

ORACLE

Räumliche Analyse – mehr als nur Punkte auf einer Karte

SOUG Day Bern, 2026

Hans Viehmann

Director Product Management – Spatial and Graph

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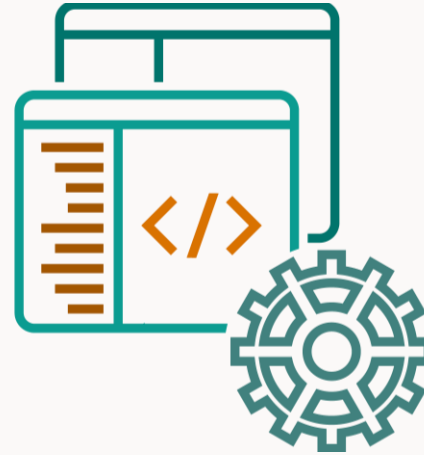
What is Oracle Spatial?



Spatial features in converged database

In-database functionality to

- Store and manage all kinds of geospatial data
- Perform spatial analysis where the data resides



Components, APIs & Services

Developer toolbox for

- Map visualization
- Advanced analytics
- Access to spatial functionality and processing workflows



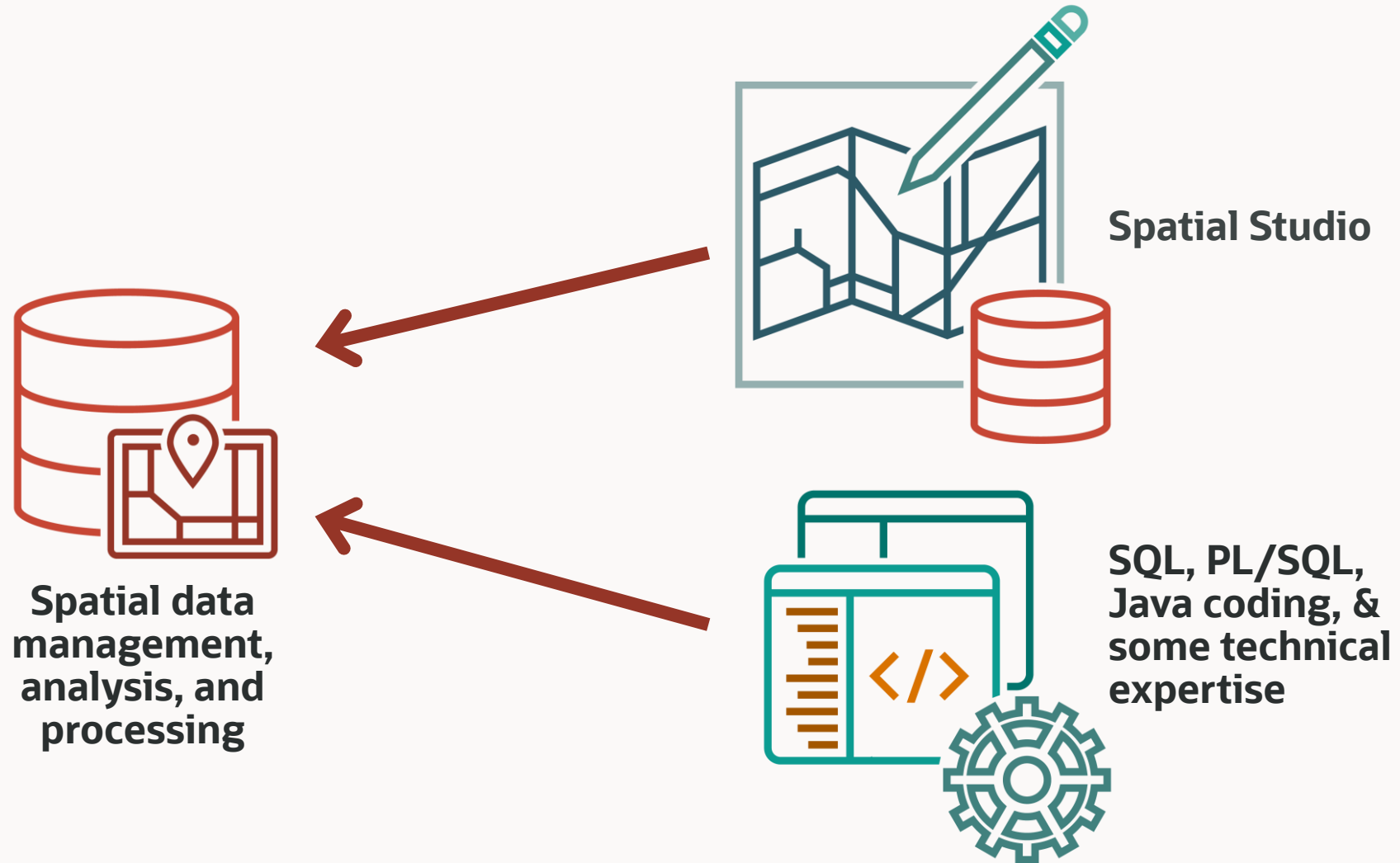
Spatial Studio

Self-service tool to

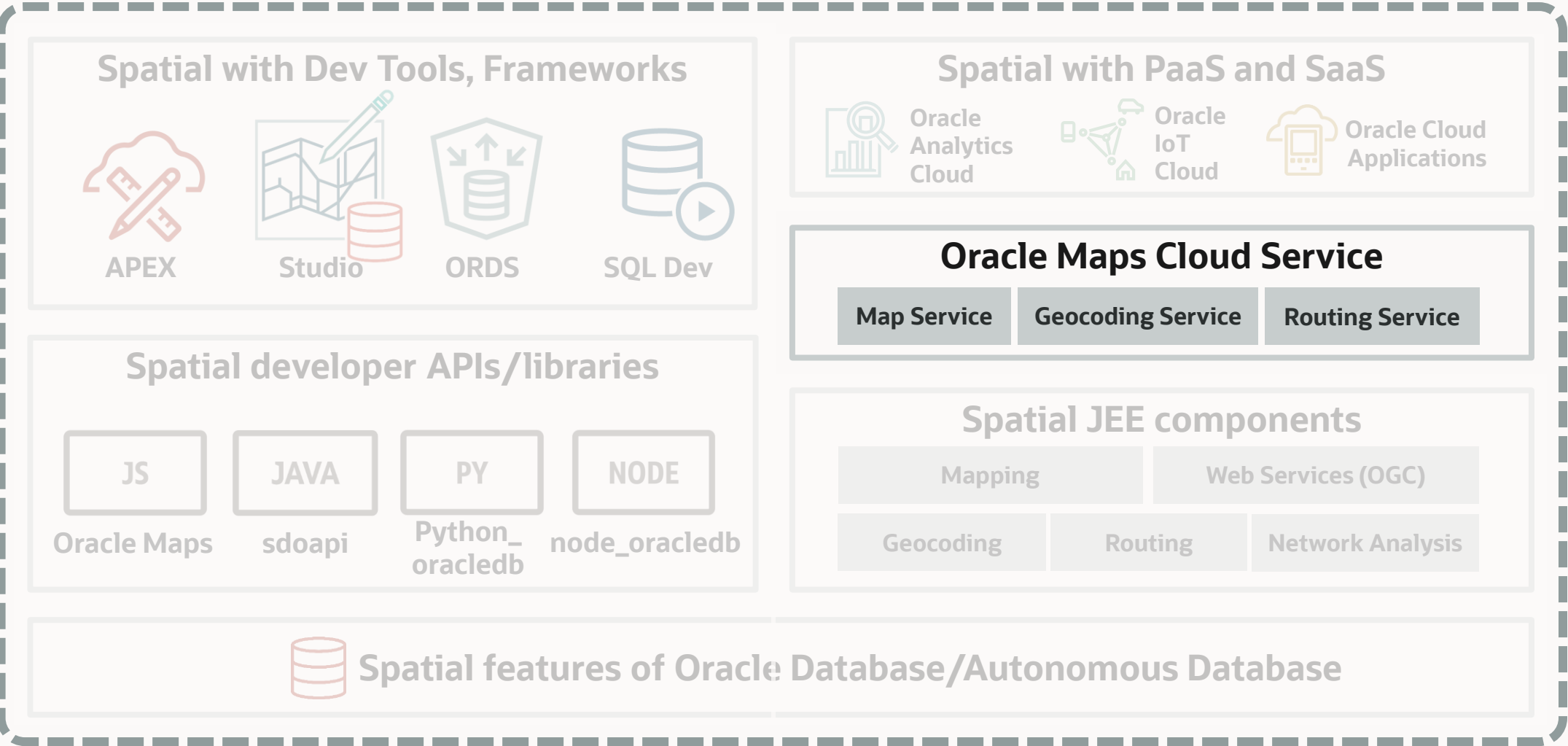
- Enable non-experts to more easily analyze data
- Help developers build applications more quickly

What is Oracle Spatial?

Spatial Studio: Self-service access to Spatial features



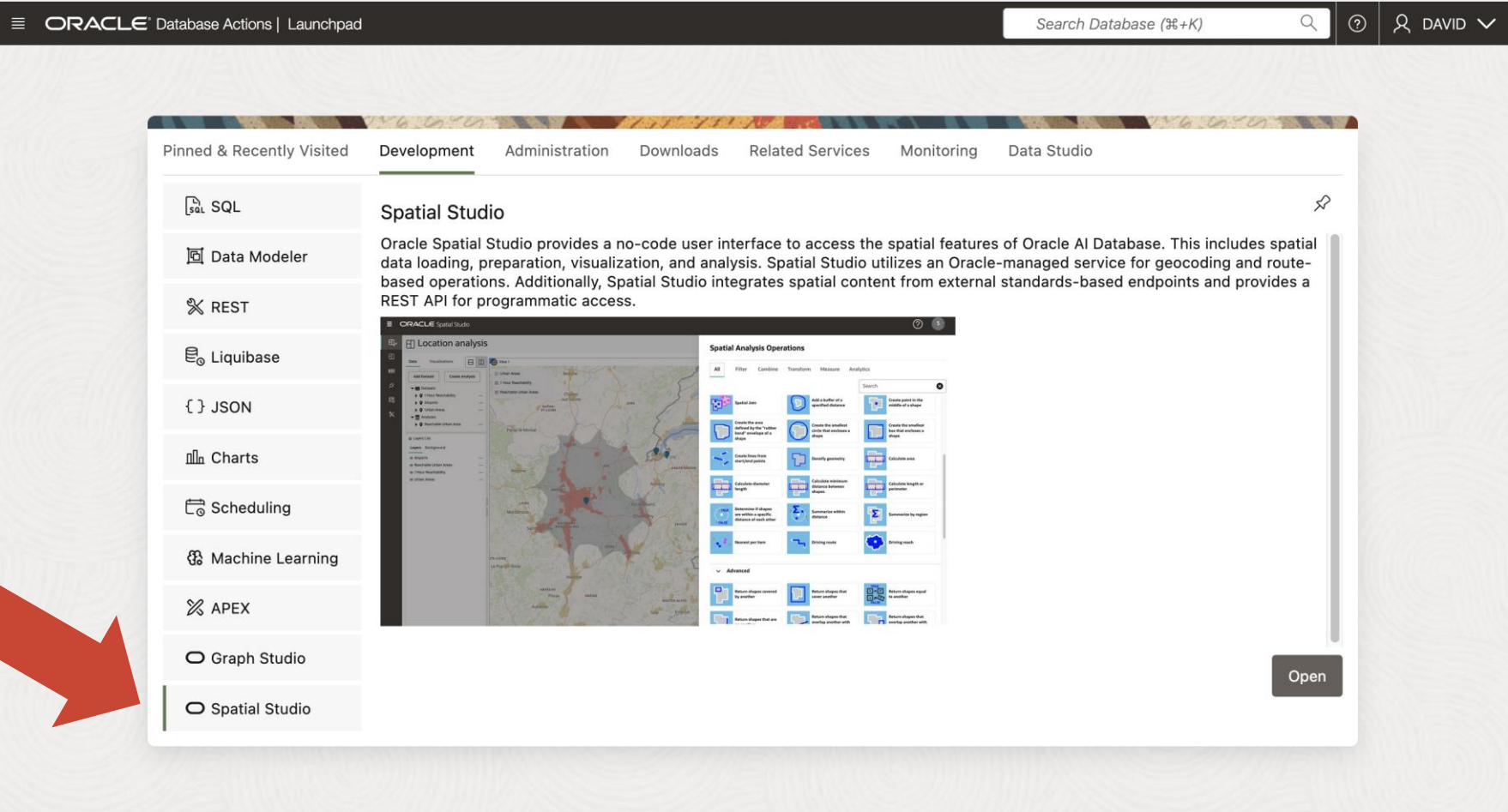
Comprehensive platform for geospatial data and maps



