ESRI ArcGIS & OSIsoft PI System Integration

Bogdan Cheveresan, Esri Romania

Esri Serving Our Users

Advancing GIS and Spatial Literacy

Founded in 1969 by Jack and Laura Dangermond

ArcGIS Platform

Strong and Growing

Making a Difference

Contributing to Society

Esri Romania – Founded in 1993

Products

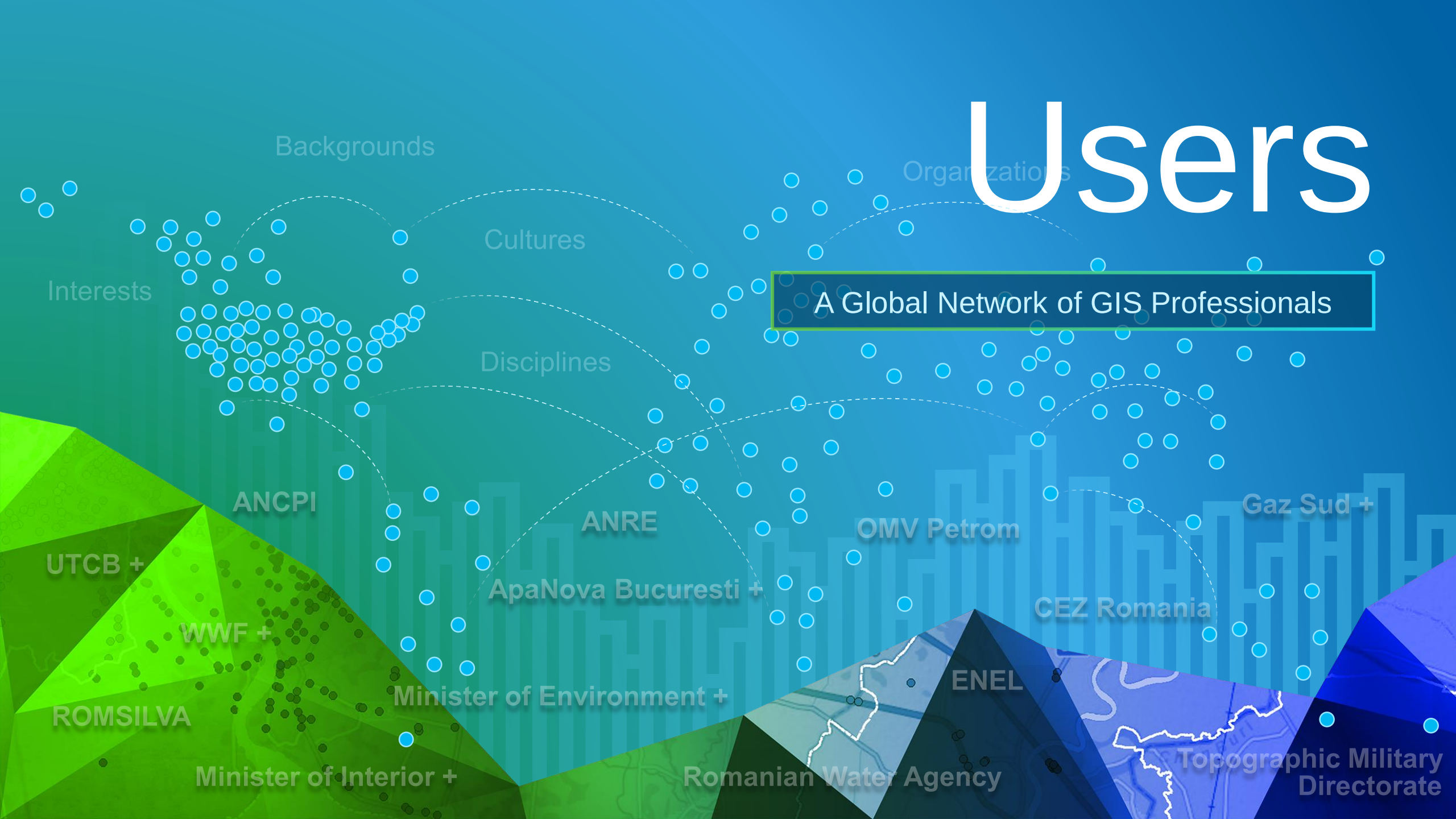
Support

Education

Esri Press

Services

Governments, industry leaders, academics, and nongovernmental organizations (NGOs) trust us to connect them with the analytic knowledge they need to make these critical decisions that shape the planet.


Users
A Global Network of GIS Professionals
Backgrounds
Organizations
Cultures
Interests
Disciplines
ANCPI
ANRE
OMV Petrom
Gaz Sud +
UTCB +
ApaNova Bucuresti +
CEZ Romania
WWF +
ENEL
Minister of Environment +
ROMSILVA
Topographic Military Directorate
Minister of Interior +
Romanian Water Agency

GIS Integrates

Geography into Everything We Do

Changes the way we think and act

“Understanding precedes action”

