

Contact: Chris.Groome@buildingSMART.org

BuildingSMART International Requests Comment on new Infrastructure Alignment bSI Candidate Standard.

January 2015: BuildingSMART International (bSI) has issued a Call for Comment on the bSI IFC Infrastructure Alignment Conceptual Model and bSI Candidate Standard for IFC Alignment. Details of the call may be found at <http://www.buildingsmart-tech.org/infrastructure/projects/alignment>.

An important milestone to augment the coverage of the buildingSMART Data Model standard IFC (ISO16739) to include infrastructure works has been reached now with the IFC Alignment Extension Model. This work has been hosted by the buildingSMART Infrastructure Room, and made possible by the generous contributions of Rijkswaterstaat in The Netherlands, Trafikverket in Sweden, and the EU 7th framework project V-Con. The buildingSMART P6 project team reviewed the LandXML format with support of buildingSMART Finland InfraBIM team, worked collectively with OGC's OGC Land and Infrastructure Domain Working Group on defining the use cases and the UML conceptual model, and created the extension of the IFC4 data standard to include alignment information.

The new IFC Alignment extension would:

- be supported by a recognized Standards Developing Organization, buildingSMART International
- be based on a UML conceptual model and an encoding as EXPRESS (ISO 10303-11) and XML Schema
- aligned with the existing IFC standard, reusing existing features for positioning, geometry, property sets and mapping to geographic coordinate system
- cover the exchanges of alignment information from planning to design to the construction phase of projects and finally to asset management
- link alignment information to other project information such as cross sections and full 3D geometry of construction elements to be realized by upcoming IFC-Bridge and IFC-Road extension projects
- allow querying alignment information providing data such as positioning, linear referencing and stations along an alignment
- allow open data access of alignment information from asset management databases
- provide lasting archiving of infrastructure information models, including alignment information
- be synchronized with the current efforts by OGC in their development of InfraGML
- enable mapping of alignment information between IFC, InfraGML (developed by [OGC](#)), and LandXML (latest InfraBIM version from buildingSMART Finland)

The IFC Alignment Extension Candidate standard has already been validated by first software prototypes. Implementable schema definitions in EXPRESS and XSD are available with first sample data sets of road and bridge alignments with terrain models.

"This cooperation between buildingSMART International and the OGC will make it possible for software to map IFC alignment models directly to InfraGML and vice versa," explained Richard Petrie, chief executive of buildingSMART International. "This represents an important milestone in reaching our shared goal of vendor-neutral standards that enable integration of geospatial information and information about the built environment."

Note to Editors

BuildingSMART has a track record supporting open standards in the building engineering domain and has developed a strategy to reach out into the infrastructure area. Clients, contractors, consultants and research institutes met in the buildingSMART Infrastructure Room and concluded that there is a critical need for a comprehensive neutral data model capable of representing both semantic and geometric aspects of major infrastructure works. One of the most crucial parts of infrastructure projects is the alignment. The construction of roads, tunnels, rail tracks and eventually bridges depends very largely on the alignment.

About buildingSMART International

buildingSMART® International, international home of openBIM®, is the worldwide authority driving the transformation of the built environment through creation & adoption of open, international standards.

Visit the buildingSMART International website at <http://www.buildingsmart.org/> and our technical website at <http://www.buildingsmart-tech.org/>