Getting started

Spatial Studio in Autonomous Database

Coming soon



Getting started

User-managed solution

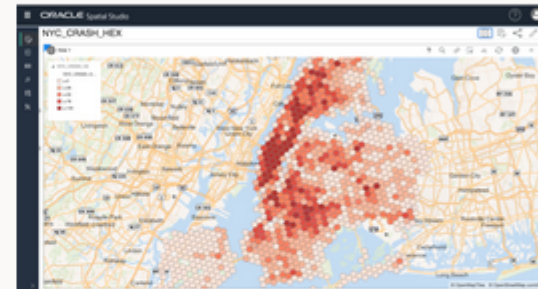
Database / Technologies /
Get Started with Oracle Spatial Studio

Spatial Studio is a free web-based tool for use with Oracle Autonomous Database, Oracle Database Cloud Service, and Oracle Database on premises.

If you are an Oracle Database customer, in the Cloud or on-premises, then you are entitled to use the Spatial features of Oracle Database and Oracle Spatial Studio.

You can also try Spatial Studio for free using the [Oracle Cloud Free Tier](#) which provides free Autonomous Database and Compute instances.

Please note: Spatial Studio is backward compatible. So you should always use the latest release that supports your database version.



Using the Spatial Studio App in the Oracle Cloud Marketplace

<https://www.oracle.com/database/technologies/spatial-studio/get-started.html>

Lots of available data sources

Public

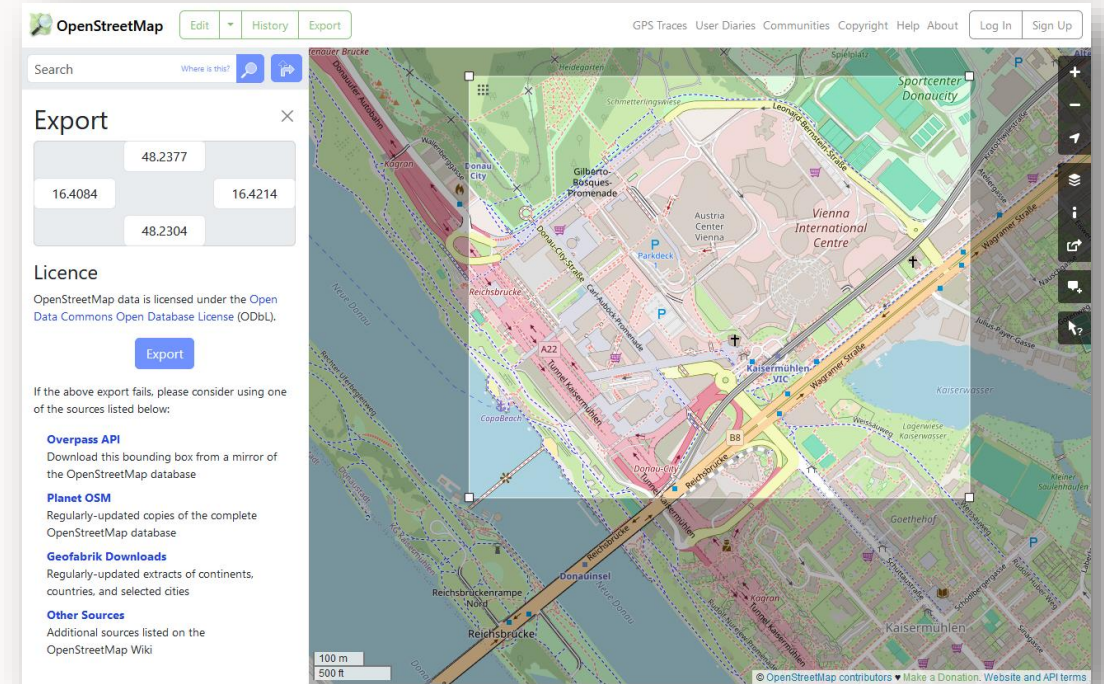
- Open Data portals
 - bern.ch/open-government-data-ogd/
- Swisstopo
- EU Inspire portal
- www.mapsforeurope.org
- ...

