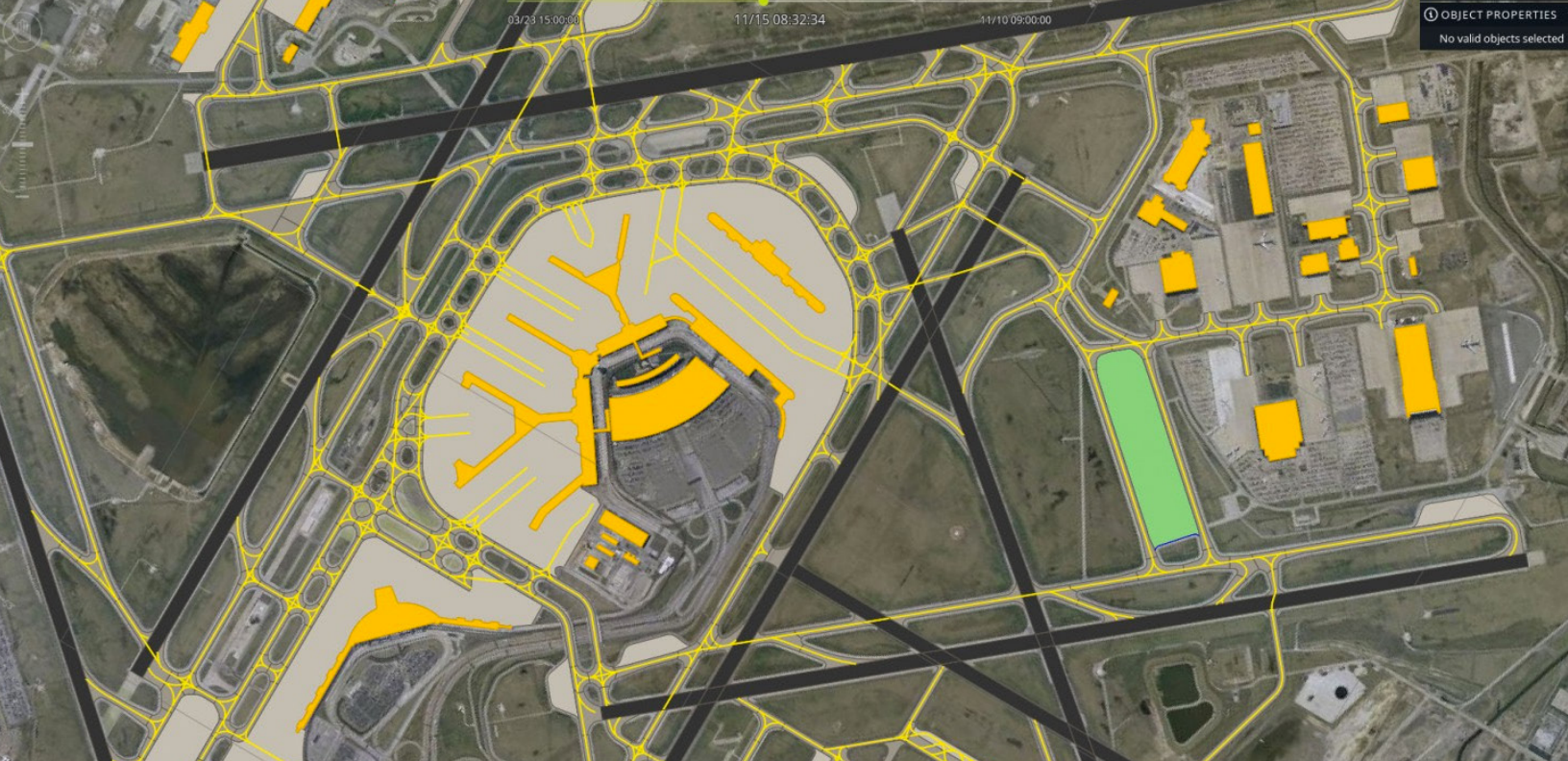




BROCHURE

Octave Alto AXM Viewer for Octave Alto Lightspeed





Overview

Octave Alto AIXM Viewer (formerly Luciad AIXM-5 Viewer) is a free application that lets users visualize AIXM data on a map.

