

Delivering Smart Cities through a Geospatial Strategy

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esri China
HONG KONG



Esri China (HK)

Since 1997
Hong Kong and Macao

- Home-grown IT company
- Specializing in GIS and mapping solutions
- We deliver:
 - Comprehensive GIS solutions
 - State-of-the-art GIS platform
 - Professional training
 - GIS & IT consulting and implementation lifecycle services

In Government, Location is Never an Afterthought

GIS is Recognized as a Foundational System

Citizen

Health
Connected
Homelessness
Equity
Livability
Opioid Crisis
Mobility
Housing
Public Safety
Aging Population
Economic Opportunity

Infrastructure

Broadband
Aging Structures
Telecommunications
Airports
Highways and Roads
Buildings
Water
Bridges
Land Use
Sewer

Environment

Green Infrastructure
Open Space
Climate
Sea-Level Rise
Air Quality
Inclement Weather
Renewable Energy
Pollution
Habitat Preservation

Technology Advancements

Sensors
Artificial Intelligence
Autonomous Vehicles
Machine Learning
Intelligent Things
AR/VR
Cloud
Drones
Internet of Things

GIS supports all aspects of government

GIS

Provides a Process
and Framework . . .

Measurement &
Data Management

Visualization &
Mapping

Analysis &
Modeling

Planning &
Design

Decision
Making

Action

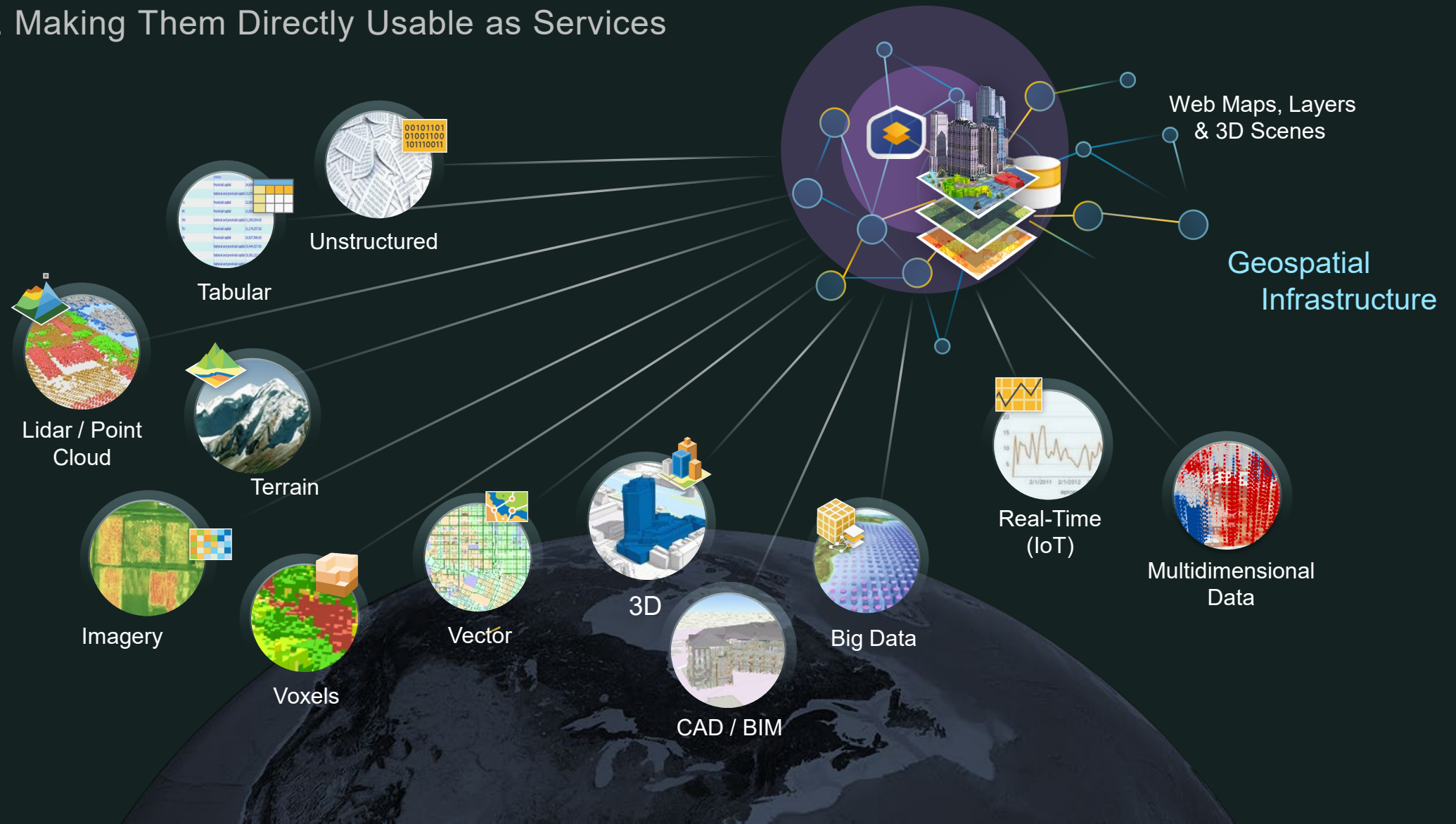
. . . Understanding Precedes Action

. . . for Creating and
Applying Geographic
Knowledge Widely



Integrating Every Type and Format of Data

