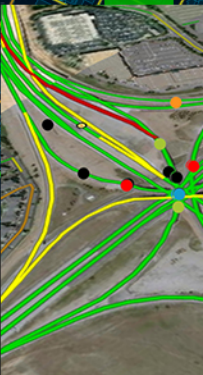
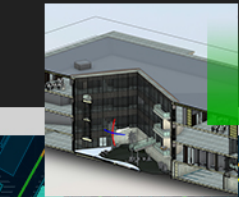
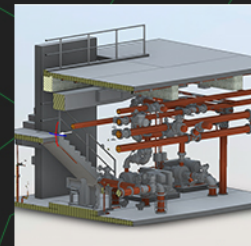
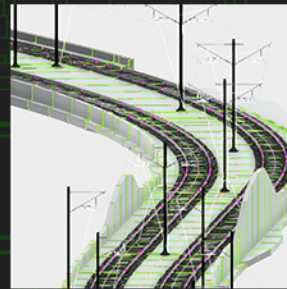


ArcGIS GeoBIM and Esri's Open Vision for Construction Digitalisation



ArcGIS GeoBIM

01 Bringing GIS and BIM Together



I want to . . .

Collaborate with my service providers across complex projects in my city

See and analyze many BIM models at once in correct geospatial position

Plan a new building/bridge in context to assess traffic impact

See the latest tree locations around my roadway design

See events and moving objects in the context of my BIM, CAD, and GIS data

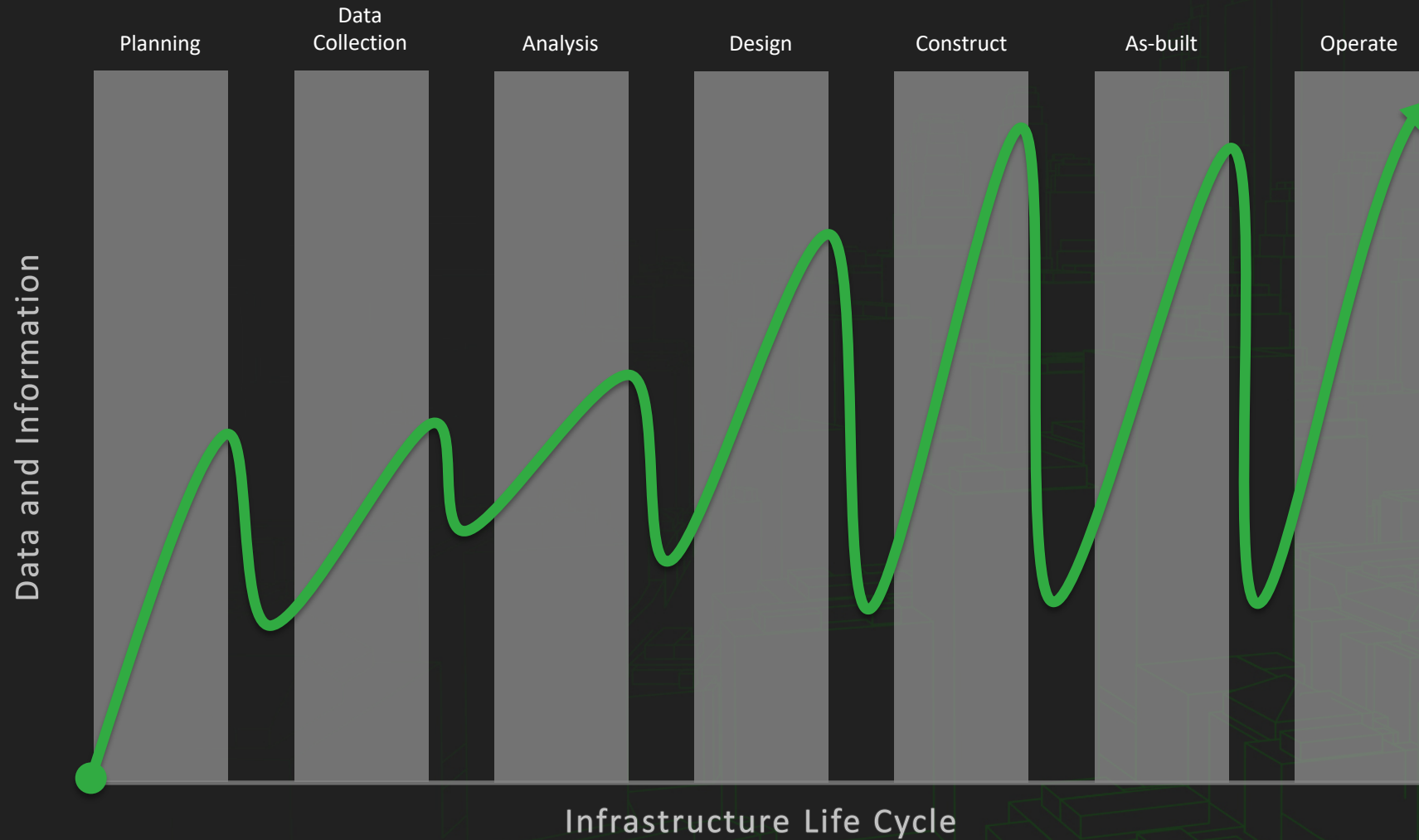
Use my building in spatial queries and analysis