Desktop

Online

Portal

Content

Apps

Server

10.3

ArcGIS Platform

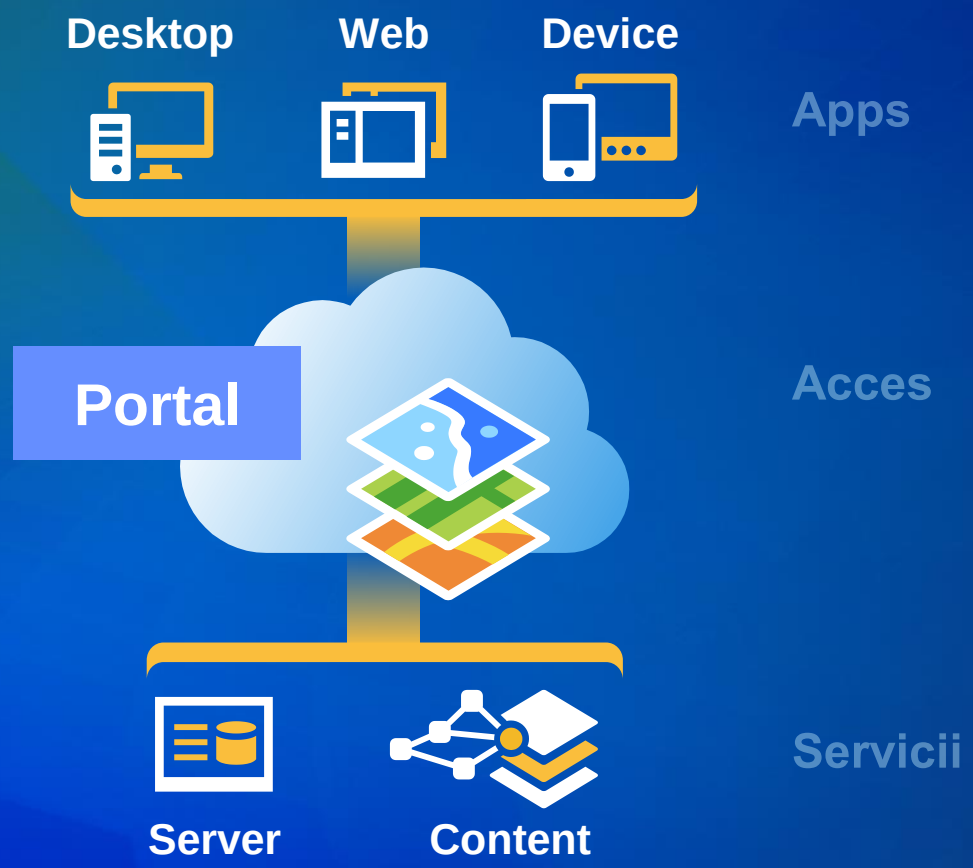
An Integrated System

ArcGIS

Integrated Web Platform

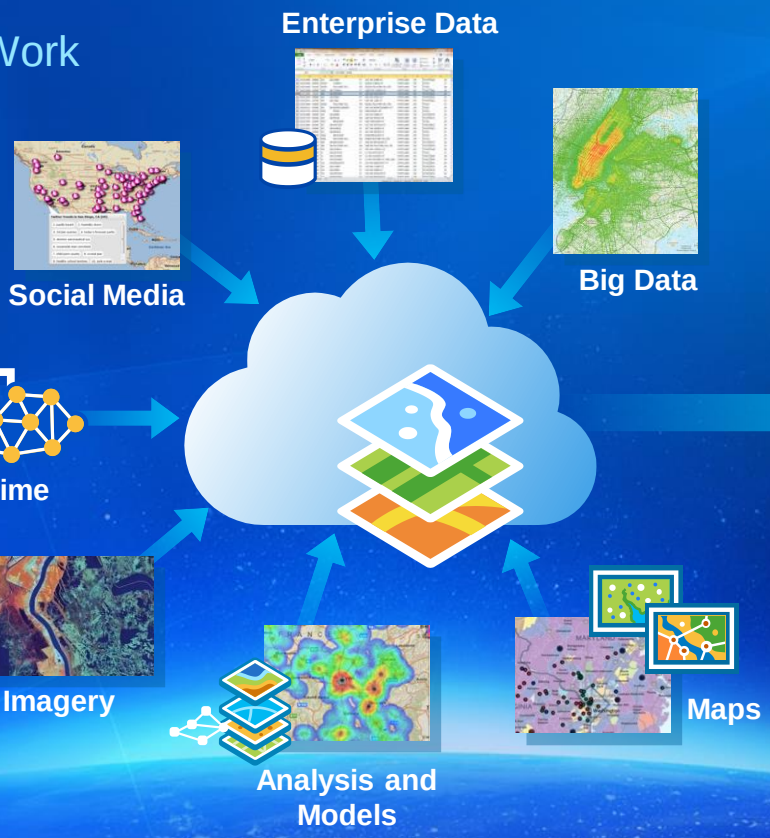
Discover, Use, Create and Share Maps on Any Device Anytime, Anywhere

- **Simple**
- **Open**
- **Configurable**



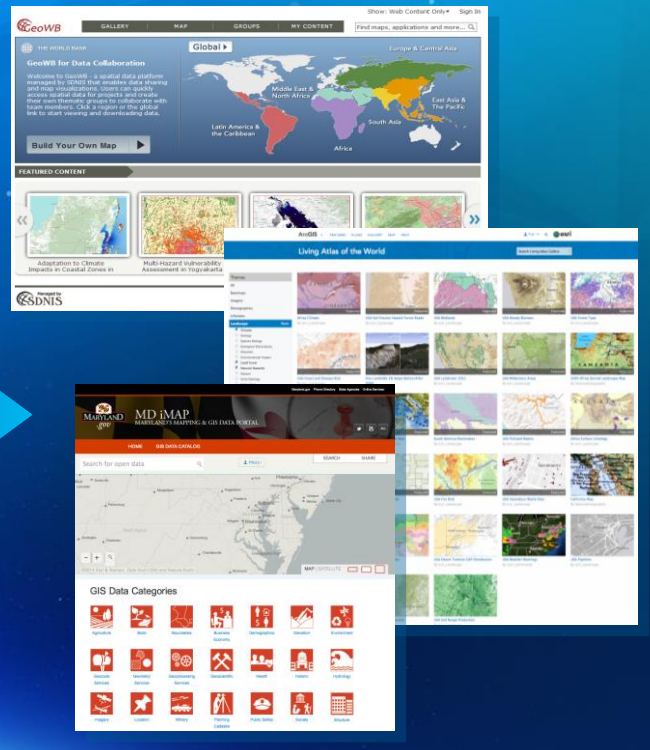
Web GIS Integrates All Types of Information

Organizing and Sharing Your Work



Web Maps and Services

Portal



Both Internally and on the Open Web

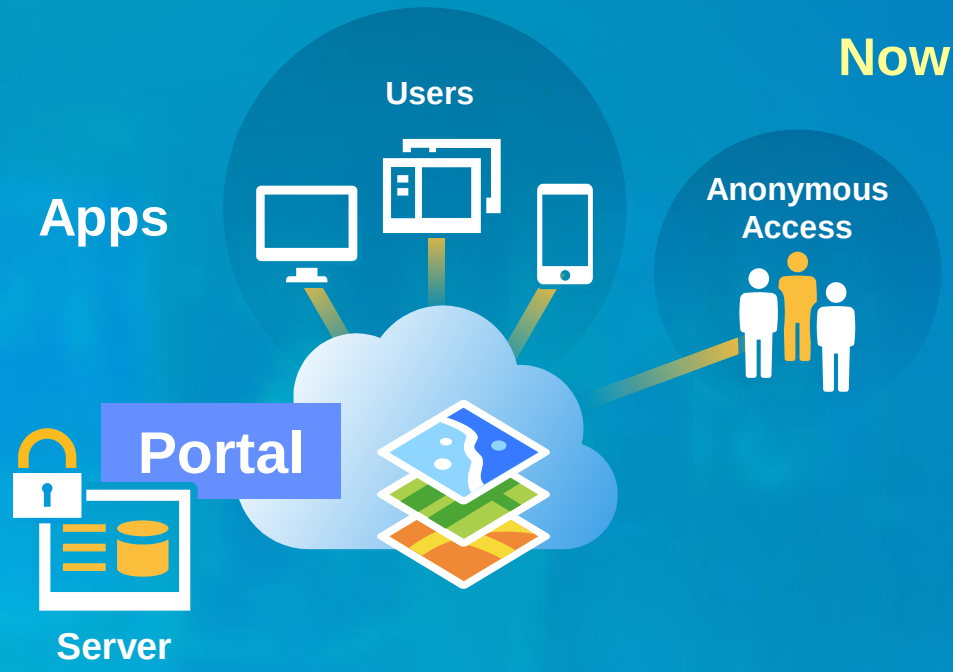
Interoperability

Ensuring Data and
System Interoperability

ArcGIS

Server

Enterprise GIS in
Your Own Infrastructure



Now a Web GIS

10.3

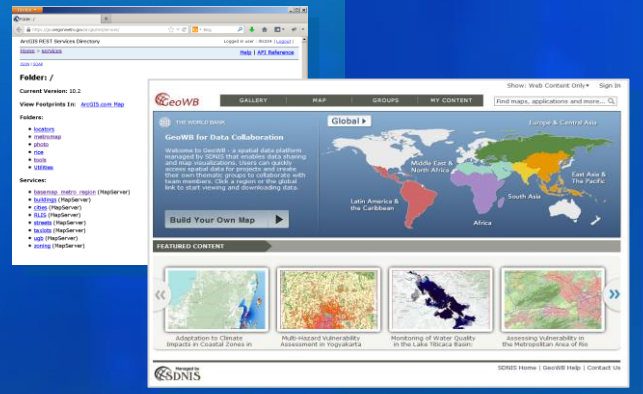
New

- Portal (Included)
- Custom Roles
- 3D Services
- Real-Time Services

Monitoring Tools

Improved

- Scalability and Quality
- Authentication (SAML)
- Active Directory Support



Improved Server Experience

Providing Geodata Management, Analysis, and Mapping

ArcGIS

Portal

On Premise
Web GIS

Providing Mapping, Analytics, and Content

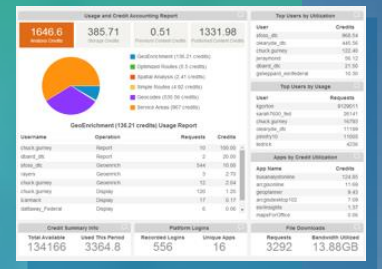
- Across the Organization
- Always Available
- Massively Scalable