Crowd-sourced

- OpenStreetMap
- gadm.org
- ...

Commercial

- HERE
- GfK Geomarketing
- ...



Notes:

- Watch out for licensing restrictions
- Validate geometries



Complete Foursquare data set is now open source

See [blog post](#) by Øyvind Isene on how to load and analyze with Oracle Spatial



Demo

Spatial Studio in ADB

Demo flow

Find hotels and restaurants around conference location

- Load and geocode Hotels in Bern (.xlsx)
- Navigate to Bundesgasse 35
- Show how to prepare Mobiliar headoffice location (lat/lon)
- Select conference venue
 - find hotels within 1.5 km
- Display on map and as table
- Show SQL statement and REST API
- Compute drive time/drive distance from conference venue
- Display geometry on map and results as table

Perform analysis on districts in Bern

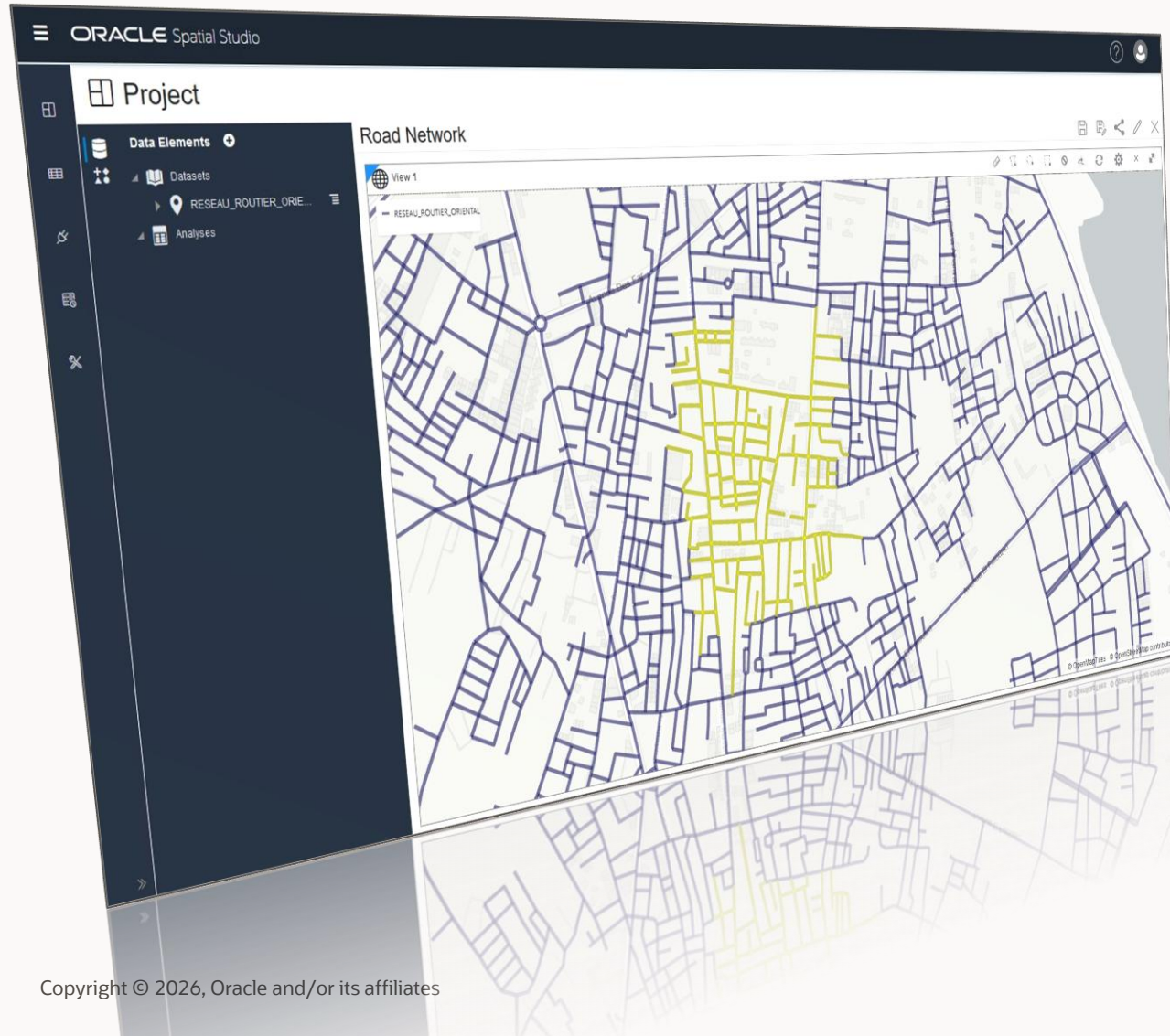
- Load and prepare admin. boundaries – Gebrauchsquartiere (GeoJSON)
 - Source: Open Data – Stadteinteilung
 - Validate geometries
 - User Tooltip and Info Window for interactive analysis
- Perform Restaurant aggregation per district
 - Show result on map and table
 - Access results via REST endpoint
 - Display on geojson.io

More functionality ...