... Making Them Directly Usable as Services



Four Technology Foundations



Bringing Together Many Innovations

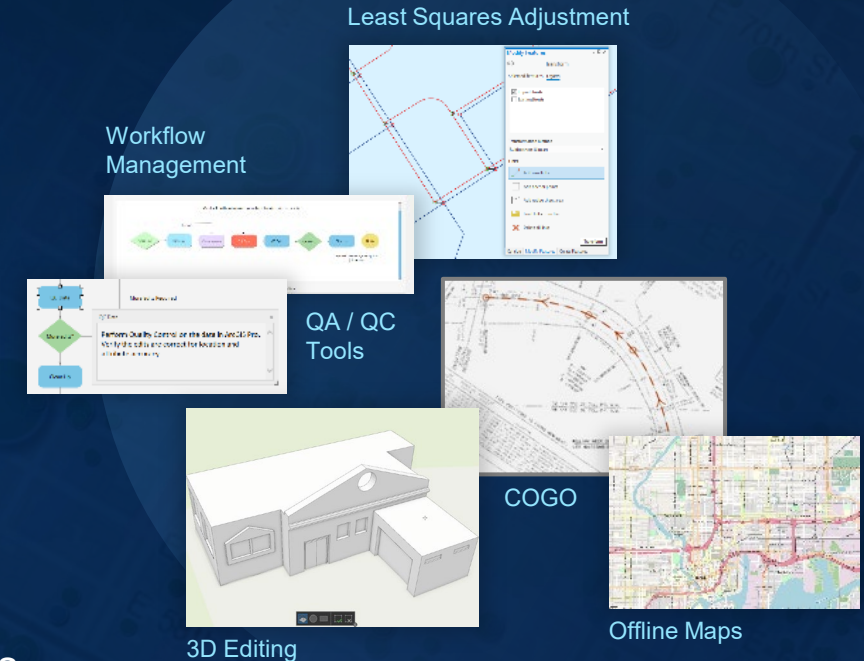
Data Management and Editing

Advancing Tools, Workflows and Data Models

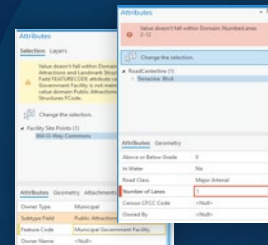
Industry Geodatabase Models



Improved Editing Tools

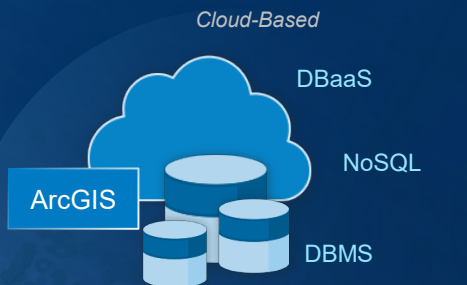


Geodatabase Improvements



Attribute Rules

- Data Quality (Rules)
- Performance
- Branch Versioning
- Replication in Pro
- GeoPackage Editing



Supporting Leading
Systems and Platforms

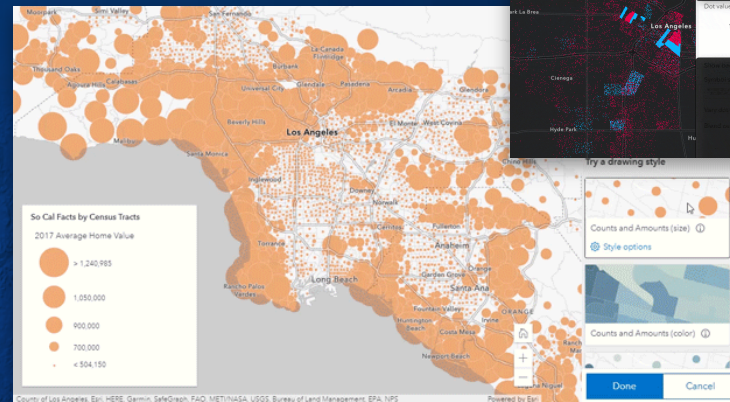
Smart Mapping

Enabling Everyone to Make Amazing Maps in a Browser

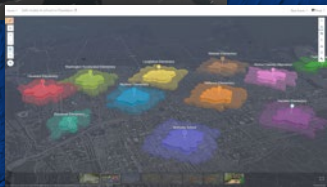
Dynamic and Data Driven



Layer Blending



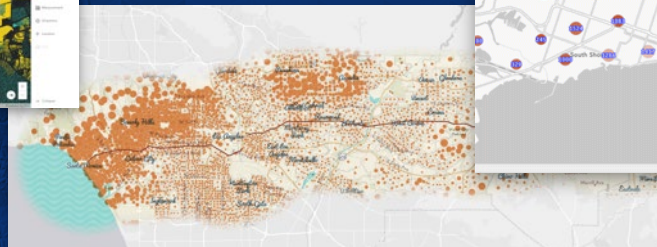
Data-Driven 3D



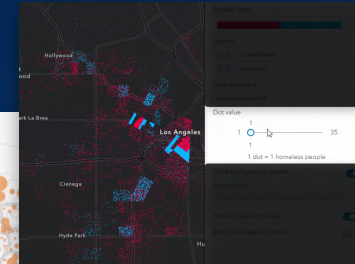
New Map Viewer



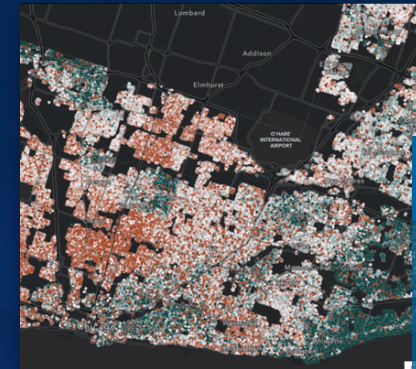
Beautiful Visualization



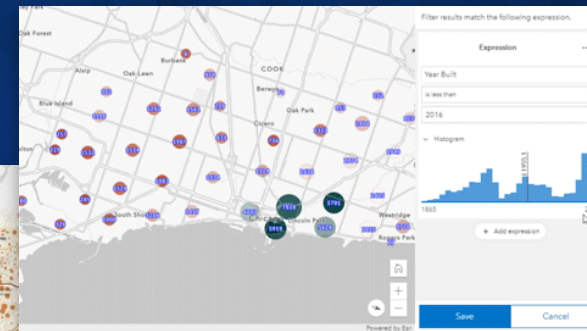
Dot Density



Dynamic Clustering



Exploratory Mapping



New & Improved

- Map Viewer
- Dot Density
- Dynamic Clustering
- Layer Blending
- Vector Feature Tiles
- Integrated Charting
- Performance
- No Feature Limits

Spatial Analysis and Data Science

Solving Problems & Advancing Science



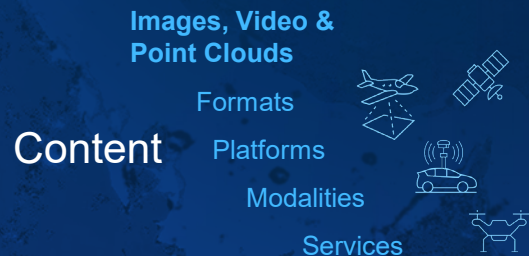
New & Improved

- Performance
- 200+ New Tools and Algorithms
- Charting
- Time-Series Forecasting
- COVID-19 Toolbox
- Suitability Modeler
- Built-in Scheduling
- Jupyter Notebooks