New

Self-Service Mapping

Related Tables

Management



Improved

- User Experience
- Mapping
- Analytics
- Management
- Security

Custom Roles

Certification

ArcGIS

Desktop

- Unlimited Web Mapping
- Data Hosting
- Living Atlas
- Many Apps

. . . Extending Your Capabilities

Geodesign

Location Analytics

Developers

Solution Templates

Real-Time

Data Management

Open Data

Content

Spatial Analysis

Standards

Editing

Platform Themes

Administration

Imagery

Big Data

Performance

Mapping

Quality

Cloud

Identity

Apps

Enterprise Integration

Security

Usability

Interoperability

3D

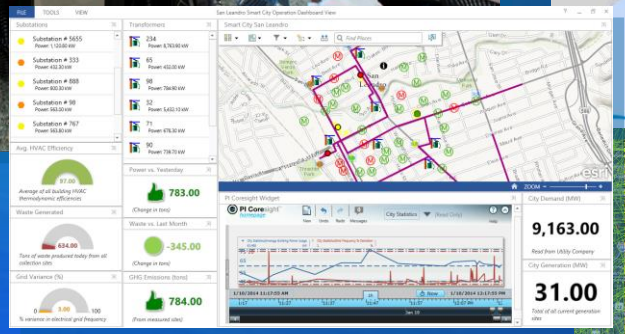
Real-Time

Supporting Geographic Monitoring and Alerting

- Many Sensors
- Spatial Analysis
- Stream Service
- Big Data
- OSIsoft Integration

GeoEvent Extension

PG&E



OSIsoft Dashboard

Arctic Shipping and Sea Ice

Exact Earth

Big Data

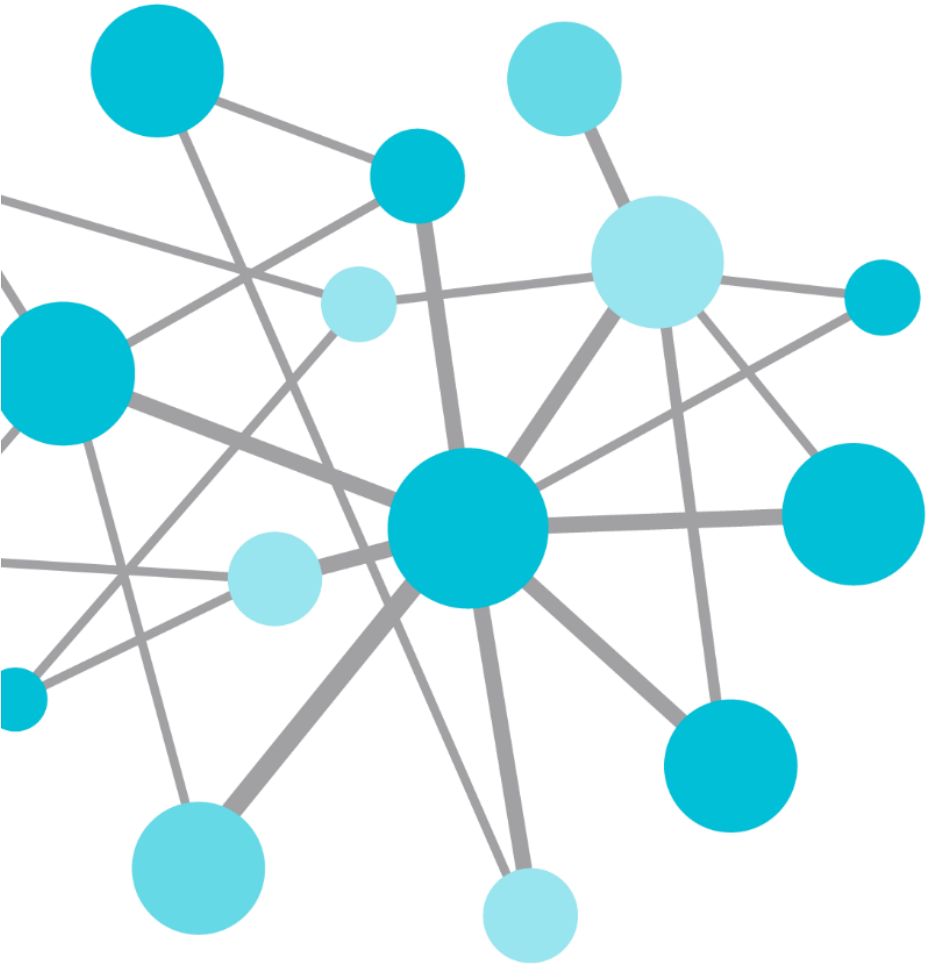
"This partnership will bring significant value to our mutual customers, allowing them to visualize and analyze their operations geographically in real-time at unprecedented levels of detail and scale."

J. Patrick Kennedy – OSIsoft CEO

"By bringing together ArcGIS and the PI System, customers will not only know where things are but what they are doing in real-time.

By displaying real-time and historical information on a map, our customers will unlock opportunities in their data not previously visible."

Jack Dangermond– Esri CEO



Connecting Space and Time OSIsoft & Esri

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Which of these describe your need?

- Operating Engineers & Analysts
- Environmental Heath and Safety
- Maintenance Coordinators
- Planners
- Managers & Executives

