

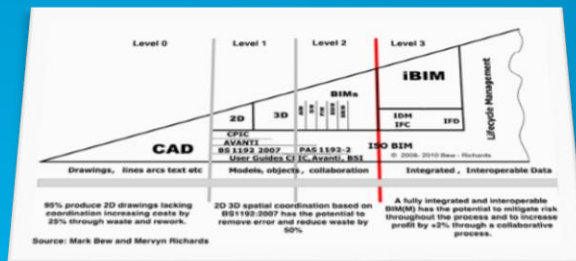


BIM and GIS an Introduction

Don Kuehne
Esri Product Manager: CAD/BIM/AEC

**GIS
INSPIRING
WHAT'S
NEXT**

Esri BIM Roadmap



3D

Building Conditions Models

- 1 Level accuracy
- Command Presentation
- Master (CPS) connections
- Reliable & Logical Models
- Annotations, renderings, walkthroughs
- BIM driven presentation
- Lesser accurate BIM driven field layout

4D

SCHEDULING

- Project Phasing Solutions
- Lean Scheduling
- Just In Time (JIT)
- Equipment Deliveries
- Excluded Installation
- Visual Validation for Payment Approval

5D

ESTIMATING

- First level conceptual modeling and cost planning (2D/3D)
- Quantity extraction to support detailed cost estimates
- Trade Verification from Fabrication Models
- Structural Steel
- Roof
- Mechanical/Humbing
- Electrical
- Value Engineering
- What if scenarios
- Visualizations
- Quantity Extractions
- Performance Solutions
- Engagement rooms
- MEP systems
- Multi Trade Prefabrication
- Unique architectural and field elements

6D

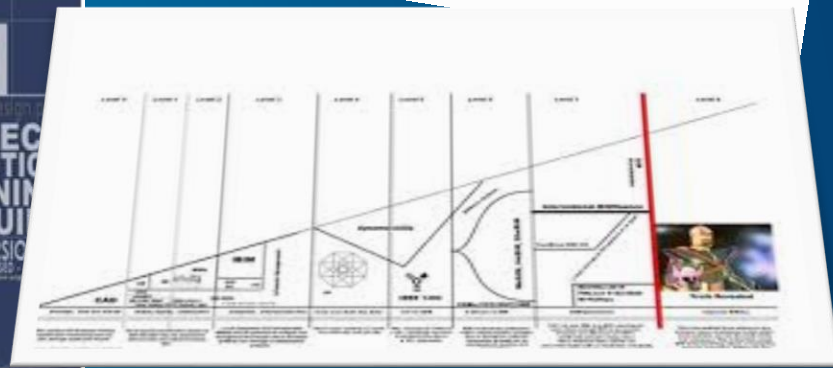
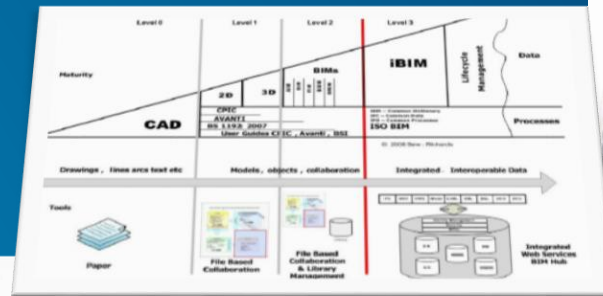
SUSTAINABILITY

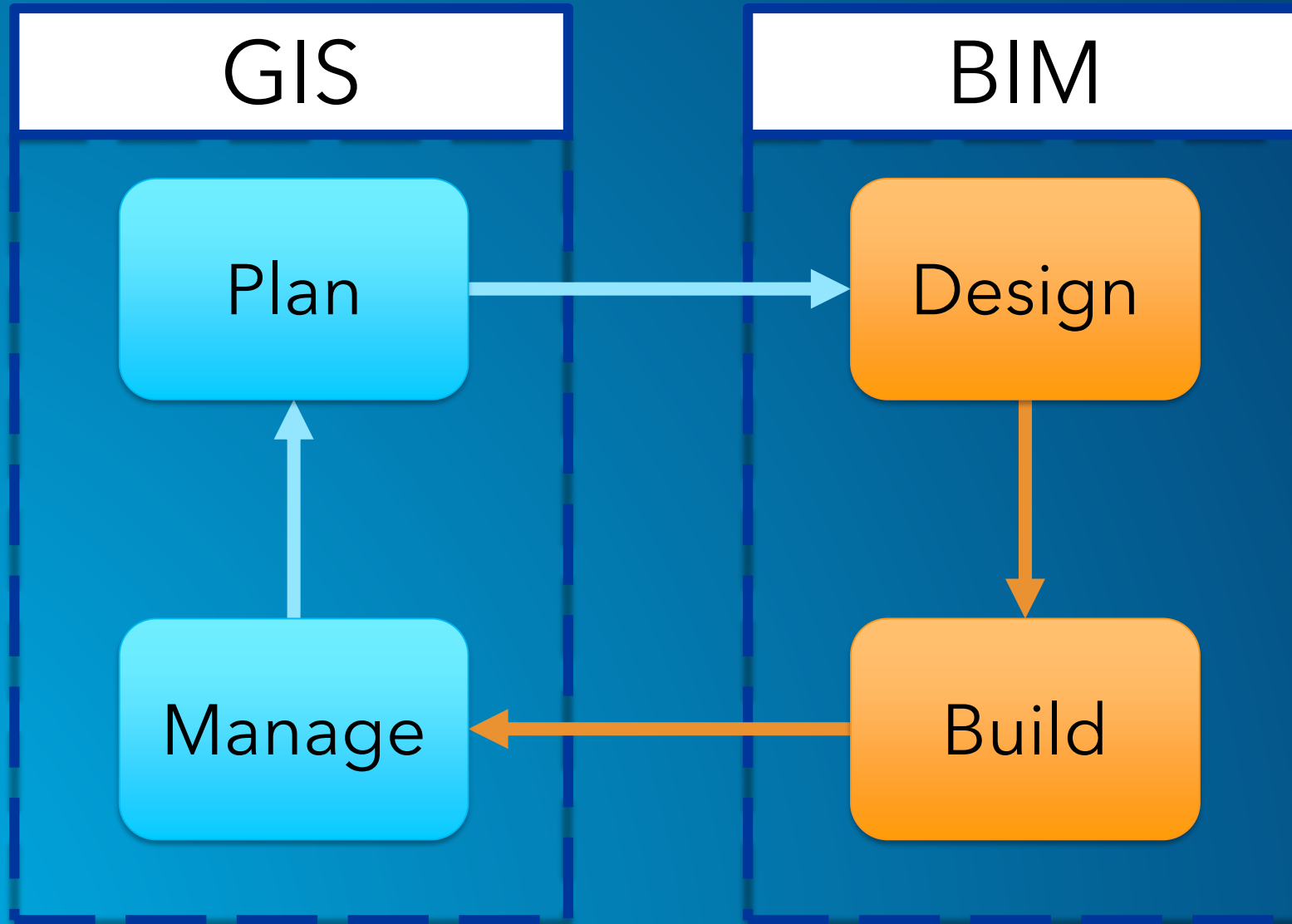
- Conceptual energy analysis via ECOLINK
- Manufacturable element tracking
- LEED tracking

7D

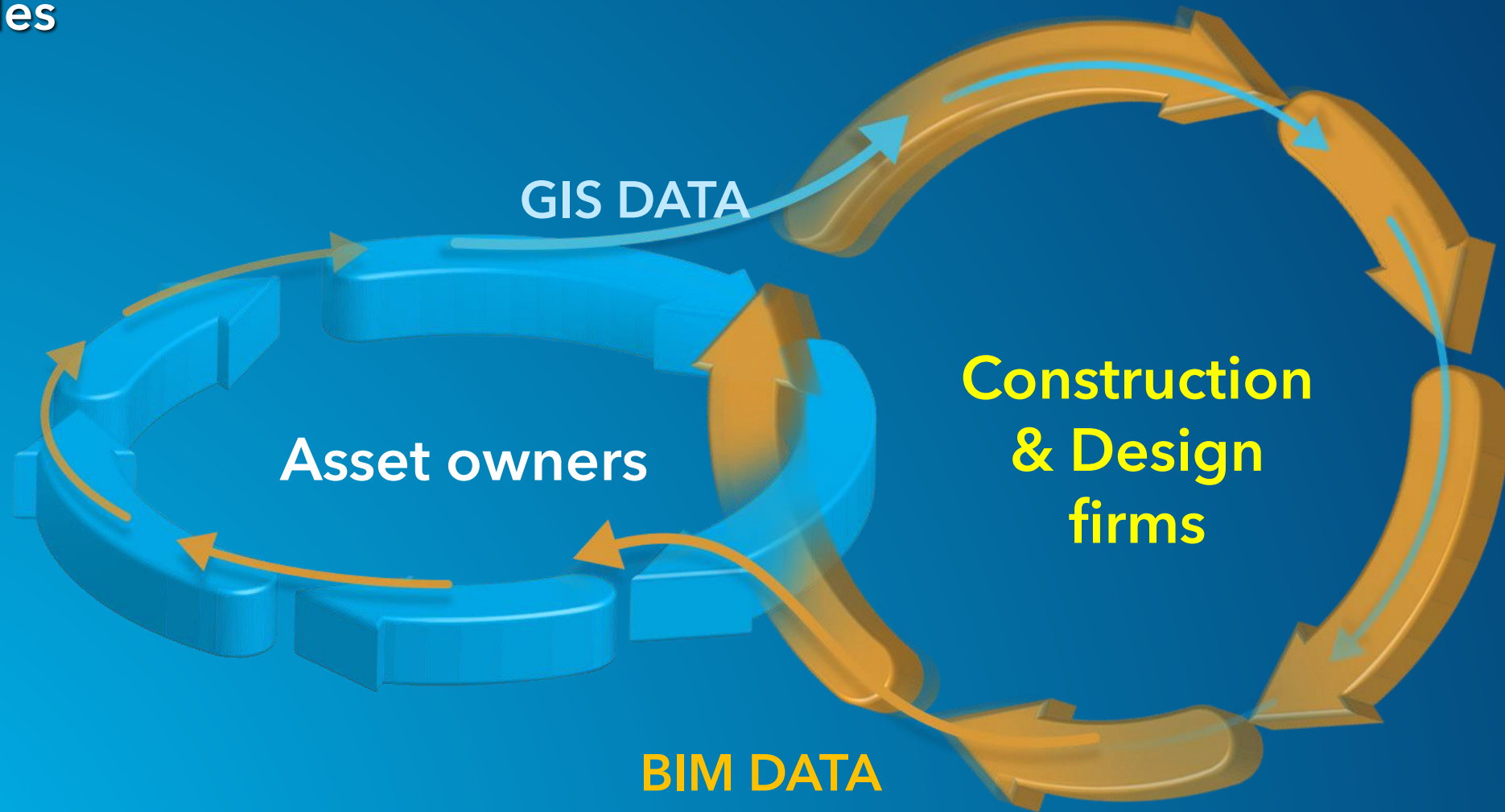
FACILITY MANAGEMENT APPLICATIONS

- Life Cycle BIM Strategies
- BIM via built
- BIM embedded CSM elements
- COBie data population and integration
- BIM Maintenance Plans and Technical Support
- BIM for Hosting on Land, Lease's Digital Exchange System

