




Next-generation geospatial data ordering




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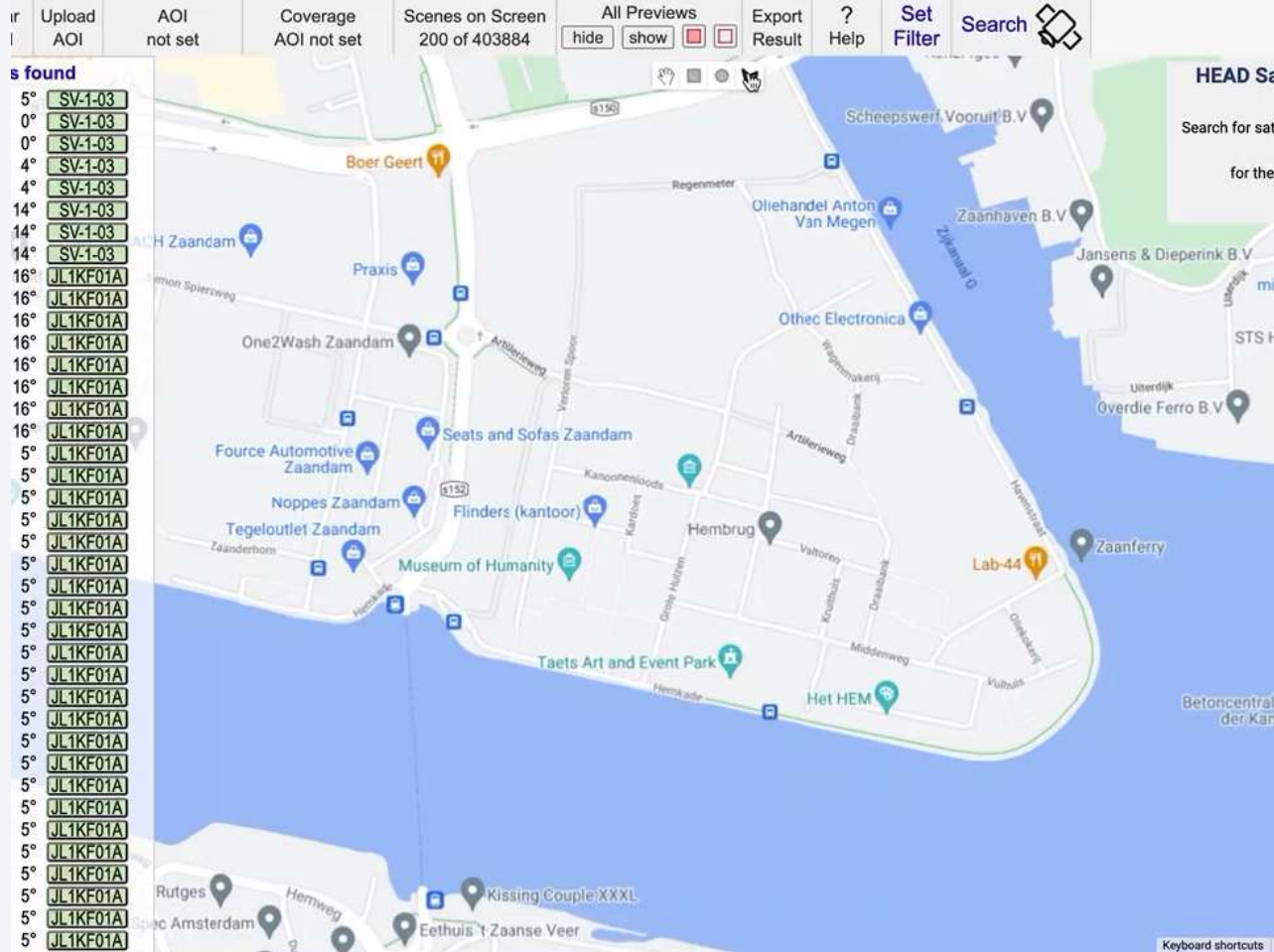
Geospatial Data Ordering

Providing Search Parameters

-  Collection
-  Geometry
-  Acquisition Dates
- [\[STAC\]](#) [\[OpenSearch\]](#)

Placing Orders

-  Identifier
-  Product
-  Geometry (when clipping is supported).



The screenshot shows a web-based geospatial data viewer. On the left, a list of search results is displayed, each with a small thumbnail and a list of parameters. The parameters include coordinates (e.g., 5°, 0°, 4°, 14°, 16°) and identifiers (e.g., SV-1-03, JL1KF01A). The main area is a map of Zaandam, Netherlands, showing streets, water bodies, and various points of interest. The map interface includes a search bar at the top right, a 'Set Filter' button, and a 'Keyboard shortcuts' link at the bottom right. The map shows several locations marked with blue and green pins, such as 'Boer Geert', 'Praxis', 'Otheic Electronics', 'Museum of Humanity', and 'Het HEM'. The map also shows a network of streets and waterways, including the 'Zijkanaal G'.