ArcGIS is an Imagery Platform

Transforming Remotely Sensed Content
Into Information

Mapping in
Multiple Dimensions



Analytics On
Demand

Inspection

Construction
Progress

Monitoring

Asset
Management

Damage
Assessment

Natural
Disaster

Public Safety

SOM

New & Improved

- Visual Analytics
- Management
- Deep Learning Tools
- Multidimensional Tools
- Drone Integration
- Exploitation

Finding Spatial
Patterns

Built
Environments

Natural
Environments

Urban
Growth

Impervious
Surfaces

Crop Yields

Land Cover

National
Statistics

Habitat Loss

Photogrammetry

GeoAI

Raster Analytics

Image Mgmt



Search & Discovery

Mosaic
Datasets

Time

Image
Cubes

Data Management
Platform

Field Operations

Location-Enabling All Aspects of Field Work

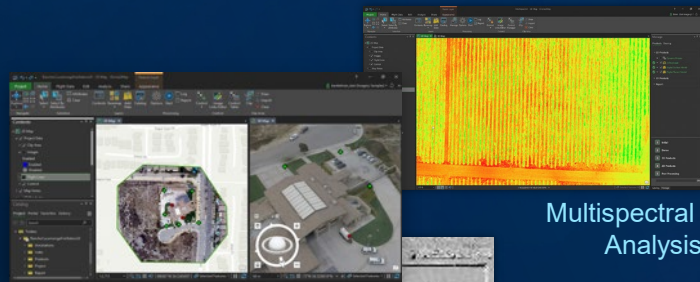


Drone Mapping

Flight Planning, Collection and Processing

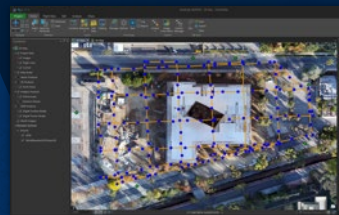
Desktop

Drone2Map



Dynamic Processing

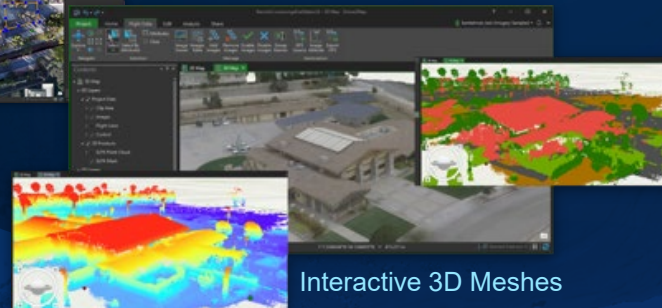
Multispectral Analysis



Simple Workflows



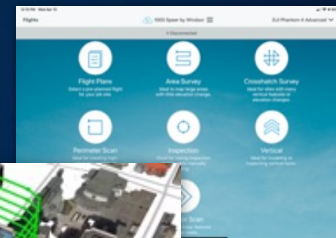
DEMs



Interactive 3D Meshes

Cloud (SaaS)

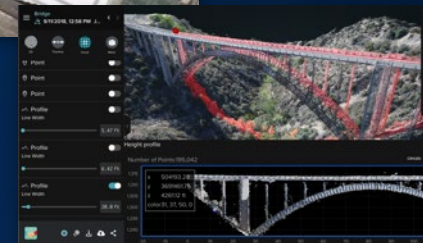
Flight Planning
and Fleet Management



Perimeter Scan



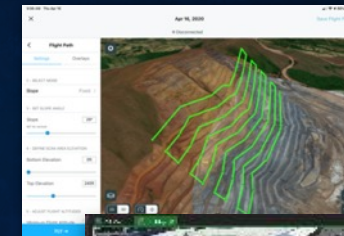
Process Management



Site Scan

NEW

Vertical Scan



3D Point Clouds and Meshes
with Volumetric Tools

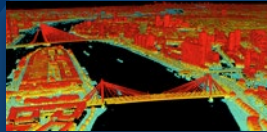


A Complete Solution for Integrating Drones Into Your Workflows

3D GIS Visualization & Data Management

3D Information Model

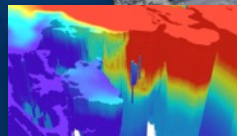
Scene Layers



Point Clouds / Lidar



Mesh



Voxels



BIM

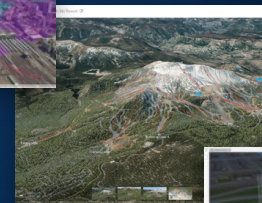
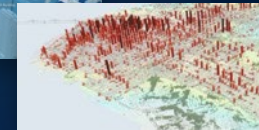


3D Objects



Extrusion

Smart Mapping



New & Improved

- Voxel Layers
- BIM
- Interactive Mesh Tools
- Rendering and Symbols
- Mobile and Offline Workflows
- Integration with Game Engines