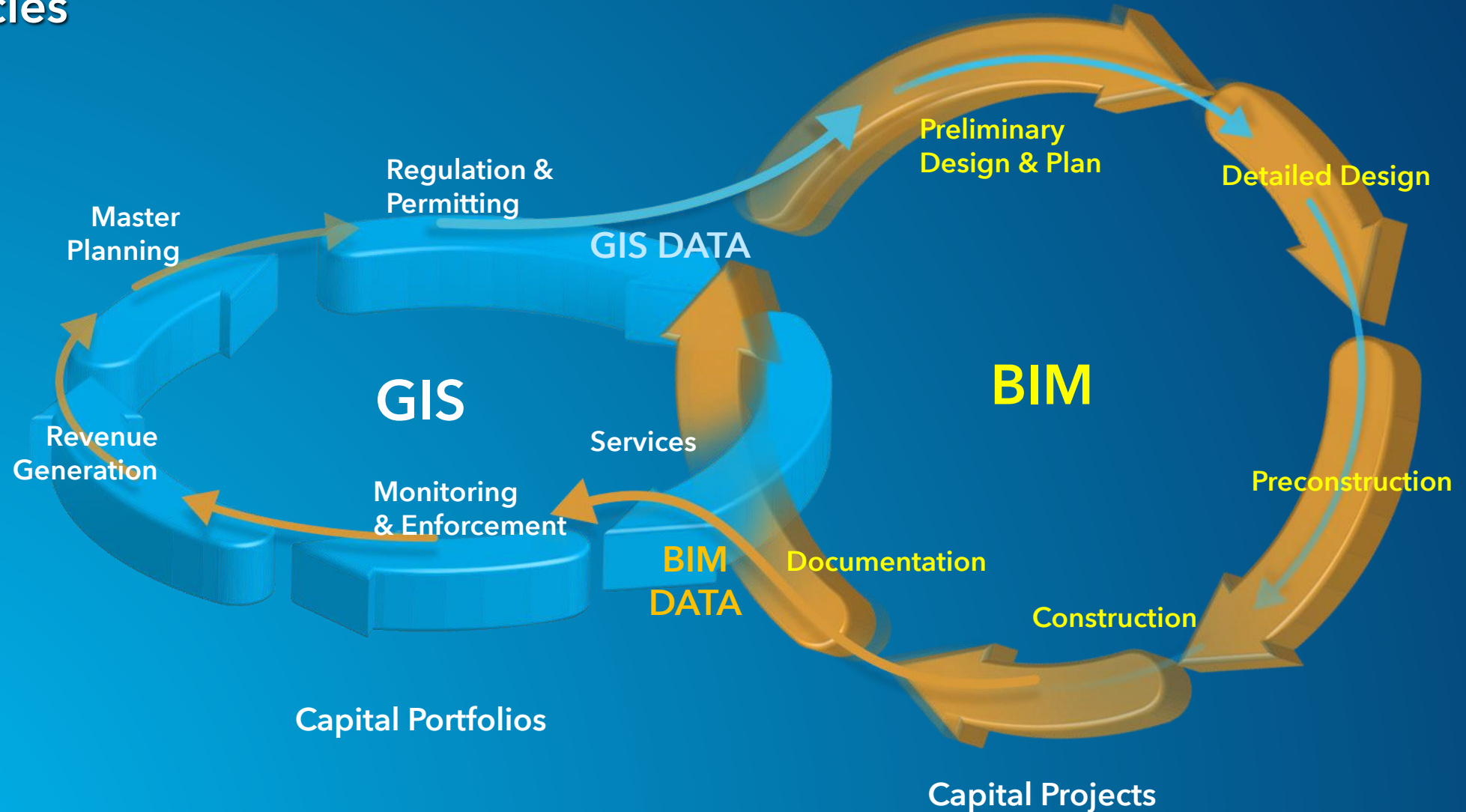




BIM and GIS workflows are continuously needed within Infrastructure Life Cycles



BIM and GIS workflows are continuously needed within Infrastructure Life Cycles



Design BIM
Record BIM

Trades BIM

"As-Maintained" BIM

As-Built BIM

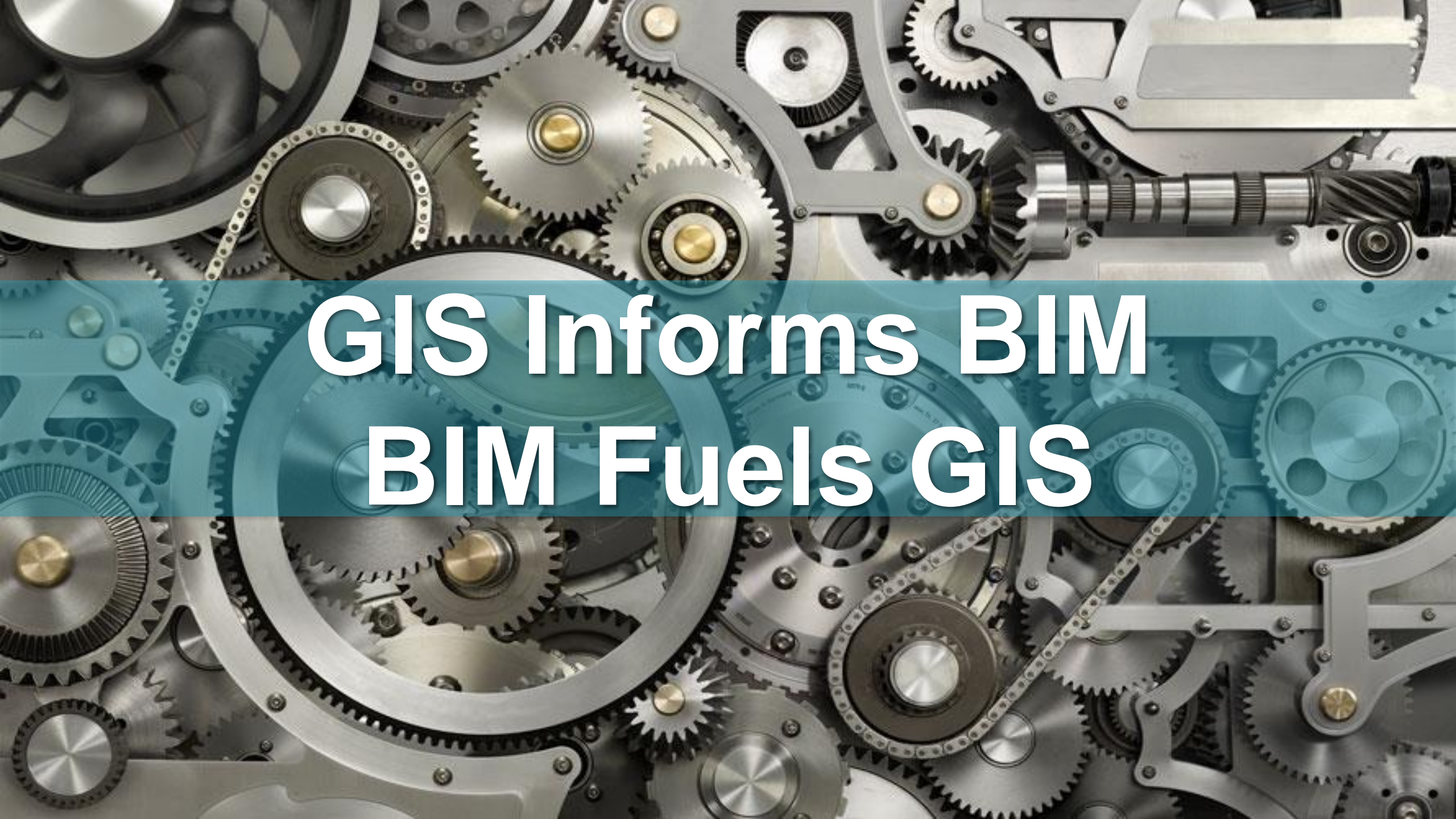
Scan to
BIM

Concept BIM

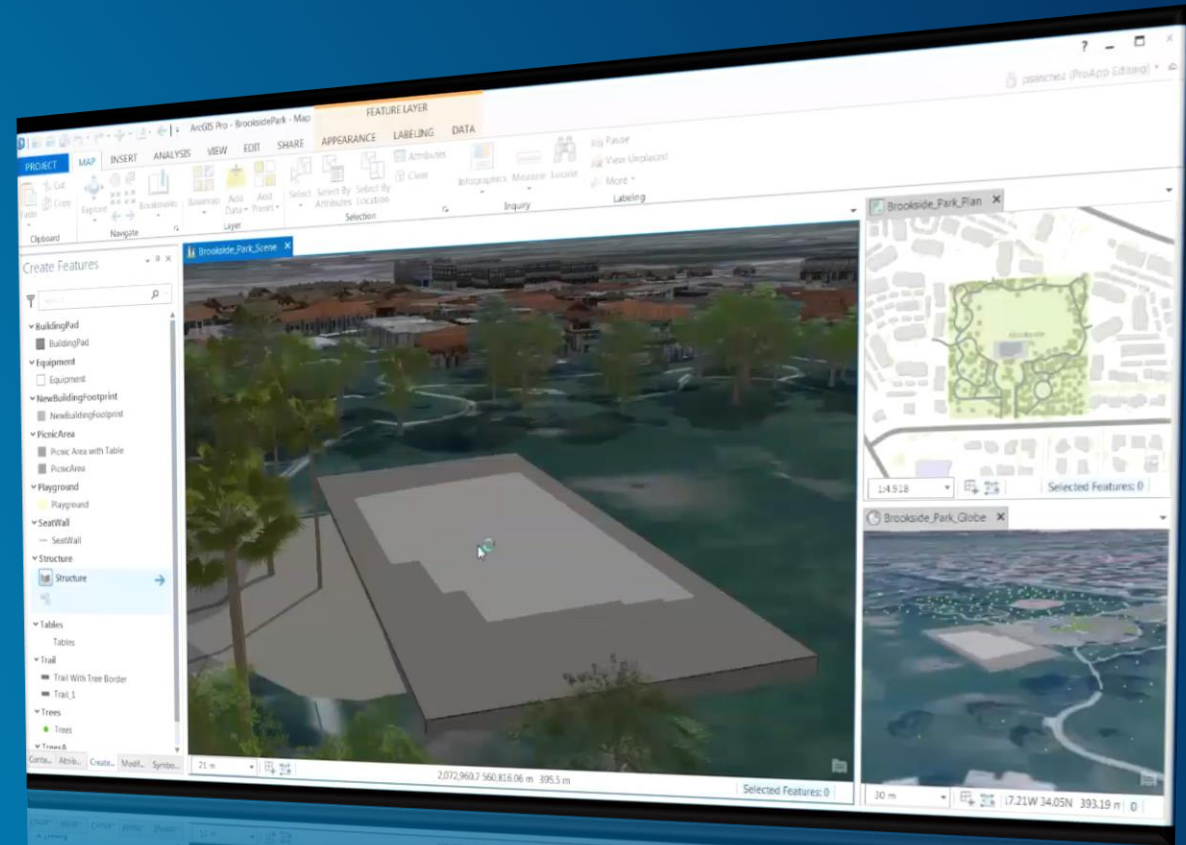
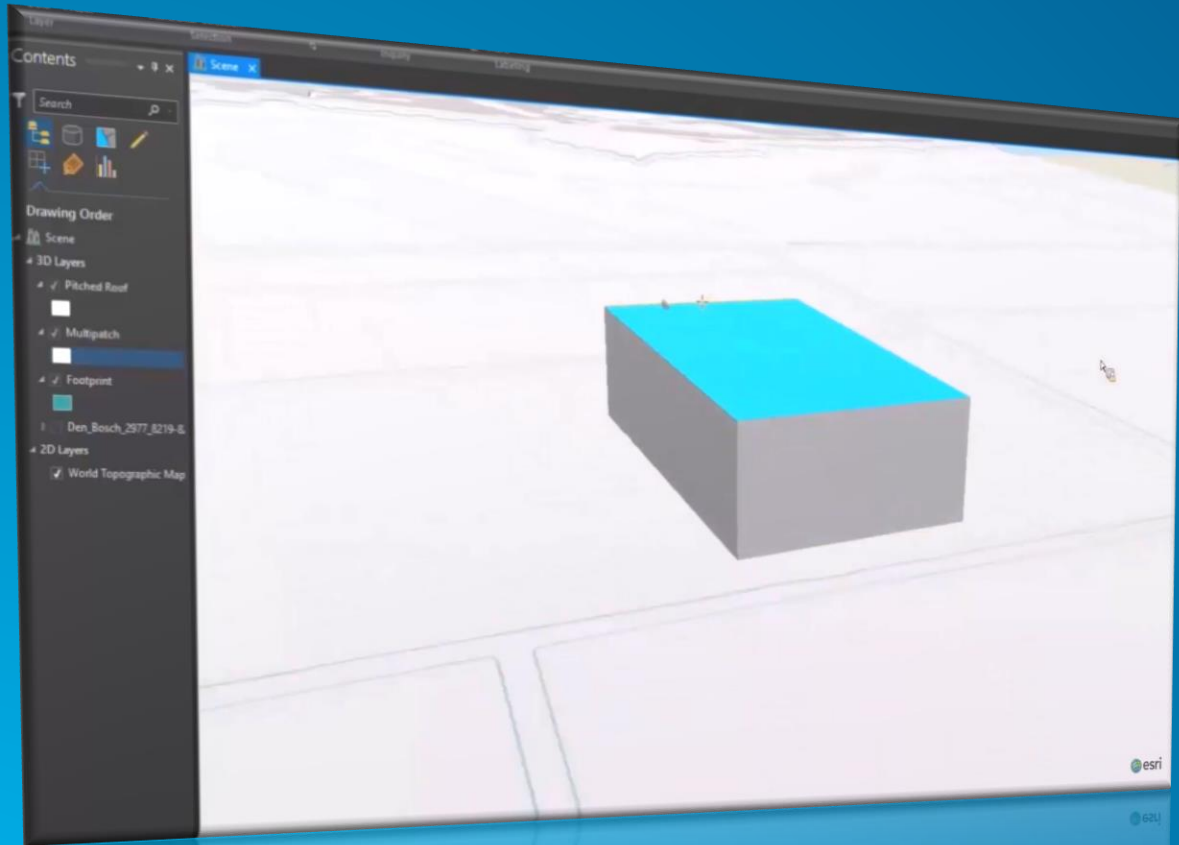
CONSTRUCTION BIM

