



ATIEC 2021

Developing Standards at the pace of Innovation

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Presentation by:

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Open Geospatial Consortium (OGC)

OGC



500+ Members

Mission

Approach

Products

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OGC®
Making location count.

Designed & Powered by
TOPIO

TOPIO Geospatial Location Landscape
NETWORKS June 2021



<https://www.ogc.org/node/4476>



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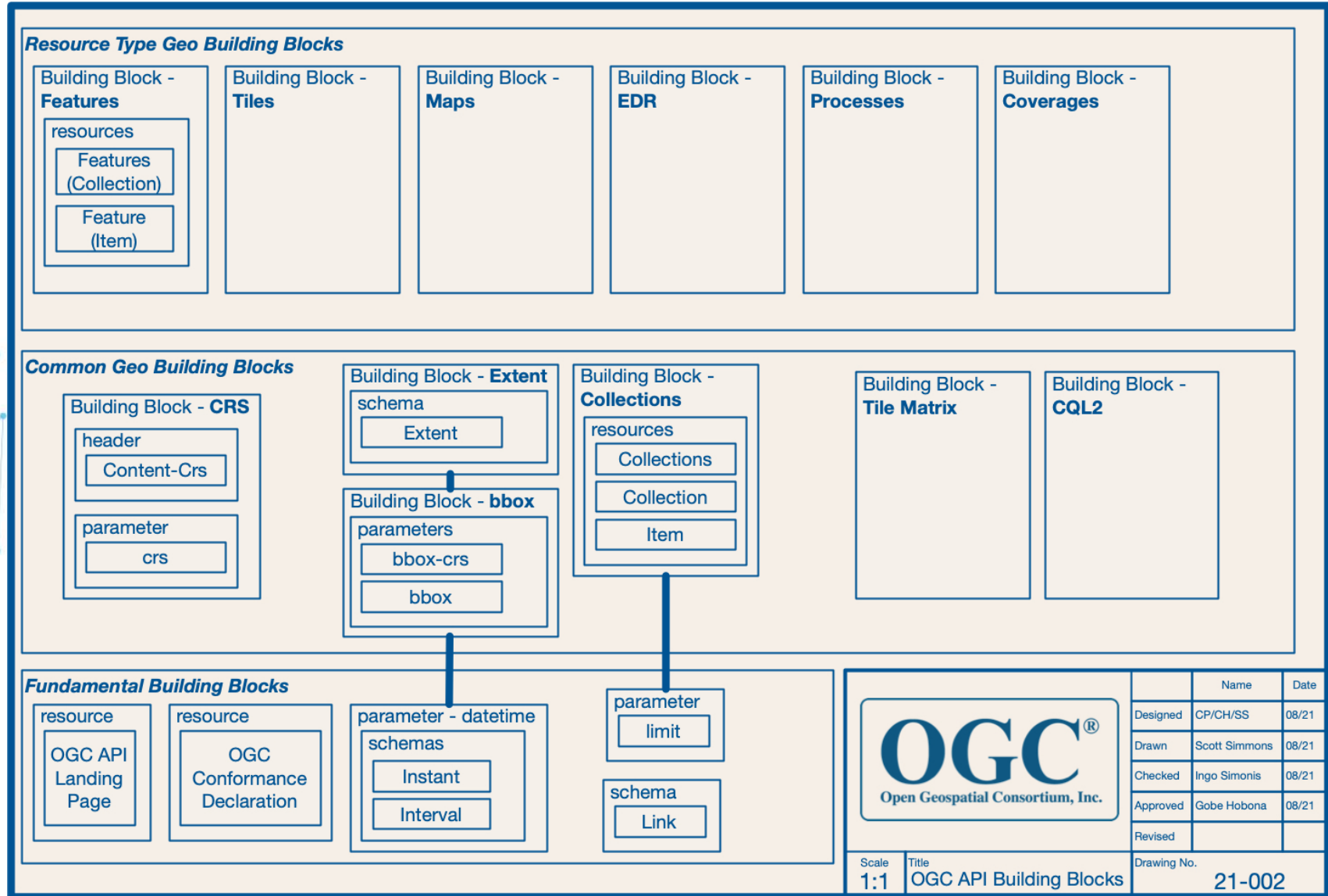
OGC APIs – Building Blocks

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OGC Innovation Testbed 17

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- Evaluate OGC API using GeoJSON applicability for SWIM services
- Explore integration of multi-sourced backends
- Prototype fusion services (different data sources and areas)
- Exploration and lessons learned for data sources and applications (fusion services)