Advanced Visualization



Game Engines

AR & VR



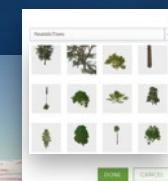
Tablets and Phones

Symbology and Visual Effects

Realism



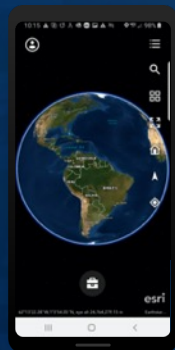
3D Symbols



Power Lines



Global Visualization

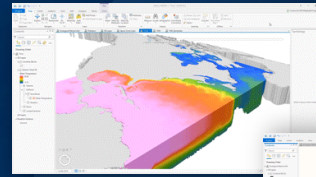


ArcGIS Earth

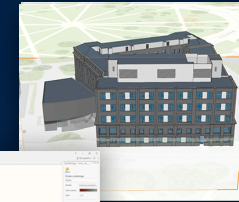
Available Across the Platform

3D GIS Analysis

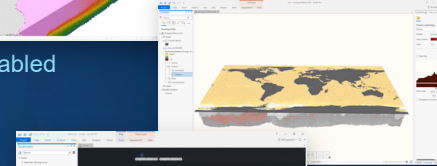
Volumetrics



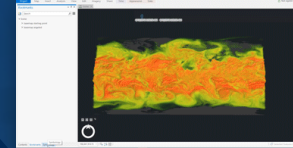
Time Enabled



Interactive Slice



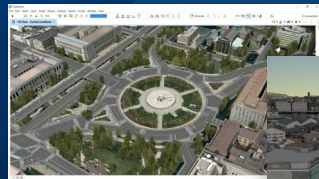
Section and Isosurface



Interpolated Values

Voxels

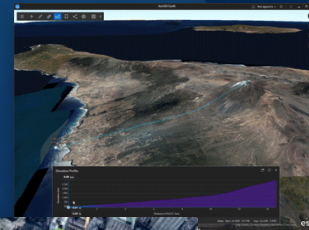
Analytics



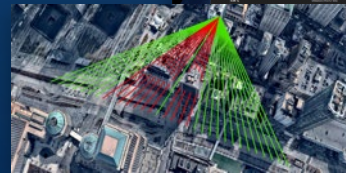
Viewshed



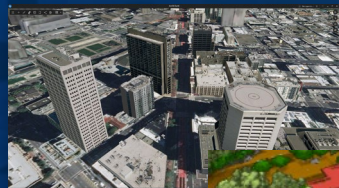
Flood Impact



Elevation Profile



Interactive Line of Sight



Measurement



Feature Extraction

Apps

Pro



3D GIS

CityEngine



Earth

Procedural Modeling

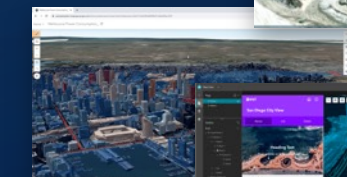


3D Visualization and Analytics



Mobile

Scene Viewer



StoryMaps

Experience Builder

New & Improved

- Voxel Sections, Slices and Isosurfaces
- Machine Learning in 3D
- Mesh Processing
- Performance

New

Coming in 2021

ArcGIS GeoBIMSM Interconnects ArcGIS with Autodesk BIM360

Cloud-to-Cloud Connectivity

Dynamically Integrating GIS & BIM Data
... Helping to Achieve Digital Twin Integration

GeoBIM Projects



Apps

AUTODESK[®] BIM 360[™]
AUTODESK[®]
FORGE

Infraworks, Civil3D & Revit

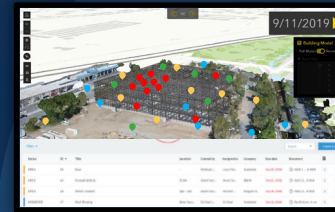
ArcGIS
Online &
Enterprise



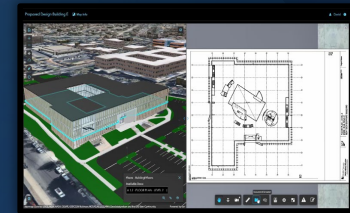
ArcGIS Pro

GeoBIM Apps

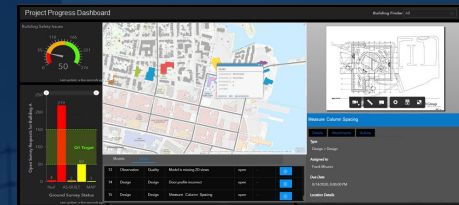
Issue Clustering



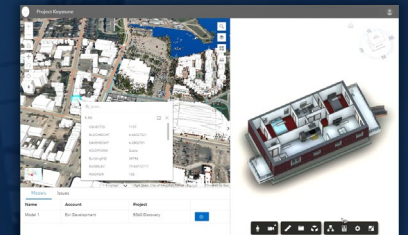
Documentation Review



Performance Dashboards



Design Coordination



Sell | Plan | Design | Build | Operate

Supporting Design, Construction and Operations . . .
... Transforming Projects with Geographic Context

Indoor GIS Asset, Space and Building Management

ArcGIS Indoors

Visualizing and Analyzing Building Interiors and Campuses

Data Management

Buildings and Infrastructure
System of Record
CAD / BIM
Floor Plan Integration

Facility Operations

Safety and Security
Asset Management
Problem Reporting
Operations Dashboards

Space Management

Office Assignments
Space Planning & Allocation
Workspace Scheduling
Social Distancing

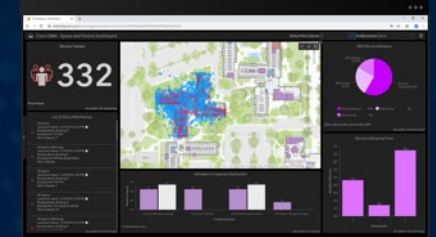
Occupant Experience

Visitor Kiosk
Wayfinding
Location Tracking
Room Booking

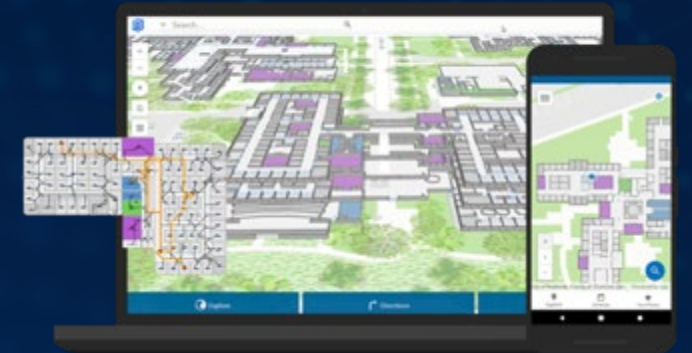
New & Improved

- Space Planning
- Room Booking
- ArcGIS Online
- 3rd Party Integration
- Easier and Faster