Based on Octave Alto Lightspeed (formerly LuciadLightspeed) API technology, Alto AIXM Viewer exposes a selection of Alto Lightspeed's capabilities relevant for aeronautical information management (AIM). Alto Lightspeed is an API that can be used to develop geospatial situational awareness applications, which gives users additional flexibility to develop AIXM-related applications.

Data connectors

Alto AIXM Viewer supports the following AIXM data sources:

- AIXM 5.1 / 5.1.1 (.aixm51, .xml)

Other supported data sources:

- GeoTIFF (.tif, .tiff)
- Shapefile (.shp, .shp.gz, .shp.zip)
- DTED (including DMED) elevation data (.dem, .dem.gz, .dmed, .dt0, .dt1)
- Azure Maps
- AMXM 2.0 (.amxm, .xml)
- GeoJSON (.json, .geojson, .js)

AIXM extensions

Users can define and use AIXM extensions to complement the core AIXM format with industry-specific properties.

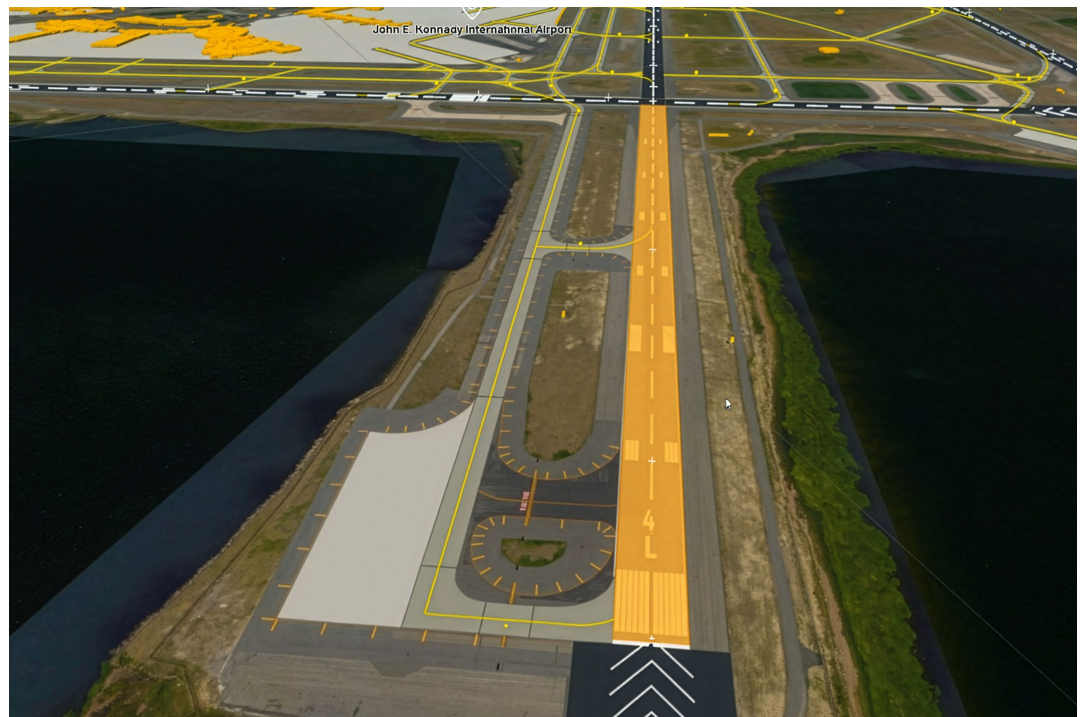
Alto AIXM Viewer automatically recognizes the following extensions, identified by their XML namespaces; this means they don't require a link to the XML schema in the data:

- **iNM EAD-Audit**
- **iNM EAD-ADR**
- **iNM NaturalDescriptor**
- **ADR**
- **ADR Message**
- **ASRN**

All other extensions require and need only a valid XML schema location in the data that points to the AIXM extension schema.