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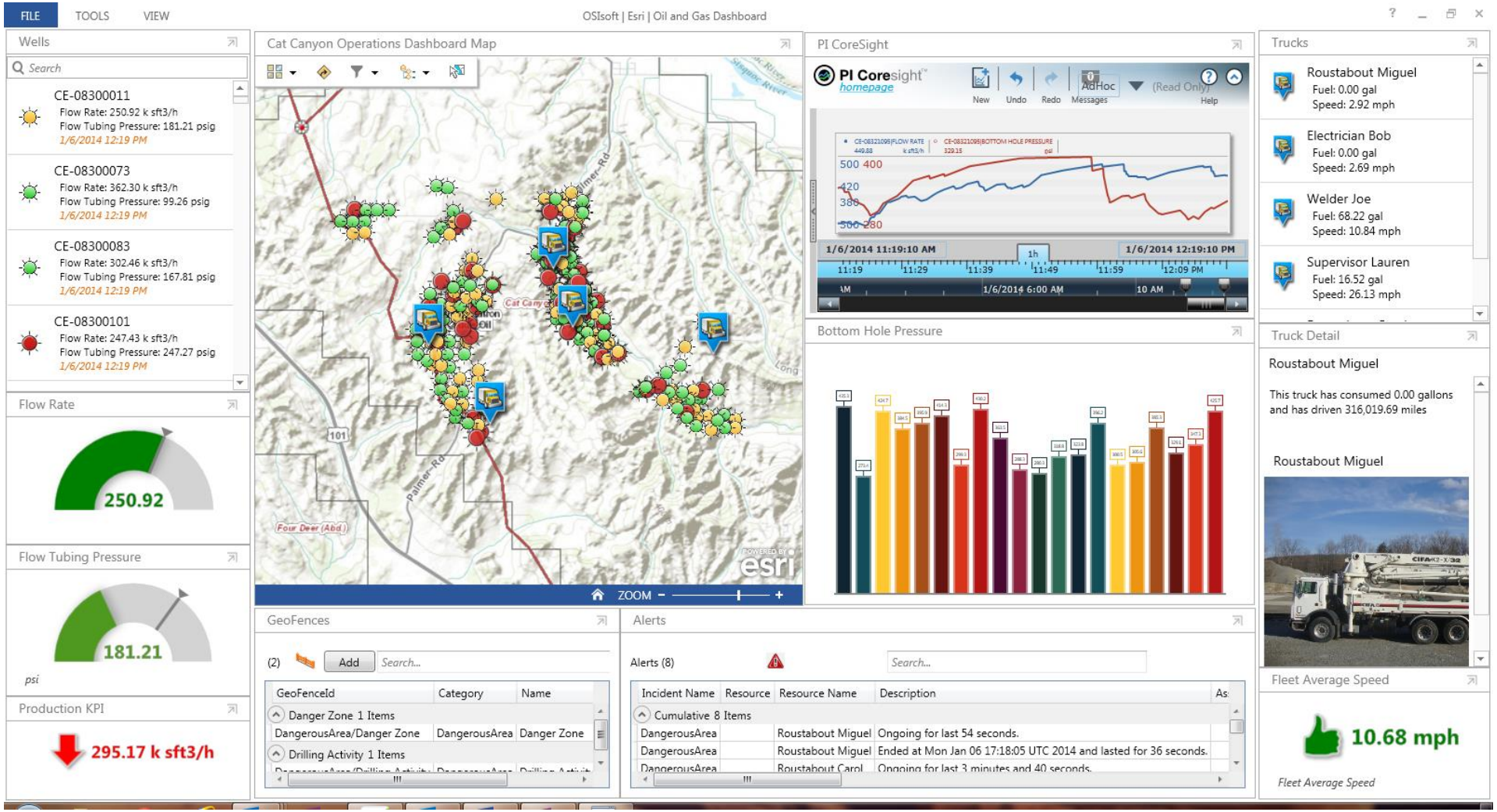
Bring your Maps to Life



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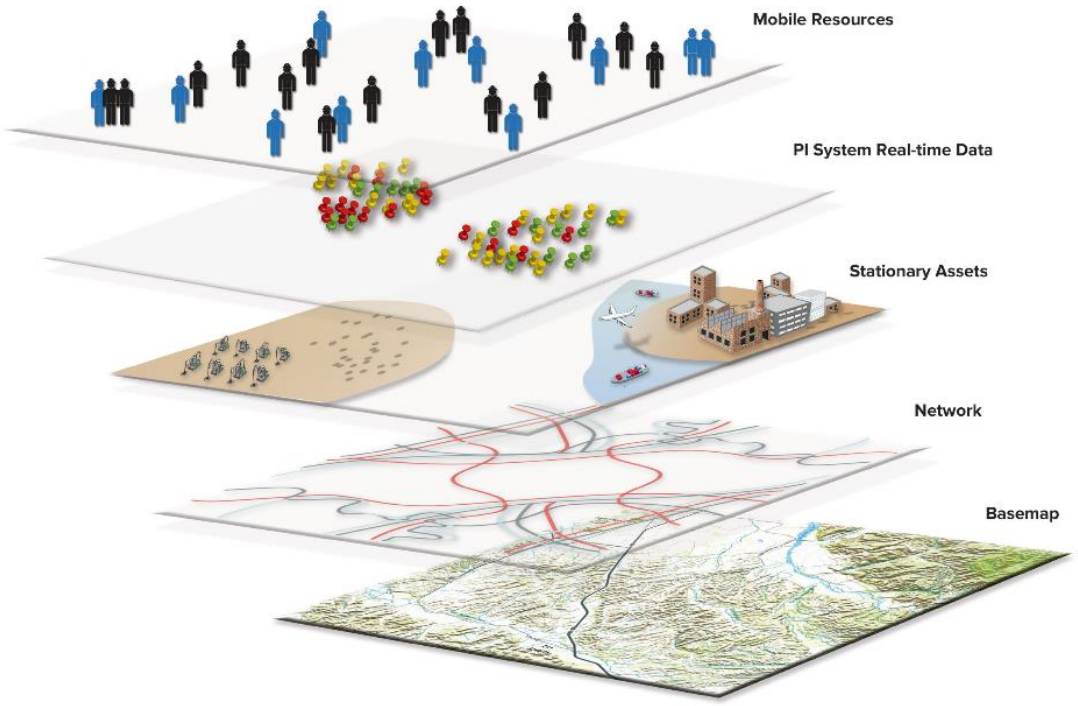
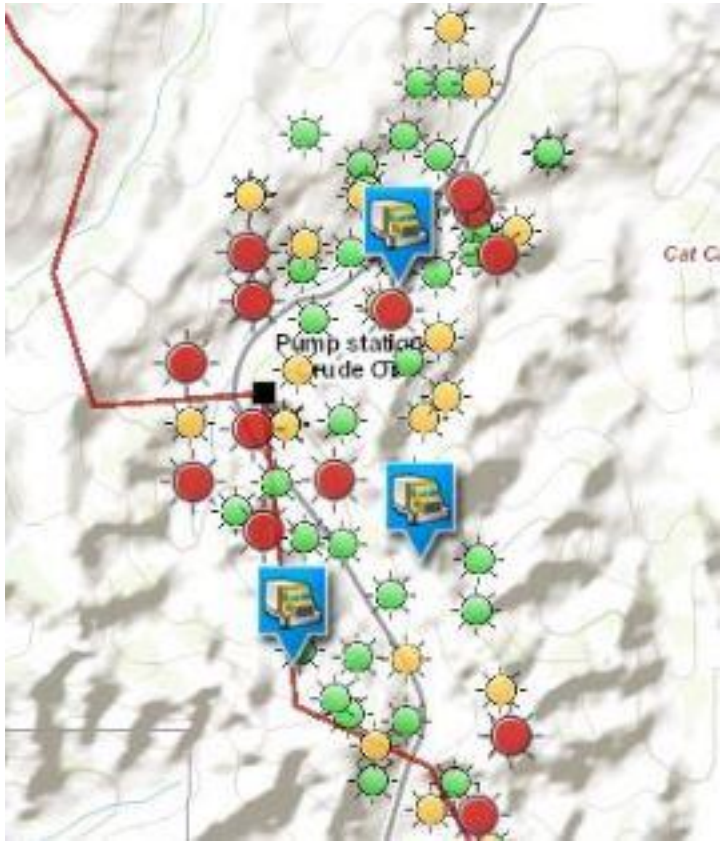
Why are layers important





