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The Road (and Rail) to BIM Success Begins with GIS

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Learning Objectives

- Implement the concept of GIS and BIM during Design, Construction, and Operation to improve project delivery
- Integrate BIM and GIS to improve collaboration and operational efficiency for infrastructure projects
- Develop fit for purpose and integrated digital solutions, dashboards, and field solutions comprised of GIS, BIM, CAD and more
- Learn workflows for automated Data Management (Integrations) where GIS amplifies the value of BIM data for all stakeholders

Description

The road to digital transformation in architecture, engineering, and construction (AEC) requires interoperable, accessible, and accurate streams of information to enable digital twins, smart assets, and smart cities.

The complexity of linear infrastructure, the environmental impact, and the sizes of projects require the talents of design and geospatial experts.

This session will highlight how Skanksa's GIS and BIM teams successfully integrate Autodesk and Esri solutions, bringing value to all teams and stakeholders.

This class will introduce an integrated approach to GIS and BIM for rail and highways, showing how together they improve digital delivery and productivity. Using specific project examples, Skanska's leaders will explain how streamlining workflows between Revit software, Civil 3D software, and Esri ArcGIS provides a coordinated and enhanced experience to all end users.

You will leave this session understanding how maximizing GIS and BIM expands value to all technical and non-technical teams throughout the lifecycle of the infrastructure.

Speaker(s)

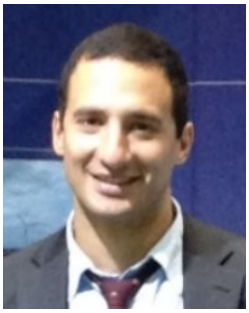
Marc Goldman is the Director of AEC Industry Solutions at Esri. He works with a global team to define and deliver the strategy for Esri's products and solutions serving architecture, engineering and construction users. Mr. Goldman is a leading experts in Building Information Modeling (BIM), Geographic Information Systems (GIS), and their impact on the processes and business of the planning, design and construction industry.

Marc began his career in the first days of CAD, and he has evolved over twenty years of success defining, developing, and delivering services and technologies for design, engineering, manufacturing, and construction. He has worked with a strong international network of AEC executives, often creating winning joint ventures, partnerships and customer relationships. He brings over two decades of delivering products and services for Building, Construction & Manufacturing.

George Floros is a Senior GIS Data Specialist at STRABAG AG-UK. He has been researching the benefits of BIM-GIS integration since 2014 and is a PhD Candidate at University College London (UCL) delving into the BIM-GIS integration for Asset Management within AECOO. He currently works on the HS2 Main Works Civil Contract as part of the Skanska-Costain-STRABAG Joint Venture (SCS JV) as the Asset Information Lead.

George has a particular interest in developing and implementing solutions founded on GIS-BIM integration to enhance productivity, increase efficiency and improve decision-making across lifecycle, whilst being applicable in numerous application fields and disciplines, such as Construction Teams, Health & Safety, Utilities and Engineering Survey.

Anita Soni is a Senior BIM Manager at Skanska Infrastructure UK. She has worked in the civil and infrastructure industry for the past 10 years. She has an Engineering Doctorate from UCL in collaboration with Network Rail, where she established processes for the implementation of non-contact technologies such as laser scanning and photogrammetry for monitoring of railway infrastructure. She currently works on the HS2 Main Works Civil Contract as part of the SCS (Skanska-Costain-STRABAG) Joint Venture as the As-Built BIM Lead. She has a special interest in enhancing the integration of Survey, BIM and GIS during the design, construction and handover phase.



Jan Georgopoulos is a Digitalisation Manager for Skanska UK and currently functioning as the GIS Lead for the Business Unit supporting Operating Units, Enabling Functions and Projects in implementing GIS strategically, tactically, and operationally. He is very interested in driving integrations of GIS with BIM, Survey, and other disciplines to increase productivity and embed new digital ways of working.

Balazs Haraszti is a Senior BIM Manager at Skanska and digital integration lead on the RDP framework. During the last 15 years he has worked on many projects in various BIM roles in many different countries in Europe, MENA, Far East and the United States.

His key focus was always to provide the best quality inputs to our project delivery team via information reliability and consistent data structures. This is the only way to build on strong foundation and increase confidence in digital solutions across to whole project. Balazs is enthusiastic to streamline digital procedures in design, commercial and construction disciplines working together as one single solution.

