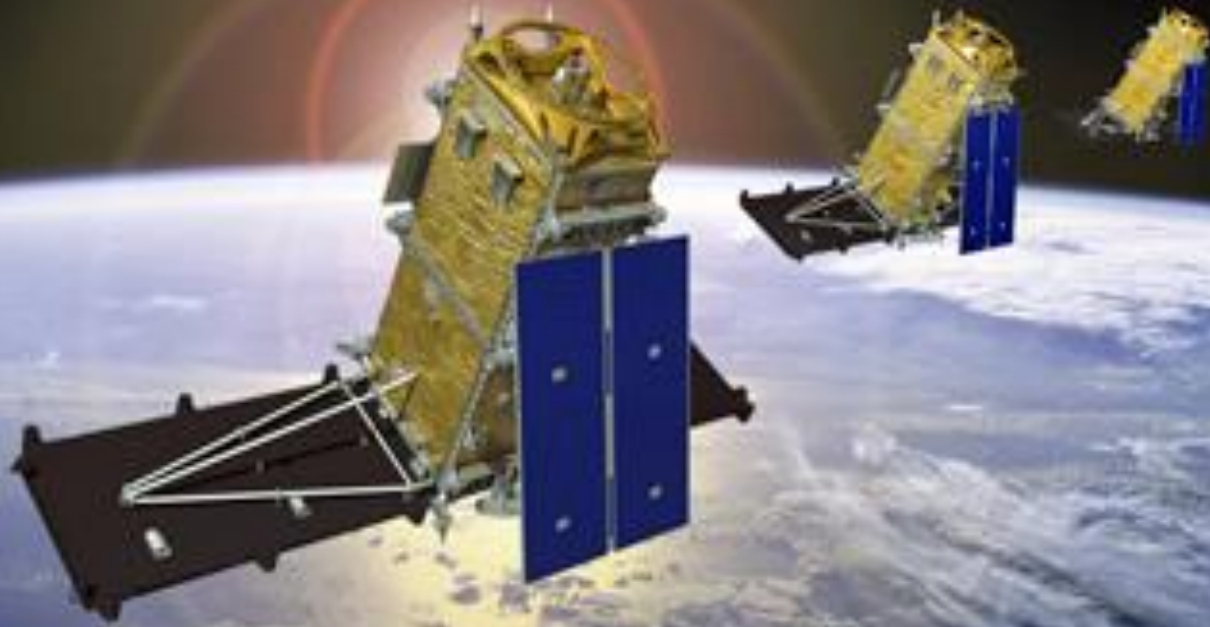
.30 meter  
resolution  
2016  
<3.0 m CE90