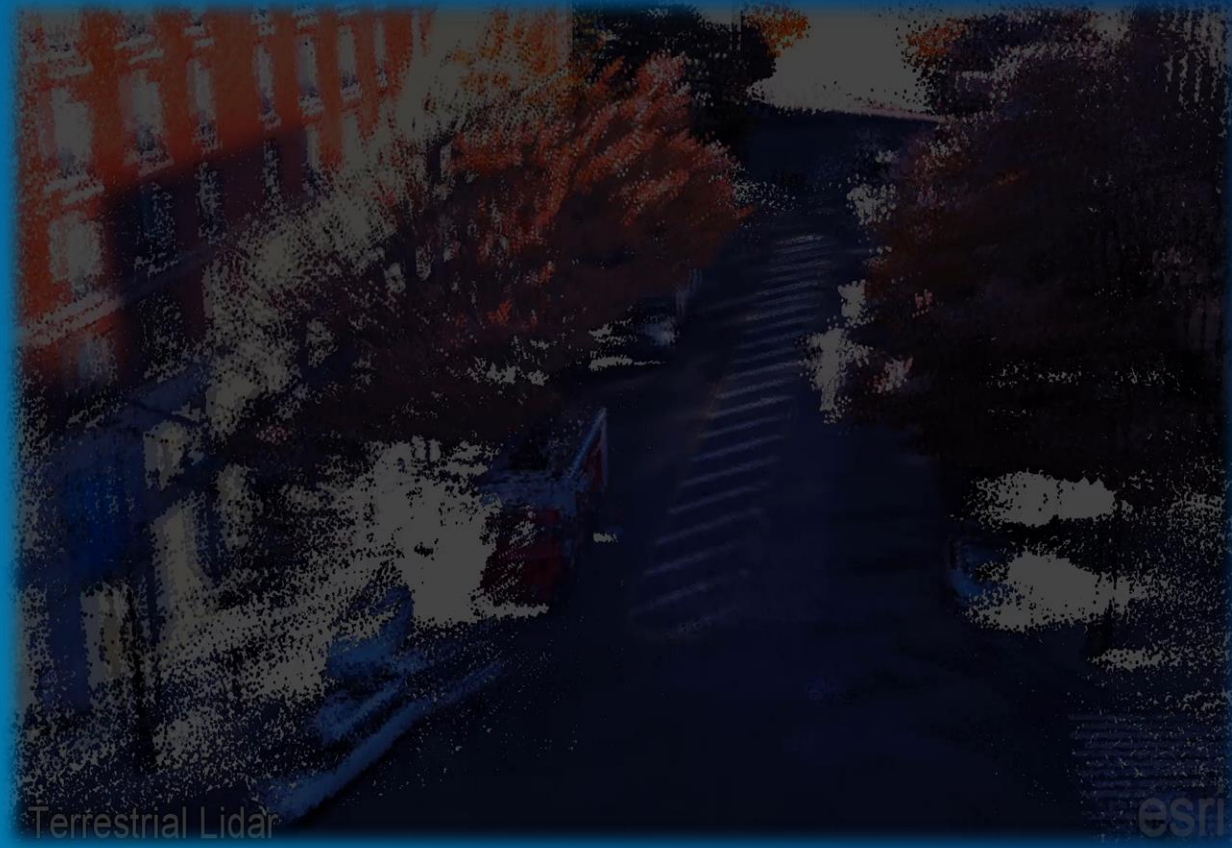
**3D CAD w/
Attributes**

B
G i S
M



GIS Informs BIM BIM Fuels GIS







Find address or place

My Data

- Buildings_San_Francisco

3D Objects

ArcGIS Pro - MyProject1 - Map

PROJECT MAP INSERT ANALYSIS VIEW EDIT SHARE APPEARANCE

Clipboard: Paste, Cut, Copy

Map: Explore, Navigate

Basemap, Add Data Layer, Add Preset

Select, Select By Attributes Selection, Select By Location

Attributes, Clear

Infographics, Measure, Locate, Inquiry

Pause, View Unplaced, More Labeling

Scene



Mesh

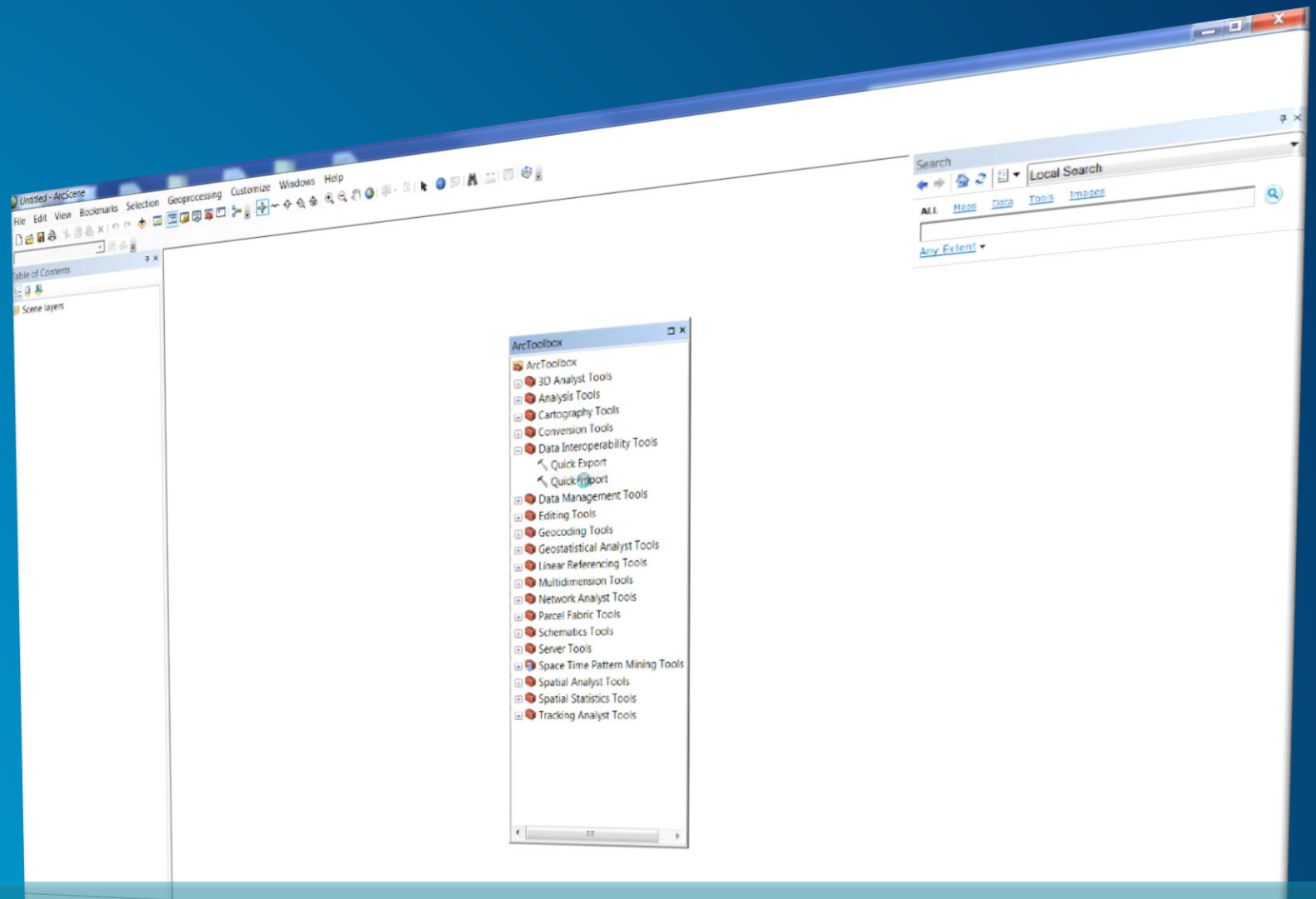
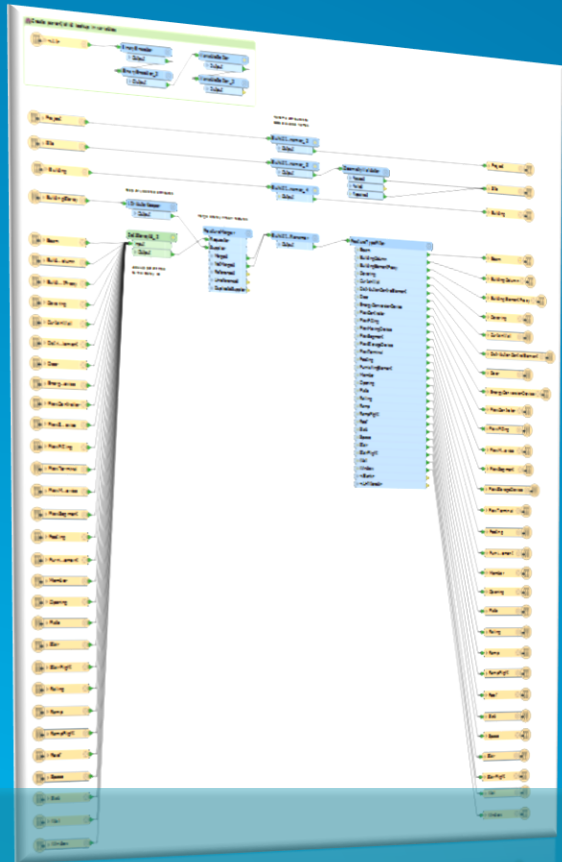
Windows taskbar with various application icons and system tray icons. The system clock shows 11:14 AM.



