BIM NEWSLETTER

AEC NEWS & STORIES

## Building Information Modelling (BIM) Interoperability

BIM refers to the ability of different teams and organizations to share and access the same data on a single project. This is crucial for BIM to function effectively and provide advantages to the Architecture, Engineering, and Construction (AEC) industries.

Highlights

- Building Information Modelling (BIM) Interoperability

- openBIM data exchange for AEC project teams

- Nexus Twin product to the Archaeology and National Heritage & Benefits for Archaeology and National Heritage
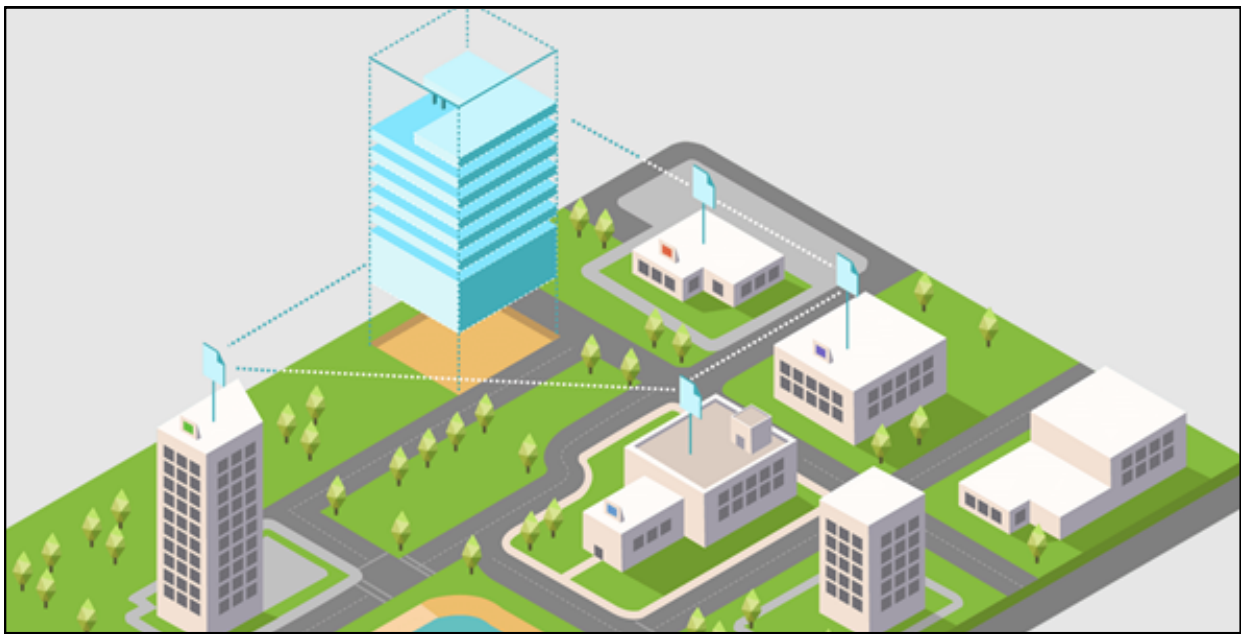
Interoperability in the BIM context means that all project information is stored in one place and can be accessed by various disciplines using a range of tools. It's about the capability of different programs to exchange data via a common set of exchange formats, to read and write the same file formats, and to use the same protocols.

https://youtu.be/3BJmVb8XpGQ

openBIM data exchange for AEC project teams

openBIM is a process centered on improving interoperability between software platforms. As the medium for data exchange in an openBIM process, Industry Foundation Classes (IFC) provide a neutral data exchange standard and intermediary file format to support the sharing of project data authored using different, often discipline-specific software. In this sense, IFC provides a common language for sharing project data, tied to the structuring and standards ratified by buildingSMART.

The IFC data model contains both geometry and data properties for intelligent building elements, including the relationships between elements within a model. As an intermediary, file format.

IFC allows for the exchange and viewing of BIM, CAD, and other file formats, a way of consuming and referencing the outputs of one collaborator to inform the work of another.

Table of Autodesk Products Supporting IFC

Nexus Twin product to the Archaeology and National Heritage

Nexus Twin leverages Point cloud data, CAD drawings, GIS technology, AI capabilities, and augmented reality (AR) tools to facilitate efficient and sustainable urban design and development processes. It offers features such as master planning with point cloud integration, AI-assisted zero dimensioning, compliance with environmental regulations, and AR visualization in real-world space.

