



GWFF

GEOSPATIAL WORLD FORUM

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BIM Integration with Geospatial Technology

Infrastructure Summit
15/05/2024
GWF 2024 Rotterdam

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Esri India

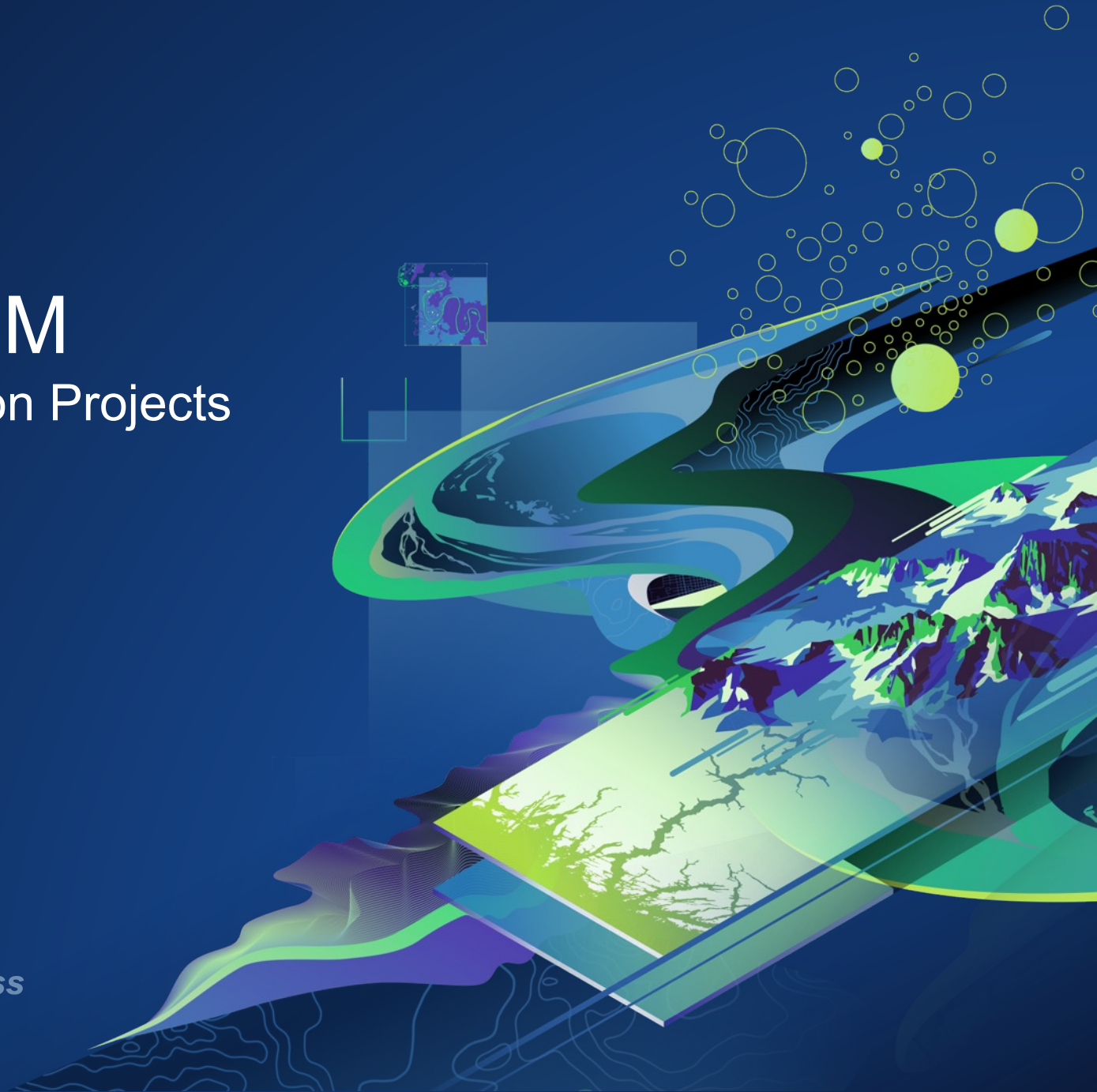




Imagery, GIS and BIM

Creating Context for Construction Projects

Elevating the Plan, Design and Build process



About Esri

Esri is the global leader in Geographic Information System (GIS) software, location intelligence, and mapping.