CURRENTLY IMAGING IN ORBIT

AVAILABLE VIA IMAGERY LIBRARY

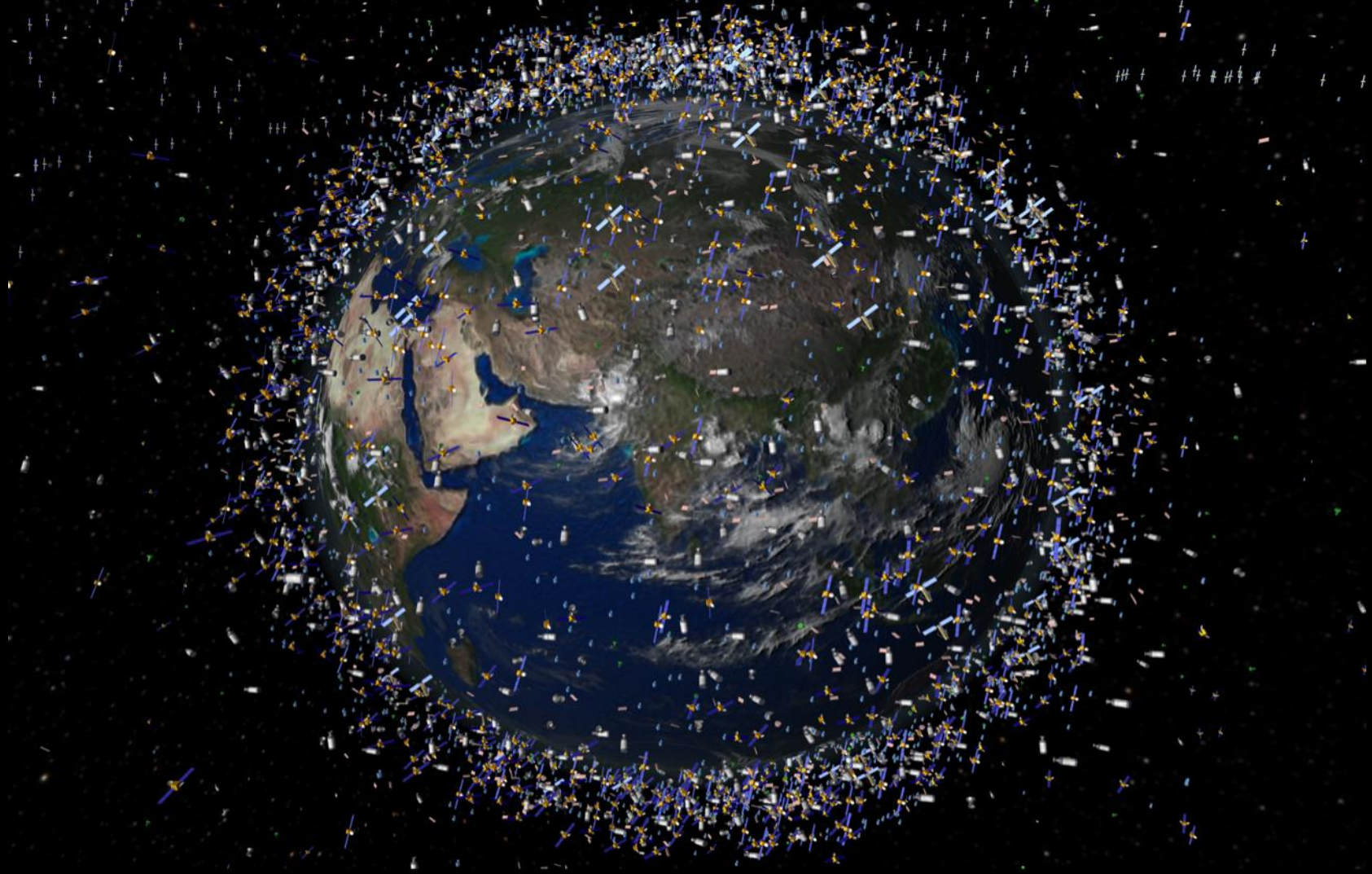


# The Future is Multi-Day Revisit



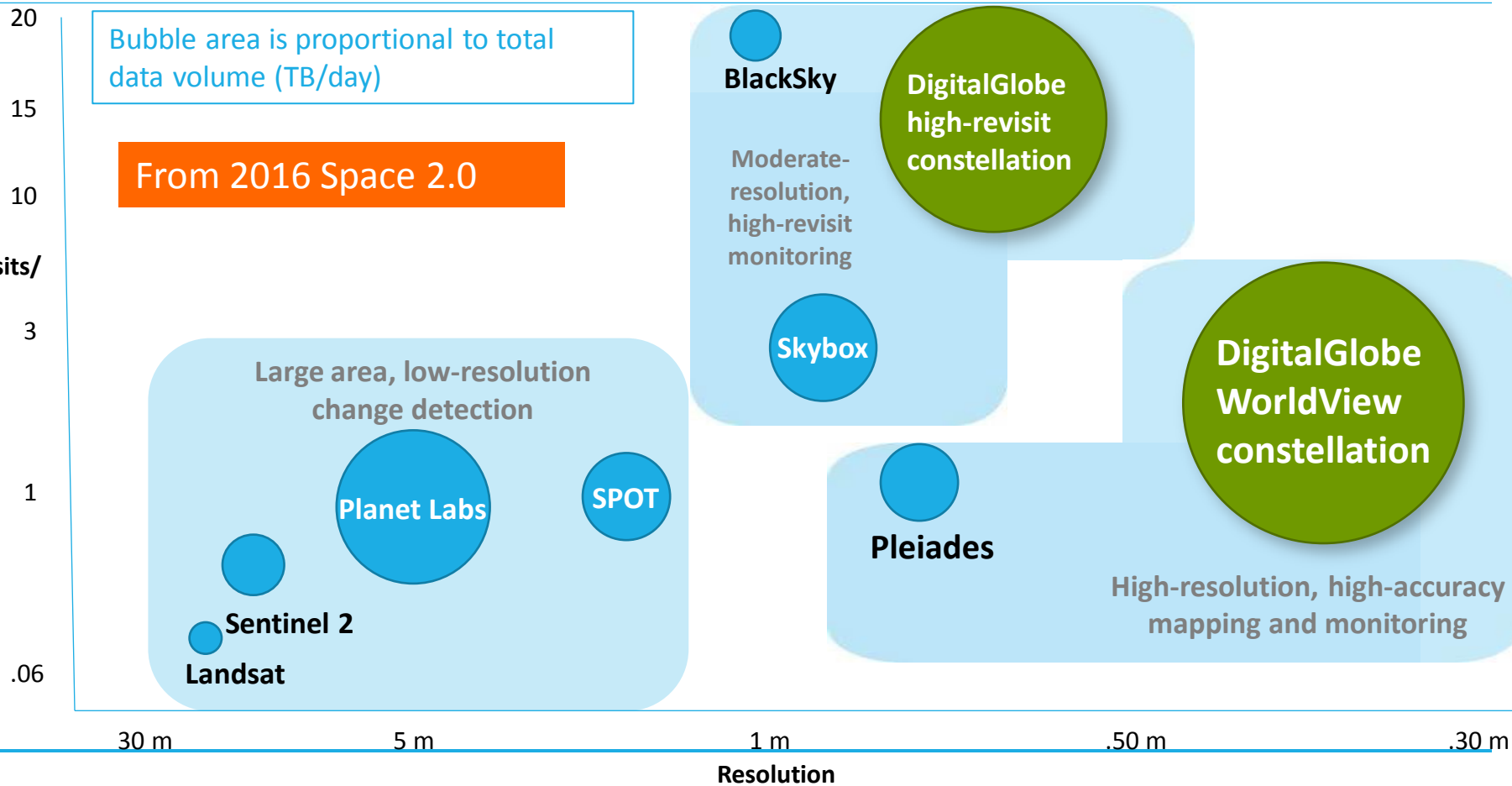
## Space Surveillance Missions

Timely and consistent monitoring  
of land, sea and space





# The remote sensing industry is evolving: 2020



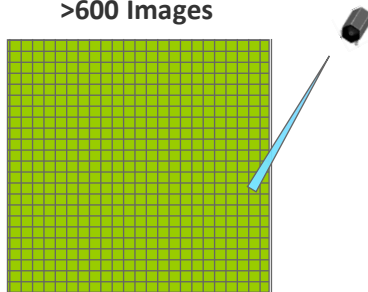
# We're adding two new “tools” to the toolbox