AIXM feature types

Alto AIXM Viewer can decode and access all AIXM feature types defined by AIXM XML schemas (airspace, airports, nav aids, etc.). It visualizes features if a geometry is available. Visualization follows ICAO Annex 4 charting guidelines.



AIXM geometry

Related to all feature types

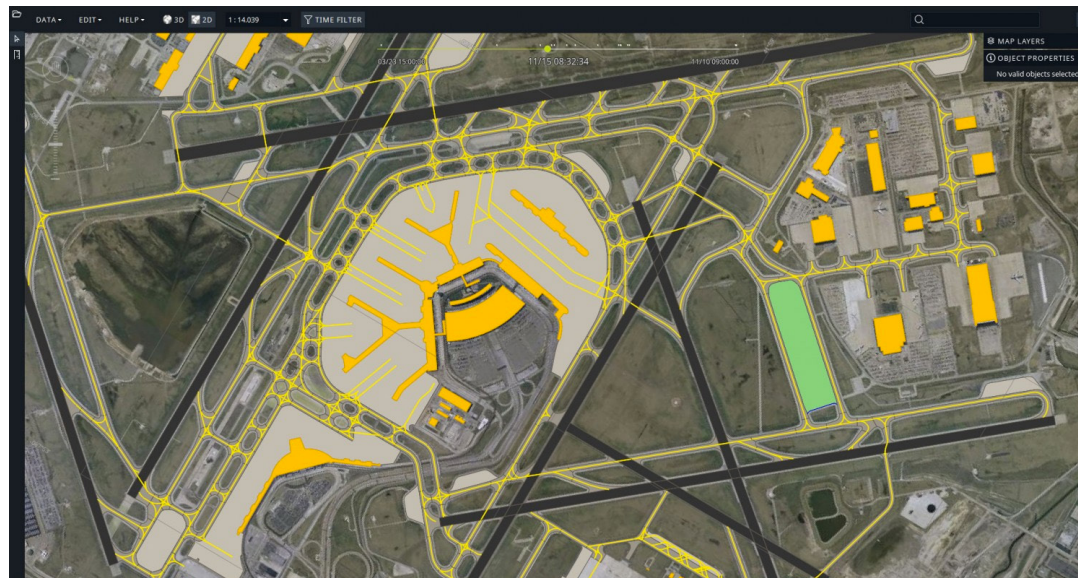
Alto AIXM Viewer uses Geography Markup Language (GML) to represent the geometry of features. The following table lists the supported geometry types.

Geometry type	Supported
Point, elevated point	
LineString	
GeodesicString	
LinearRing	
Circle by center point	
Circle by 3 points	
Arc by center point	
Arc by 3 points	
Arc by bulge	
Curve, elevated curve, composite curve, ring	
Surface, elevated surface, polygon, polygon patch	
Triangle	
Envelope	
Rectangle	

Users can embed or link geometry definitions using XLink/XPath. The following table lists the supported possibilities.

Geometry definition	Supported	Notes
Inline	✓	
Local geometry link using the gml:id property of the referred geometry	✓	
Local geometry link using the gml:identifier property of the feature encompassing the referred geometry	✓	
External geometry link		This is possible via the Alto Lightspeed API on which the Alto AIXM Viewer is built. Contact us if you are interested in this capability.

Users can express coordinates in a geographic reference defined by an EPSG code. Alto AIXM Viewer supports more than 4,500 EPSG reference codes. Find the full list on the Developer Platform. A single file can contain multiple references.



Visualize AIXM and AIXM 5.1 data in 2D and 3D.

Related to airspace features

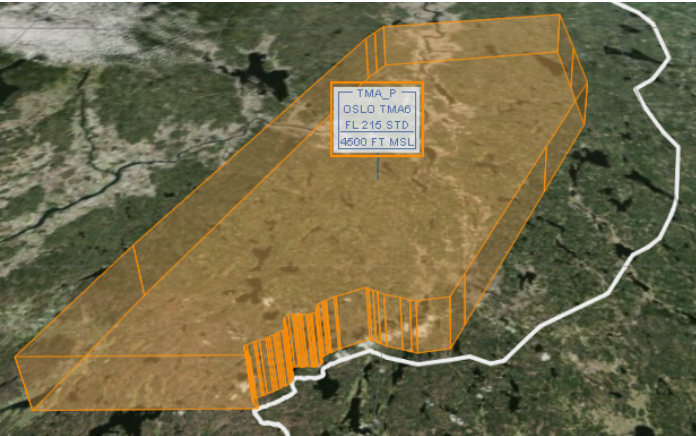
Alto AIXM Viewer offers additional geometry possibilities for airspace features. The table to the right lists the supported possibilities.