Relate any asset in my city to other systems and assets using their location

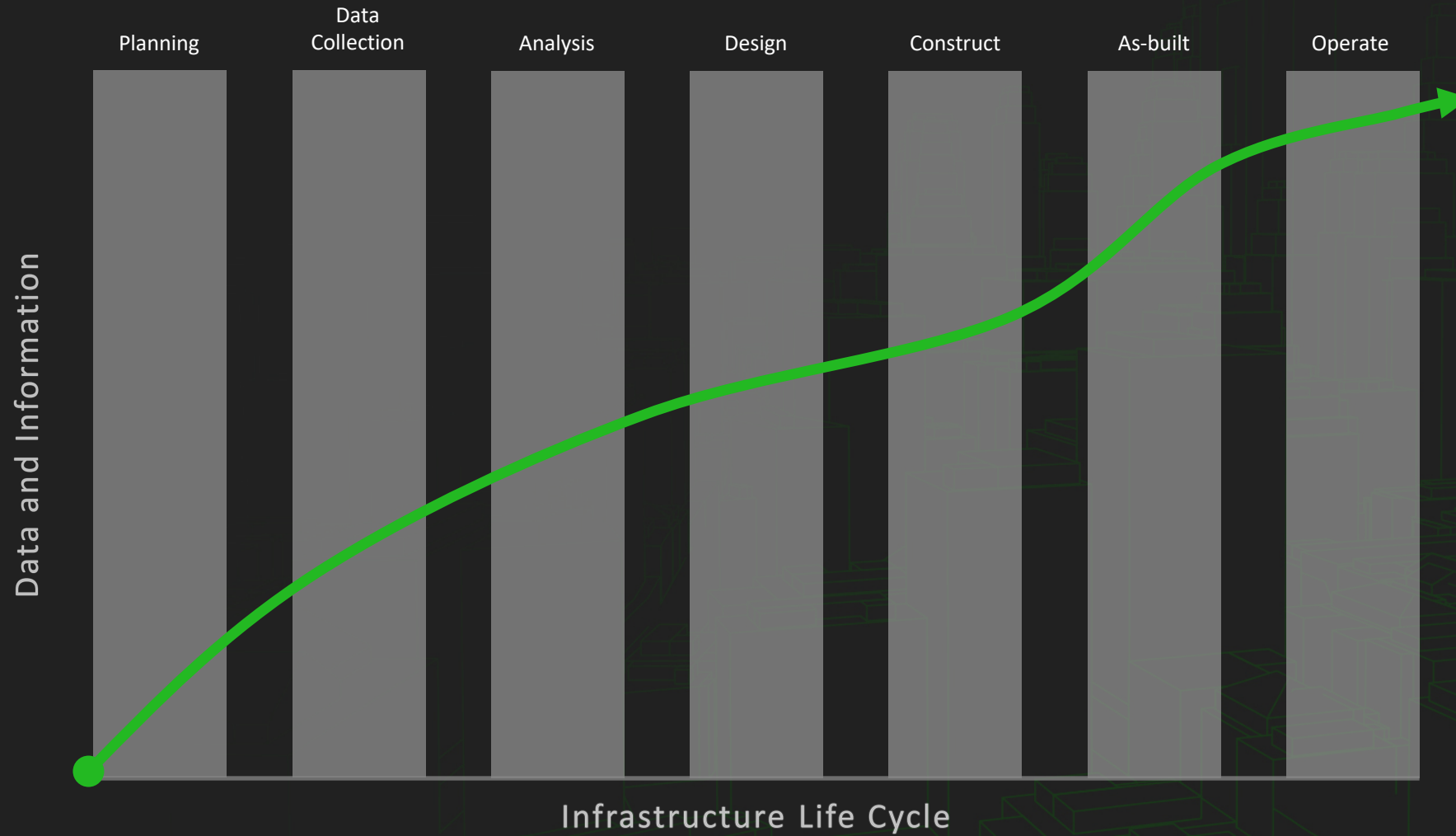
See/query transportation plans in context



Information Flow of a Construction Project Among Phases



Information Flow of a Construction Project Among Phases



02

Transforming Projects with GIS and BIM

Understand projects
throughout their lifecycle



BIM

Supplies detailed information about *built* assets.



GIS

Provides information about assets in the context of the *built* and *natural* environment.



Geography and Design

An Integrated and Holistic Approach

CONTEXT



Landscape
Information Models
(LIM)



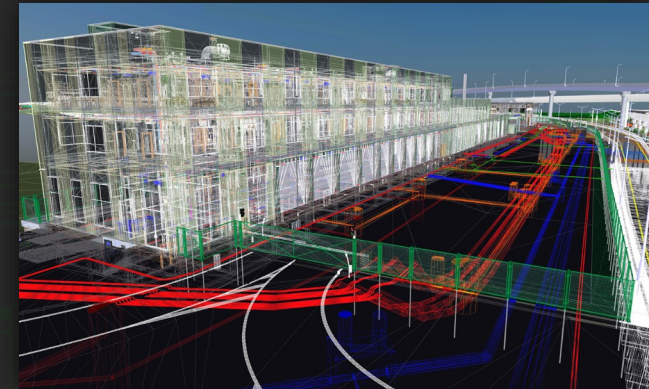
Network Information
Models
(NIM)



City Information
Models
(CIM)

GIS

CONTENT



Building Information Models

BIM

*Geography Provides the
Common Language for Collaborating*

Partnering to Bring Together GIS & BIM



esri®

+

 **AUTODESK**

GIS

BIM

*... Imagine, Plan, Design,
Build and Manage a Better World*

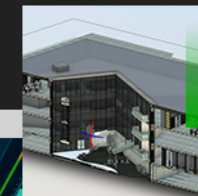
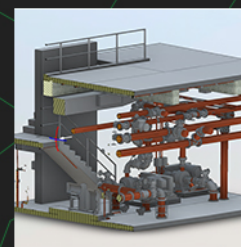
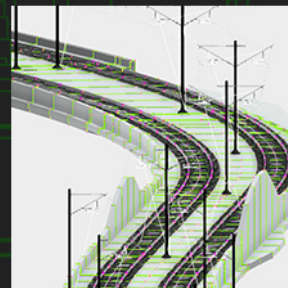
Integrating GIS and BIM for Professionals