## Scout

- Frame imager
- Optimized for point collections

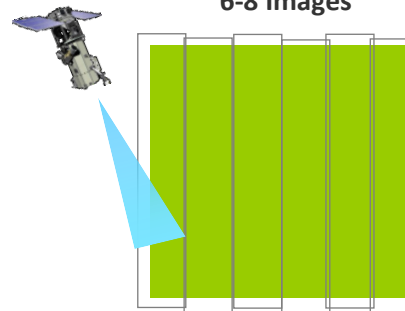
100x100 km Collected with Scout  
>600 Images



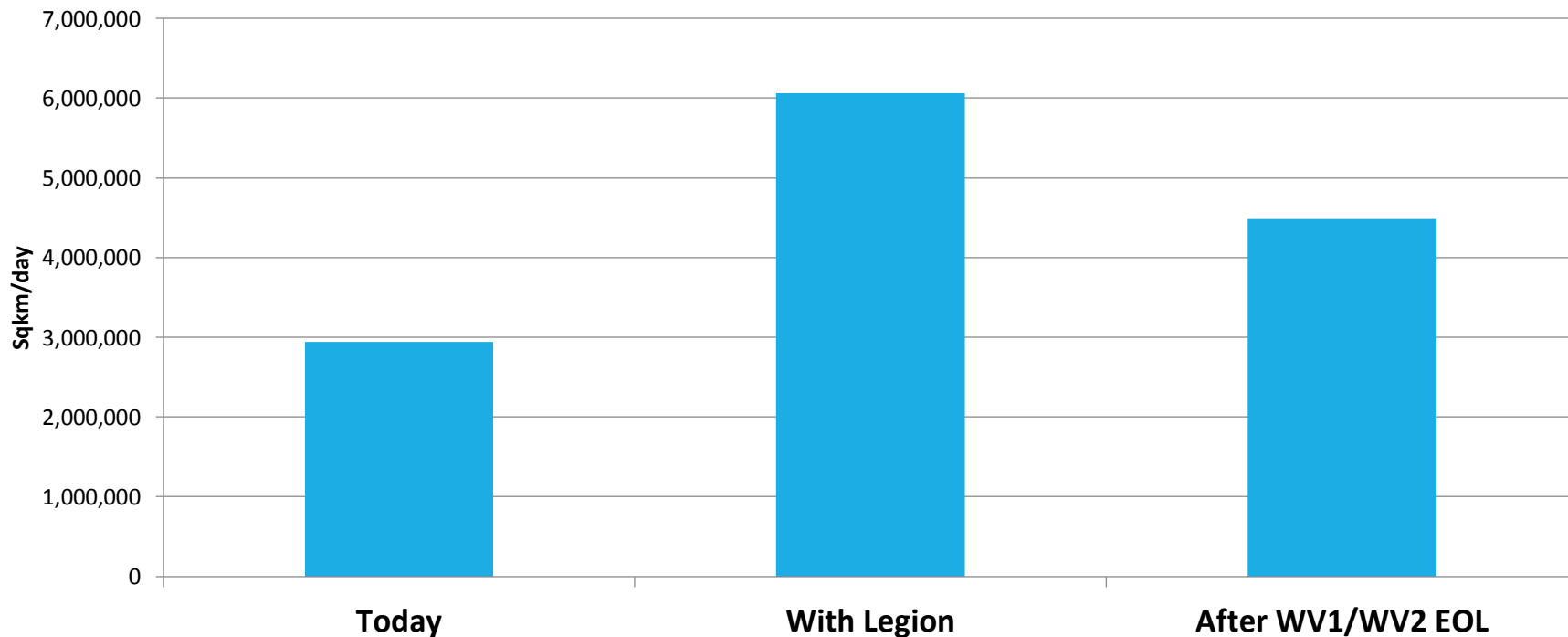
## WorldView Legion

- Line collectors which sweep across the ground with fast rates and wide swaths

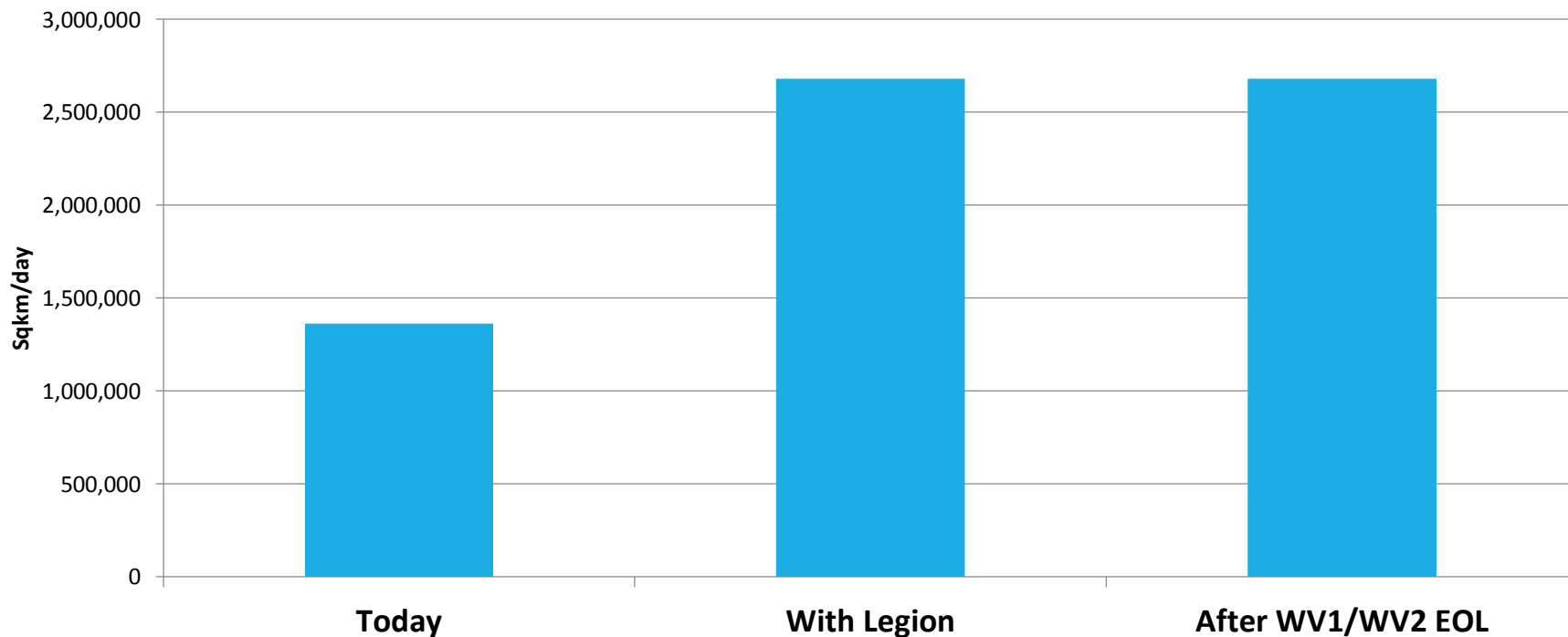
100x100 km Collected with WorldView or Legion  
6-8 Images