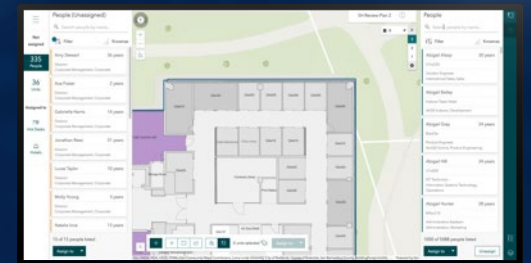
Dashboards



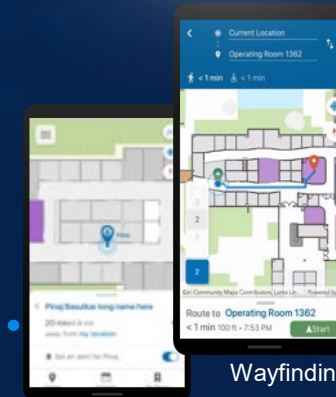
3D Maps



Space Planning



Wayfinding



Location Sharing

ArcGIS Online and On-Premises

AI, Machine Learning and Deep Learning New Opportunities for Innovation

Object Detection



**Detecting Objects from
Imagery/Videos, Land Cover,
Change Detection..**

Buildings, Road Segments, Swimming
Pools, Blight, Graffiti, Overgrowth,
Road Signs, Vehicles from CCTVs,
and more

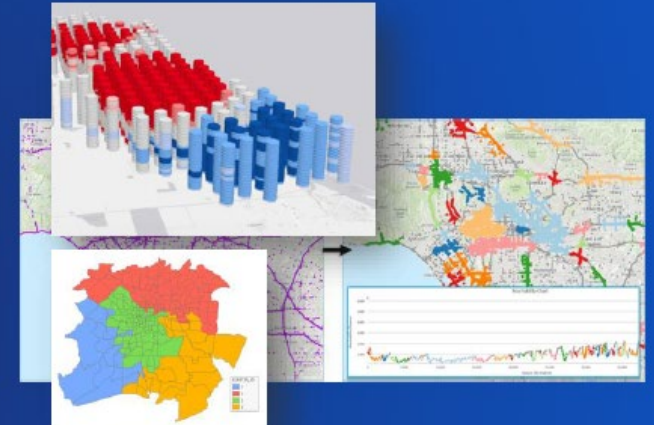
Prediction



**Predicting Geospatial
Events/Phenomena**

Water Pipe Breaks, Asthma Rates,
Diseases, Crimes, Crashes, Incidents,
Fires, Congestion, 911 Calls,

Pattern Detection



**Finding Statistically Significant
Clusters & Patterns**

Top Risky Segments, Emerging
Hotspots of 911 Calls, Disease
Clusters, and more

Real-Time Visualization and Analytics Integrating Sensor Networks and IoT

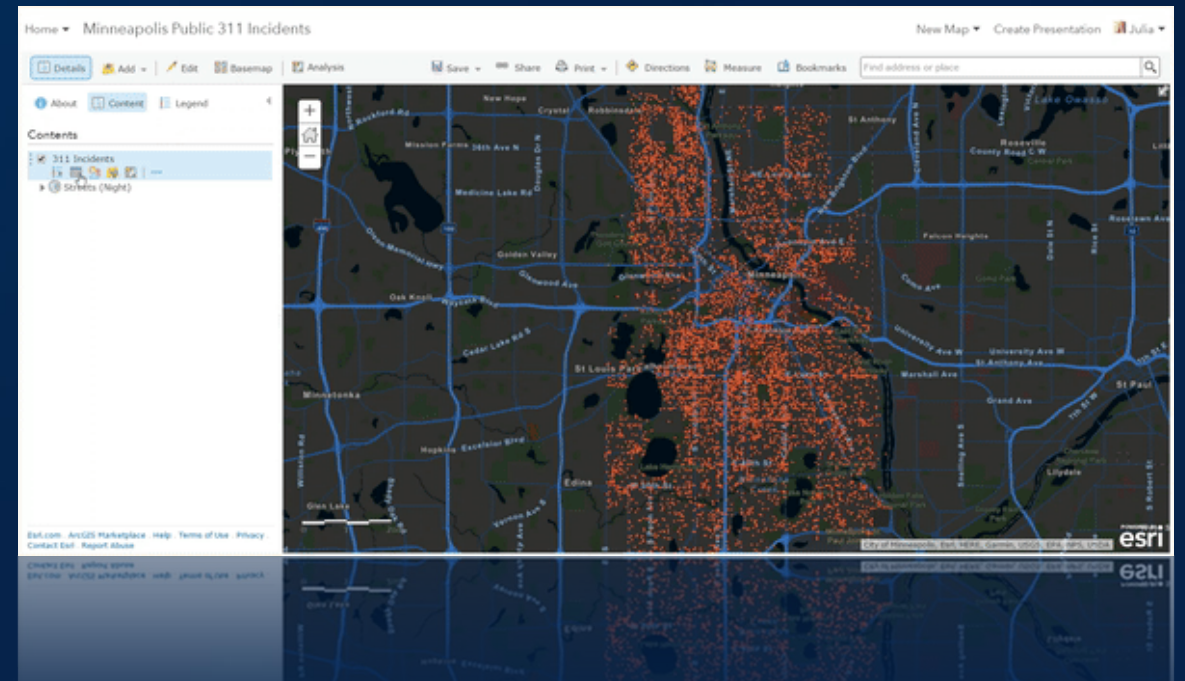
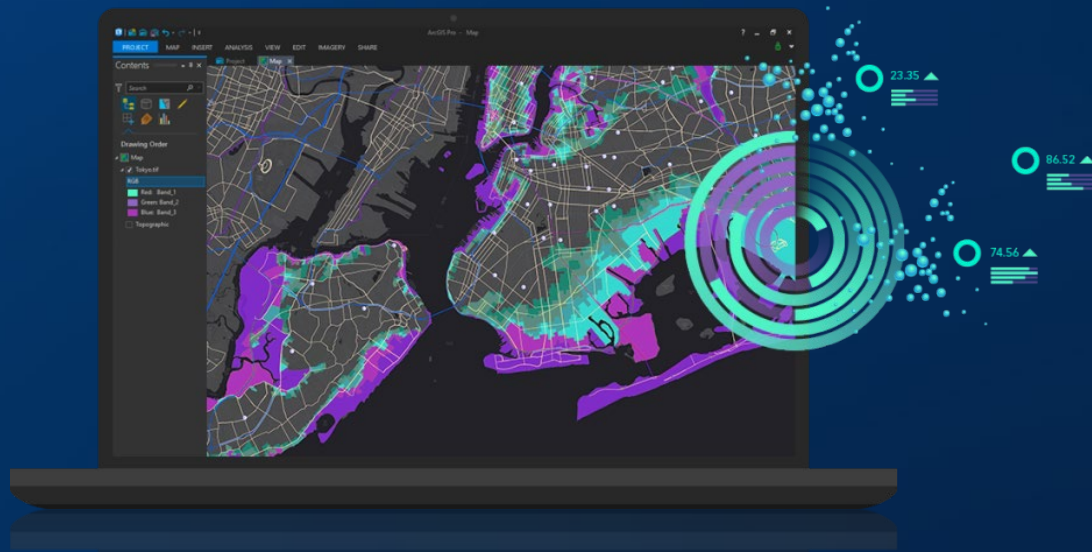
Tracking, Monitoring and Alerting



Big Data Analytics

Analysis with The Science of Where

Transform **massive volume of data** into manageable information. Use distributed computing to analyze data that was previously too big or complex.