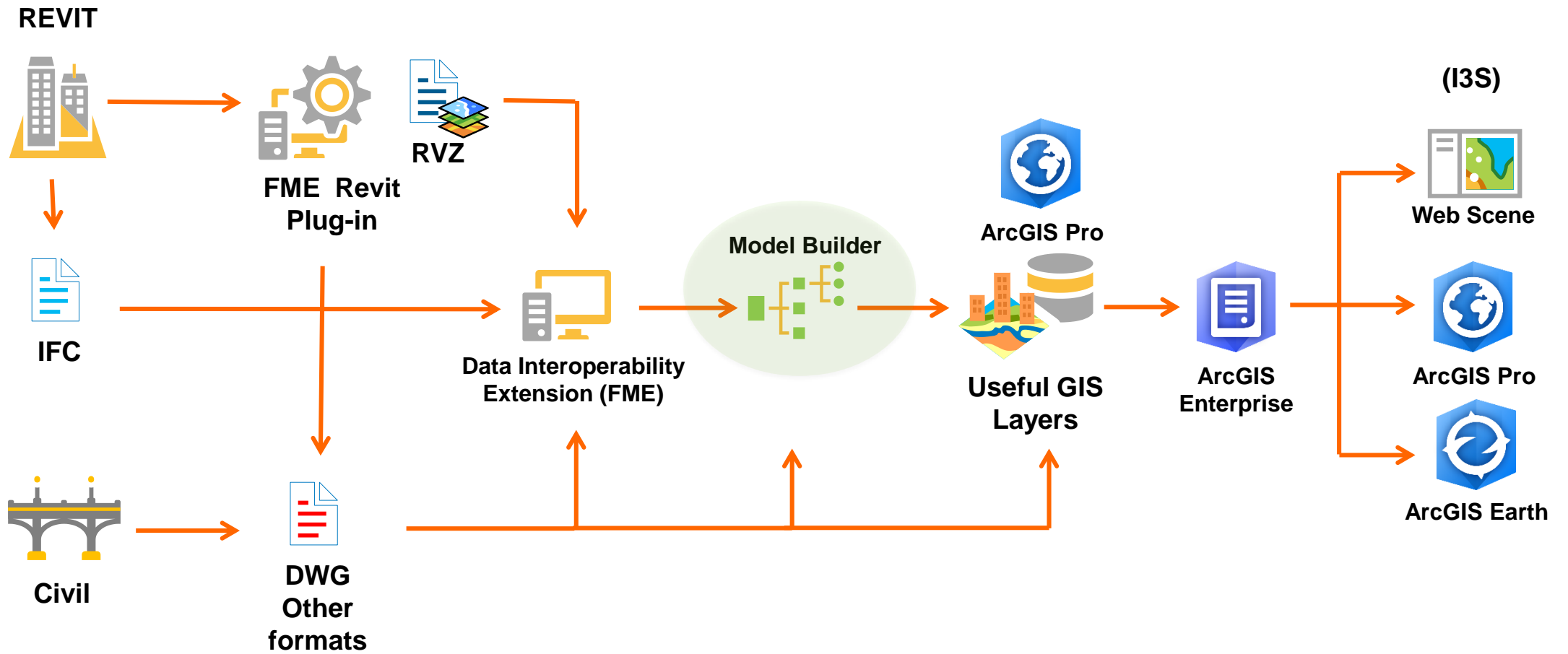
esri

THE
SCIENCE
OF
WHERE

Point Clouds



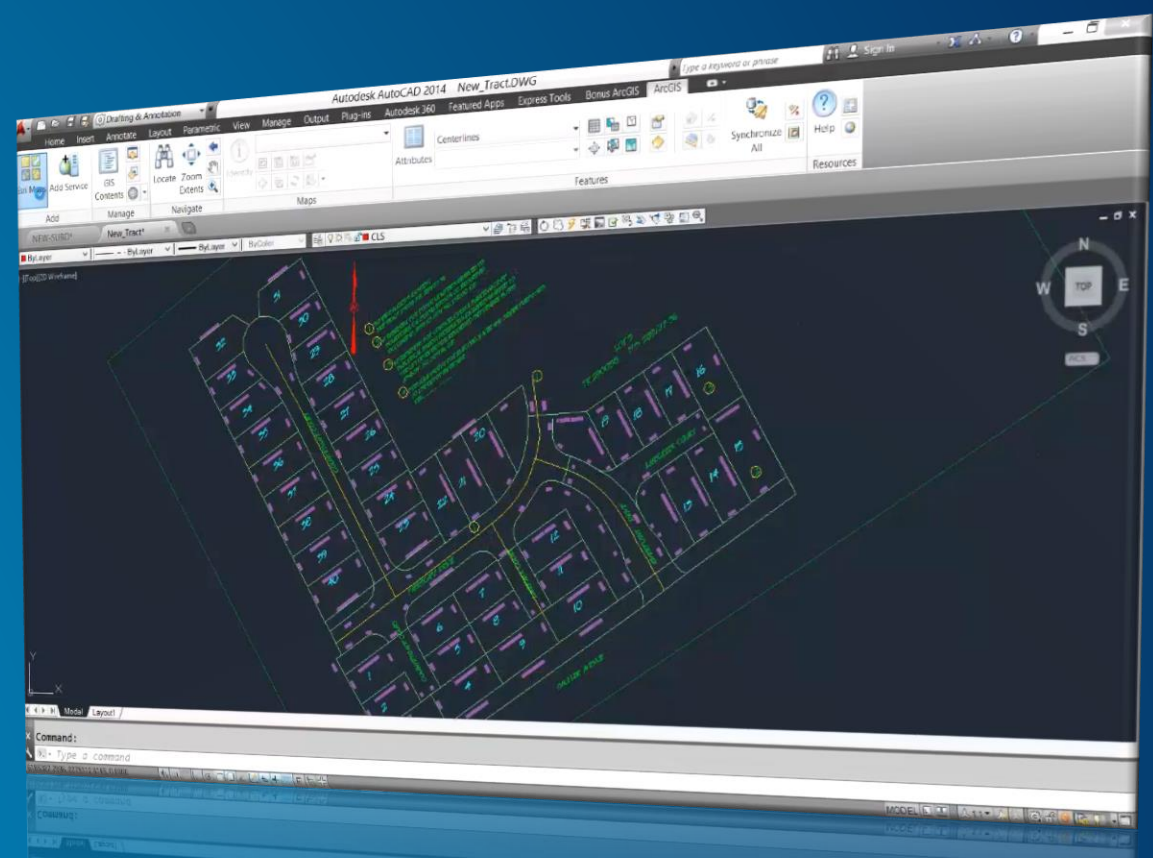
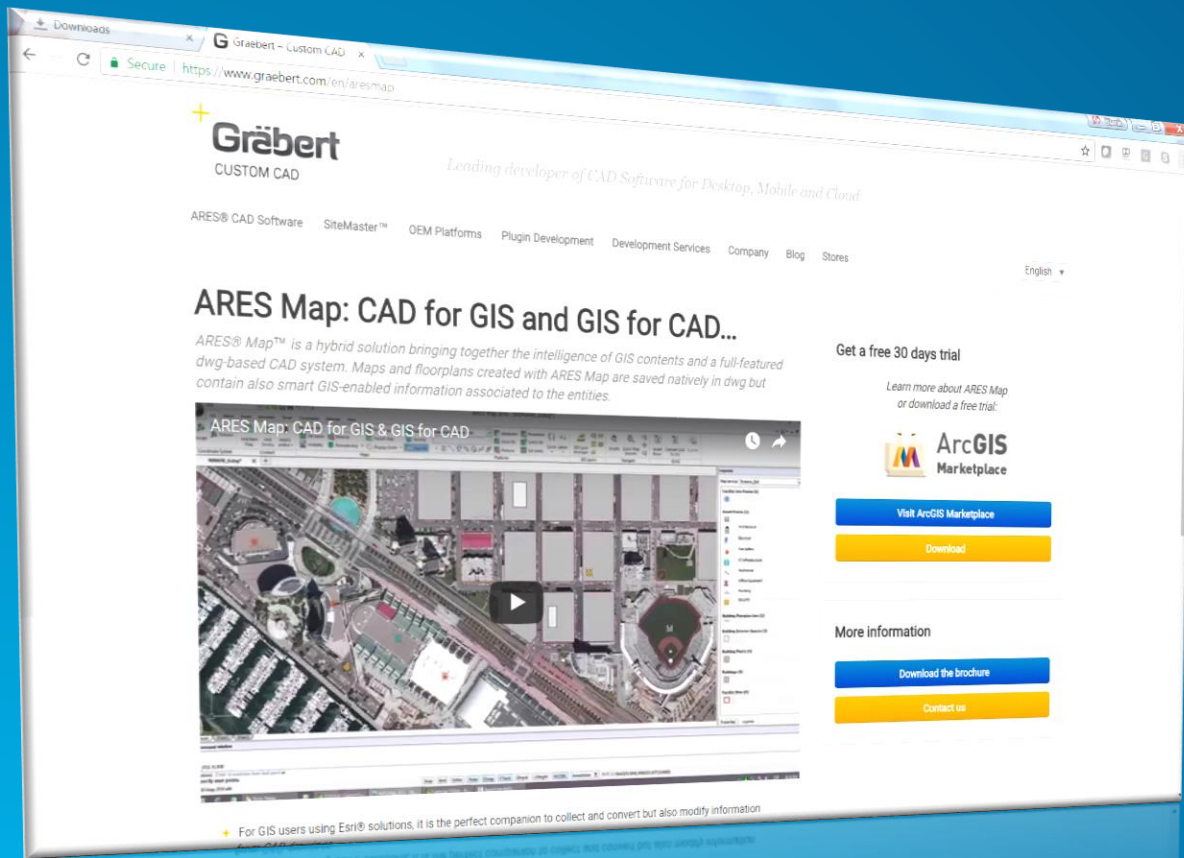
BIM to GIS Via IFC...