03

ArcGIS GeoBIM

Integrate GIS and BIM at the cloud level

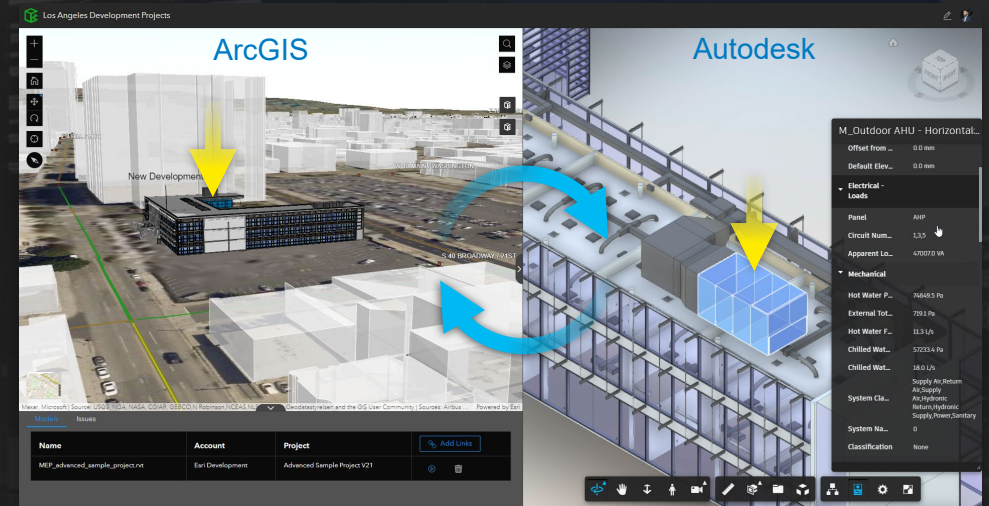


ArcGIS GeoBIM

Connected Projects in Context



Supporting Integrated
Visualization & Query



GeoBIM Apps



Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, City of Littleton, County of Douglas, CO, OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, NTP, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | Source: USGS, NGA, NASA, CGIAR, GERIC, N. Robinson, NCEAS, NLS, OF, NMA, Goodat, Powered by Esri

Link Explorer				Documents					
Name	Account	Project		Search					
				Display Name	Boundary	Spatial Reference	Outlier	Outlier Message	
				R21 Civic Center - Arch.rvt		PROJCS[*NAD_1983_Stat...	True	Feature is not part of a cluster	
				R21 Civic Center - MEP.rvt		4326	False	Feature is part of a cluster	
				R21 Civic Center - Struct.rvt		4326	False	Feature is part of a cluster	
				R21 Urgent Care.rvt		4326	False	Feature is part of a cluster	
				R21 Civic Center - MEP.rvt		4326	False	Feature is part of a cluster	

Waiting for basemaps.arcgis.com...

Connected Data Environment



...Enabling *Informed Decision Making*
throughout Project Delivery & Operations

Key Benefits

Put Your Projects on
the Map



Access Critical
Information



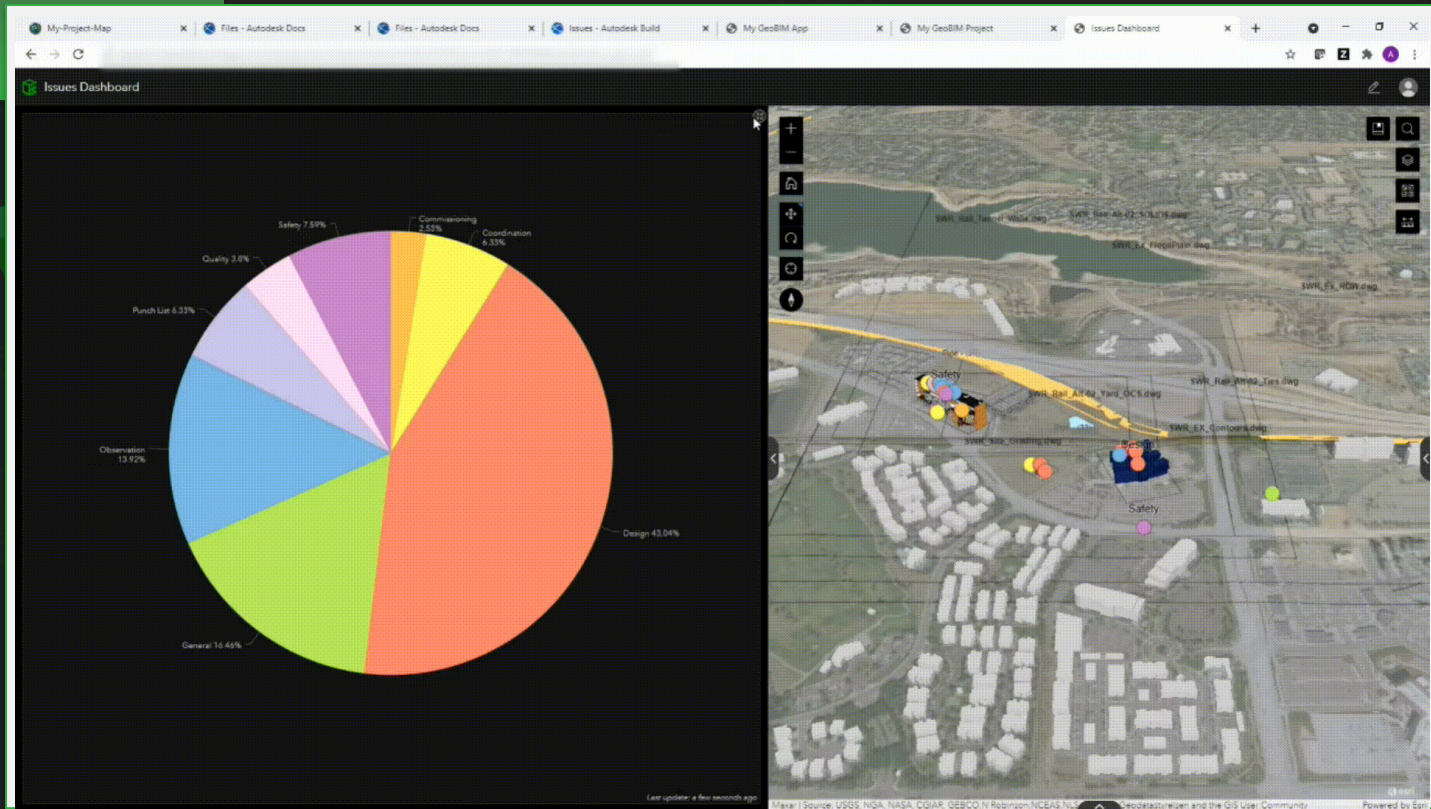
Improve Collaboration



Minimize Data
Conversion



Support Common Workflows of Construction Projects



- Conduct design and documentation reviews
- Better Coordination among stakeholders
- Monitor project status through dashboards
- Provide geospatial context for infrastructure projects
- Evaluate a portfolio of projects or assets on a map
- Maintain fixed physical assets