- Esri software is deployed at over 350,000 organizations globally
- The largest cities, most national governments, 90 of Fortune 100 companies, and half of the Fortune 500 companies use Esri technology
- Esri has more than 100 offices worldwide with professionals from 67 countries



"We spend 30% of our revenue on R&D to ensure our customers have the best technology to solve the greatest challenges our world is facing today."



Who We Work With

Government

Education

Transport

Defense & Homeland Security

Architecture, Engineering, and Construction

Energy & Utilities

Smart Cities

Health

Natural Resources

Retail

Water

Emergency Management

Telecommunications

Manufacturing

Banking, Financial Services, and Insurance

All-around Coverage of AEC

- Plan
- Design
- Build
- Operate



Esri's Focus on AEC

GIS Supporting AEC Organizations



- Urban Design, GeoDesign, & Planning
- Site Characterization
- Field Data Capture & Ops. Tracking
- Environmental Impact Assessments
- Site & Project Analytics
- Design and Engineering
- Project Management & Collaboration
- Project Delivery

- Marketing Materials
- Project References
- Stunning Visualizations
- Strategic Data Analysis for Pursuits

- Geographic Content Management
- Project Portfolio and Revenue
- ESG and Other Regulatory Alignment
- EH&S support
- Conflict Detection

GIS.... More than a Map!

A System for Managing, Sharing and Applying Geographic Information



*Delivering Value Across Organizations
Improving Efficiency, Communications, Decision Making and Collaboration
In a Sustainable manner.....*

Plan and Designing Tools

GIS in Planning, Geodesign, and Compliance

Esri Ecosystem of Tools



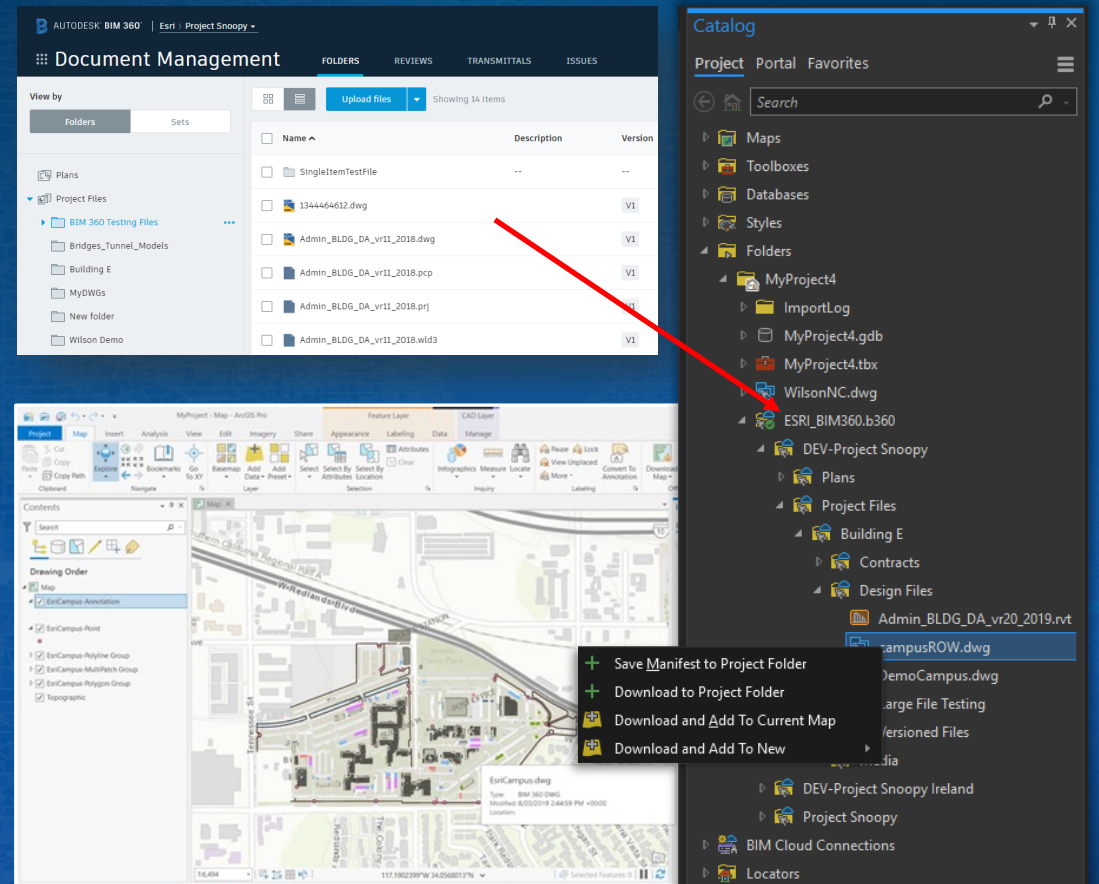
Where to start in ArcGIS Pro?