BIM to 3D GIS Workflow via IFC

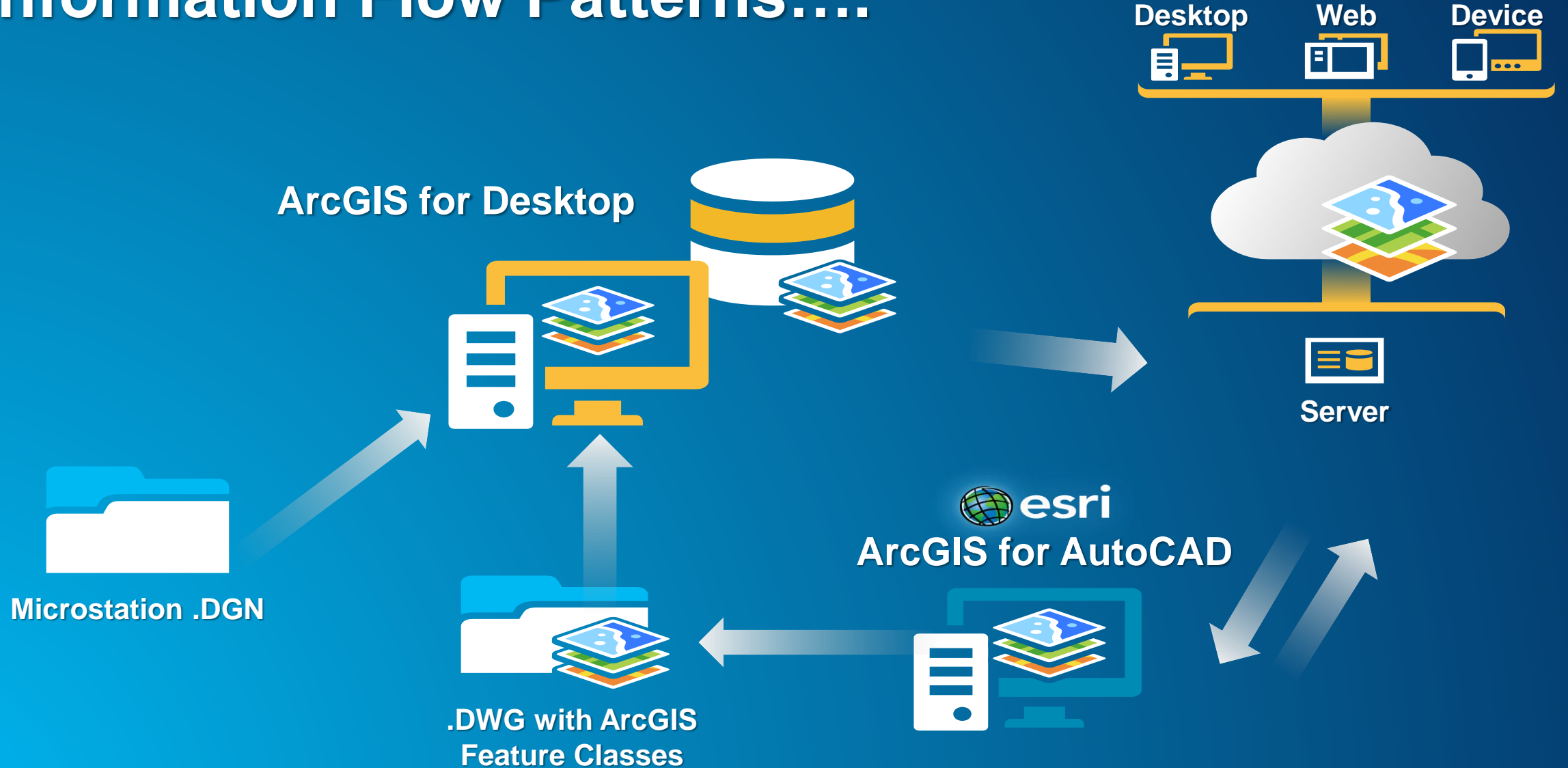


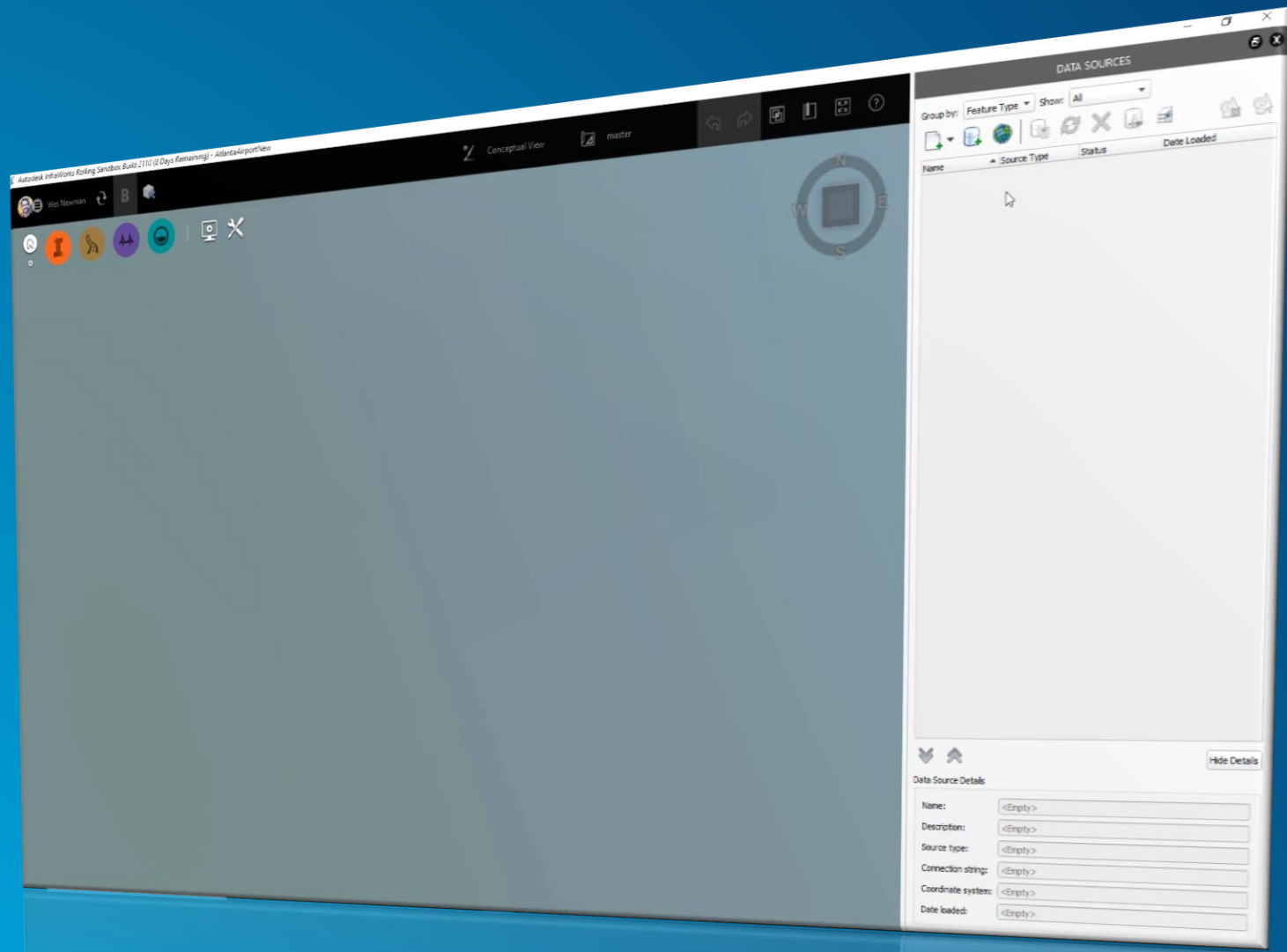
Integration Patterns



GIS Services in AEC

Information Flow Patterns....



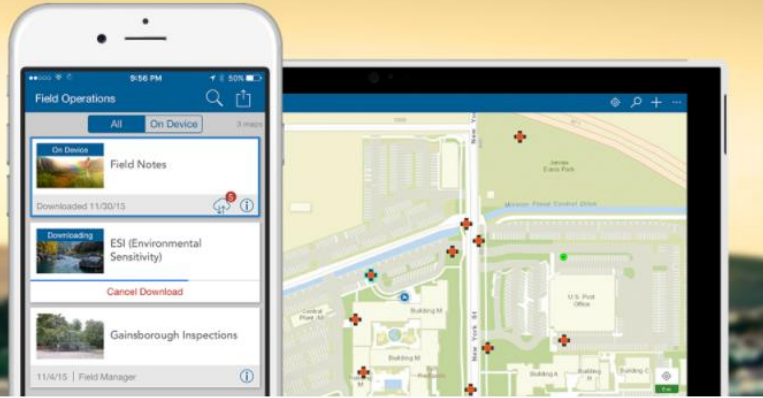


Autodesk InfraWorks...

Collector for ArcGIS

Accurate Data Collection Made Easy

Get Started →



Operations Dashboard

Collect and Update Data in the Field

Put mapping in the hands of your field workforce to improve the accuracy and currency of your spatial data and make more timely and informed decisions.

How It's Used

From damage reports and service requests to inventory and inspection of asset data, create and edit accurate data in the field.



Collect and update information in the field and log your summary notes.



Use Collector for ArcGIS online or offline – regardless of your network availability.

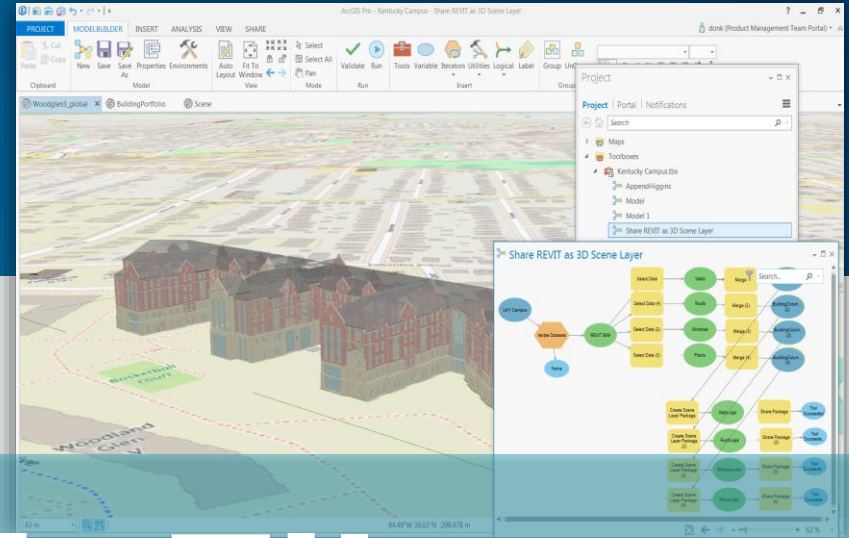
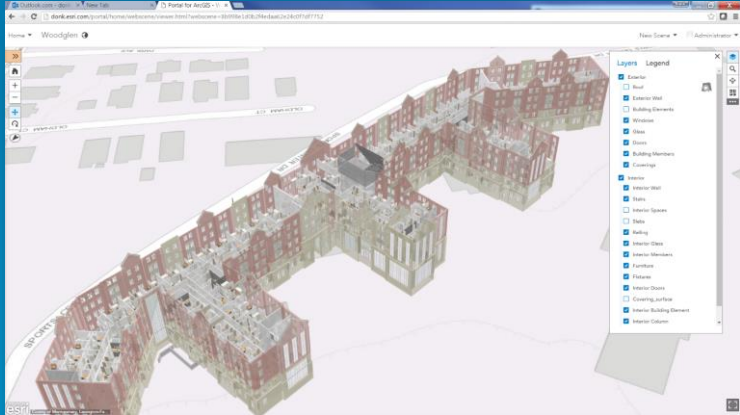


Works on iOS, Android, and Windows.