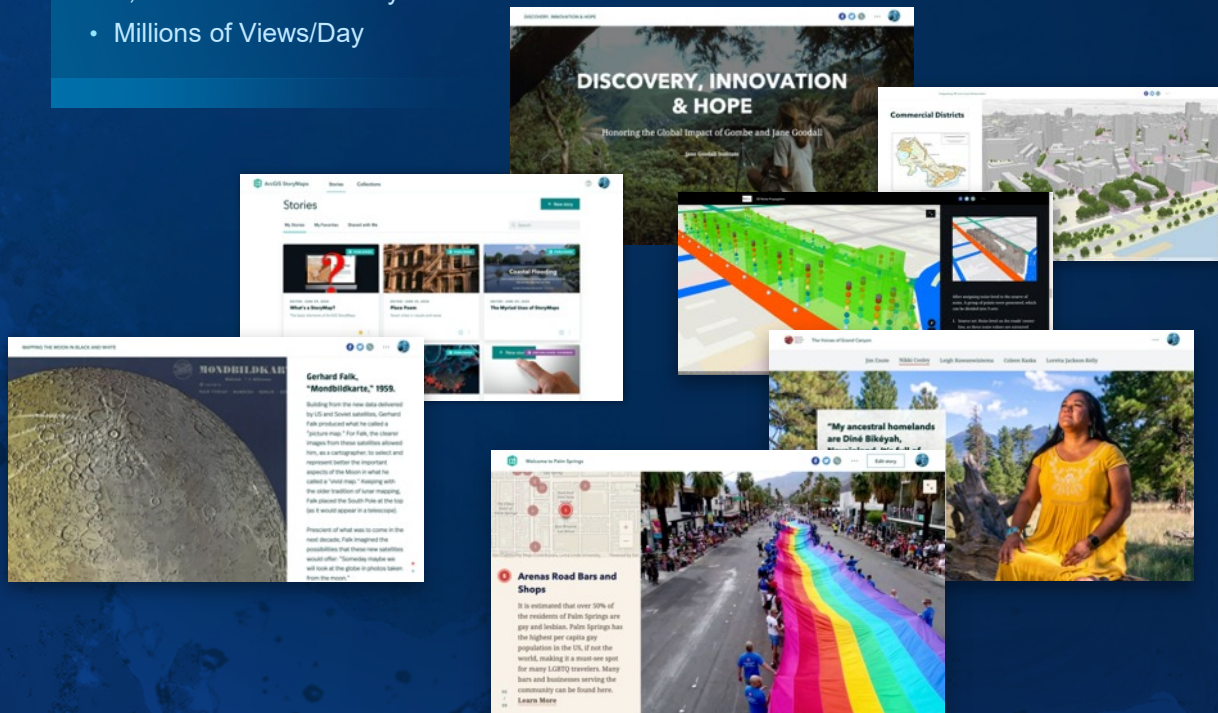
StoryMaps Transformational Platform – Storytelling for Everyone

New Innovations

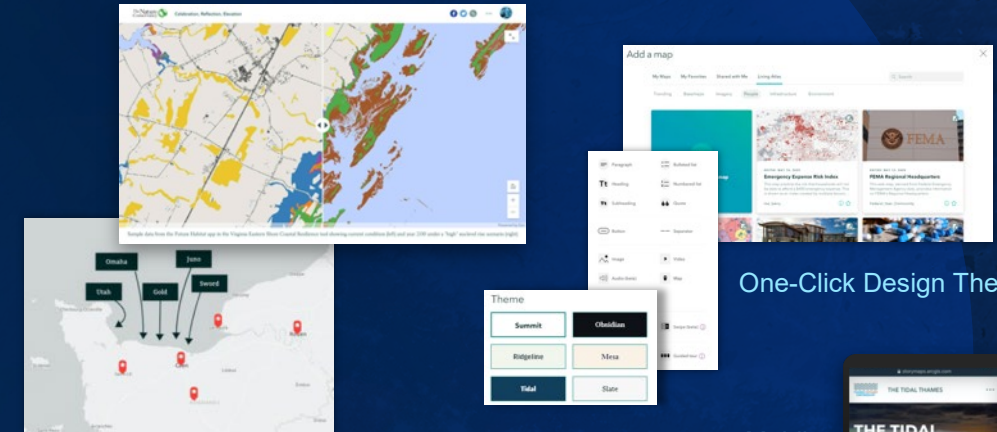
Exponentially Growing

- Over a Million Published
- 3,000+ New Stories/Day
- Millions of Views/Day

Storytelling with Maps (Geojournalism)