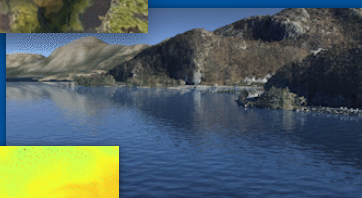
3D Visualization and Analysis Advancing 3D GIS

Immersive Experiences

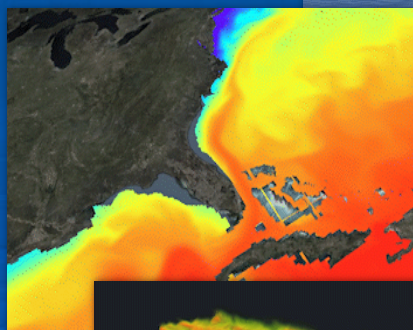
Game Engine Integration



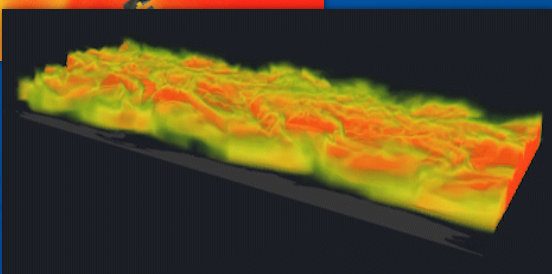
Water Effects
On the Web



Voxel Sections



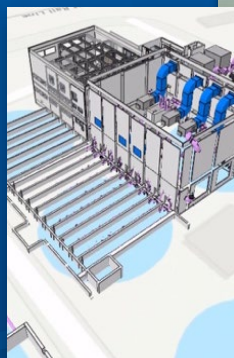
Voxels



Voxel
Animation

BIM Integration

Open BIM



IFC Integration



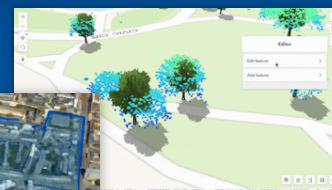
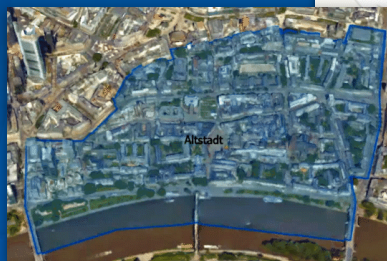
3D Feature Updating



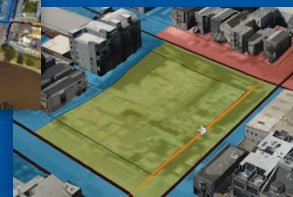
New & Improved

- BIM Integration
- Game Engine Integration
- Interactive Analysis
- Editing
- Performance
- I3S Standard
- Reality Capture