Additional Oracle Spatial features

Functionality in Oracle Spatial

Analytics on network data



Data model to store and analyze network data

- Designed for road, rail, or utilities networks
- Based on graph consisting of nodes (connection points, devices) and edges (cables, pipes)

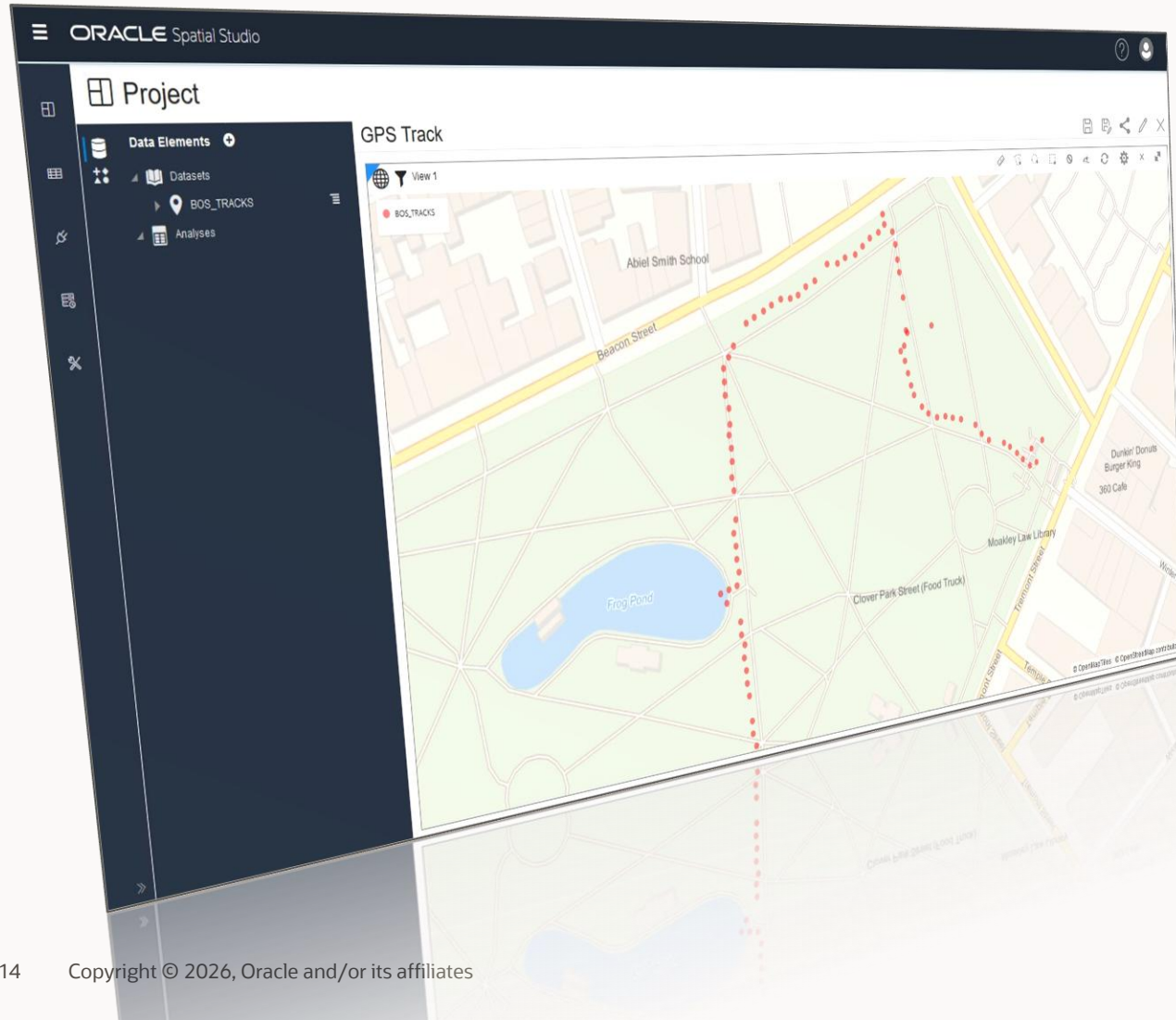
Connectivity and reachability analysis

- Shortest path calculation, traveling salesman computation, reachability within cost, etc.