Current decision-making process over data ordering
 [Head Finder, UP42 Catalog, EO Browser, Maxar Discover, Capella Space Console, Planet Explorer, EOS Land Viewer]



Industry-specific use cases



Cars Detection near Major Retailers

Detecting cars on a parking lots near major retailers.
Walmart stores in California.

Hypothesis / Case Description

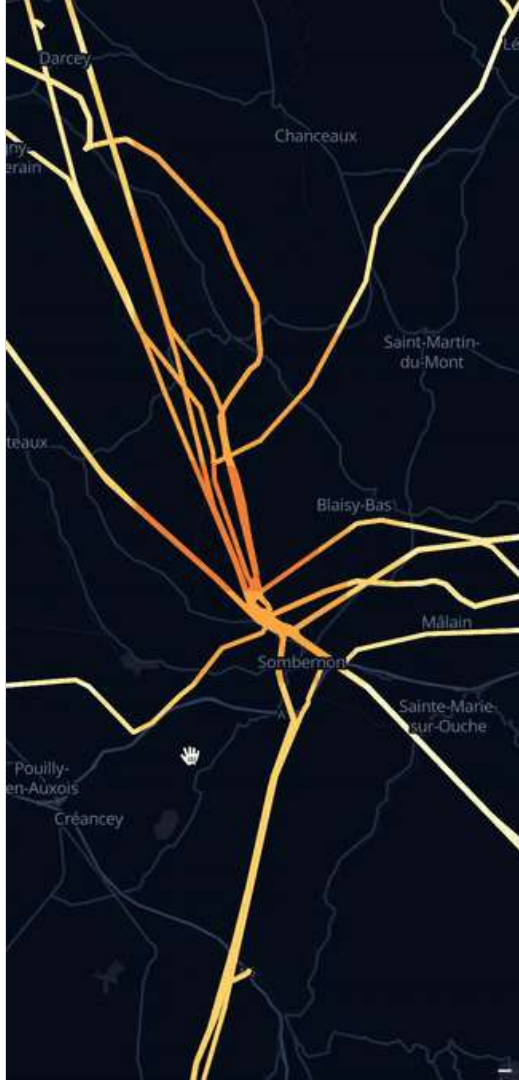
Monitoring the number of cars can predict retailers' revenue indices before the quarterly report.
Based on the discovery published by [[Berkeley Haas](#)].

Request

- ✓ Major retailers' locations. Purchased on Location Data Marketplace
- ⊖ Parking lots near stores
- ⊖ High-resolution images over the mostly visited areas

Business Opportunities

Integration with Location Data Marketplaces that collect, store and update POI data
Integration with services that generate data on demand



Assets Monitoring

Discovering satellite data coverage to monitor assets. Estimating costs and required tasking operations.

Hypothesis / Case Description

Powerlines vegetation monitoring. Discovery required to identify the source of the data and define upcoming satellite tasking operations.

Request

- ▲ Assets locations
- ⊖ Basic processing like buffering or clipping
- ⊖ High-resolution images

Business Opportunities

Integration with location BI platforms to experiment with geometry requirements
Integration with Data Portals to leverage the usage of open data
Integration with “Tasking operations” products / services

Data-driven decision-making platform

Major Components and Requirements



(Geospatial) Data Collections

A single interface to search over multiple data producers and hosts.

- Key components:
- ✓ STAC spec for metadata
 - ✓ Sharing metadata
 - ✓ Clear ordering process



Location Data

Location (vector) data that can be queried.

- Key components:
- ✓ Pay-as-you-go pricing
 - ✓ API Access



Scalability

Ability to make queries over millions or billions of records.

- Key components:
- ✓ Geometry querying
 - ✓ BI components



Flexibility

Clear API for integrations on both Collections and Location data sides.