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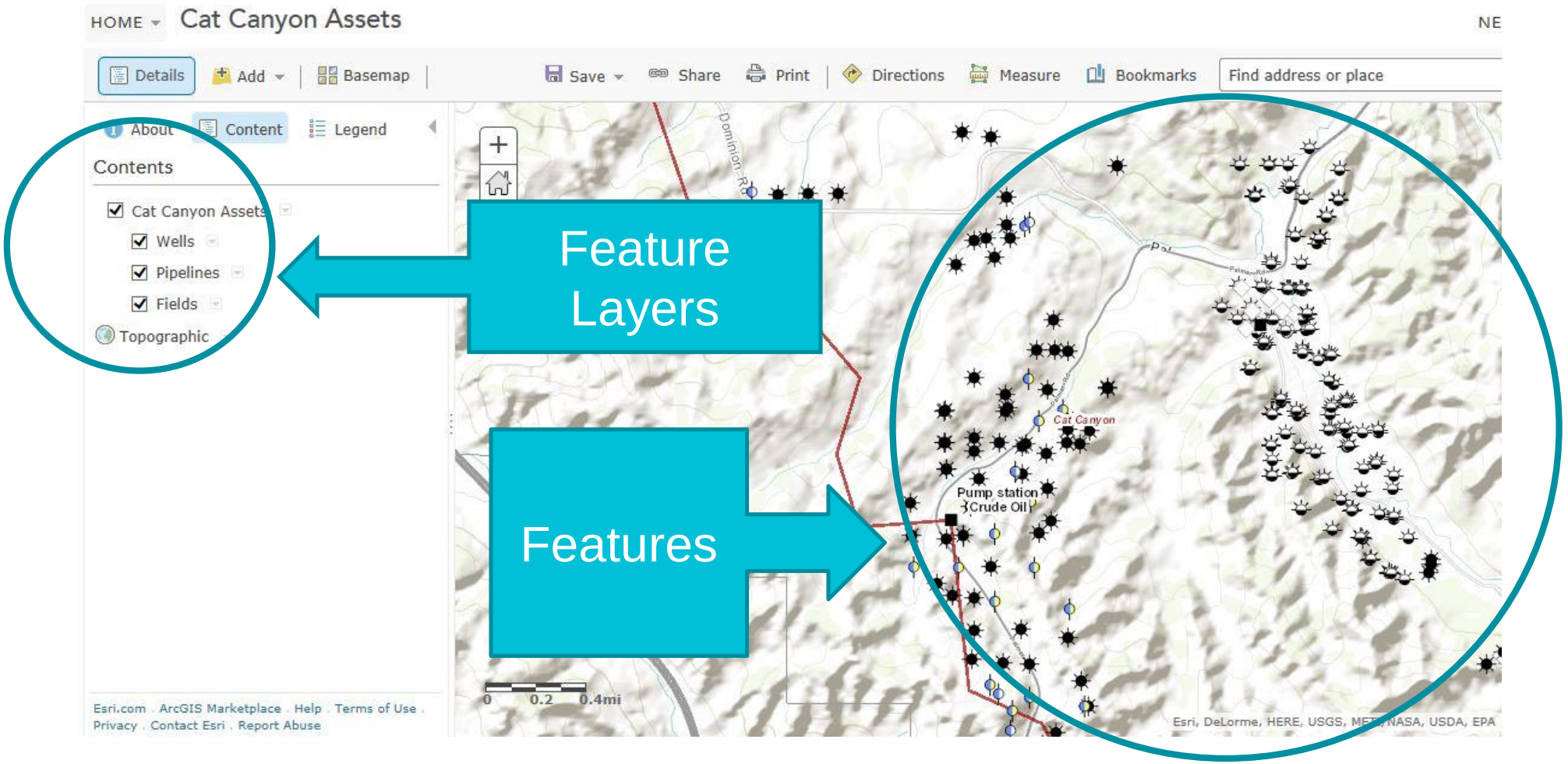
What's on a Map



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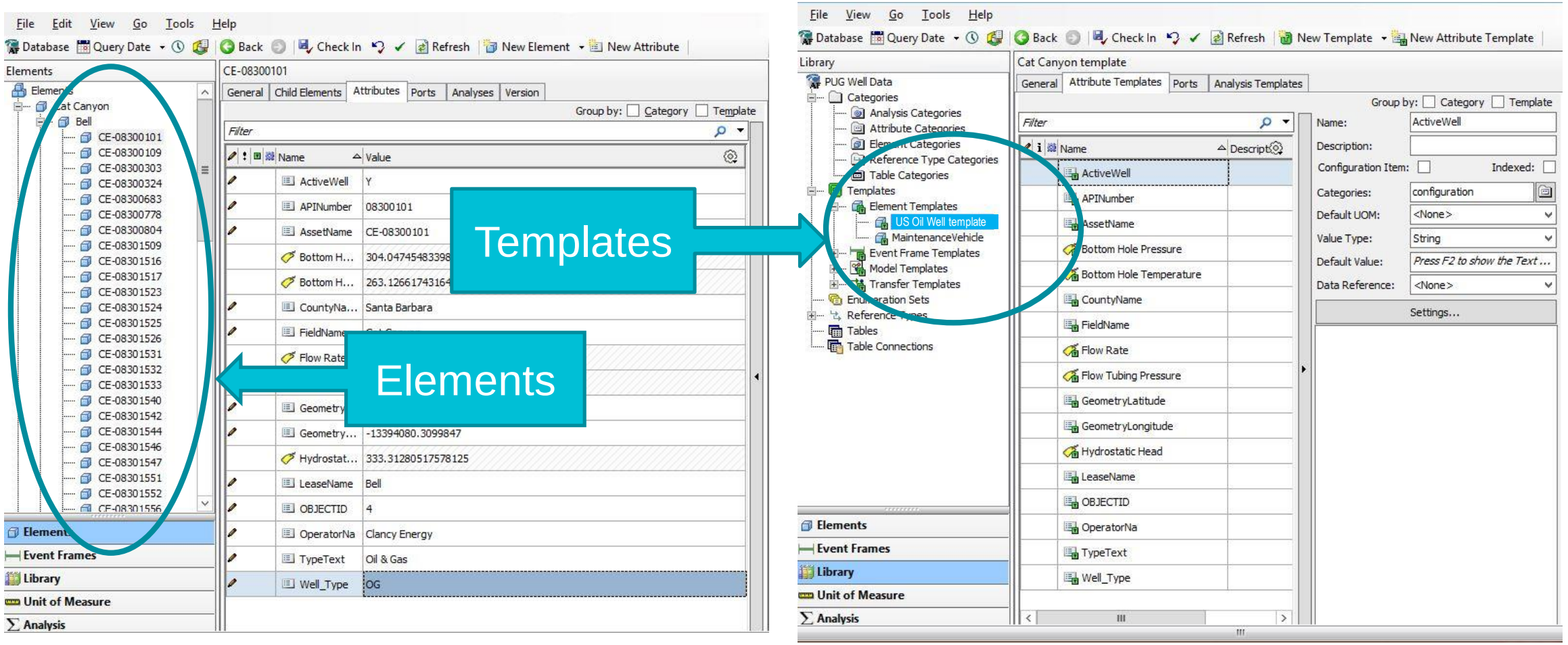
What Data is in the PI System?