Nexus Twin can empower the planning department with a comprehensive set of tools and functionalities, enabling them to streamline the urban planning and development process, improve efficiency, and create sustainable and visually appealing neighborhoods. It can optimize the design process, ensure compliance with environmental regulations, and enhance stakeholder engagement.

Nexus Twin presents a compelling solution for Archaeology and National Heritage organizations seeking advanced 3D modeling capabilities without the complexities of Building Information Modeling (BIM).

Our Scan-to-BIM and Scan-to-Vector conversion functionalities offer precise and efficient methods to transform point cloud data into vector formats and 3D models. This facilitates accurate documentation and visualization of historical sites, artifacts, and cultural heritage.

By embracing Nexus Twin's 3D modeling capabilities, Archaeology and National Heritage organizations can leverage advanced technology to accurately preserve, educate, and engage with cultural heritage on a global scale, all while simplifying processes and enhancing historical understanding.

- Accurate 3D Representations

- Nexus Twin's Scan-to-Vector and Scan-to-3D Conversion capabilities create detailed and authentic 3D models of historical structures, artifacts, and environments.

- Visualization and Documentation

  Archaeology and National Heritage organizations can visualize and document historical sites and artifacts in immersive 3D, enhancing understanding and enabling interactive exploration.

- Non-Intrusive Preservation

  Nexus Twin's technology ensures the preservation of cultural heritage without physical interaction, minimizing potential risks or damages.

- User-Friendly Interface

  Nexus Twin's intuitive interface makes conversion accessible to varying levels of technical expertise, enabling easy transformation of point cloud data into 3D models.

- Historical Contextualization

  3D models contextualize historical elements within their original environments, conveying the historical significance and stories associated with artifacts and structures.

Nexus Twin's Benefits for Archaeology and National Heritage:

- **Accurate Preservation and Immortalization**

Nexus Twin's advanced 3D modeling capabilities empower organizations to digitally preserve and protect cultural legacies. By creating detailed 3D representations of artifacts and historical sites, Nexus Twin ensures that these treasures are accurately preserved for future generations.

- **Data-driven insights and Deeper Understanding**

The 3D models provided by Nexus Twin serve as rich sources of data for in-depth analysis and research. These models grant archaeologists and heritage experts new insights into historical contexts, construction techniques, and artistic details, contributing to a deeper understanding of our cultural heritage.

- **Enhanced Visitor Experience and Engagement**

Nexus Twin enhances the visitor experience by enabling heritage sites and museums to create immersive and interactive exhibitions. Visitors can engage with virtual reconstructions, gaining a vivid understanding of how structures and artifacts appeared in their prime.

- **Global Collaboration and Knowledge Exchange**

The platform facilitates international collaboration among archaeologists, historians, and experts from around the world. Research teams can share 3D models, exchange knowledge, and contribute to the global understanding of cultural history.

- **Accessible Education and Outreach**

Nexus Twin becomes a powerful educational tool, allowing institutions to offer virtual tours and programs that reach wider audiences. Schools, universities, and enthusiasts can engage with history in previously inaccessible ways.

- **Cultural Heritage Tourism and Local Economies**

The platform opens avenues for cultural heritage tourism, attracting visitors who may not have been able to physically visit heritage sites. This contributes to local economies and promotes cultural exchange.

- **Increased Awareness and Advocacy**

Engaging virtual experiences generated by Nexus Twin help raise awareness about cultural heritage and the need for preservation. This heightened awareness can drive public support, advocacy, and funding for heritage conservation initiatives.
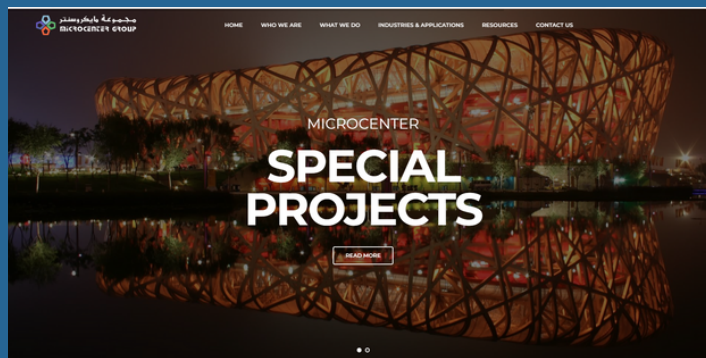
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