# Increased 8-band color capacity

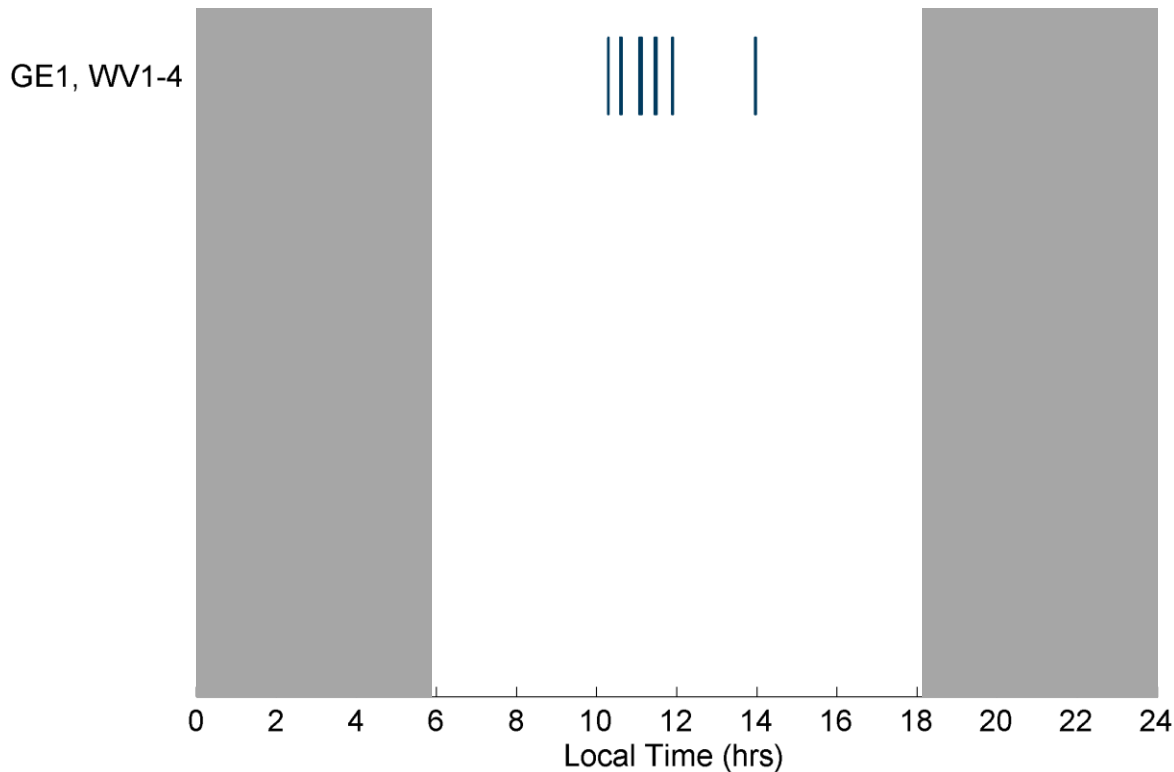


# Double 30 cm capacity

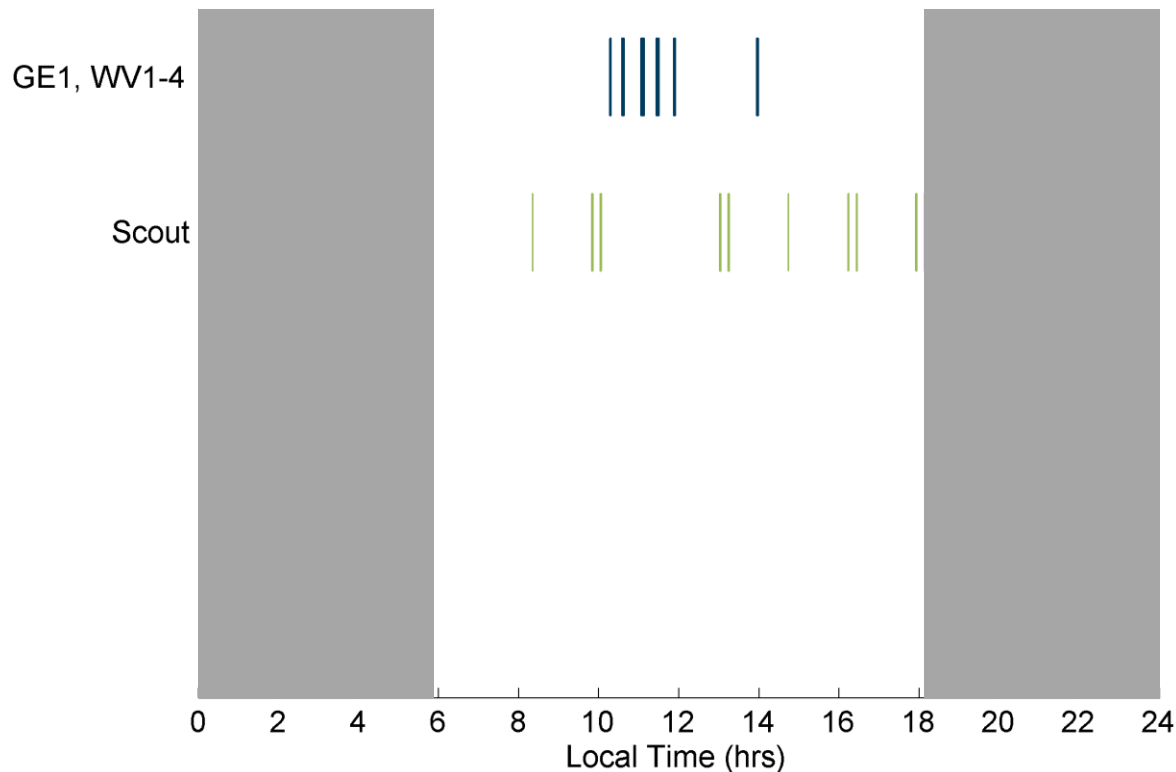