Scene Layer Clipping



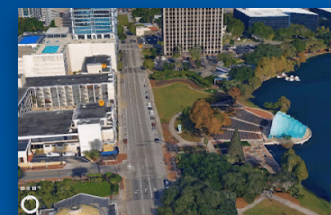
3D Symbols



3D Web
Editing

Polygons

Viewshed



Elevation Profile

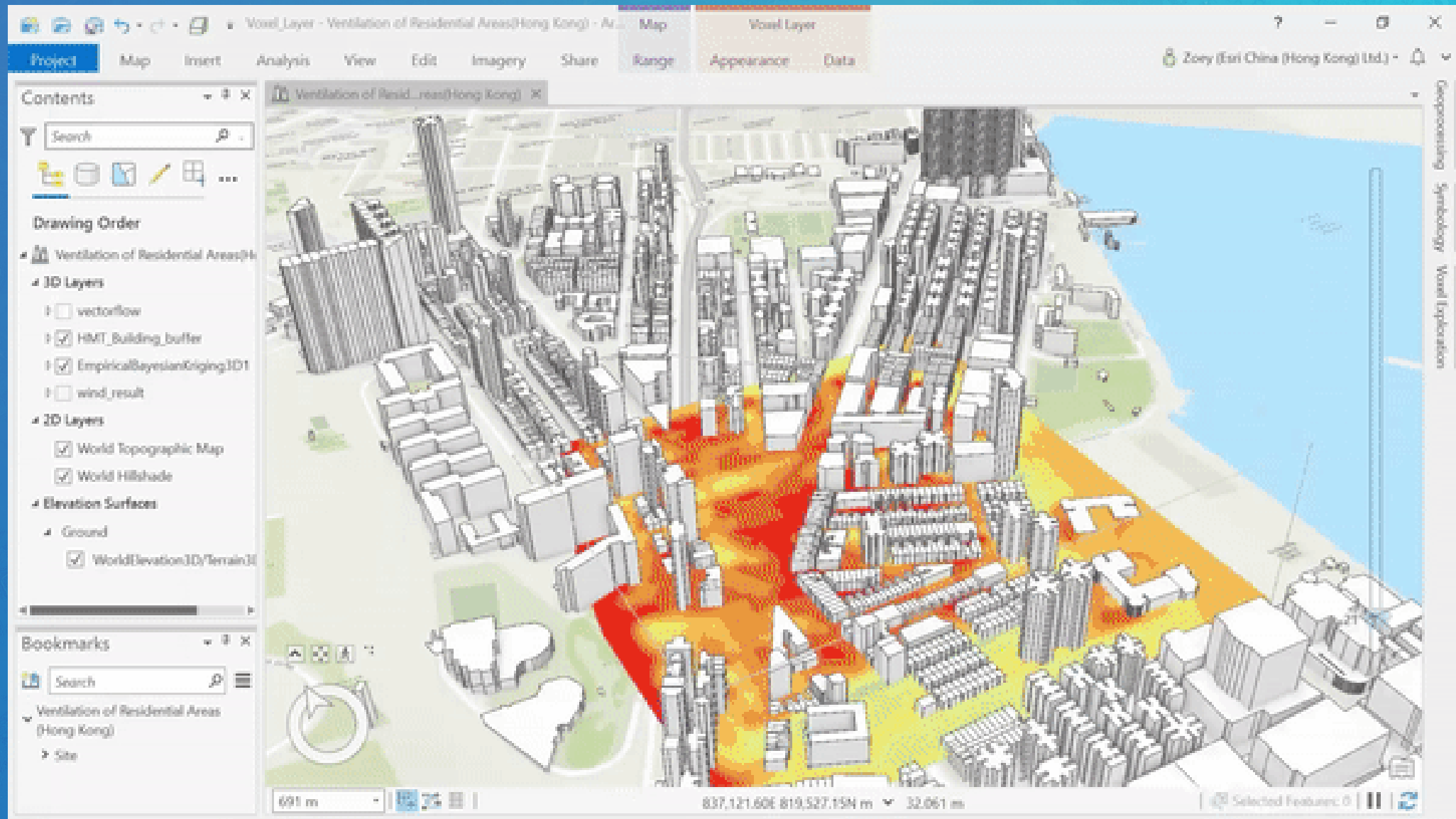


Interactive
Analysis



Slice

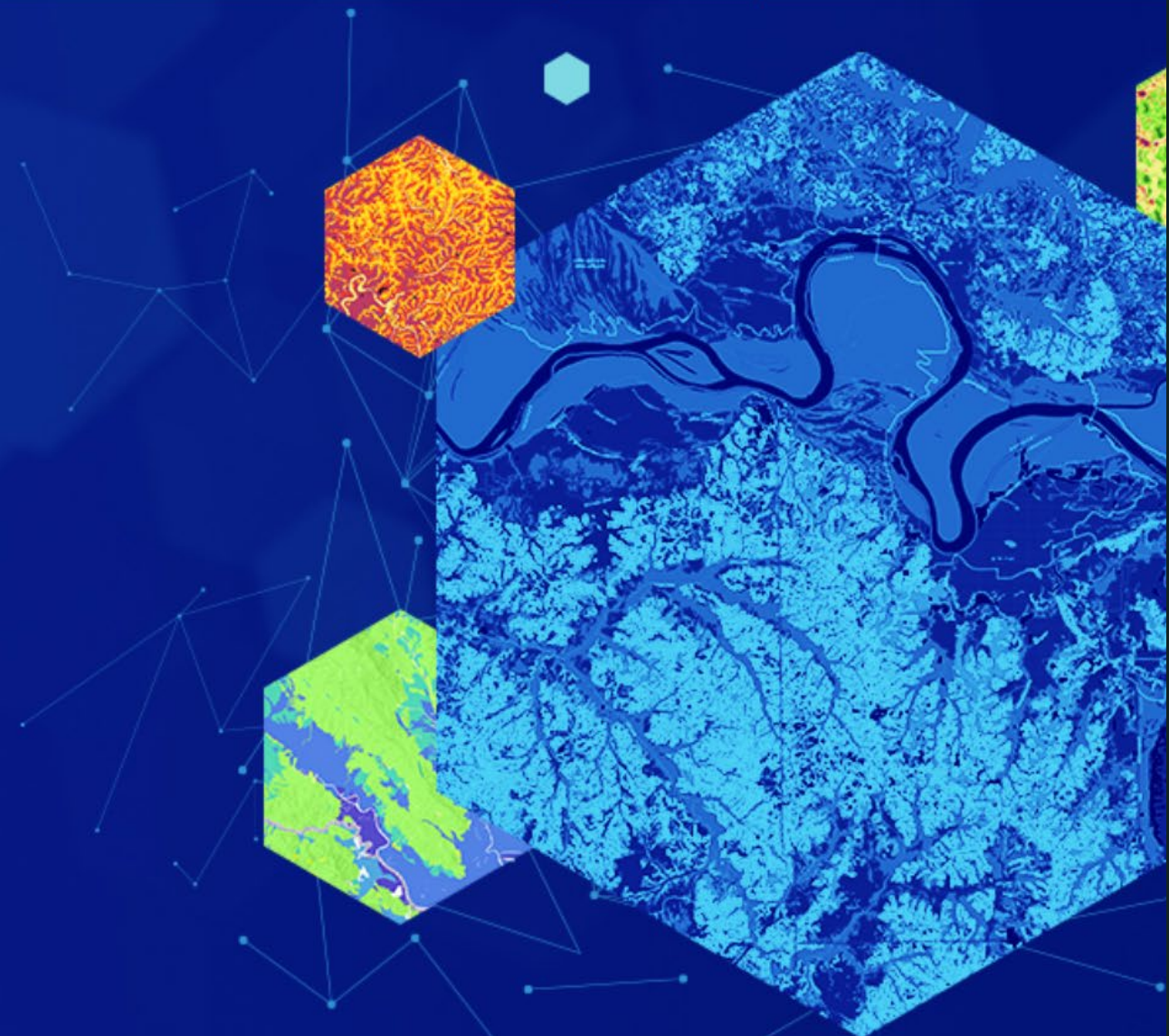
Visualizing Airflow Model on 3D Voxel Layer