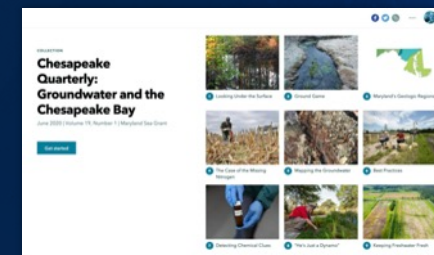
Integrates Any Web Map



One-Click Design Themes

Express Maps – Simple Drawing Tools

Mobile Optimized



Collections – Groups of StoryMaps

... Now on Online and Enterprise

Dashboards

Dynamic Visual Reporting

- Easy to Configure
- Ready to Use
- Interactive
- Flexible
- Highly Scalable

Visualize Trends



Monitor Status



Manage Performance



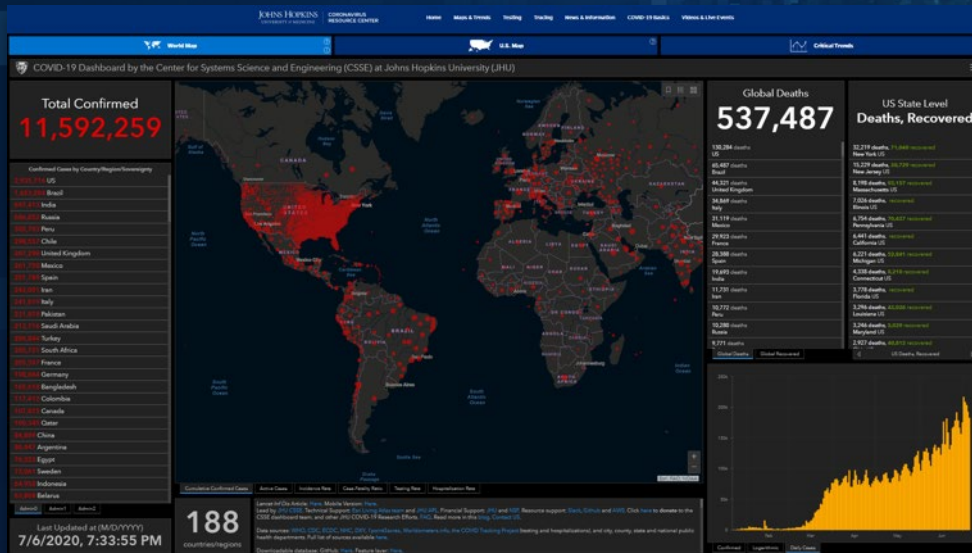
New & Improved

- Mapping
- Arcade Support
- Data Sources
- Summary Statistics
- Performance

Coming Improvements

- Mobile Native
- Accessibility
- Filtering
- Visualizations

*Providing Situational Awareness . . .
Anywhere, Anytime and on Any Device*



ArcGIS Products



... All Part of the ArcGIS Geospatial Cloud

ArcGIS Pro Professional GIS

Pro 2.6

Improvements

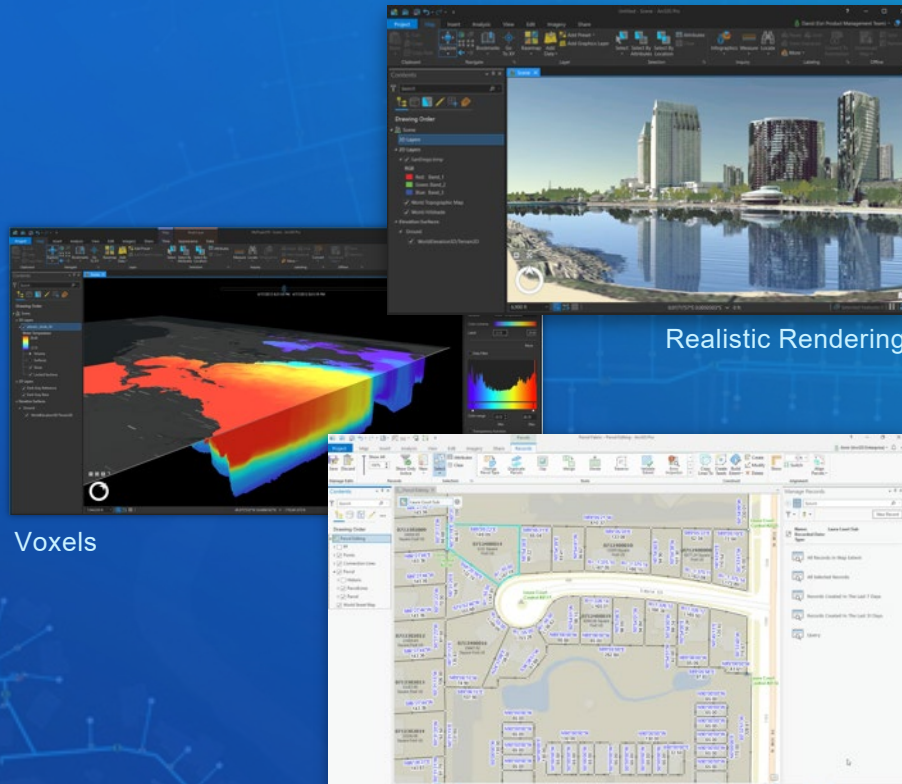
- File Browsing Performance
- Utility Networks
- Parcel Fabric
- Color Management
- Illustrator Export
- Metadata
- OLEDB Connections

New

- Autosave
- Map Graphics
- Voxel Layers
- Hydro Networks
- Interactive Suitability
- Non-Spatial Objects
- Big Data Connections
- Link Analysis
- Predictive Modeling

Coming

- Linear Reference Editing
- GPS Support
- More Data Engineering
- 3D Material Textures
- Machine Learning for Point Clouds
- Mesh Management and Editing



Realistic Rendering

Voxels

Parcel Fabric

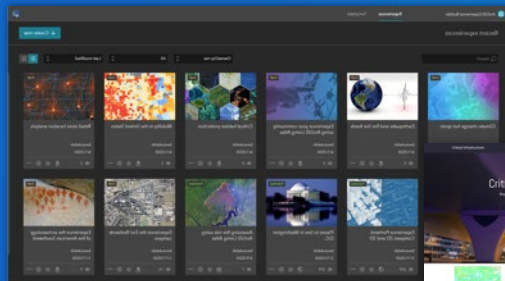
Advanced Mapping, Visualization, Editing and Analysis

ArcGIS Pro
& Extensions

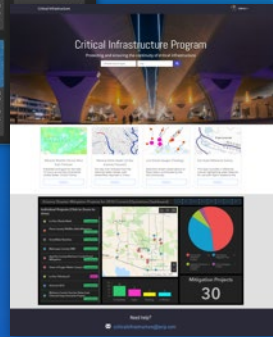
Apps



ArcGIS Enterprise Comprehensive GIS in Your Infrastructure

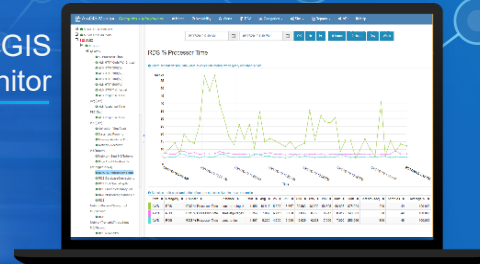


Enterprise Sites and Pages



Enables Distributed and Interconnected Systems

ArcGIS Monitor



Enterprise Data Management,
Mapping, Analysis and Collaboration



New & Improved

- Bulk Publishing
- Webhooks
- Administration + Lic Mgt.
- Sites Authoring
- Machine Learning & AI
- 3D, BIM, Parcels and Utility Network, ...
- Drawing Performance