Swagger
Supported by SMARTBEAR

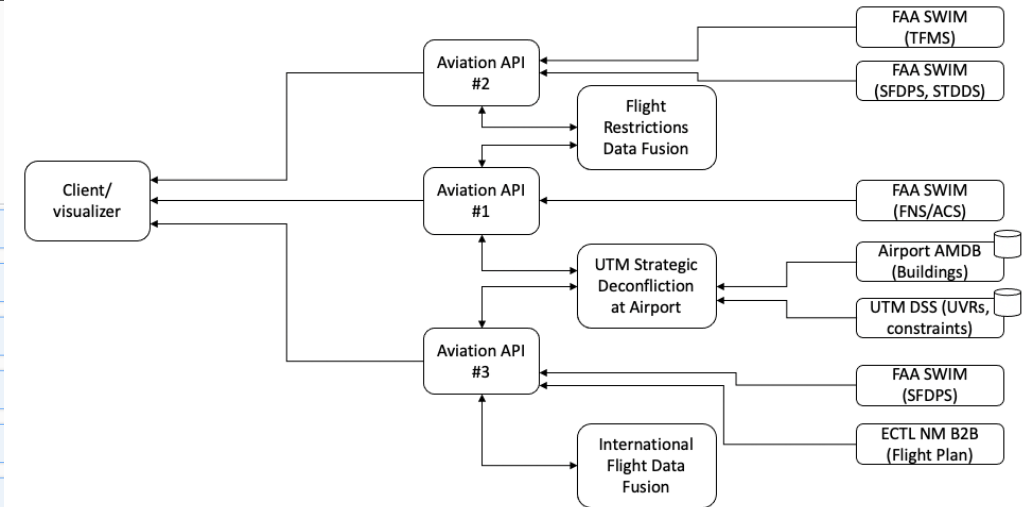
Select a definition

Flight restrictions fusion service - D106 v1 OAS3

<https://ogc.ng aviation.eu/swagger/v1/swagger.json>

Data

GET	/
GET	/conformance
GET	/collections
GET	/collections/restictions_for_flight
GET	/collections/restictions_for_flight_plan
GET	/collections/restictions_for_flight/items
GET	/collections/restictions_for_flight_plan/items



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- OGC Features and Geometries JSON - Aviation and UTM use cases
 - Builds on GeoJSON with minimal extensions to support additional concepts that are important for the wider geospatial community and the OGC API standards.
 - Coordinate Reference Systems (CRSs) other than WGS84,
 - non-Euclidean metrics, in particular ellipsoidal metrics,
 - more geometry types (e.g. solids) and
 - Representing feature properties in JSON consistent with the General Feature Model, e.g., including temporal properties.



<https://www.ogc.org/pressroom/pressreleases/4376>



OGC Aviation Standard Working Group

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- Purpose:
 - Develop and maintain OGC API(s) core standard and extensions
 - Develop and maintain exchange models (GeoJSON/others) for aviation data
- Business value:
 - APIs as building blocks for aviation, cost-effective way to set up new services and build tailored products
 - Aviation APIs can help developers organize exchange standards used in the Aviation industry per application domain
 - Data integration across data providers: ANSPs (e.g., FAA SWIM/ Eurocontrol NM B2B), UTM USS, airspace users, airports
- Estimated kick-off: Early 2022



Of Interest – Weather API and GeoAI

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5.5. Use Cases

The Sprint was introduced by a quick review of the EDR API use cases at <https://github.com/opengeospatial/Environmental-Data-Retrieval-API/tree/master/UseCases>

- Get Parameters for a Point across a Time series;
- Obtain or view a forecast time series of a parameter at a point;
- Get Unstructured Observations from within a Polygon;
- Show Weather Radar data time series; and
- Obtain or view Air Traffic Hazards and Restrictions for an Area.

<https://www.ogc.org/blog/3211>



- Imagery classification and segmentation
- Feature extraction, Analysis and Responses
 - Extracting Moving Features from Full Motion Video)
 - Interpretation of the environment (data from autonomous driving)
 - Transformation of environmental data into car commands (steering, speed, etc.)
- Impacts in many domains: Disasters, Insurance, Energy & Utilities
- Increasingly more GeoAI in simulation and prediction
- AI as a service

<https://www.ogc.org/projects/groups/geoaidwg>

GET {root}/collections

Metadata describing the collections of data available from this API.

