

CES317787

Connecting Esri and Autodesk: Using the Connector for ArcGIS in InfraWorks and Civil 3D

John Mayo, PE, CFM

Ramesh Sridharan, Autodesk InfraWorks Product Manager





About the speakers

John Mayo, PE, CFM

- Boswell Engineering, Project Manager
- NJIT, Adjunct Professor
- Autodesk Expert Elite – Civil 3D (One of the original 60 members).
- Civil 3D Gunslinger/Inside the Factory 2012-2018.
- Autodesk University Speaker 2010 and 2018.
- Civil 3D Associate Certification 2010. Civil 3D Professional Certification 2013, 2015, 2017.
- AutoCAD R9-2019, Softdesk 7 and 7.5, Land Desktop R13-2009, Civil 3D 2004 Demo-2020



Ramesh Sridharan

- 20 years of experience in product development, technical sales, partner marketing, and customer analysis.
- A pioneer in the field of reality capture point cloud product feature extraction that can handle and extract information from a large number of 3D data.
- Project lead for the Autodesk Connector for ArcGIS.
- Currently the Product Manager in Autodesk for the InfraWorks product which is the connected BIM platform for civil infrastructure planning and design.
- Ramesh is a post-graduate from the Indian Institute of Technology specialized in machine learning, Image Processing, and Artificial Intelligence.



AUTODESK® INFRAWORKS®

Autodesk Connector for ArcGIS

Game-changing Partnership

- On November 2017, Autodesk and ESRI formed a strategic alliance committed to the development of a more seamless exchange of spatial and attribute data typically captured in Esri's GIS systems and the information from design models generated using Autodesk's design software.
- Addressing the industry requirement by helping to more tightly integrating GIS technologies and data, and BIM workflows to enhance how infrastructure assets are planned, designed, built, and operated.



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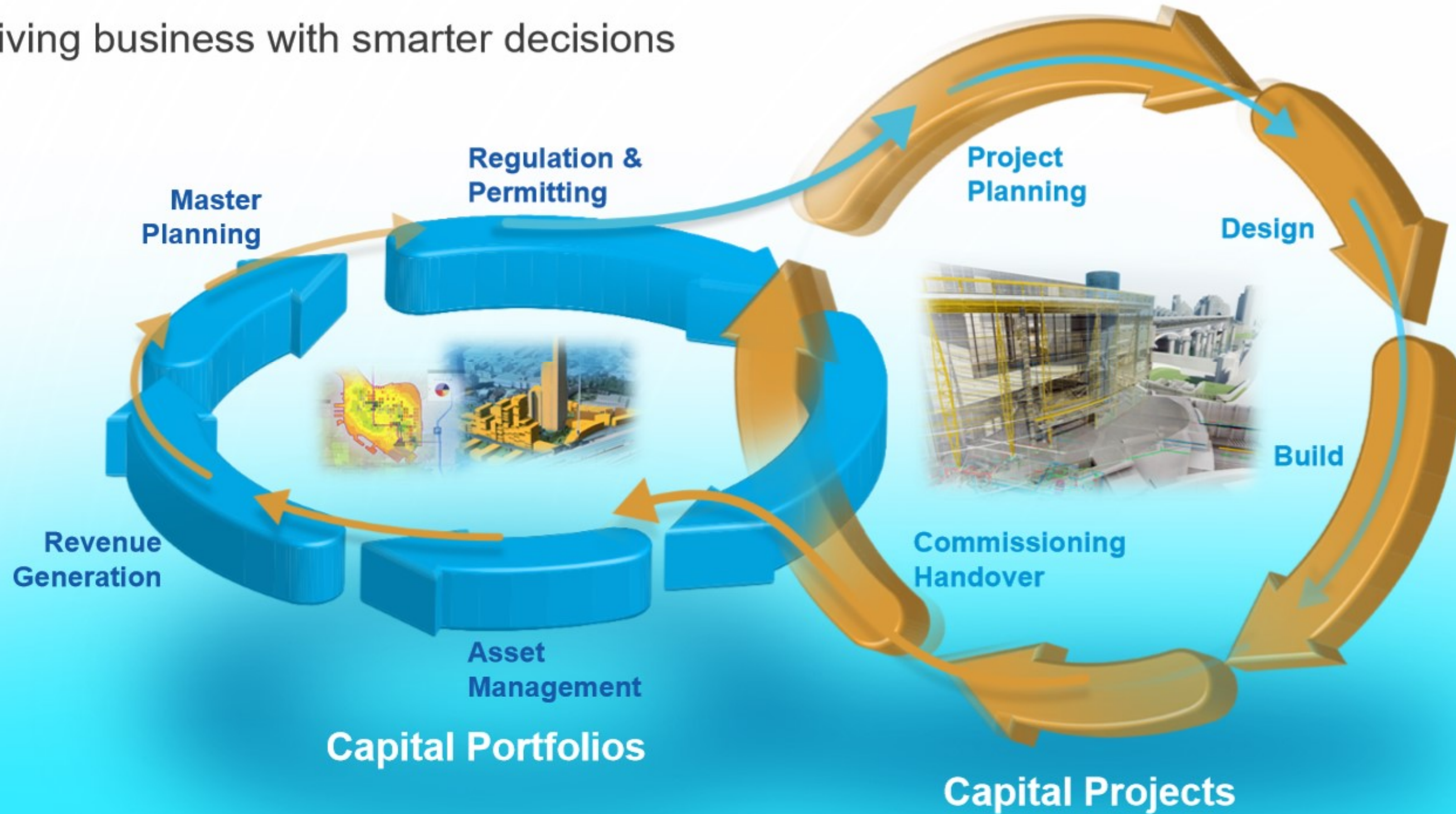
ESRI ArcGIS Online