Start with where BIM data is coming from!

- Yes, you can add BIM datasets locally into your ArcGIS Pro project!

Or...

- Use a **BIM Cloud Connection** to bring in content directly from an Autodesk Construction Cloud source.
 - RVT, IFC, DWG, DXF, DGN



GIS and BIM in Design

Desktop and Web Tools

ArcGIS Pro and ArcGIS Online



Design

GIS and BIM together in design and engineering

- AEC firms, operations, and agencies need support
- Data exchange gaps create waste and duplicate efforts
- Focus on professional work instead of data roadblocks

28%

Average Design
Time Saved

90 Days

Average Construction
Time Saved

13%

Average Cost
Savings



GEOSPATIAL
WORLD
ADVANCING KNOWLEDGE FOR SUSTAINABILITY

**GIS and BIM Integration
for Sustainable AEC
Industry Practices**

AUTODESK esri

SCAN ME

2022 Geospatial World/Esri/Autodesk Report

Construction Management Powered by Location

GIS in Construction

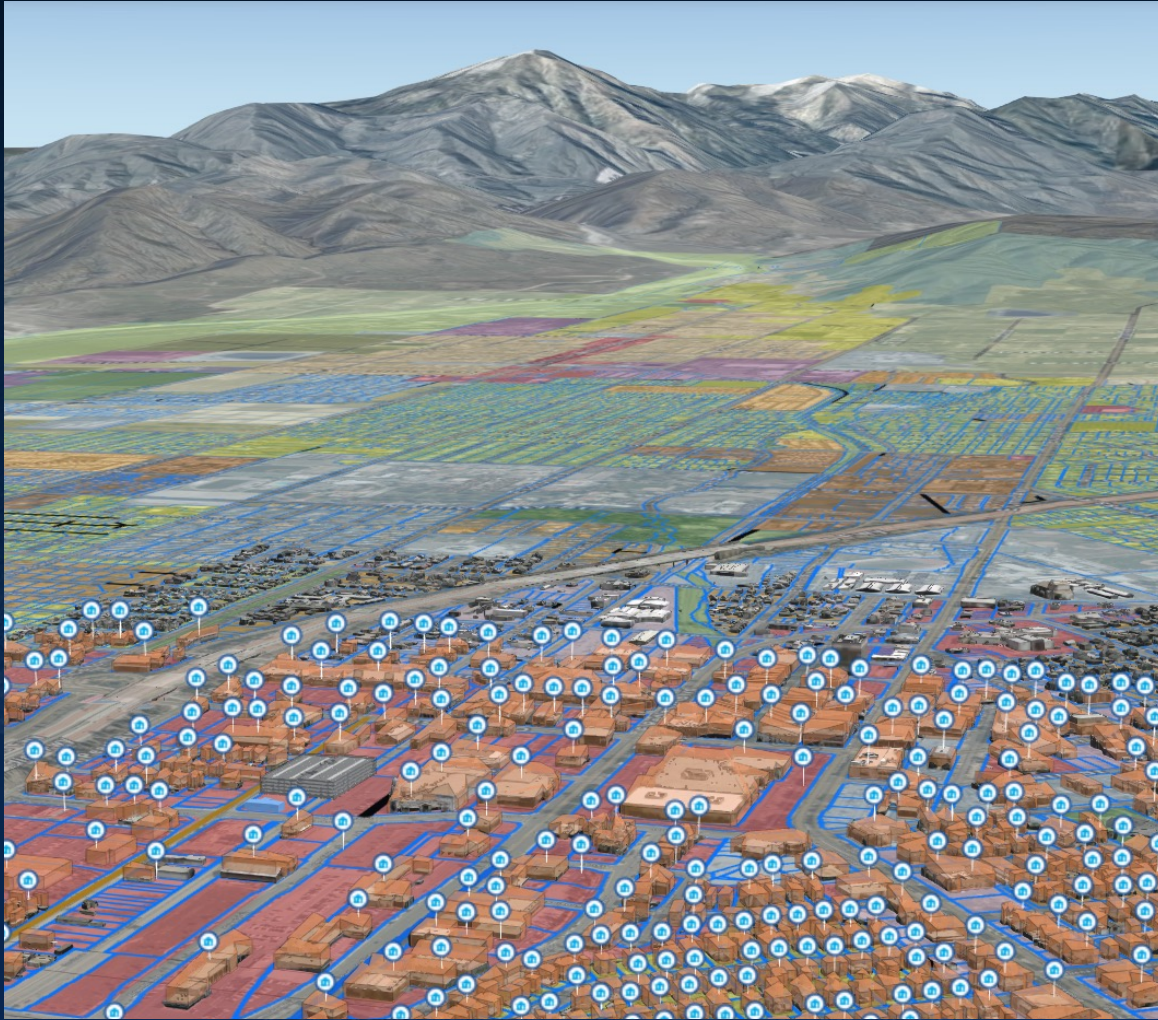


Benefits : CAD Integration with Geospatial Technology

- **Improved Decision Making**
- **Enhanced Collaboration**
- **Accurate Site Analysis and Planning**
- **Efficient Asset Management**
- **Streamlined Construction Processes**

GIS

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



BIM

Supplies detailed information about *developed assets*

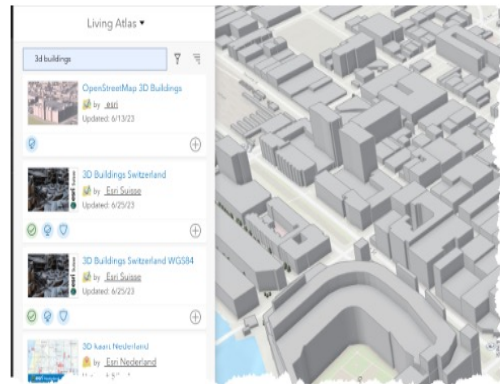


ArcGIS Integration with CAD – 1 : Autodesk

[Autodesk](#) [ISTRAM](#) [Vectorworks](#) [Bentley](#) [CSPFEA](#)

Openstreet Maps - 3D content

Add a layer of open-source 3D buildings



Maxar, Microsoft | Source: Airbus, USGS, NGA, NASA, CGIAR, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community | Map data © OpenStreetMap contributors, Microsoft, G... Powered by Esri