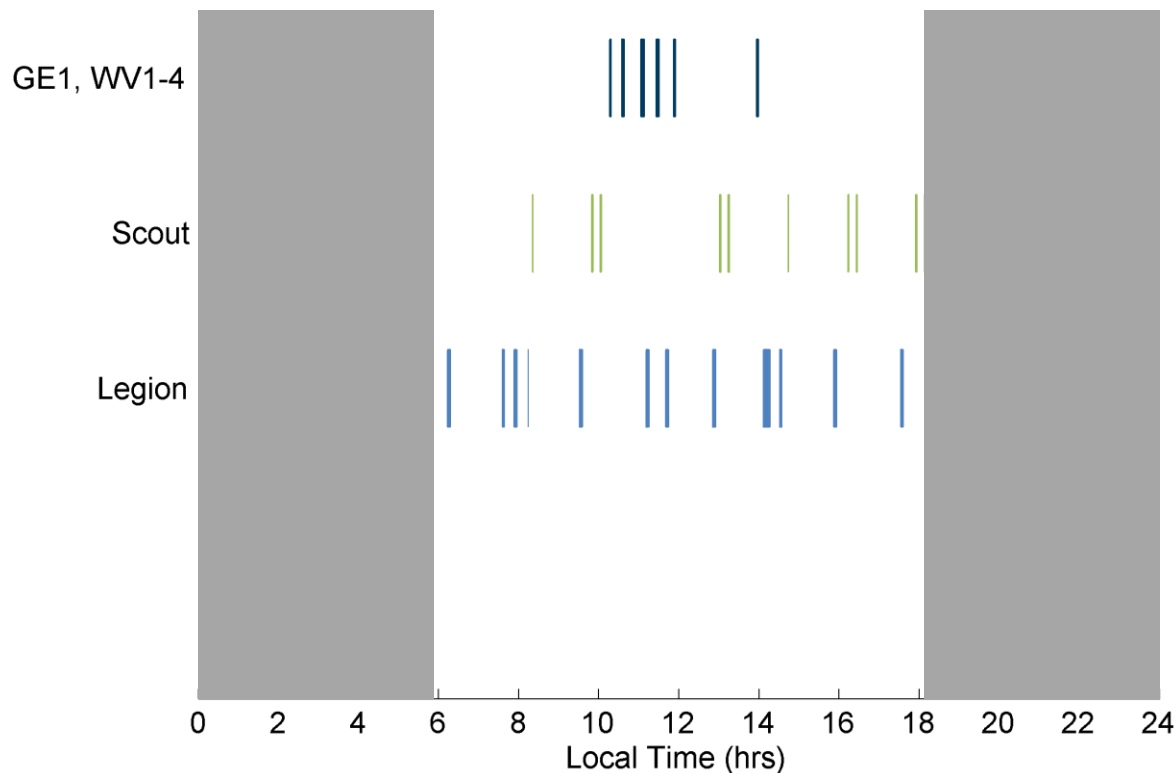
# Our combined constellation provides intraday revisit