Geometry type	Supported
Corridor-based geometry	☒
Geometry aggregations of type UNION	☒
Geometry aggregations of type INTERS	☒
Geometry aggregations of type SUBTR	☒
Hierarchical aggregations	☒
Link to geoborder	☒
Link to a contributor airspace	☒

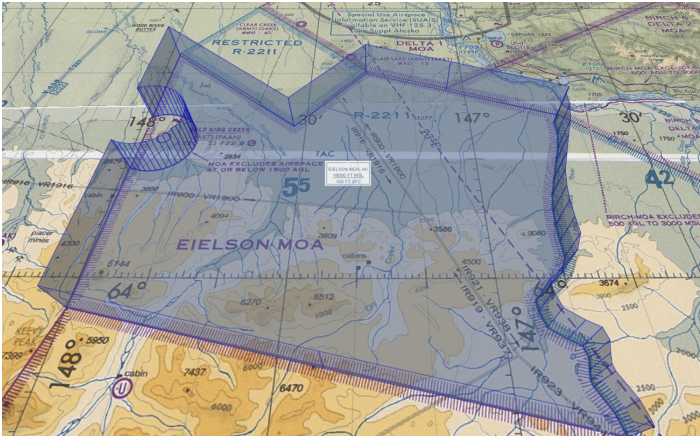
Related to procedure features

For procedure features, additional geometry possibilities are available in Alto AIXM Viewer. The table to the right lists the supported possibilities:

Geometry type	Supported	Notes
Geometry defined by an embedded GML trajectory	☒	
Geometry defined by segment legs	☒	This refers to the use of segment legs as defined by the ARINC Specification 424, Attachment 5, Path and Terminator. Contact us with reference to LCD-1025 if you need this.



Link to a geoborder (subset)



Geometry aggregations of type SUBTR

AIXM Temporality Model

Alto AIXM Viewer supports the AIXM Temporality Model by means of a time filter mode in the application. This mode enables a time slider that triggers on-the-fly SNAPSHOT calculations and presents the user with the state of the feature at the selected time. These SNAPSHOT calculations consider both timeslices and timesheets.

The following table lists the supported Temporality Concepts in detail.

Temporality Concept	Temporality property/type	Supported	Notes
Timeslice	BASELINE	✓	
	PERMDELTA	✓	
	TEMPDELTA	✓	
	SNAPSHOT	✓	
Timesheet	Time Reference	✓	
	Start and end date	✓	
	Day and day til		All except holidays and busy Fridays, depending on local government practices. Contact us with reference to LCD-983 if you need this.
	Start and end event	✓	
	Start and end time relative event	✓	
	Start and event interpretation	✓	
	Daylight saving adjustment	✓	
	Excluded	✓	

AIXM visualization

Alto AIXM Viewer supports 2D, 3D and 4D visualization of AIXM data. The visualization follows ICAO Annex 4 charting guidelines. Based on community feedback, several features use a dedicated style in 2D and / or 3D to improve awareness of geographical extent.

The following table gives an overview.

Feature type	2D	3D
Feature types with a point geometry	2D icon	3D icon (billboard)
Feature types with a curve geometry	2D curve	3D curve
Feature types with a surface geometry	2D surface	3D extruded surface using the specified vertical extent (if available)
Vertical structure with a point geometry	2D icon	3D cylinder indicating the horizontal and vertical extent of the obstacle
Route segment	2D curve	3D corridor indicating the horizontal and vertical extent of the route segment
Safe altitude area	2D arc band	3D arc band



To learn more or schedule a demo, contact us

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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