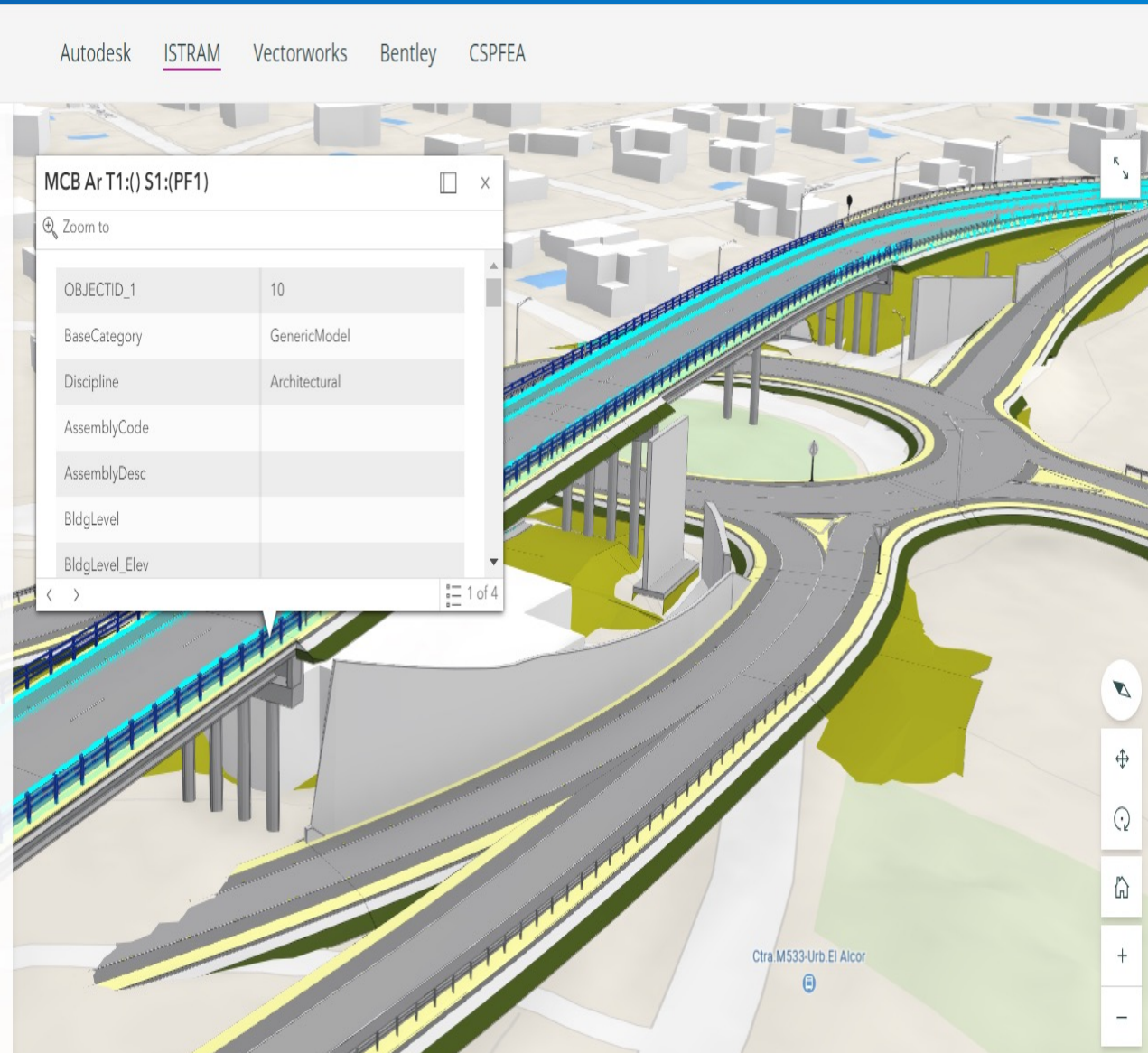
ArcGIS Integration with CAD – 2 : ISTRAM

ISTRAM

An email exchange with the ISTRAM team led to sharing a couple of models.