2021

Coming — ArcGIS Enterprise on Kubernetes

- Cloud Native Architecture
- Streamlined Installation and Upgrades
- Dynamic Scalability
- Easier Maintenance
- Easier IT Integration

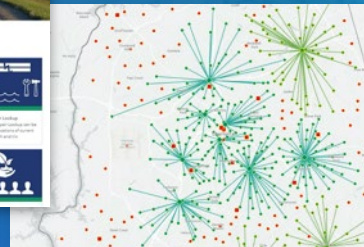
ArcGIS Online Mapping, Analysis and Location Intelligence

Configurable

Faribault County, Minnesota



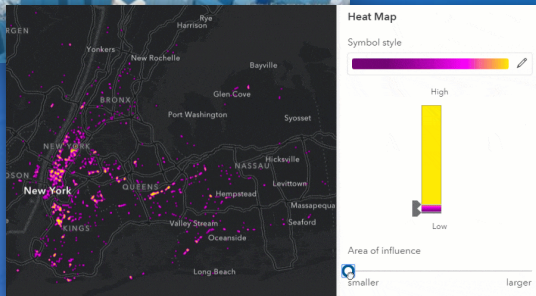
SaaS



Analytics



2D / 3D



New Map Viewer

New & Improved

- Map Viewer
- Group Layers
- Mapping Apps
- Location Tracking
- Regional Hosting

New Extensions

- Velocity
- Notebooks

Coming

- Inter-Organization Collaboration
- Intelligent Search
- More Apps
- Enhanced Security
- Hosted Imagery

Performant, Scalable and Growing

- Billions of Map Views Daily
- 9+ Million Users (+39%)
- 33 Million Items (+35%)

+400% Usage

World's Largest Mapping and Data Sharing Ecosystem



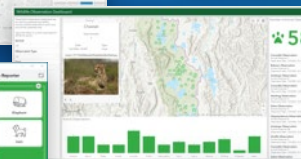
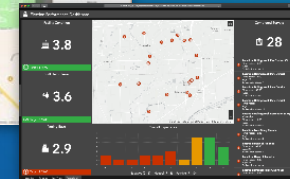
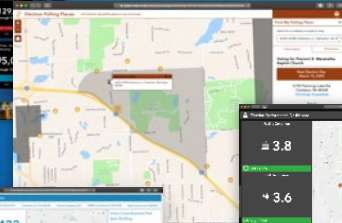
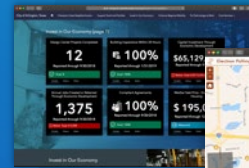
ArcGIS Solutions Industry-Specific Maps and Apps

Preconfigured

Data Models Tools
Apps Comprehensive Workflows
Maps Add-Ins
Initiatives Dashboards

- Extensive (400+)
- Easy to Deploy
- Fully Supported
- Included with ArcGIS (No Cost)

Local & State Government

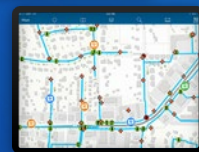


Conservation

Emergency Management & Public Safety



Utilities & Telecom



Business



... Helping to Quickly Deliver Value

ArcGIS App Builders

Enabling Everyone to Build Apps

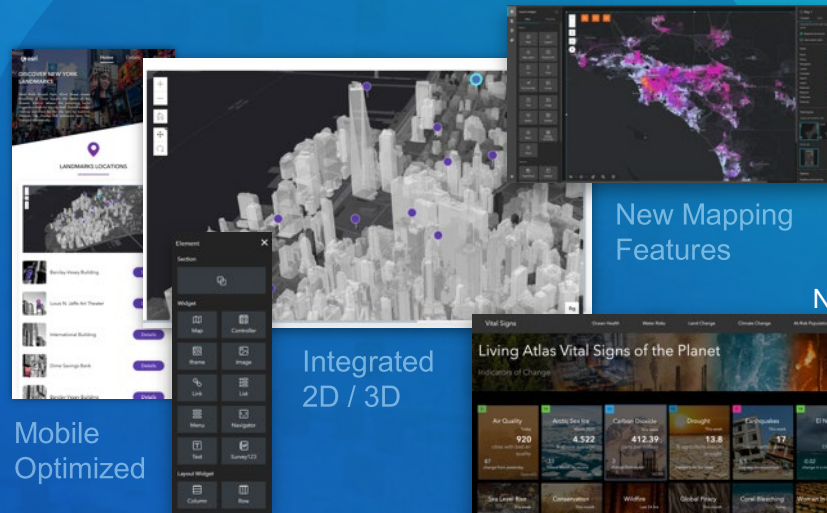
No Code / Low Code

Web AppBuilder



1,000,000+ Apps

Experience Builder



New Mapping Features

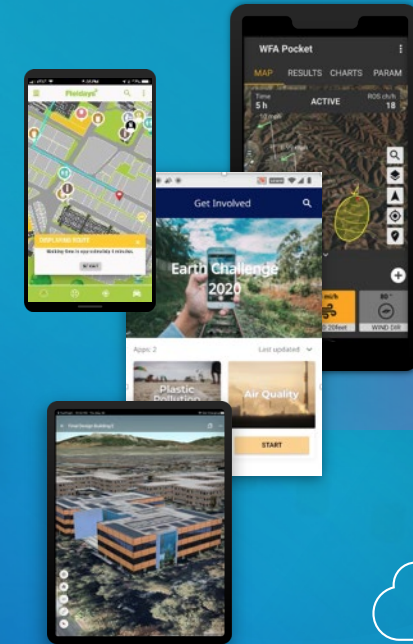
Integrated 2D / 3D

Mobile Optimized

20,000+ Apps

Web
(JavaScript)

AppStudio



Cross-Platform Native Apps

Leverages ArcGIS Runtime Capabilities

Available to All Users



Easy Enterprise Deployment

GeoCards

Building Blocks for Organizing Geographic Knowledge

Mobile



esri China
HONG KONG