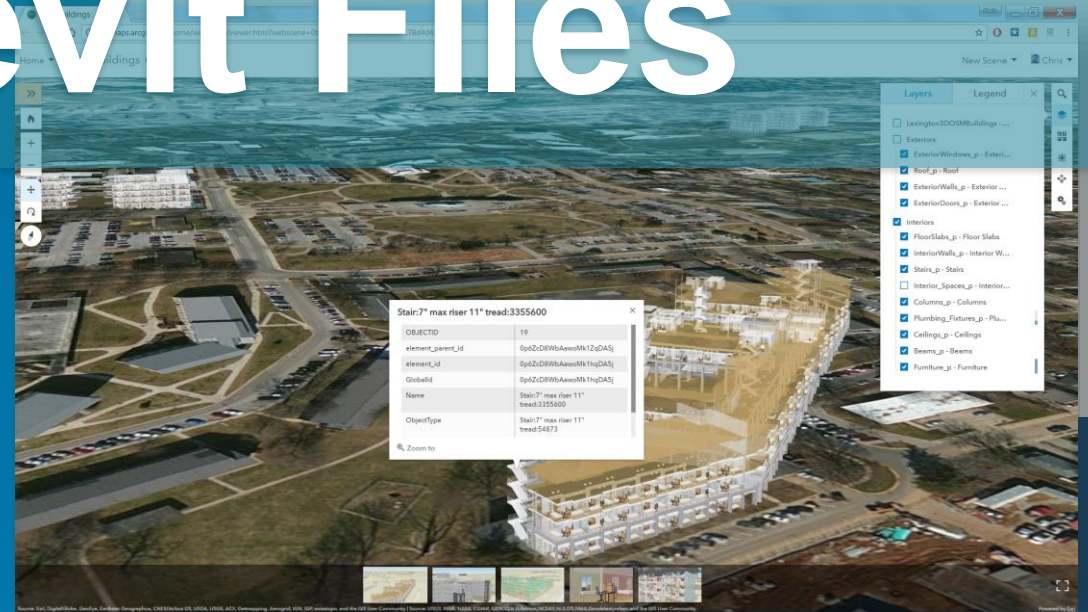
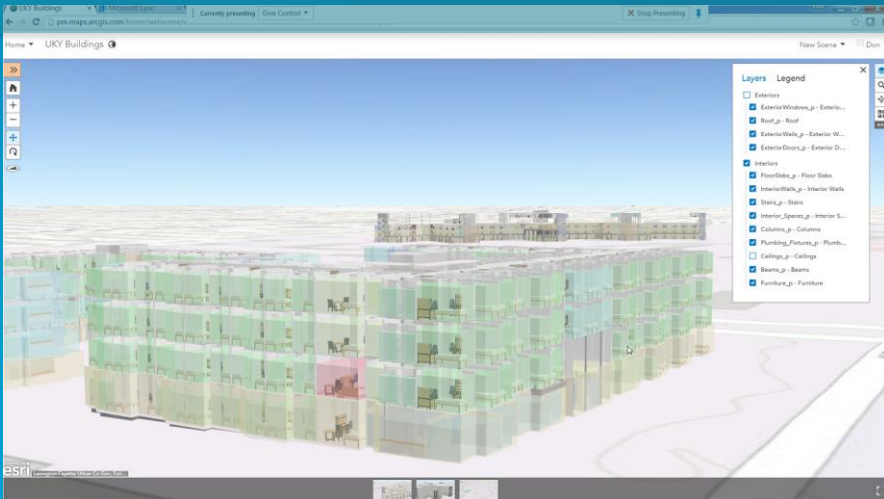


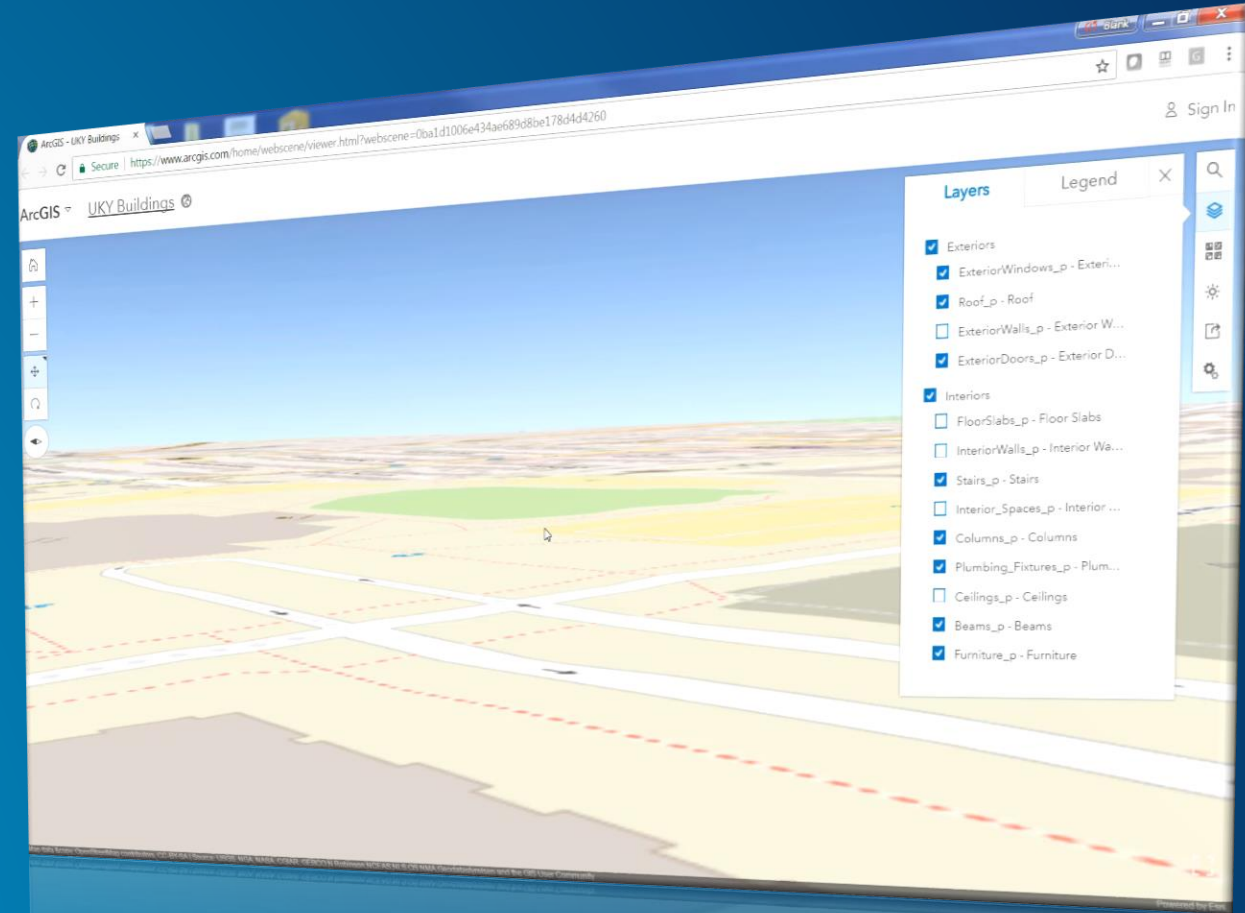
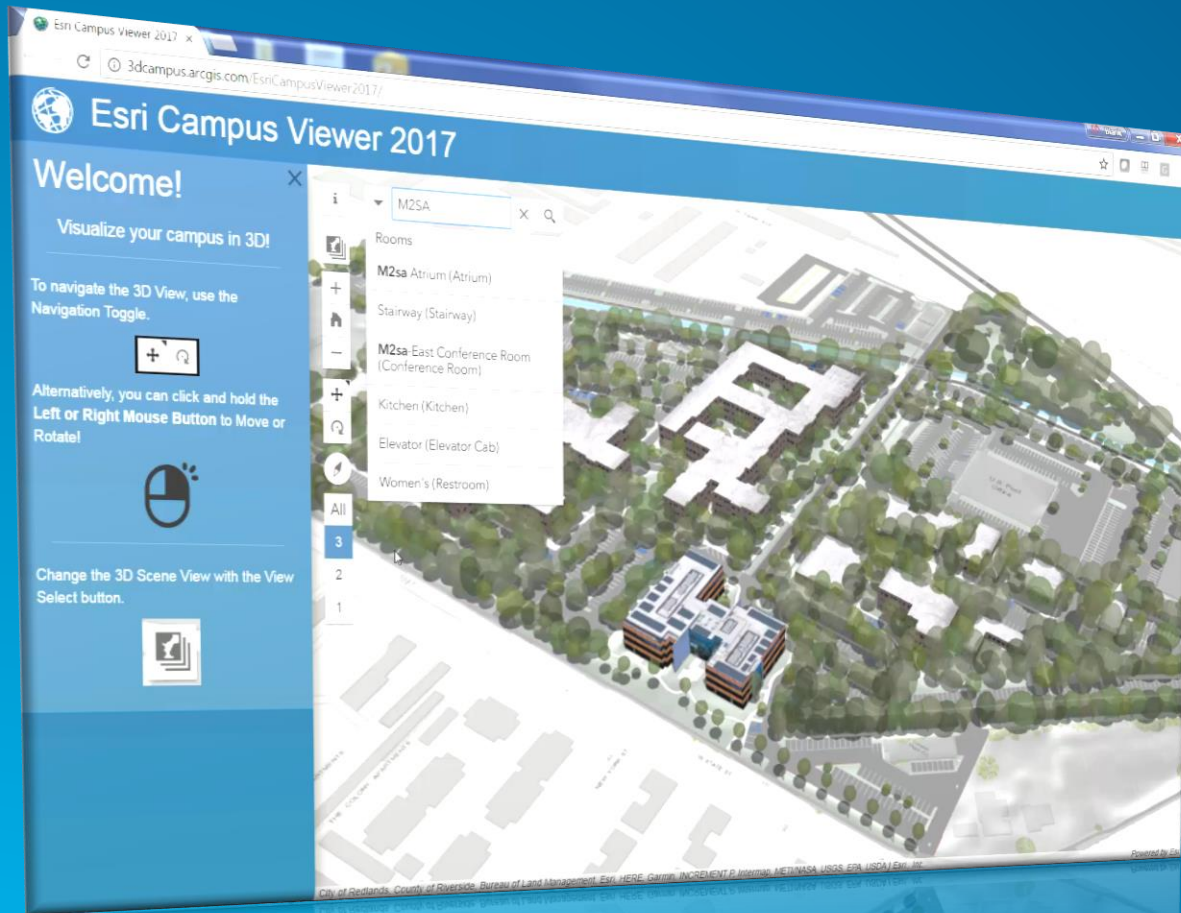
Supports external receivers for improved spatial accuracy.