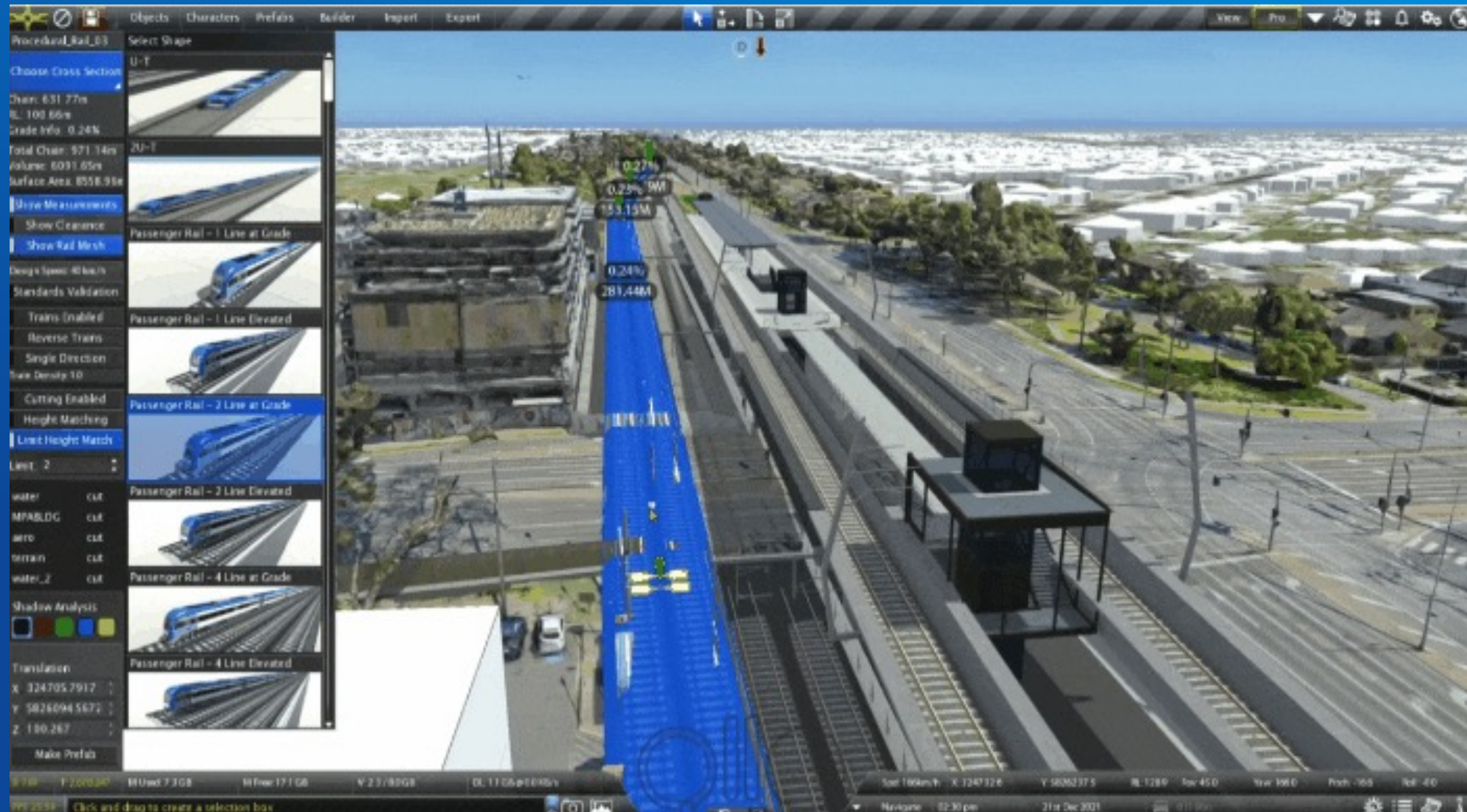
Each model was individually imported into ArcGIS. A couple of data layers were added to each instance, and a webscene was born for each.



OTHER CAD Software's

- Vectorworks
- Bentley
- CSFPEA

Asset Management :



Planning: Asset Management

Internal Navigation on Web using 3D Web Scene : Planning

Search...

bsegal@esri.com_indoors_online

Explore

My Places

Directions

Valves

- Air Scour Supply Valve 1
- Air Scour Supply Valve 2
- Air Scour Supply Valve 3
- Air Scour Supply Valve 4
- Backwash Supply Valve 1
- Backwash Supply Valve 2
- Backwash Supply Valve 3
- Backwash Supply Valve 4
- Backwash Waste Valve 1
- Backwash Waste Valve 3
- Backwash Waste Valve 4

