ArcGIS Analytics for IoT

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Welcome to the Connected World
Key Challenges in Meeting the Needs of IoT
ArcGIS Analytics for IoT
Real-time & big data GIS capability for ArcGIS Online

...connects to industry leading cloud IoT platforms, data lakes, and sensor vendor APIs
Ingest & Visualize Real-Time Streaming Data

Configure feeds that connect to real-time information from IoT data sources.
Analyze IoT Data In Real-Time

Process individual observations and records as they are ingested
Push Automated Actions & Alerts

Trigger alerts and actuate IoT devices under specific conditions
Perform Batch Analysis on Stored IoT Data

Use big data analytics to gain insights from massive datasets
Disseminate Information & Findings

Share your analysis results with others.
Capabilities

- Ingestion
- Geofencing
- Incident Detection
- Trend Analysis
- Visualization
- Alerting
Personnel Tracking & Analytics
Asset & Fleet Tracking
Infrastructure Monitoring
How It Works
Feeds
Ingest and visualize real-time data streams

- Connect to data sources
  - ArcGIS (Feature & Stream Layers)
  - Cloud IoTs (Amazon, Azure, Cisco)
  - Web & Messaging (HTTP, Kafka, RSS…)

- Schema auto-discovery

- Behaves like a stream layer

- Immediate display of new data

…discover and share real-time data streams as items in ArcGIS
Real-Time Analytics

*Process and analyze real-time data streams*

- **Input Sources**
  - Feeds (one or more)
  - Static data sources (enrichment, joins)

- **Analytic Tools**
  - Build a pipeline of zero to many…
  - Analyze individual observations

- **Outputs**
  - ArcGIS Layers (Map & Feature)
  - Alerts & Notifications (Email, Actuations)

...generating alerts from and triggering actions to IoT devices in real-time
Big Data Analytics
Perform batch analysis on stored big data

- Input Sources
  - ArcGIS (Feature Layers)
  - Cloud (Amazon S3, Azure Blob)
  - Web & Messaging (HTTP, RSS...)

- Analytic Tools
  - Analyze Patterns
  - Find Locations
  - Manage, Summarize, Enrich Data

- Output results to one or more destinations

...big data analysis pipelines on demand or scheduled for recurring execution
How to Get Started
Licensing

An annual subscription on top of ArcGIS Online

Layers & Feeds - available to all users

Map Image Layers
Feature Layers
Feeds & Stream Layers

App – Creators and GIS Pros

... follows the same business model and policies of ArcGIS Online
Resources

ArcGIS Analytics for IoT: FedGIS 2020 Demo
• esriurl.com/AnalyticsforIoTFedGIS2020

ArcGIS Analytics for IoT: Tutorial Videos
• esriurl.com/AnalyticsforIoTTutorials
Esri Boston’s Hub: https://go.esri.com/bostonhub
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