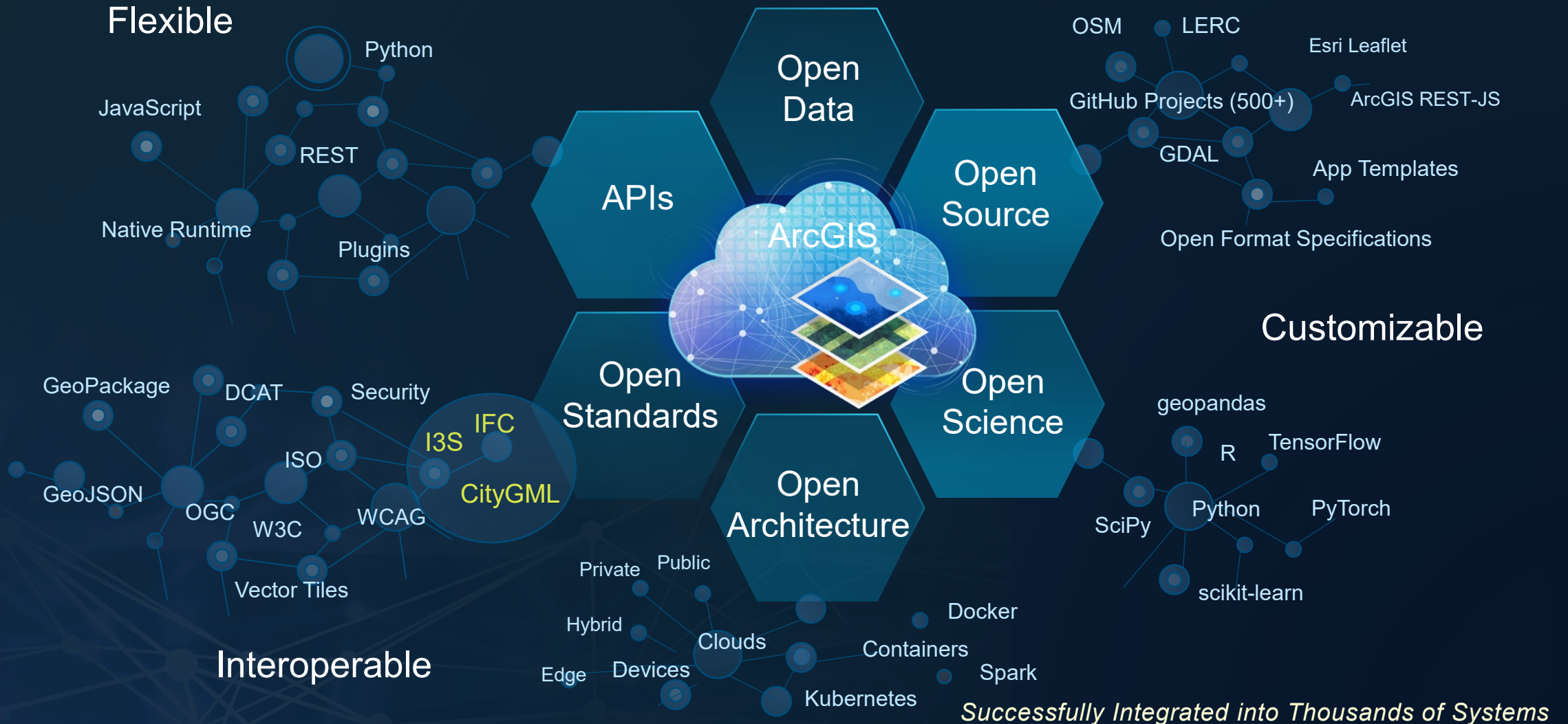
Esri's Open Vision

Listen to Esri President Jack Dangermond describe our commitment

Hear about Esri's open vision ►

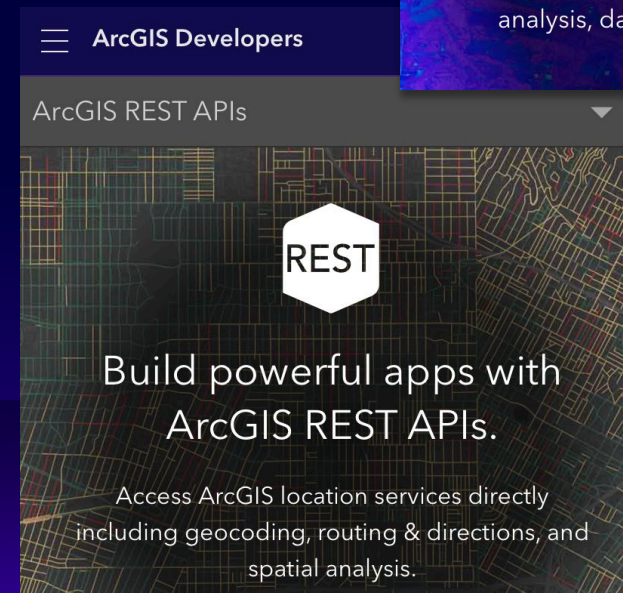
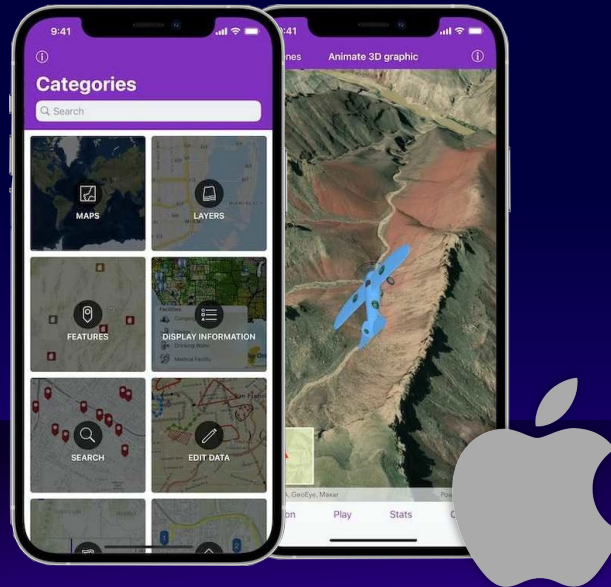
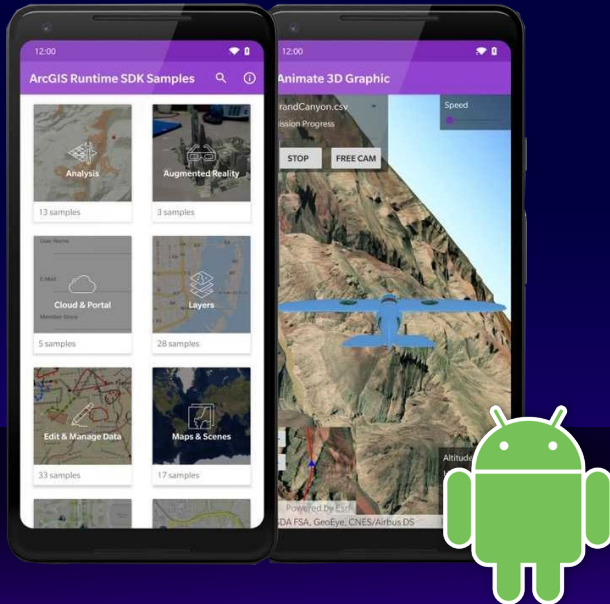