Read Revit Files



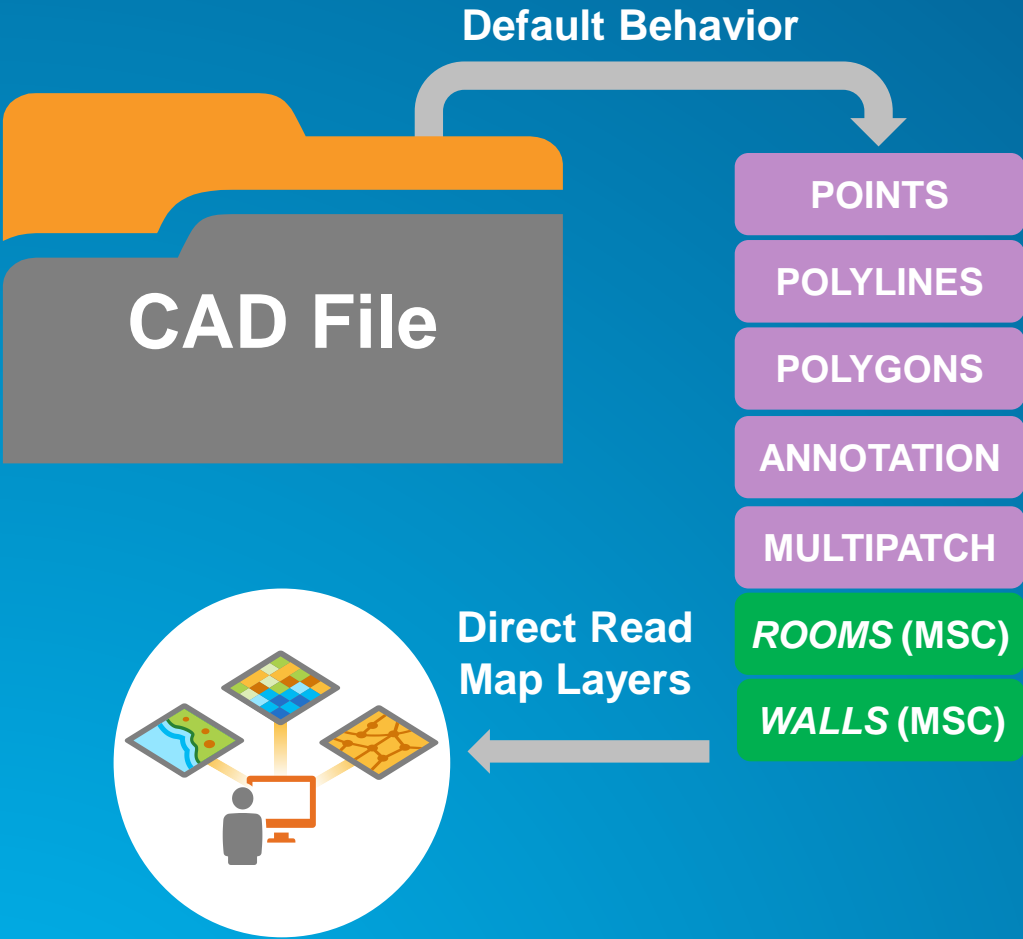


Features or Visualization



Adding CAD Data in ArcGIS Pro

- CAD Reader



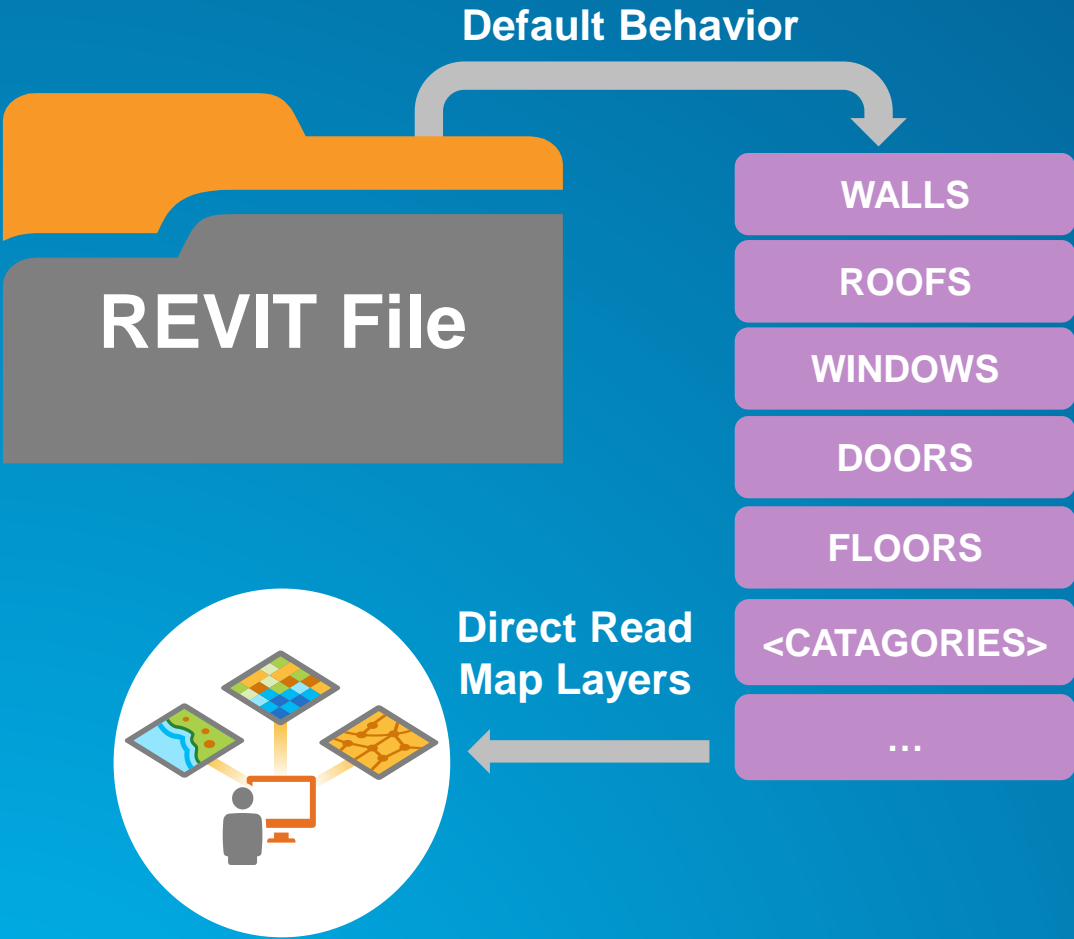
Adding CAD Data in ArcGIS Pro

- CAD Reader



Adding REVIT Data in ArcGIS Pro

- REVIT Reader



Adding REVIT Data in ArcGIS Pro

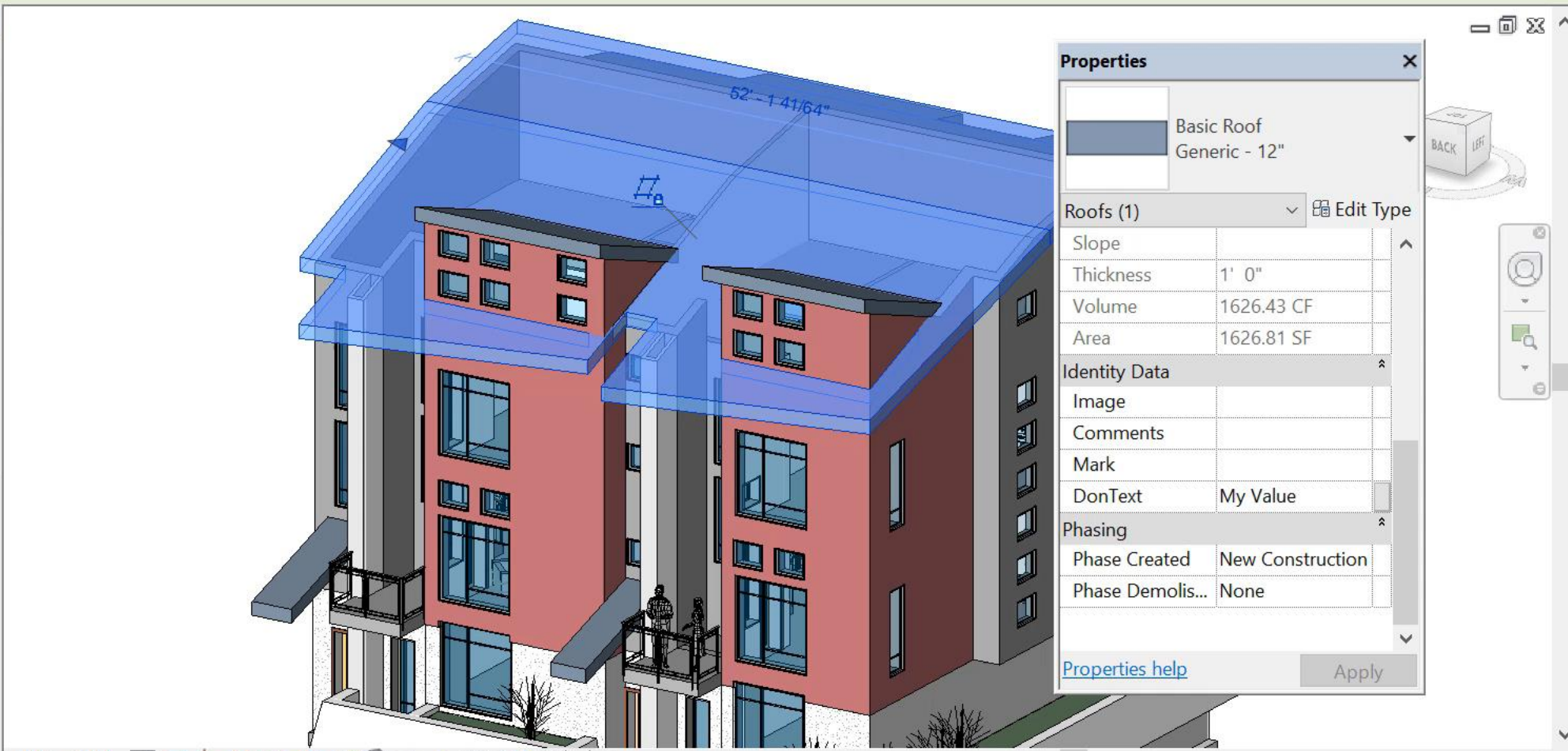
REVIT Reader

Modify Select Materials Settings Additional Settings Project Location Design Options Main Model Manage Links Phasing Selection Inquiry Macros Visual Programming

Modify | Roofs

Project Browser - c_rvt8_Townhouse.rvt

- Families
 - Annotation Symbols
 - Cable Trays
 - Casework
 - Ceilings
 - Conduits
 - Curtain Panels
 - Curtain Systems
 - Curtain Wall Mullions
 - Detail Items
 - Doors
 - Duct Systems
 - Ducts
 - Flex Ducts
 - Flex Pipes
 - Floors
 - Furniture
 - Generic Models
 - Pattern
 - Pipes
 - Piping Systems
 - Planting
 - Plumbing Fixtures
 - Profiles