- Key components:
- ✓ API first
 - ✓ Linked data support

Search	API Delivery Type	API Price Estimation	API Ordering	API Checking Status	Full Scene Ordering Only	Specific User Credentials	Minimal AOI, sq km	Maximal AOI, sq km	Number of Vertices	Data could not be downloaded	Volume-based Pricing	Subscription Pricing
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA	FALSE				FALSE	FALSE	FALSE
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA	FALSE				FALSE	FALSE	FALSE
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA	FALSE				FALSE	FALSE	FALSE
CATALOG	File	TRUE	TRUE	TRUE	TRUE		FALSE	FALSE	250	FALSE	FALSE	FALSE
CATALOG	File	FALSE	FALSE	TRUE		FALSE	25			FALSE	FALSE	FALSE
CATALOG	File	FALSE	FALSE	TRUE		FALSE	25			FALSE	FALSE	FALSE
CATALOG	File	FALSE	FALSE	TRUE		FALSE	25			FALSE	FALSE	FALSE
CATALOG	File	FALSE	FALSE	TRUE		FALSE	25			FALSE	FALSE	FALSE
CATALOG	File	FALSE	TRUE	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
GLOBAL	WMS/WMTS	FALSE	NA	NA	NA	TRUE	1	100000	1000	FALSE	TRUE	FALSE
CATALOG	File		TRUE			TRUE	TRUE			FALSE		FALSE
CATALOG	File		TRUE			TRUE	TRUE			FALSE		FALSE
CATALOG	File											
CATALOG	File											
CATALOG	File											
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA	FALSE				TRUE	TRUE	FALSE
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA	FALSE				TRUE	TRUE	FALSE
GLOBAL	WMS/WMTS	FALSE	NA	NA	NA	TRUE	1	100000	1000	FALSE	TRUE	FALSE
GLOBAL	WMS/WMTS	FALSE	NA	NA	NA	TRUE	1	100000	1000	FALSE	TRUE	FALSE
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		1			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		1			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		1			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		25			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		25			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		25			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		81			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		81			TRUE	TRUE	
COVERAGE	WMS/WMTS	FALSE	NA	NA	NA		81			TRUE	TRUE	

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Commoditizing the Data

UP42 accommodates data catalogs as well as location data in a single platform.

60+

Data Products

20+

Data Producers & hosts

6

Catalogs Integration

1

Platform

Transmission Lines in US

Description

The whole country transmission lines' dataset intersected with high-res data footprints from major satellite data provides. Case supports identifying target markets, calculating costs, data ordering, defining tasking operations.

Key Numbers

- ✓ 47,461(153,385) High-res satellite scenes' footprints
- ✓ 1,336,260 Transmission lines segments
- ✓ 2,918,690 Records in a single dashboard view

References

[Electric Power Transmission Lines](#) by HILFD

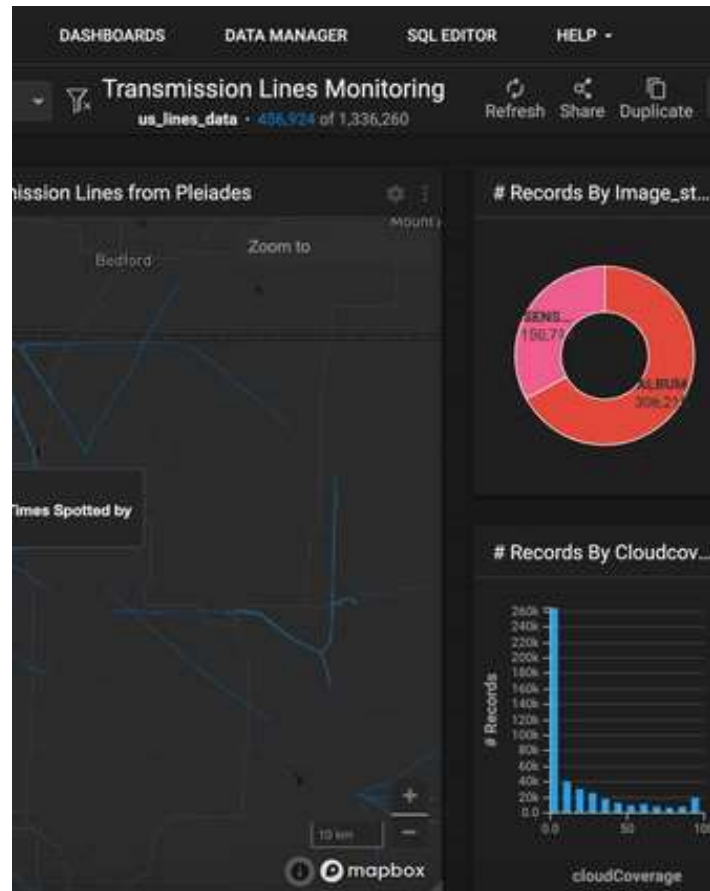
Pléiades by [Airbus DS](#)

GeoEye-1, WorldView-1, WorldView-2 by [Maxar](#)

SkySat by [Planet](#)

Visualization by [OmniSci](#)

<https://34.244.24.61:6273/mapd/dashboard/11/>



Every Building from Space

Description

Every single building in Australia visualized in one dashboard. Intersection between buildings and high-res images calculated and visualized. Every building has information about when and which scene was collected.