Routing engine implemented as service on mid-tier

Functionality in Oracle Spatial

Support for streaming data



Interfaces to ingest position data from GPS devices and other IoT sensors

- Managing constant transmission of data
- Location data plus timestamp

Tracking and tracing

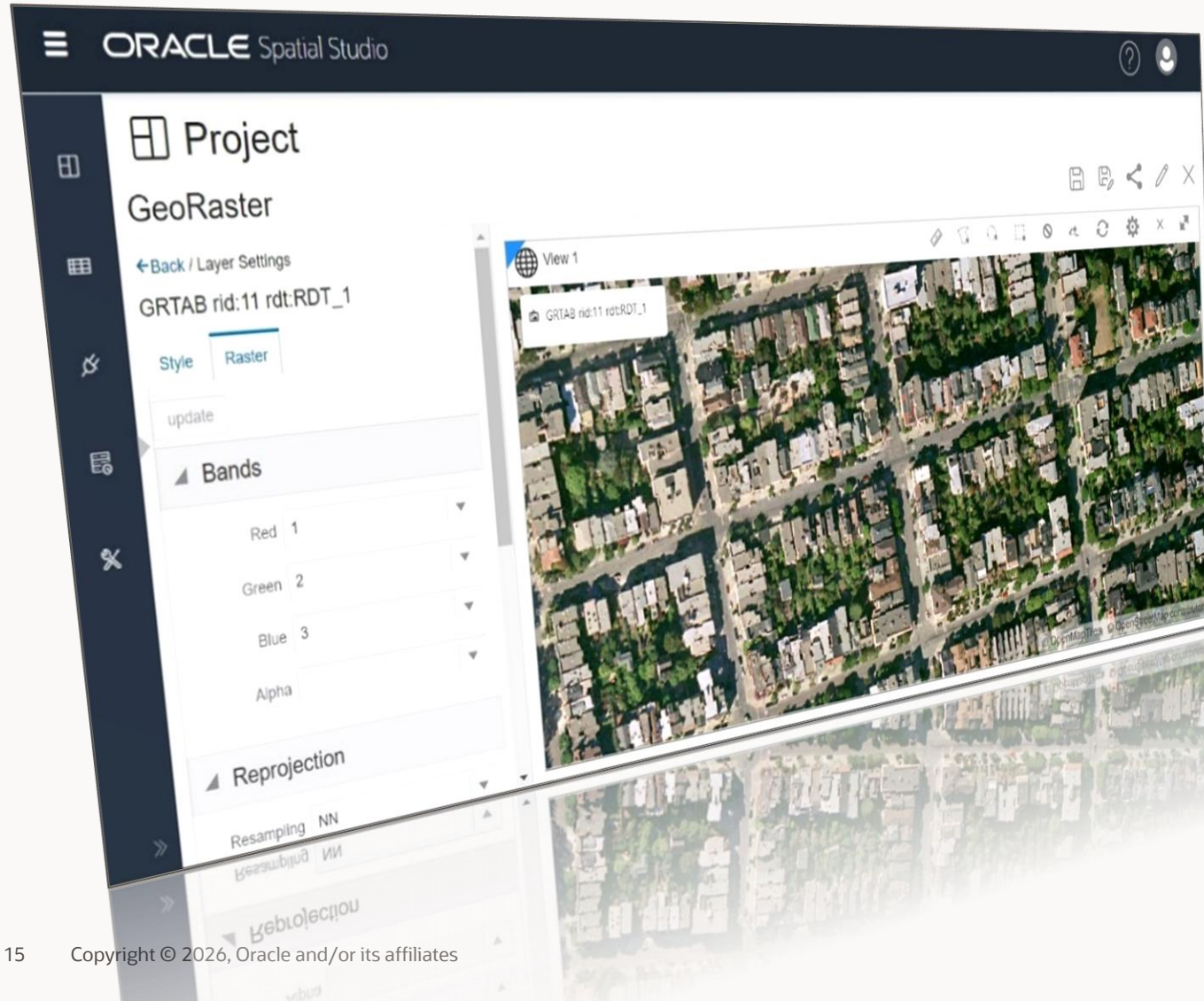
- Geofencing – alert upon exit from/entry to predefined area
- Contact tracing

Event-driven architecture



Functionality in Oracle Spatial

Support for raster data



Data type to store georeferenced raster data

- Satellite images, aerial images

Designed for huge data volumes

Raster data processing, eg.

- Geometric rectification
- Stitching together multiple images as mosaics

Raster analytics, eg.

- Computation of vegetation index

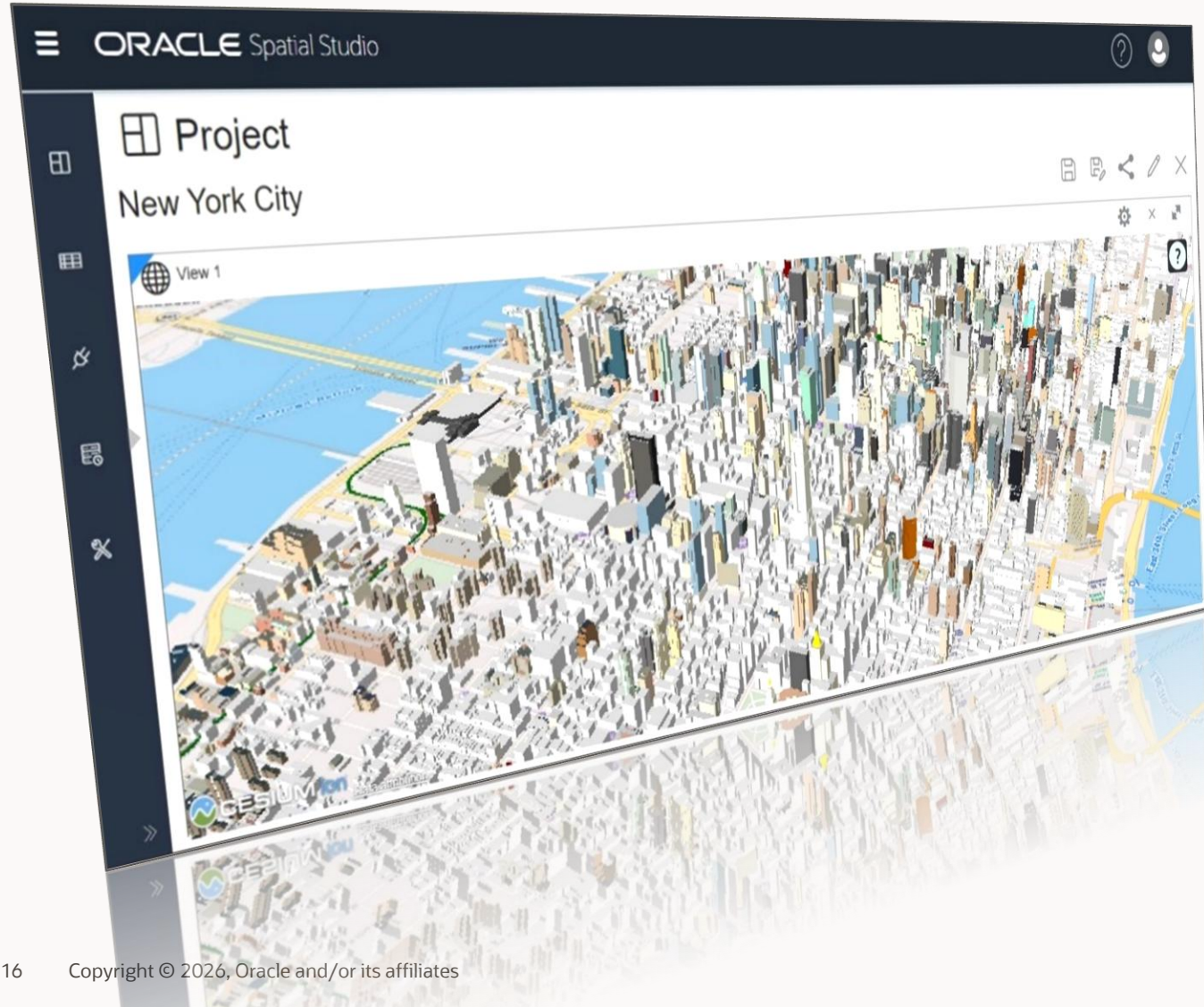
Also usable for other location-based regular grids of data, eg.