ArcGIS Online is a cloud service for GIS data. Much like Autodesk 360 is for CAD and BIM data, this ESRI service is focused on creating, storing and sharing GIS data.

- Cost varies by user function and storage size
- Create an ArcGIS Online account
- Create folder systems as required for your use.
- Create maps and them to the folders and groups you create.
- Assign read/write privileges and share the data with others.

GIS Informs BIM - BIM Fuels GIS

Driving business with smarter decisions



GIS Data in a CAD and BIM World Without the Connector for ArcGIS

- GIS data has been used in CAD workflows for decades and is critical to many infrastructure projects.
- GIS data is often controlled by a department or limited user pool of ESRI licenses and may take time to acquire within a company.
- Users may download and create their own data sets to speed the process creating redundant data or worse, using incorrect data.
- Workflows in GIS workflows in CAD environments are tedious, file formats conversions may be required, time is wasted acquiring and converting data.

GIS Data in a CAD and BIM World with the Connector for ArcGIS

- GIS data is added to Infraworks, Civil 3D and Map 3D models faster.
- GIS Attributes can be used to quickly stylize this data in Infraworks using Themes.
- Data created in Infraworks, Civil 3D and Map 3D can be published directly to ArcGIS Online.
- Data can be edited in Infraworks, Civil 3D and Map 3D and saved back directly to ArcGIS online without data conversions.
- GIS attributes can be created and applied to objects in Infraworks using the Extended Schema feature.