ArcGIS Is an Open Platform



Open APIs | Extensible, Scale Customizable GIS Functionality

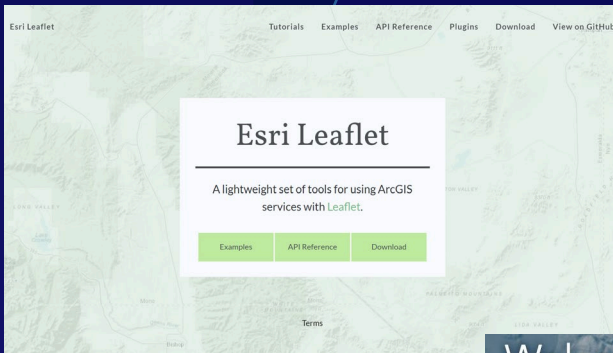
- Desktop - ArcGIS API for Python
- Web - ArcGIS REST APIs
- Mobile - ArcGIS Runtime API for Android and iOS



Open Source | Extensible, Customizable GIS Functionality

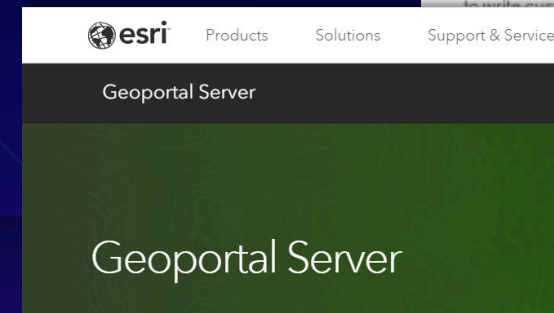
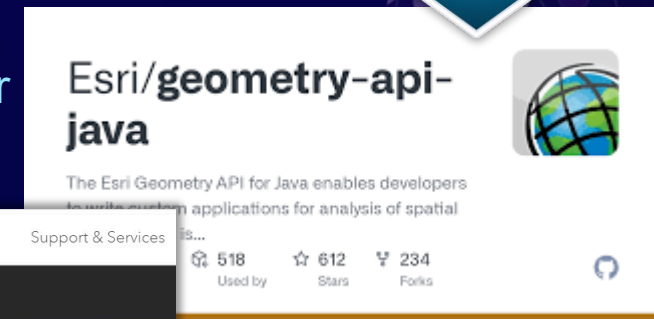
Esri Supports

- Esri Leaflet
- GIS Tools for Hadoop
- Esri Geometry API for Java



Esri Develops

- Koop
- R – ArcGIS Bridge (Statistical Software)
- Geoportal Server



ArcGIS Integrates Open Science, Tools, and Experiences



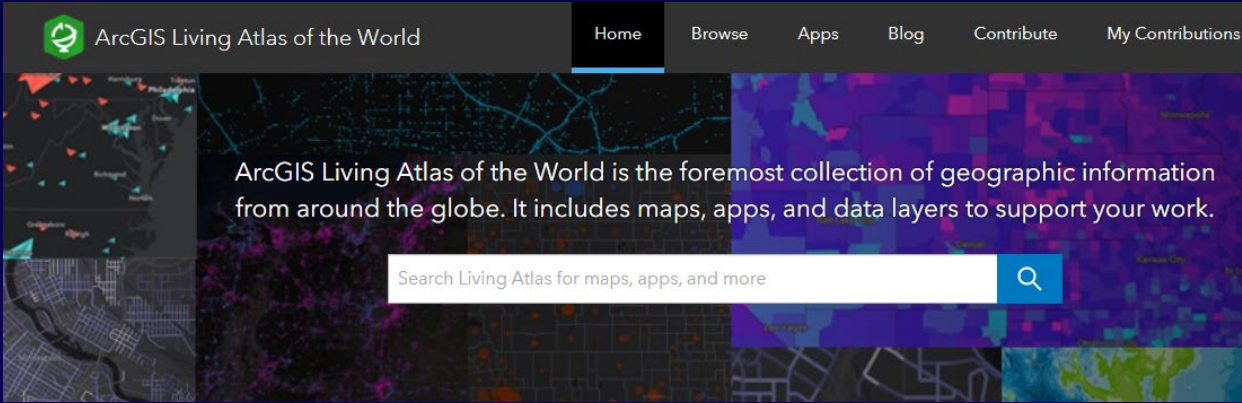
Use Spatial Science to Transform Data into Action