- Weather data
- Socio-demographic data

Raster AI (planned)

Functionality in Oracle Spatial

Support for 3D data



Data types supporting 3D data

- Solids, surfaces, laser scanning data (point clouds)

Designed for huge data volumes

Processing and analysis in 3D

Typical use cases

- 3D City models
- Digital twins of industrial plants
- Models of indoor spaces

Agentic GIS with CARTO on Oracle

Geospatial Reasoning in Oracle AI Database

Fully cloud-native AI

- Your data never leaves your lakehouse.

Enterprise-Grade Security

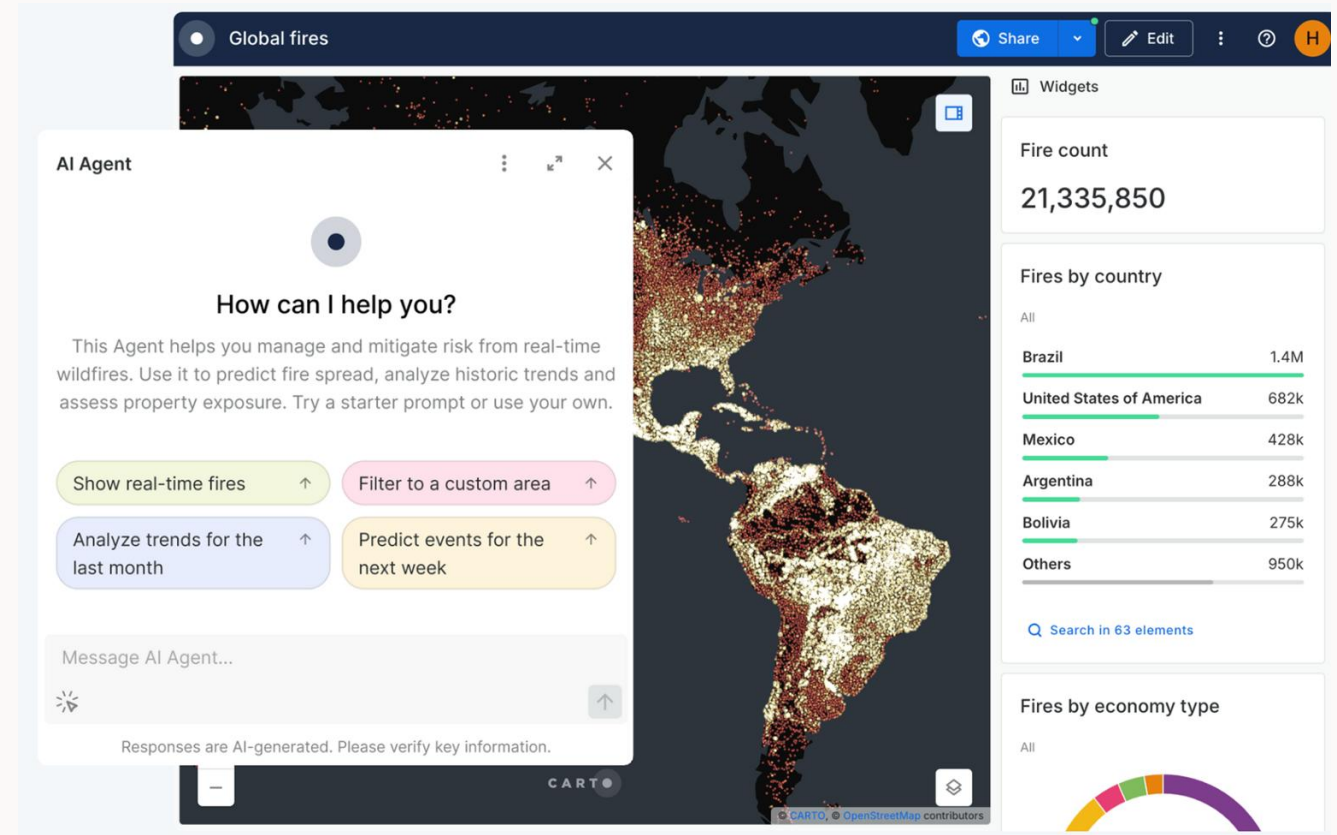
- Uphold your security and governance standards by using your approved LLMs & end-points for unparalleled trust and control.

