



May 2020

Special Issue

BIM and GIS Integration for Driving Smarter Decisions



Building information modelling (BIM) is playing a key role in improving building life cycle information management. It can contribute to smarter decision making for construction projects by providing more effective communication and collaboration between stakeholders via a common data environment (CDE) which allows simultaneous building information access. Geographic information systems (GIS) are widely used by the geospatial industry to gather, manage and analyse heterogeneous, geolocation-based data. With advanced spatial analysis algorithms, GIS can reveal deeper insights into geographic patterns, relationships and trends, helping city managers to make smarter decisions. Recently, Smart City, Digital Twin and City Brain have been attracting a lot of attention from researchers. The core idea behind those terms is to develop 3D digital replicas of the physical world by integrating BIM and GIS. Through such integration, every decision can be tested and simulated before implementation, thus significantly cutting costs and reducing the chance of failure when implemented in reality.

However, integrating BIM and GIS at data level is still challenging due to the massive variety in tools and systems, heterogeneous data and immature open data standards. In addition, existing data schemes for BIM and GIS have different semantic concepts, development purposes and data structures, making the integration even more difficult. The aim of this Special Issue is then to address practical and theoretical problems associated with BIM and GIS

integration. Special attention would be given to the emerging developments and advances in this area.

Topics:

- BIM and GIS integration for smart cities and/or communities;
- BIM and GIS integration for smart infrastructure;
- BIM and GIS integration for life cycle asset data management;
- BIM and GIS integration for better project planning, design, construction, operation and maintenance;
- Data integration/interoperability between BIM and GIS;
- Semantic integration between BIM and GIS;
- Improvement of international open data standards: IFC, CityGML, InfraGML, etc.;
- Advancing BIM and GIS through Artificial Intelligence;
- BIM and GIS data visualisation;
- Web-based BIM and GIS integration;
- Other application of BIM and GIS integration.



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Submission Deadline **31st December 2020**

For full author guidelines and instructions on how to submit can be found [here](#).

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