Open Data | Make data accessible to everyone at any time

Hosted by Esri



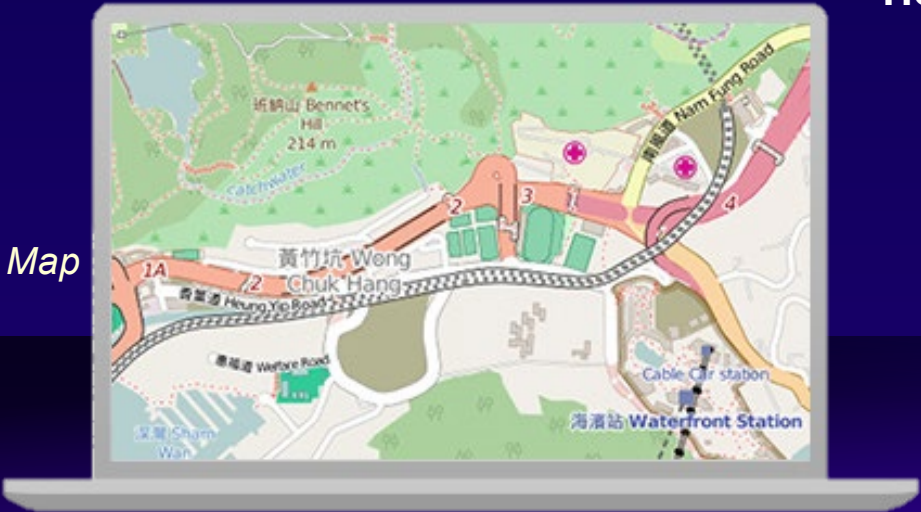
Open Geo-spatial Data in HK



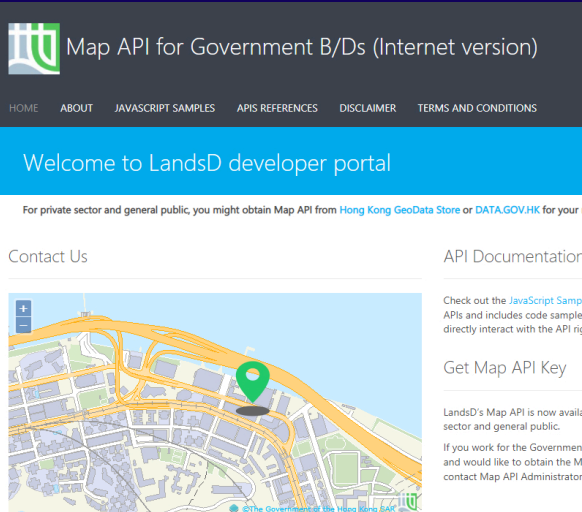
ArcGIS Living Atlas of the World

Hosted by Other

Open Street Map



LandsD Map API for Government B/Ds



Open Architectures | Esri supports a wide variety of software environment

Multiple Databases

- Oracle
- SQL Server
- PostgreSQL
- SAP HANA
- IBM
- Dameng
- SQLite
- Teradata



Multiple OS

- All Mainstream & Extended Support versions of **Windows** for ArcGIS Pro
- **Windows Server**, Red Hat Enterprise **Linux** (RHEL) and CentOS for ArcGIS Enterprise
- **Android, iOS and iPadOS** for Esri's mobile apps



Multiple Cloud

- Amazon Web Services (AWS)
- Microsoft Azure
- Alibaba Cloud
- Huawei Cloud
- Google Cloud



Open Architecture

ArcGIS Integrates All Types of Systems

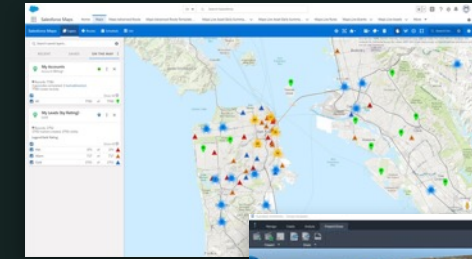
Geospatially Enabling Enterprise Workflows of All Types



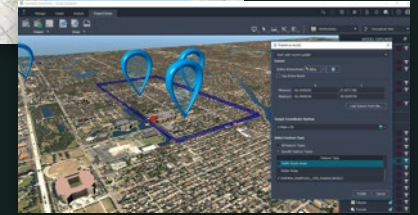
Data
Maps
Analytics



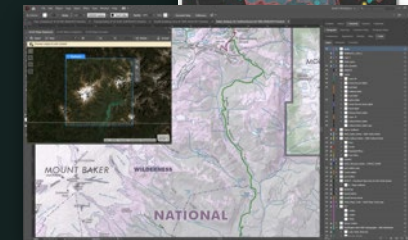
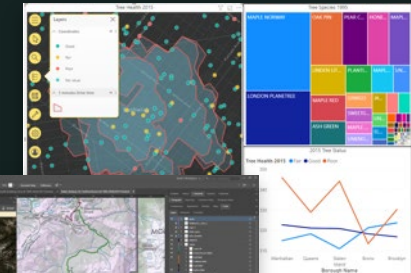
Salesforce



Autodesk



Microsoft



Adobe

Providing Integrated Geographic Insights and Understanding

Open Standards | powerful and interoperable platform

Open Geospatial Consortium Compliance Certificate

This Compliance Certificate is awarded to

Esri

In recognition that

ArcGIS Enterprise 10.5

Meets all Compliance Items and therefore complies with
OGC Web Feature Service Implementation Standard, Version 2.0

Awarded the 17th day of November 2016

This certificate is valid only in conjunction with following OGC live logo:
<http://www.opengeospatial.org/resource/products/details/?pid=1395>



Jeffrey S. Broughton
Jeffrey S. Broughton, Vice President



BIM & GIS standards

IFC, I3S, CityGML

Geospatial Formats

SHP, KML, GML

Tabular Files

CSV, Excel,
TDF, CDF

Documents

JSON, GeoJSON

Geospatial Standard Services

WFS, WMTS, WMS,
WCS, WPS

Metadata

ISO 19115,
INSPIRE, DCAT,
Dublin Core



<https://www.esri.com/en-us/arcgis/products/arcgis-data-interoperability/supported-formats>

Using IFC and Revit files in GIS workflows with OGC I3S



**Building Layer
in ArcGIS Pro**

**Publish web scene
with I3S Building Scene layer**

- Cache locally (static)
- Cache online (editable/dynamic)

**Create Building Scene
Layer Package
(SLPK)**

**Consume in
web, mobile,
and desktop**

- Visualization
- Analysis
- Exploration

Trust Centre | embedding security into the DNA of ArcGIS

[ArcGIS Trust Center](#)[Overview](#)[Security](#)[Privacy](#)[Compliance](#)[Documents](#)[Launch Security Advisor](#)

Search ArcGIS Trust Center

ArcGIS–Secure and Trustworthy

Trust.ArcGIS.com is your go to resource for security, privacy, and compliance information



[Report a Security or Privacy Concern](#)

Announcements



December 15, 2021

ArcGIS and Apache Log4j Vulnerabilities

Esri's statement regarding Log4j vulnerabilities (dubbed Log4Shell or LogJam) and ArcGIS ...



September 28, 2021

Security Advisor will be retiring the HTTP Check module for ArcGIS Online

The October release of the Security Advisor that will remove the HTTP Check from ArcGIS Online ...



September 24, 2021

ArcGIS Server Security 2021 Update 2 Patch is now available

Esri has released the ArcGIS Server Security 2021 Update 2 Patch. This patch resolves four recently ...



August 27, 2021

Action Required to Continue using SAML with ArcGIS Online

Customers that have configured the SAML options "Enabled Signed Requests" or "Encrypt Assertion" ...

"Esri continuously advances embedding security into the DNA of ArcGIS."

Michael E. Young, Chief Product Security Officer, Esri