Browse

2ND FLOOR

1ST FLOOR

Zoom to

Collapse

SODIUM HYDROXIDE

OZONE ROOM

LIQUID AMMONIUM SULFATE

SODIUM HYPOCHLORITE

SODIUM BISULFITE

WATER SOFTENER/MONOCHLORAMINE

CALCIUM CHLORIDE

PHOSPHORIC ACID

POLYMER

COAGULANT

PROCESS AREA

STAIR 1

STAIR 2

ELECTRICAL ROOM

RESTRM

CLOSET

LOBBY

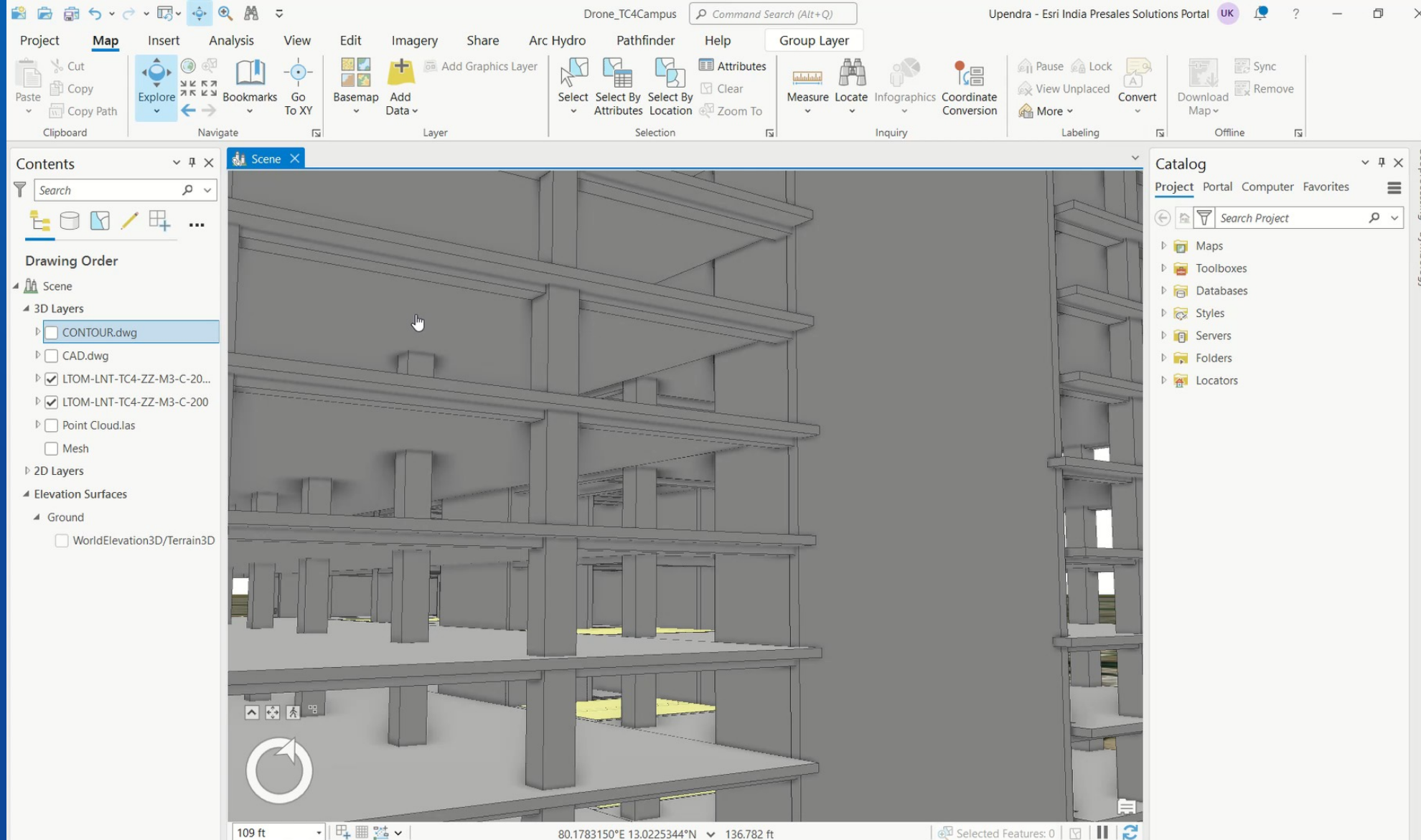
CONTROL RM

MAINTENANCE ROOM

STORAGE

FIRE EQUIPM

Adding all CAD Drawing of one Building in one location



ArcGIS : An Open Platform for Ease of Integration

ArcGIS Integrates Open Science, Tools, and Experiences



Use Spatial Science to Transform Data into Action



esri[®]

**THE
SCIENCE
OF
WHERE**[®]

Thank You