This panel discussion will cover 4 major topics related to the integration of GIS and BIM:

GIS and BIM improve project delivery from Design through Handover

A collaborative, multi-disciplinary approach is essential from Project Inception to Handover as well as O & M. With the concept of Digital Twin increasing and applied in a multitude of ways, GIS and BIM are able to combine the “macro” and “micro” to facilitate a seamless flow of integrated information to realise this concept.

In early stages where 3D model development falls behind the production of traditional 2D design the GIS is a key platform to consume, organize and share project data with the team. Overcoming technical and cultural changes is key in maximising the benefits of Digital Transformation in order to bring all project stakeholders along this journey.

GIS and BIM improve collaboration and operational efficiency

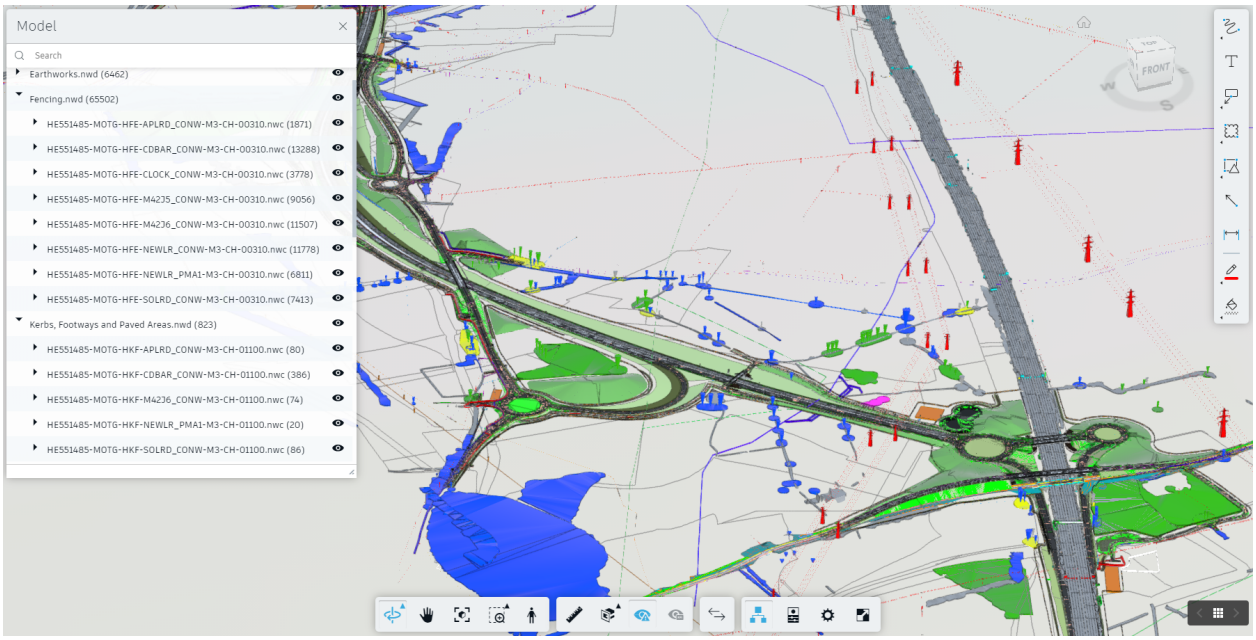
Accessing the latest information quickly, overlaying the engineering design with geodesign, as well as linking the field with office leads to improved collaboration among multiple stakeholders, overcoming the siloed approaches within AECOO, whilst maximising the value of available data to enhance project delivery and improve our digital productivity.

Where 3D modelling is great to present details of developed design, GIS provide the context and an easily updatable platform to investigate design options, value engineering opportunities and overlay with current solution.

Integrated solutions must be comprised of GIS, BIM & CAD

Solution development depends heavily on correctly identifying User Requirements prior to technical implementation. These requirements typically are transferred via data, with different stakeholders choosing the format that suits their needs the most.

It is also likely that a particular solution needs a baseline of information that is provided either in GIS, BIM or CAD, making data conversion essential to the success of the application. GIS interoperability is essential in communication with other systems extending the capabilities of each other.



GIS integrations amplify the value of BIM

Understanding the interconnectivity of the built environment in relation to proposed design is essential for all stakeholders. Ranging from the Project Managers, the Contractor as well as the Local Communities, the ability to bring the geospatial context and place the assets in the real world form the digital foundation that is essential to the realization of a Digital Twin.

Where BIM platforms are generally coming with a rigid but well-defined set of features, the capabilities of GIS is more fluid, transformable allowing the enhance BIM to its full extend limited by the skills of data scientist only. This in return, will create a truly integrated digital platform, facilitating a bi-directional flow of information dependent on the application field.