Connector for ArcGIS

AU 2018 – Status Lookback

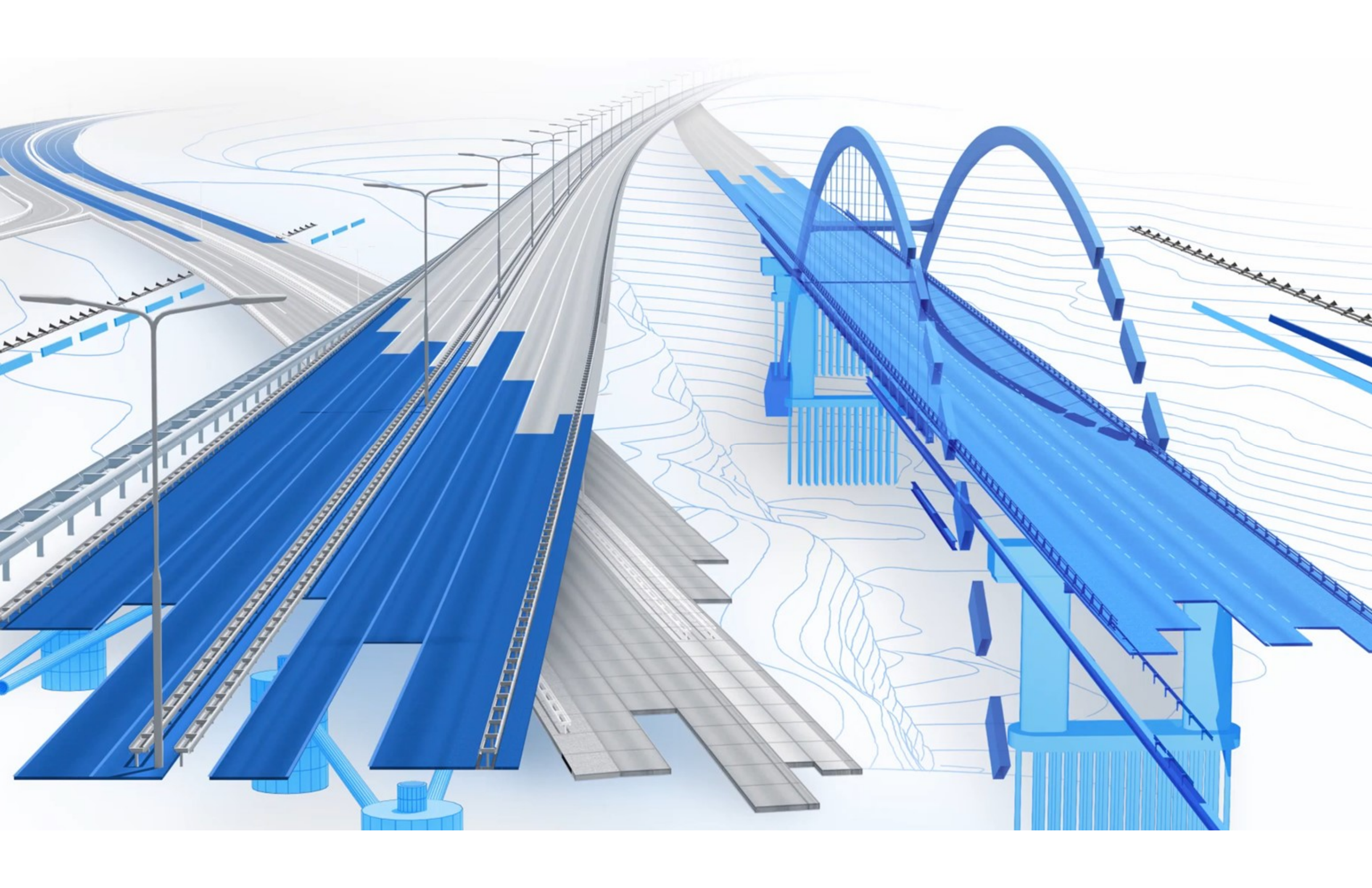
- Connect to ArcGIS online directly from InfraWorks
- Browse & select desired layers from all the available GIS data
- Automatically import GIS layers as 3D models in InfraWorks
- Import geometry as well as information rich attributes
- Enhance with FDO based connection
- Import Raster data; Terrain and Imagery
- Portal Manager; Ability to connect on-premise ArcGIS repository
- Enhance Schema Extension in InfraWorks; Add ability to user extendable schema even if for non-GIS layers

AU 2019 – InfraWorks (2020.1) Update

- Enhanced Draw Tools: Add new records to ArcGIS Layer from InfraWorks
- Change Feature Class: Add new records from other InfraWorks data sources including extended schema.
- Save back to ArcGIS Portals.
- Connector UI enhancements: Tree view display, Access as Guest and more Publish to ArcGIS Portals.
- Export to File GeoDataBase (FGDB)
- The Autodesk Connector for ArcGIS is capable of publishing the following features to an ESRI ArcGIS Online Portal.
- Barriers, Buildings, City Furniture, Coverages, Culverts, Drainage End Structures, Easements, Land Areas, Parcels, Parking Areas, Parking Rows, Pipelines, Pipe Connectors, Points of Interest (POI's), Project Sites, Railways, Right of Ways, Roads, Streams, Traffic Study Areas, Trees, Water Areas, Watersheds

AU 2019 Civil 3D (2020.1) Update

- Connect and fetch feature layers C3D objects
- Support for COGO Points, Feature Lines, Alignments, Parcels, Pipes (Gravity)
- Connector UI enhancements (better preview option, Access as guest, etc.)
- Publish features layers to ArcGIS Portals
- Export to FGDB of C3D objects
- Remove and Save-Back (geometry) of connected ArcGIS Portal feature layers



Demonstrations

Connecting to GIS data in Infraworks

- Demo 1 – Use the Connector for ArcGIS to import data into Infraworks
- Demo 2 – Use the Connector for ArcGIS to import data into Civil 3D
- Demo 3 - Learn how to publish data back to your ArcGIS Portal
- Demo 4 - Export data from Infraworks and Civil 3D to an external ESRI database.

Questions?

- Please complete your class survey
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- Thank you for attending this session.
- Please complete your class survey.