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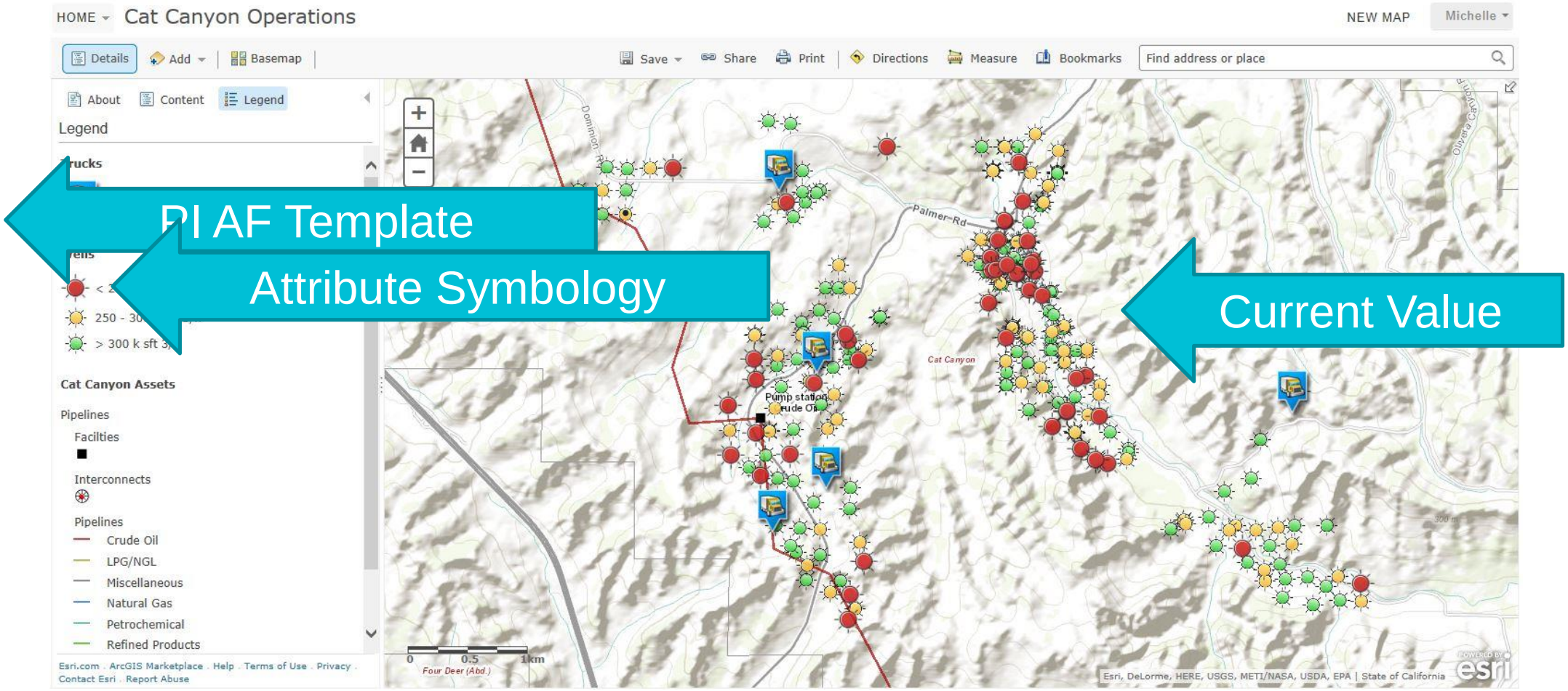
PI System Data Animates the Map



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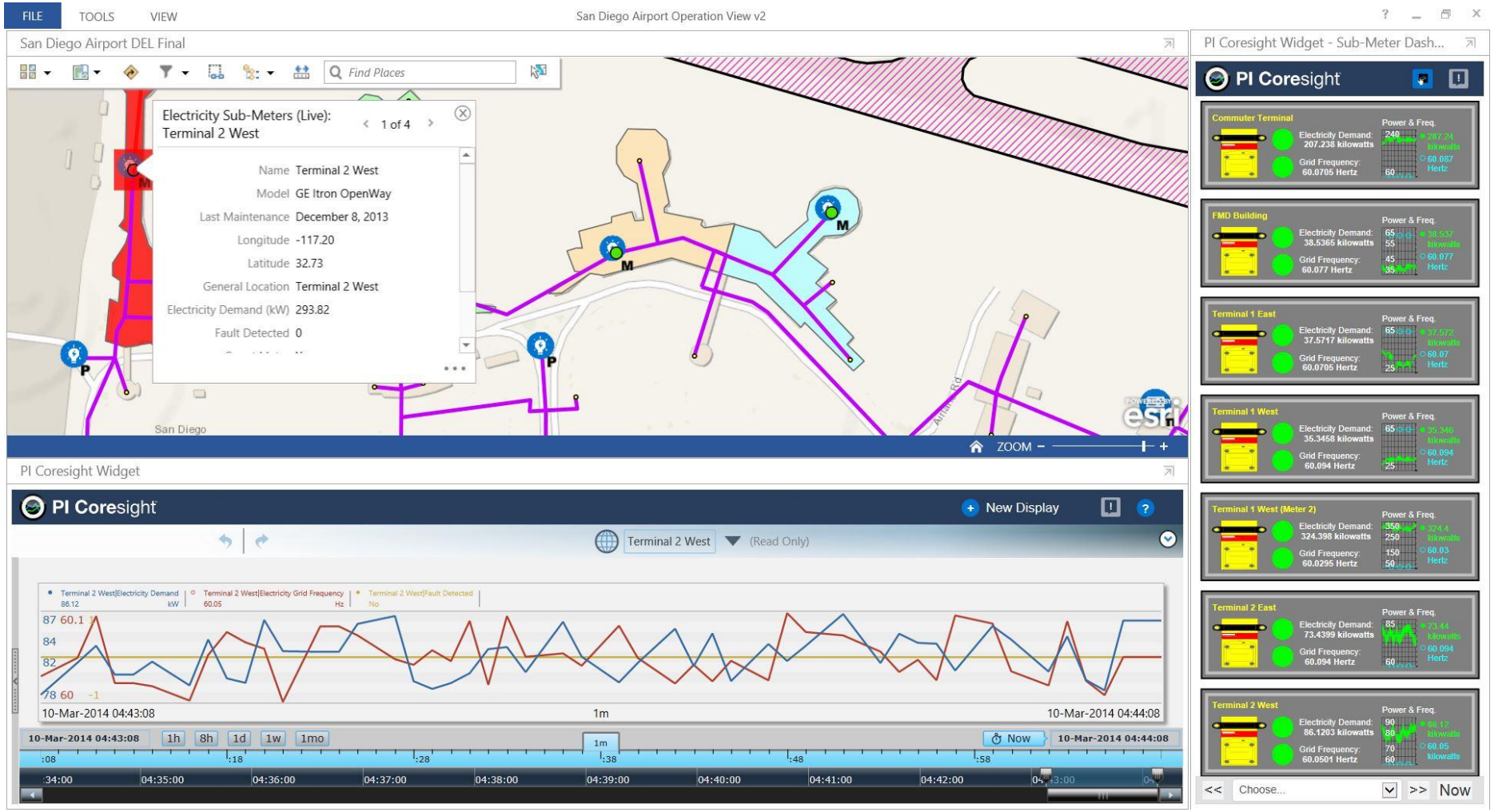
Esri Operations Dashboard:

Mash Up PI Tools with Maps & Widgets



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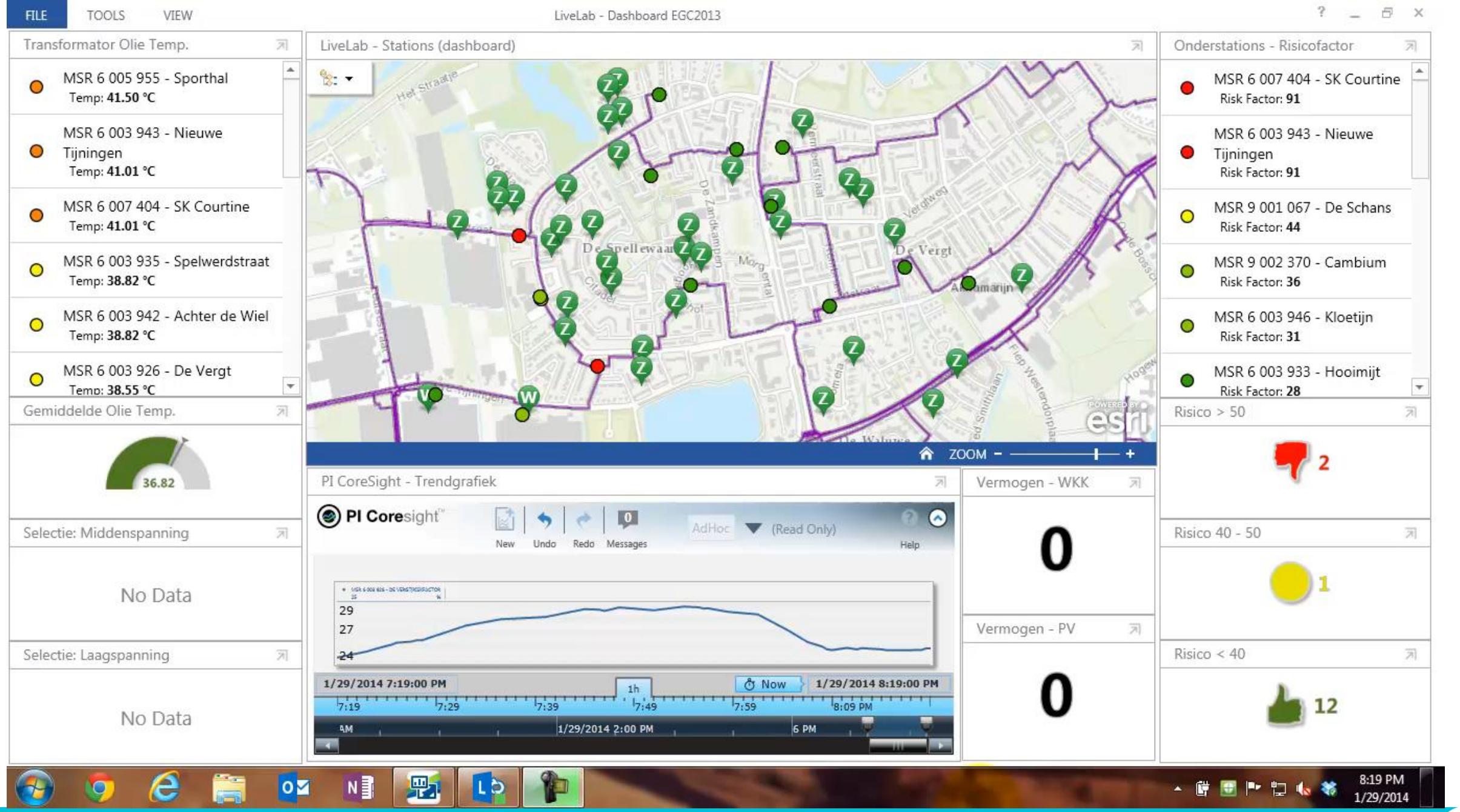