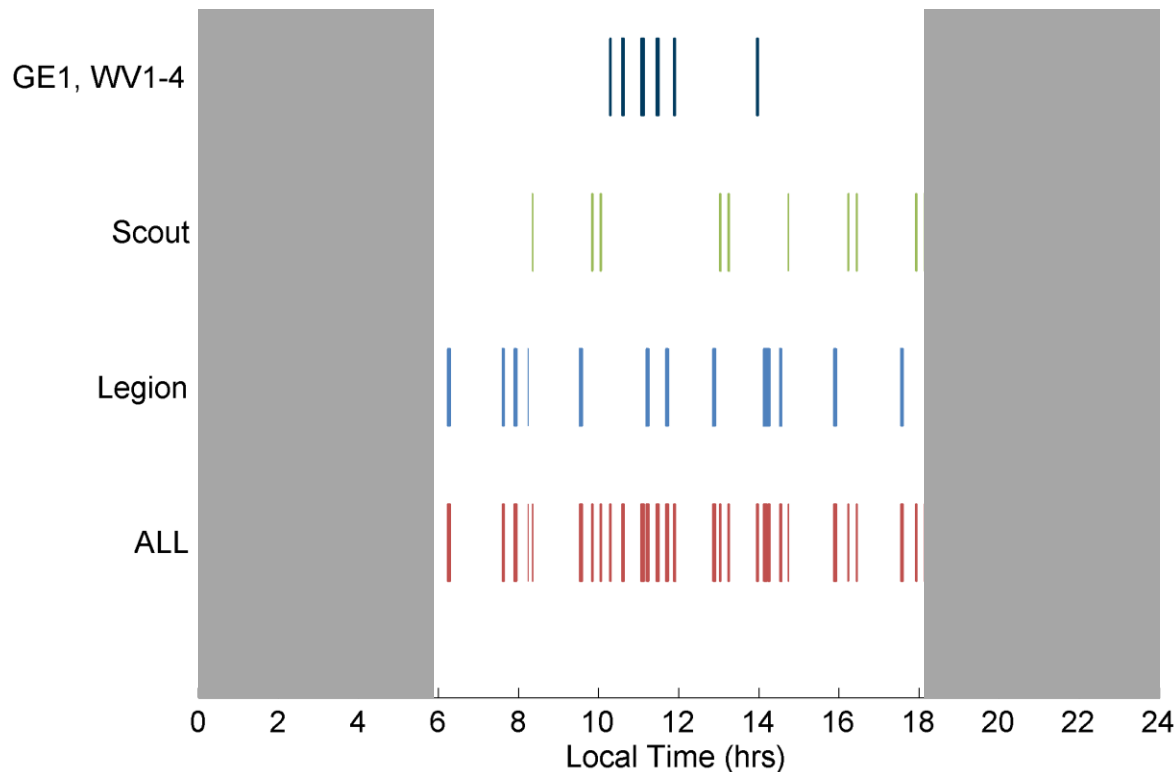
# The combined constellation provides intraday revisit



# The combined constellation provides intraday revisit



# The combined constellation provides intraday revisit



# Aligning an Analytics and Satellite Strategy



The background image is a blurred photograph of a complex, multi-level highway interchange. The perspective is from an elevated position, looking down at the curving roadways. The motion blur is horizontal, suggesting high speed. The colors are warm, with yellows and oranges from the sky and cooler blues and greys from the road and overpasses. The text is overlaid on the lower right portion of the image.

**Current analytical speed is  
too slow to take advantage of  
the increasing revisit rate**

# ML models are very sensitive to geography



Brasilia



Cairo



Moscow

Scaling one model across the globe with quality results isn't possible currently. Models need to be trained to specific geographies.