Key Numbers

- ✔ 15,357 High-res satellite scenes' footprints
- ✔ 11,334,866 buildings
- ✔ 230,714,666 Records in a single dashboard view

References

[Australia Building footprints](#) by Microsoft

Pléiades by [Airbus DS](#)

Visualization by [OmniSci](#)





Australia from the Space

aus_bld_data_lite - 230,714,666 of 230,714,666



Refresh



Share



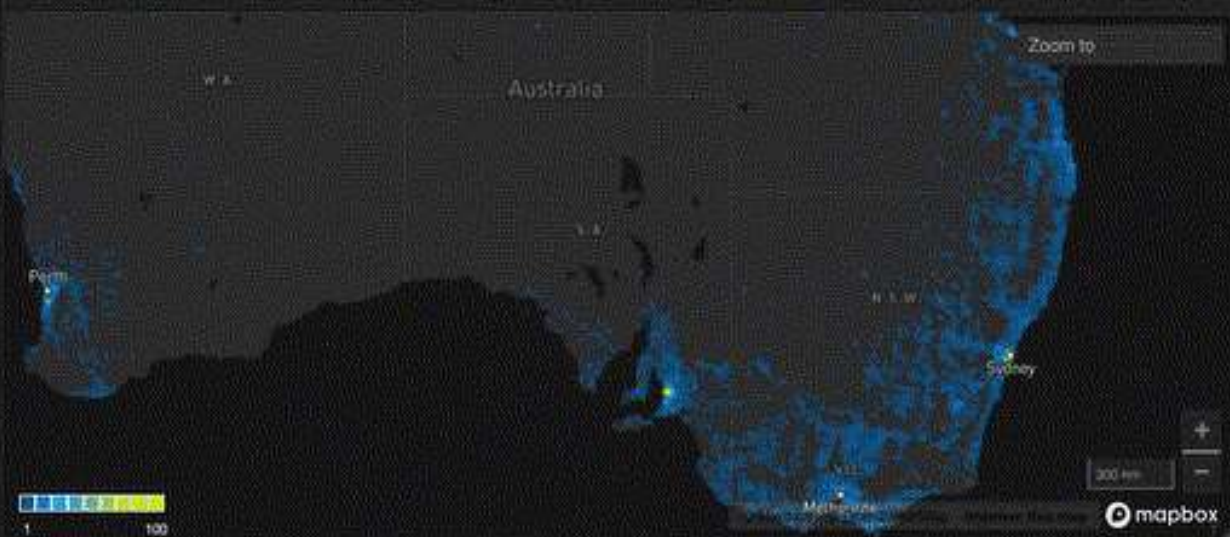
Duplicate



Save

+ Add Chart

Building Footprints from the Acquisitions



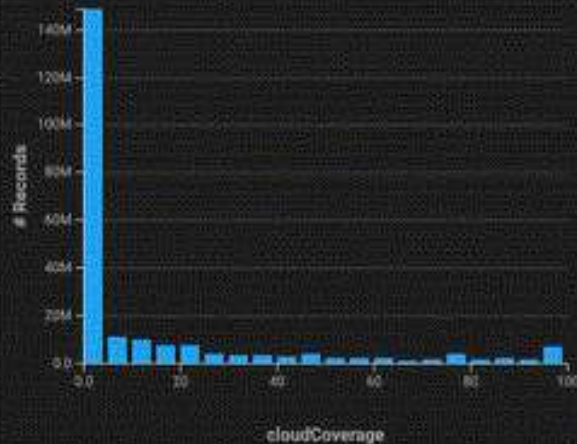
Archive Status



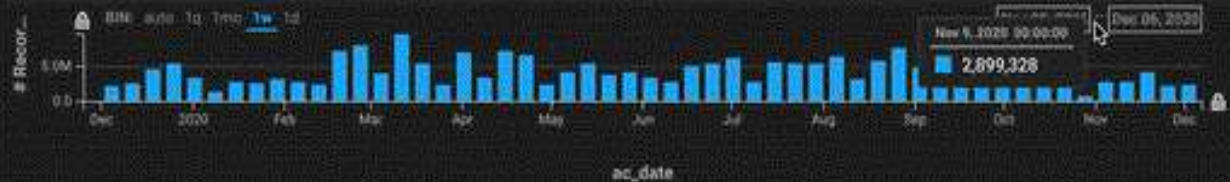
Unique Scenes

14,017

Cloud Coverage



Acquisition Date



Location and **geospatial** data markets are disconnected.

Access to Geospatial data collections should be **unified** and **simplified**.

We have all necessary **tools** to create data-driven geospatial data ordering process.

Scalability and **flexibility** are the core requirements to the tool.

Querying over **hundreds of millions data records** should be considered as the new normality.

#geospatialworldforum

