Geospatial and BIM Convergence for Digital Built Environment

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Where we came from...

...and how far we’ve come

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Layer 0

-0.2246, 0.2758

ROOT MENU

BLOCKS
DIM:
DISPLAY
DRAW
EDIT
HATCH:
INQUIRY
LAYERS
MODES
PLOT
UTILITY

Loading menu file...
Command:

1980s
Wall (WA)

Creates a partition wall in the building model.

Use the Type Selector to specify the type of wall to create, or use the default type to create a generic wall and specify a different wall type later.

Press F1 for more help

2010s
The AEC Industry is unproductive

Source: World Bank, HIS, International Labour Organization
False impressions

Our industry is stuck in its ways
Adoption of technology in AEC

Users ramp up: 88%
People already using tech on projects are increasing their use.

Skeptics join in: 91%
People who didn’t previously use tech are beginning to use it.

Call from above: 85%
Management encourages the use of tech and persuades team members to adopt new tech.

www.openspace.ai/blog/technology-adoption-is-growing-on-construction-sites/
Why are things changing
Location matters!

Planning, designing, building and operating in context!
Location unites!

Integrates and connects varied AEC data types & schemas
Location enables!

Digital transformation powered by connected apps and data
Location based AEC!

Gone are the days of “tech shaming” the industry’s low-tech approach
Removing data format barriers

Bring connected data sources to life by designing transformations, implementing logic, and moving data where it needs to be.

Working with industry standards

Governments use the OGC, Engineers use CAD & BIM. Developers use REST. A variety of format choices and services are available for any industry.

Connect, Transform & Automate

ArcGIS Data Interoperability accesses hundreds of nonnative datasets, spatial ETL tools geoprocess any data and service.
Connections and Integrations

Civil 3D
Connecting Civil 3D Desktop to ArcGIS

Infraworks
Connecting Infraworks Directly to ArcGIS content

BIM Cloud Connection
ArcGIS Pro Direct Connection to BIM360 / ACC

ArcGIS for AutoCAD
Making the CAD designer a direct participant in GIS workflows
**ArcGIS Pro**

**Integrate data from many sources**

Combine data from various sources and formats. ArcGIS Pro supports industry and community standards to ensure inclusion of any dataset you have.

**Visualize your data**

Display data in 2D and 3D simultaneously. Manage multiple maps and layouts in a single project-based workflow.

**Edit and analyze your data**

Simplify data editing and analysis with context-sensitive tools. Perform interactive 2D and 3D analysis. Automate work with ModelBuilder or Python.

**Share your work with the world**

Publish maps and analysis results as web services or high-quality prints. Share maps and data on ArcGIS Online, ArcGIS Enterprise, or as a package.
See projects in context
Simplify how teams view, manage, and access project data across multiple locations.

Keep projects organized
Access GIS, BIM, CAD and other project data in a single user experience.

Reduce costly model conversions
Keep your data federated and reduce conversions throughout the project life cycle.
GIS + openBIM
Reading IFC v4.3
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GIS + openBIM
Reading IFC v4.3
GIS + openBIM
Construction - Design management

SKANSKA
GIS + openBIM
Building solutions with Esri’s APIs
BIM Integration in Esri ArcGIS

- **2015**: ArcGIS Pro, ETL BIM to Geodatabase
- **2018**: ArcGIS Pro Revit Integration, Scene Layer Package SLPK
- **2019**: BIM to Geodatabase, ArcGIS Building Scene Layer
- **2020**: ArcGIS Pro Civil3D Integration, ArcGIS Pro BIM Cloud Connection
- **2021**: ArcGIS Pro IFC Integration, ArcGIS GeoBIM
- **2022**: IFC 4.x Integration

*Esri + Autodesk Alliance Partnership*