

SpaceKnow

*Automated Persistent Monitoring and
Pattern of Life Extraction using Satellite
Imagery*



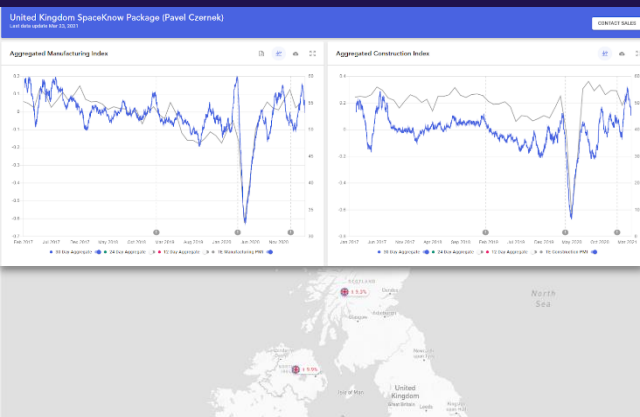
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Domains of Unique Capabilities



Economic Insights

We provide daily activity data on every industry observable from space. Near-real time, unbiased data represent the best possible input to economic forecasting and decision making.

Typical customers:

Hedge Funds, Financial Institutions, Governments, Large Corporations

Defense & Intelligence

Automated, AI based solutions enable defense & intelligence analysts understand vast amounts of data with extreme speed and accuracy and make the right decision in support of military operations.

Typical customers:

Military Intelligence, Intelligence Agencies, Armed Forces, Ministry of Defense, Security Organizations

Custom Analytics

A wide range of custom analytics solution focused on detection, segmentation, activity monitoring, change detection, object quantification, volumetrics analysis and other use cases.

Typical customers:

Governments, Private Companies in Construction, Oil & Gas, Mining Industries and more

Why?

Our mission is to train machines to analyze satellite images and generate insights that provide actionable intelligence for a variety of objectives across multiple market verticals

- With **growing market with satellite data**, images are getting cheaper, higher quality (both spectral and spatial resolution), and highly accessible (APIs, cloud, high revisit rates)
- With **rapid advance in machine learning and computer vision** multitude of high quality algorithms are emerging
- We aim to **bridge the gap** between the flood of data, machine generated results and the human analyst needs

“From a strictly GEOINT standpoint, we're in the midst of a revolution right now. We're soon moving to a point where we think, essentially, every part of the planet will be imaged on a daily basis.

And so, we also then look at all that data coming in, and we struggle, and we think about the opportunity, though, with how to handle all of that data.”



Maj. Gen. Charles Cleveland

Former Director of Operations and Military Deputy, National Geospatial-Intelligence Agency, Former Commander of the United States Army Special Operations Command, Former Director of National Intelligence

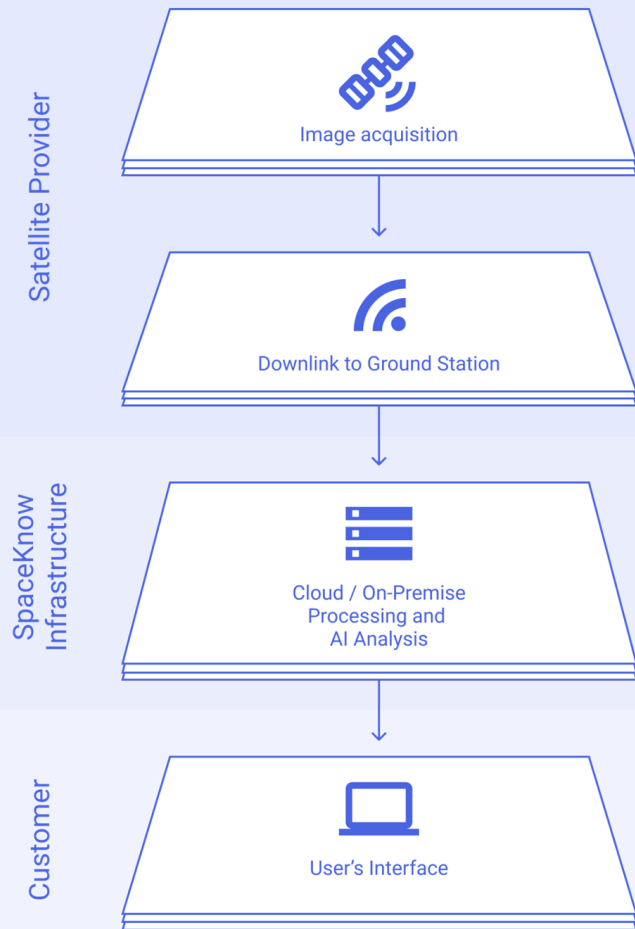
What?

Using computer vision, deep neural networks and SAR interferometry we offer analytics over any Area of Interest by combining optical & SAR imagery from all major providers

- Offer **50+ algorithms** as a cloud service available through scalable APIs and SpaceKnow cloud platform
- Provide **segmentation of low- to high-resolution** optical and SAR imagery to extract Patterns of Life (PoL)
- Search continents to **detect materials and objects of interest**
(*coal, iron, lithium, containers, oil tanks, etc.*)
- Provide **multiclass object detection** for optical and SAR data
- Track activity by detecting **temporary & persistent changes**
- Measure **subsidence and displacement** using SAR interferometry
- Aggregate and analyze time series to automatically identify **correlations and casualties** between locations and events



How?



- SpaceKnow is **connected via APIs** to all **major commercial optical & SAR imagery providers** thanks to dedicated, continuous contracts
- Image analysis is **performed automatically** using SpaceKnow algorithms executed as services on proprietary cloud platform with high parallelization capability (smart imagery tiling)
- Two key databases used extensively:
 - **Geospatial database of locations** (location specific metadata, precise geofencing)
 - **Database of extracted patterns of life time series** (used for alerting and persistent monitoring)
- SpaceKnow solution can be delivered as cloud-based service or on-premise private cloud installation with interfaces:
 - **Application Programming Interface (APIs)**
 - **OS agnostic frontend interface**
 - **Direct cloud storage access**