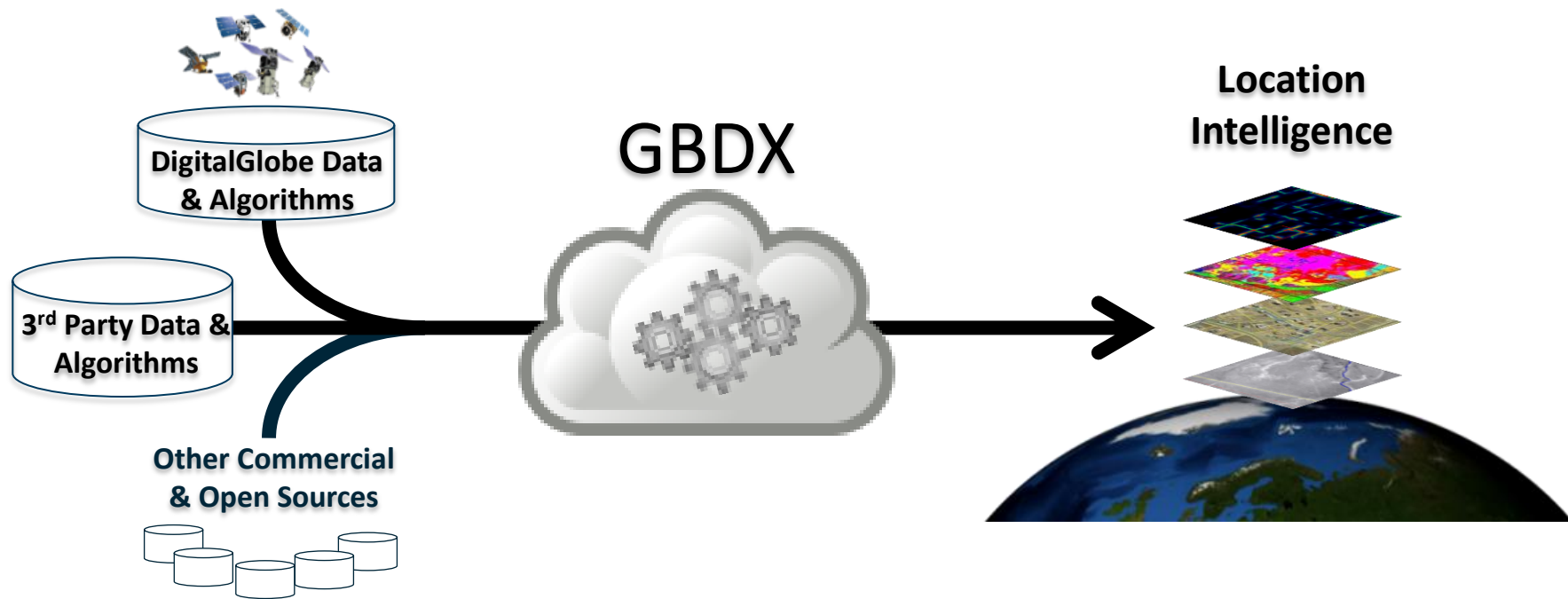




# GBDX

**Analyze imagery on ingest**

# The Geospatial Big Data Platform (“GBDX”)

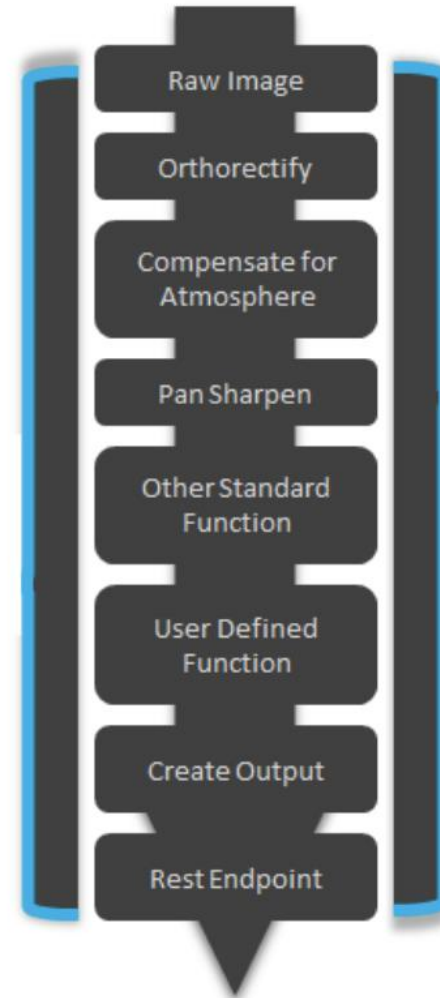


...to extract location intelligence at high speed & massive scale

**Moving imagery to  
the cloud means  
no ordering  
delays**



**On demand creation  
of imagery and data  
products is the future**



# Investing in Targeted High Value Grids



Constrained Geographies

High Value Assets

Enrich with Info Products

Refreshed with Daily Take



# Grow Our High Value Grids



Grow our geographies

Increase # of models

More diverse # of info products

Greater revisit from new sats

- Aircraft Detection
- Ship Detection
- Military Equipment Detection
- Change Detection