Explainable AI

- Embed geospatial explainability directly within your agent frameworks, building trust and transparency.

Seamless Integration

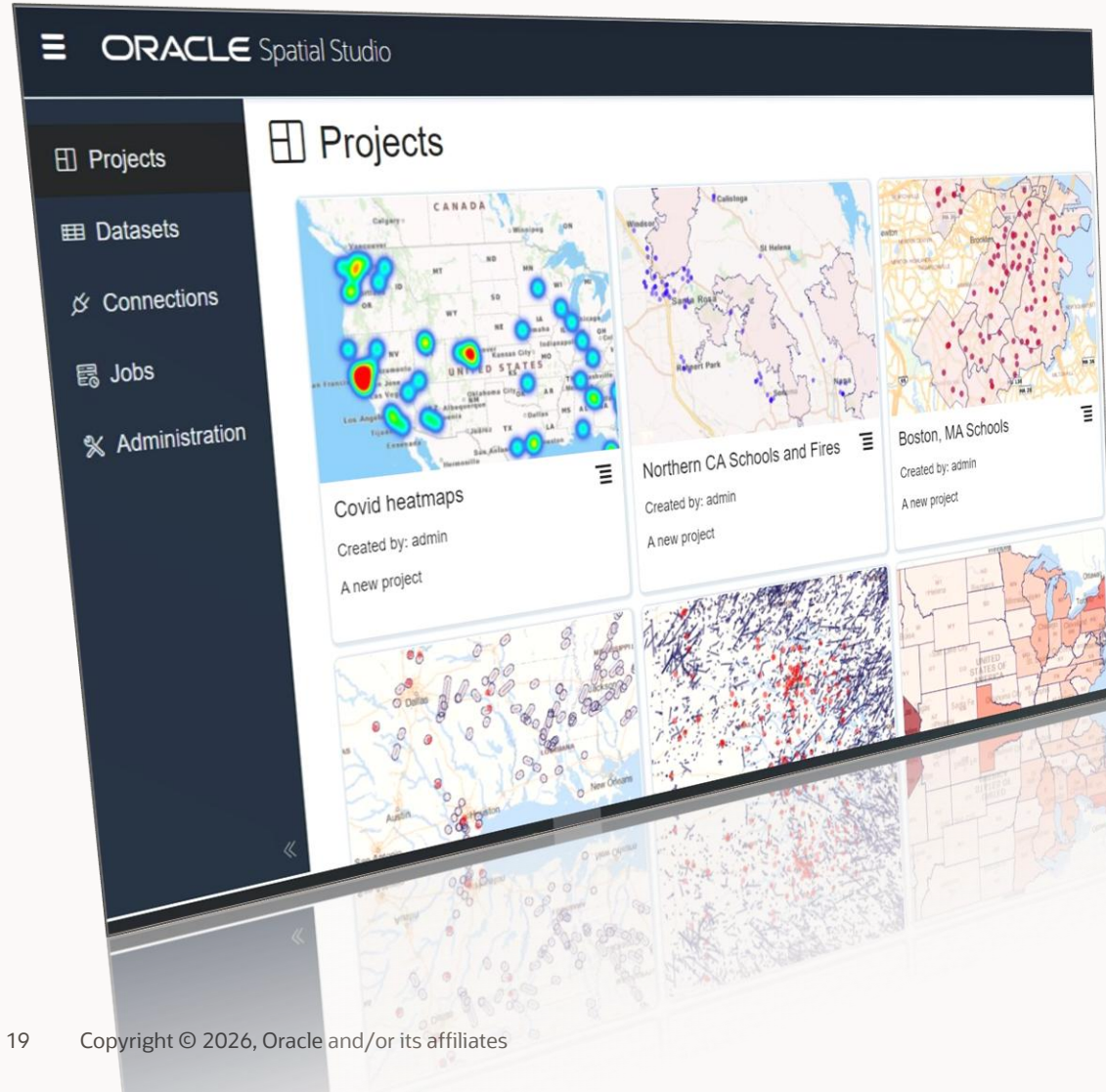
- Effortless integration with your Oracle Autonomous Database, and AI provider of choice.



Summary

Spatial Studio – Summary

Map creation and spatial analysis for non-experts



Browser-based, self-service tool for analysts and developers

Analytics-oriented features

- Convert addresses to coordinates using Oracle Maps Cloud Service
- Hundreds of spatial operators and functions
- Spatio-temporal analysis
- Interactive visualization
- Integration with OAS/OAC and APEX

Developer-oriented features

- Prepare GPS or other geospatial data for analysis
- Generate complex SQL statements
- Publish results via REST



Useful links



Spatial Features Homepage: oracle.com/goto/spatial



Spatial Studio: <https://www.oracle.com/.../spatial-studio/get-started.html>



YouTube Channel: youtube.com/c/OracleSpatialandGraph



Blogs: blogs.oracle.com/database/category/db-spatial



LiveLabs Workshops: <https://livelabs.oracle.com>



Forum: bit.ly/OracleSpatialHelp



Oracle Spatial and Graph User Group: linkedin.com/groups/1848520/

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