An ISO Standards Perspective of BIM-GIS Integration

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Standards Collaboration
BIM-GIS Integration

• Open Geospatial Consortium (OGC) & BuildingSmart International
• ISO/TC 211 Geographic Information/Geomatics Committee & ISO/TC 59/SC 13 Organization of Information about Construction Works
• Smart Cities
• UN Sustainable Development Goals
Why BIM & GIS is important (from a Government regulator perspective)

• Building Information Modelling is growing in the AEC Industry
• Data and communication flow between BIM & GIS systems is fundamental
• With use of BIM the AEC Industry will produce information relevant for the GIS systems
• In 2016 ISO/TC 211 supported the collaboration with ISO/TC 59/SC 13 and to investigate the barriers for interoperability between the two platforms

• In 2017 a joint workshop was organised with ISO/TC 211, ISO/TC 59/SC13, OGC and BuildingSmart International to develop a preliminary work item (PWI) on GIS/BIM Interoperability
Joint Workshop

• The two ISO committees acknowledge the close collaboration & MOU between OGC & BuildingSmart International
• There was the need for the two ISO committees to do something similar
ISO/TC 59/SC13
Membership
Aim of the Workshop

• Better understand of the two platforms
• Similarities and discrepancies between the two platforms
• Mapping between concepts in GIS & BIM – Where are the main challenges?
• Joint work between ISO/TC 211 & ISO/TC 59/SC13 ensure interoperability by removing interoperability barriers between the standards, in close cooperation with Building Smart & OGC
Workshop Topics

• Integrated Digital Built Environment
• LandInfra – experiences from the alignment project between BSI and OGC
• Mapping between GIS (General Feature Model) and IFC metamodel – both directions
• Spatial Schema (ISO 19107)
• Geometric and Topological representation (ISO 10303-42)
• Linking between GIS & BIM (Logical elements, Instance, Coordinates)
• Vocabulary, Terminology & Data Dictionary

Presentations: https://committee.iso.org/sites/tc211/home/presentations.html
Outcomes from the Workshop

• ISO 19166 BIM to GIS Conceptual Mapping (B2GM) maybe stopped
• Develop a preliminary work item (PWI) that is a joint work between the two ISO committees with ISO/TC 59/SC 13 having the responsibility for its development
Resolution 838 from ISO/TC 211
June 2017

• ISO/TC 211 welcomes a preliminary work item (PWI) for drafting one or more new work item proposal(s) on GIS/BIM interoperability as a joint work with ISO/TC 59/SC 13, and in close cooperation with liaison organizations (in particular OGC and buildingSMART). ISO/TC 211 accepts that ISO/TC 59/SC 13 will have the responsibility of the joint work.

• ISO/TC 211 also welcomes a nomination from national member body of Norway of Mr. Morten Borrebaek as co-convenor for this work item to ensure a strong cooperation between the two committees.
What’s Next

• Meeting in Wellington (next month) to review progress
• Progress PWI between the two committees in 2018
• Seek input from GIS & BIM communities and academia
• Think horizontal not vertical