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PI Interfaces

PI Notifications

PI Event Frames

Asset Based Analytics

PI AF

PI Data Archive

ZERO CODE / No Programming

PI Integrator for Esri ArcGIS

GeoEvent

GeoEvent Services

Inputs

Outputs

ArcGIS

feature layers

Your Dashboards

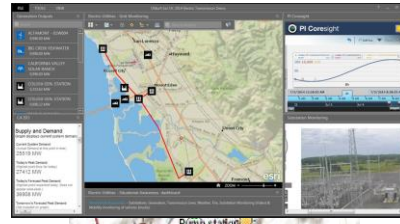
Operations Dashboard for ArcGIS

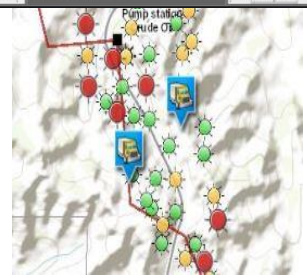
ArcGIS Online / Portal for ArcGIS

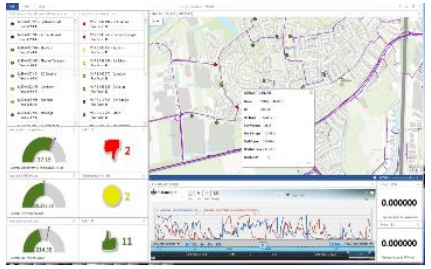
operation view

web map

feature layers







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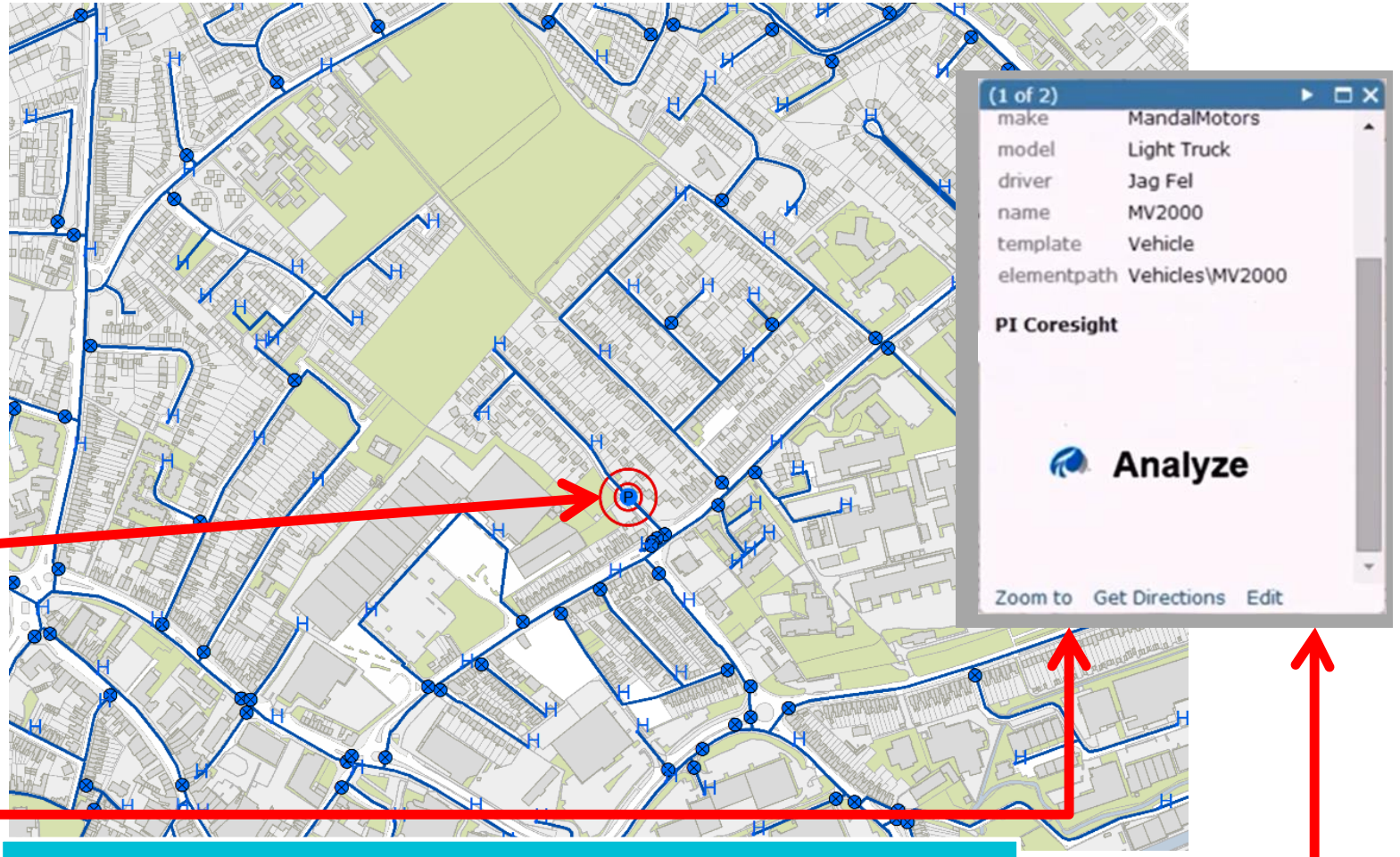
Integrated Real-time Information

Operator clicks on the Asset on GIS display

Real-time information from the PI System for this Asset is displayed



Further information is available - single click to access

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Esri Map Extractor

- Concepts
  - Map Features can represent a PI AF Element
  - Feature Layers can be represented as PI AF Template
- The Map Extractor builds AF templates and elements from features on a map

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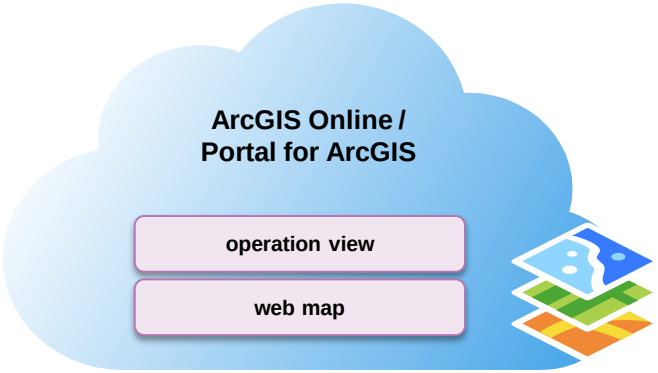
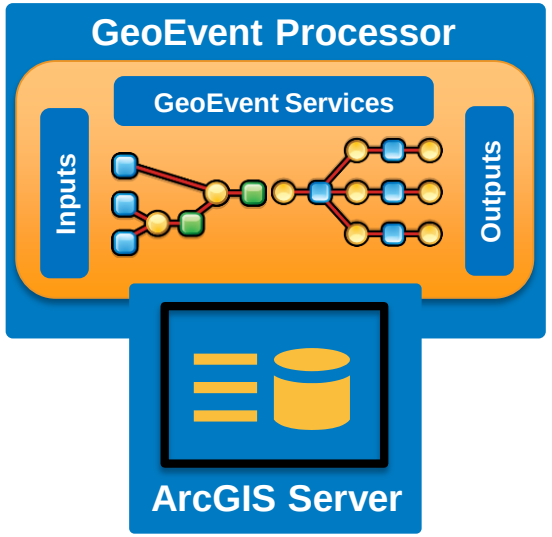
Cloud Architecture

PI Integrator for Esri ArcGIS



PI System



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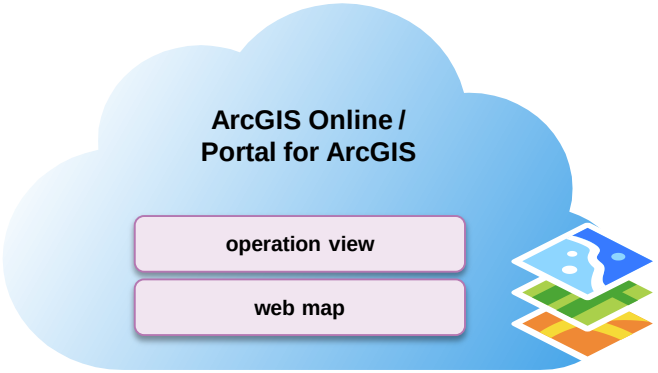
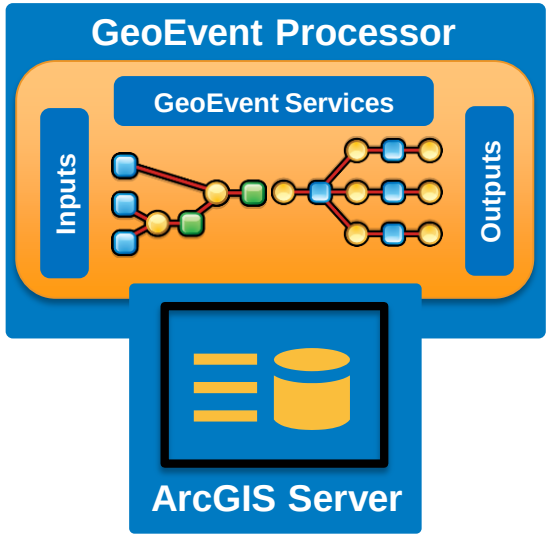
On Prem Architecture



PI System

PI Integrator for Esri ArcGIS



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Requirements

PI Server 2014

for

Esri ArcGIS

Geo Event Processor 10.2.1

Your Dashboards

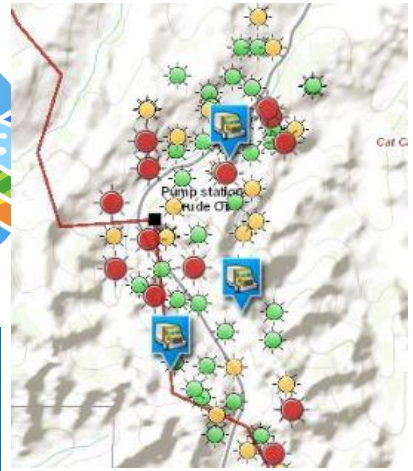
Operations Dashboard for ArcGIS

ArcGIS Online / Portal for ArcGIS

operation view

web map

feature layers



ArcGIS Server 10.2.1

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