Properties

Basic Roof
Generic - 12"

Roofs (1) Edit Type

Slope	
Thickness	1' 0"
Volume	1626.43 CF
Area	1626.81 SF

Identity Data

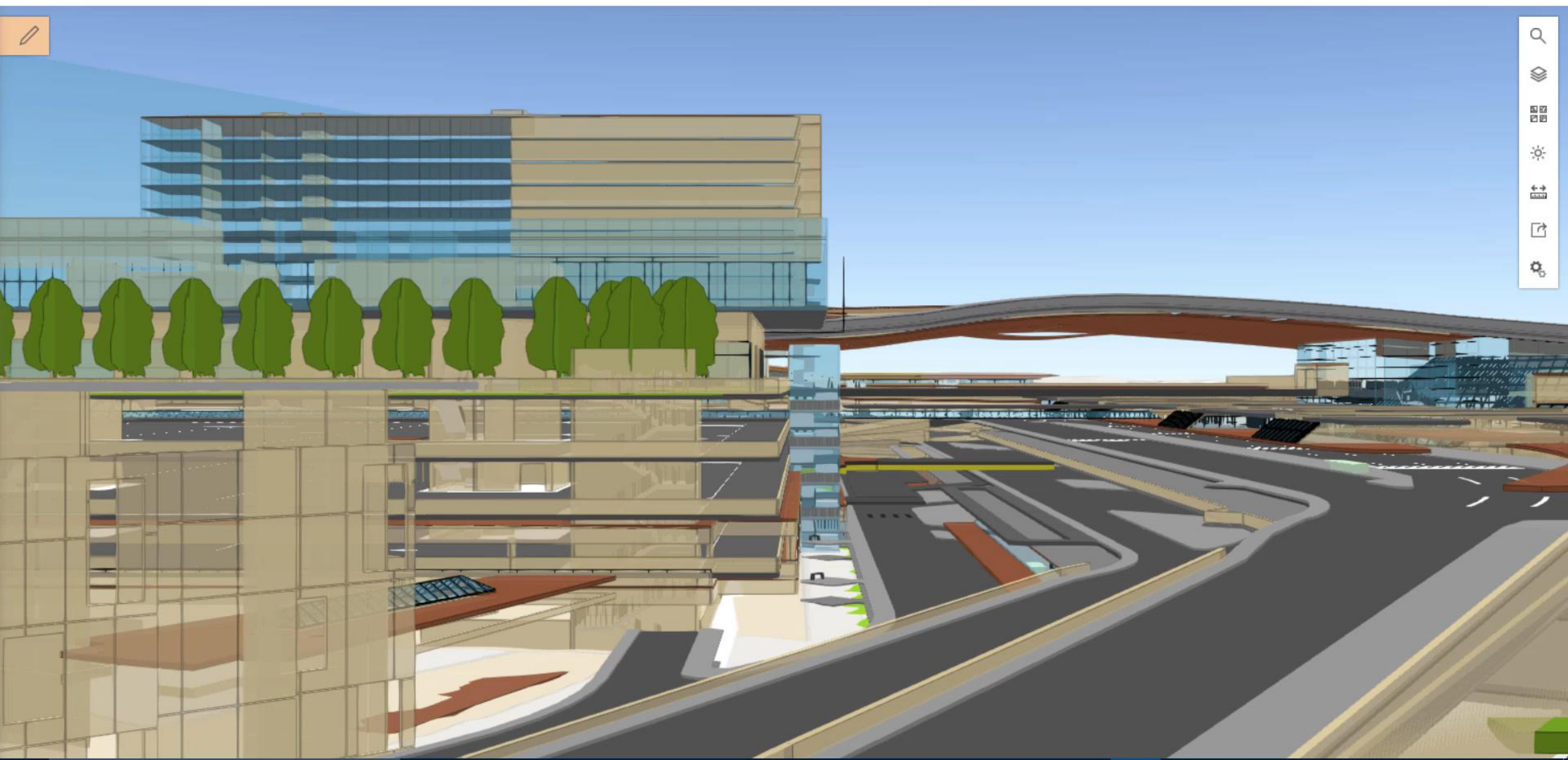
Image	
Comments	
Mark	
DonText	My Value

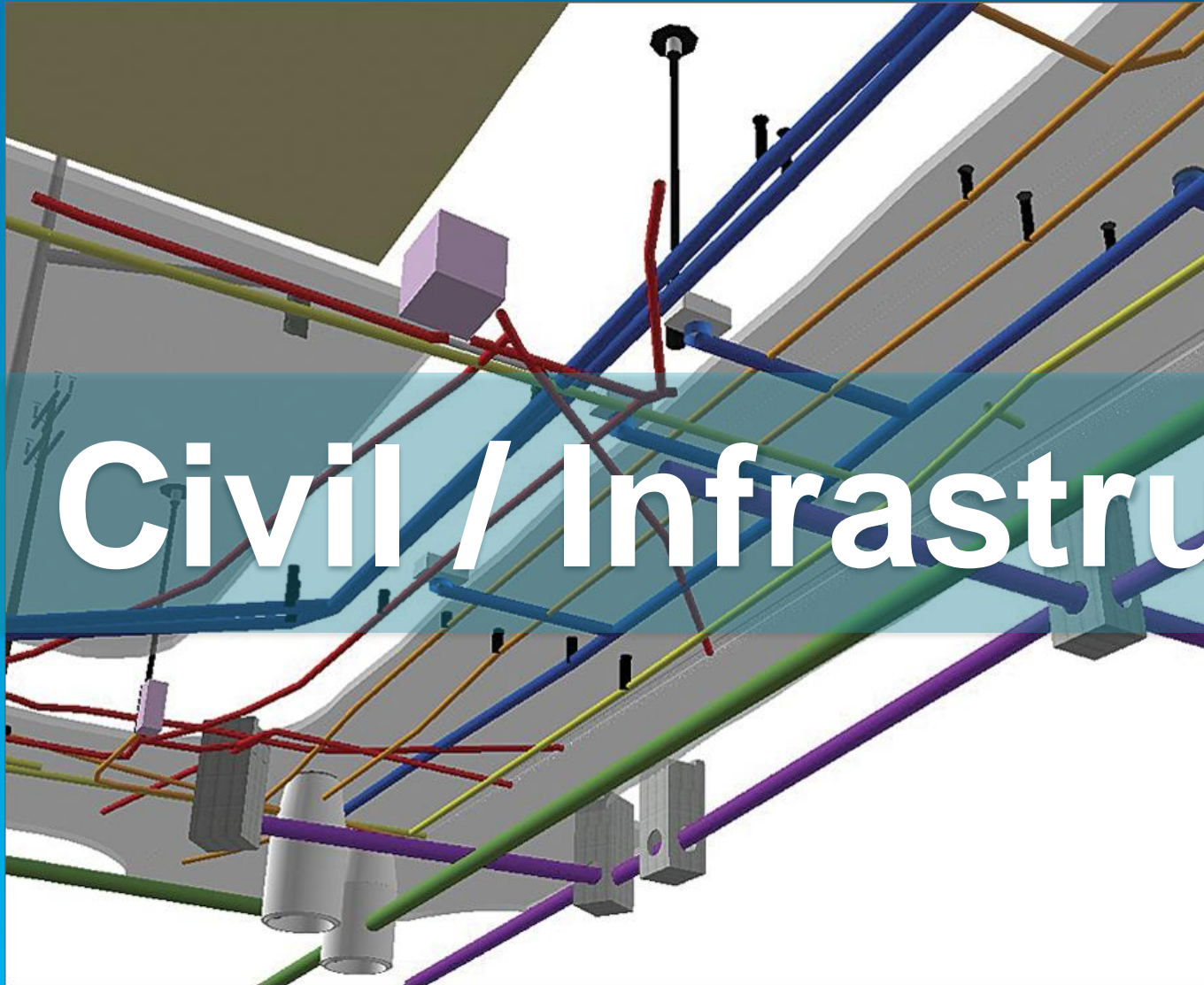
Phasing

Phase Created	New Construction
Phase Demolis...	None

[Properties help](#) Apply

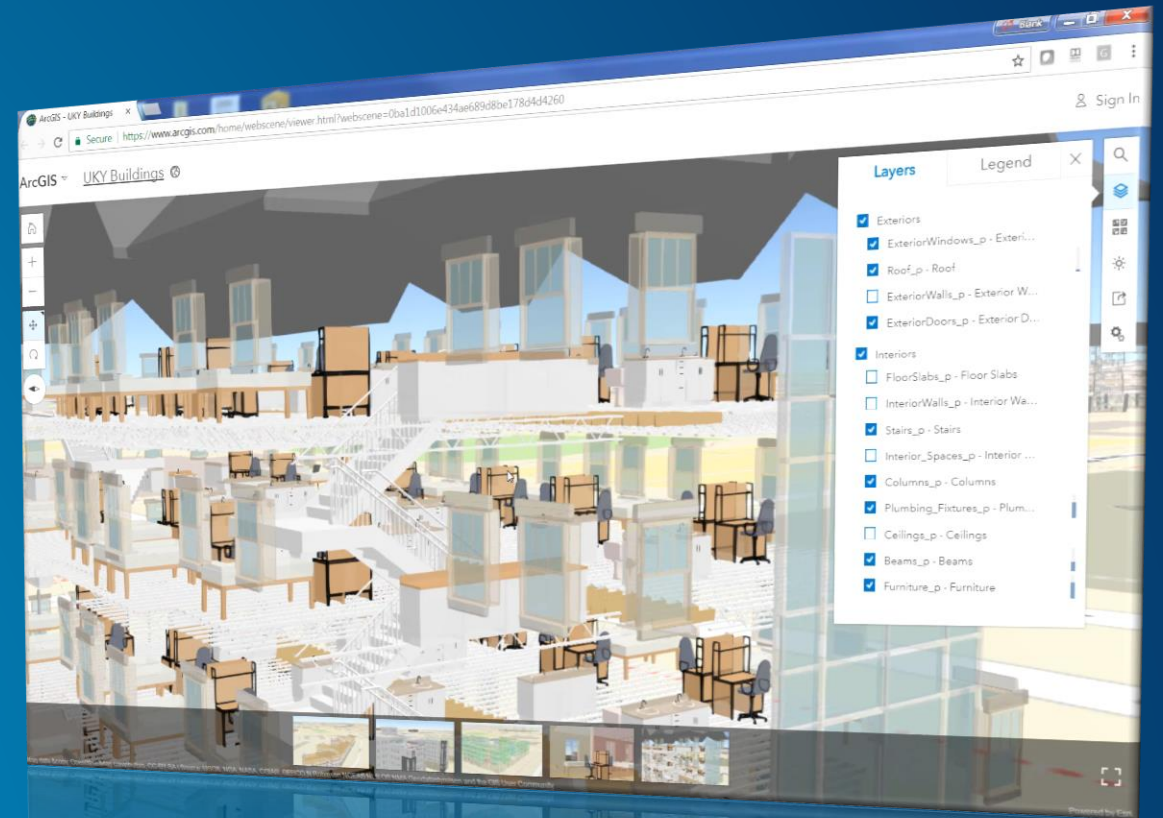
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.





Civil / Infrastructure BIM





Scene Layers & BIM



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