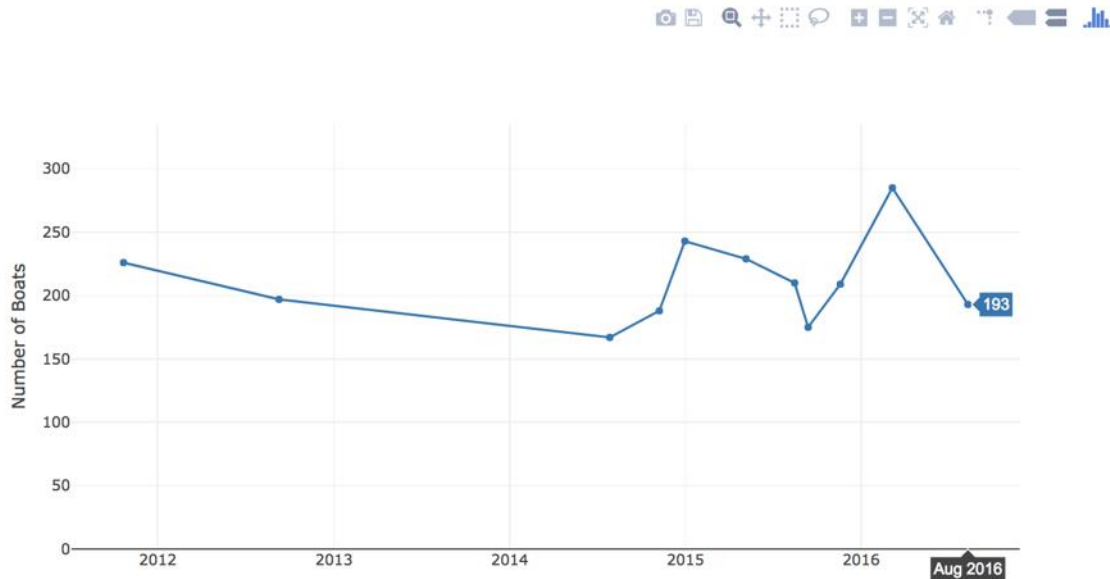


**Combing online  
archive access  
and inference on  
ingest allows us  
to create trends  
and alert users  
to deviations**

In [19]:

```
# create a line plot showing the boat counts over time  
boats_graph = nbboats.plot_boat_results(boats_df)  
# display the graph  
nbboats.plot_plotly(boats_graph)
```

Out [19]:

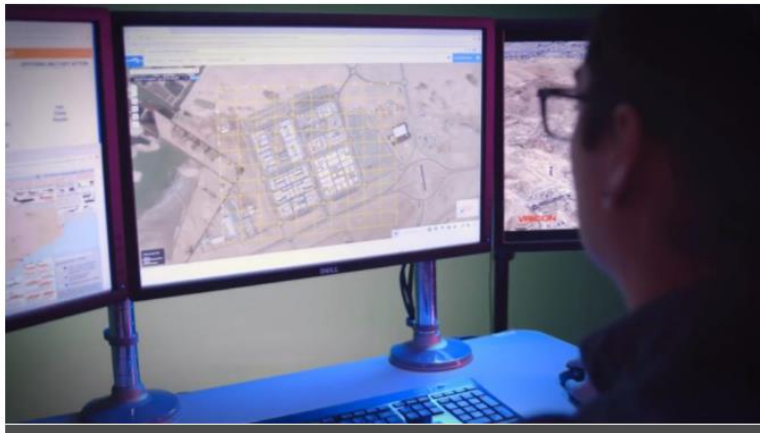






## DigitalGlobe rolling out SecureWatch Sites subscription service

by Debra Werner — June 5, 2017



**New interfaces for providing feedback from model results to retrain models and improve output quality**



See a better world.™



# SPACENEWS

NEWS

OPINION

VIDEO

LAUNCH

BUSINESS

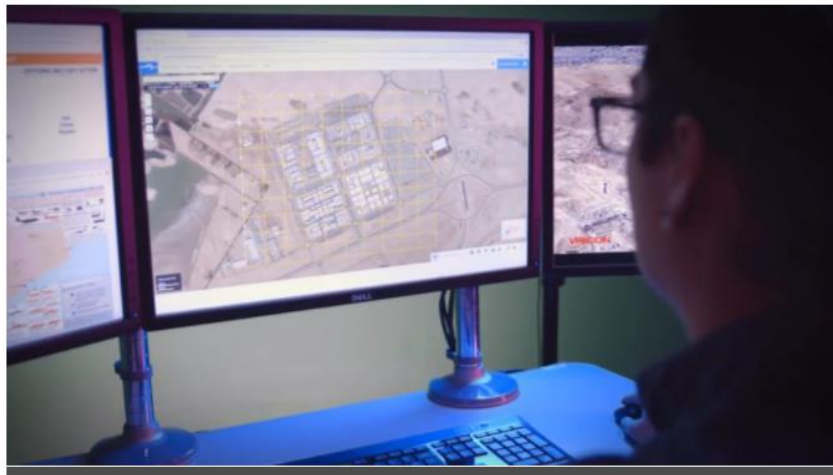
MISSIONS

POLICY & POLITICS



## DigitalGlobe rolling out SecureWatch Sites subscription service

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# New Application Approach

GBDX

Run verified algorithms on targeted geographies, and rapidly achieve actionable intelligence to support time dominant operations



Fast and Accurate	Slow and Accurate
Fast and Inaccurate	Slow and Inaccurate

# THANKS!

Any questions?