GET {root}/collections/{collectionId}

Metadata describing the collection of data which has the unique identifier {c

The metadata describes basic information about the geospatial data collection temporal extents of all the data contained.

GET /collections/{collectionId}/items/{featureId}

Returns a single 'feature' - something in the real-world (a building, a stream, a plus other properties. The EDR API's Items query is an OGC API - Features endpoint sampling features.

GET {root}/collections/{collectionId}/{queryType}

Retrieves data according to the query pattern. Query resources are spatial query access and use of the Environmental Data resources.

GET {root}/collections/{collectionId}/instances

Retrieve metadata about instances of a collection.

GET {root}/collections/{collectionId}/instances/{instanceId}

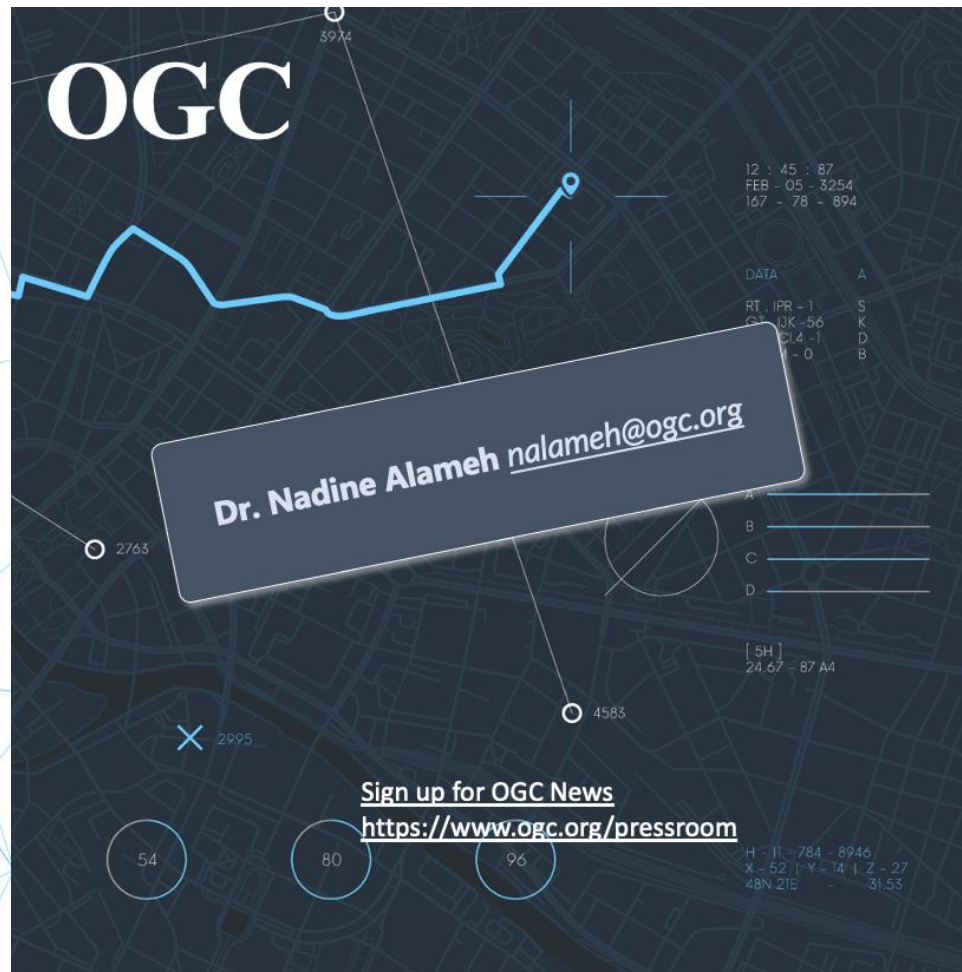
Retrieve metadata from a specific instance of a collection which has the unique



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Thank You!

Community

- 540+ International Members
- 115+ Member Meetings
- 60+ Alliance and Liaison partners
- 50+ Standards Working Groups
- 45+ Domain Working Groups
- 25+ Years of Not for Profit Work
- 10+ Regional and Country Forums

Innovation

- 120+ Innovation Initiatives
- 380+ Technical reports

Standards

- 65+ Adopted Standards
- 300+ products with 1000+ certified implementations
- 1,700,000+ Operational data sets using OGC Standards