

Comparing IFC, CityGML and LandInfra in the context of built environment data integration

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IDBE – Integrated Digital Built Environment

- Joint Working Group – OGC and bSI
- Aim of better integration and interoperability

Workshop in Munich, April 2018

- IFC, CityGML and LandInfra: compare & contrast
- Context of integration & interoperability challenges
- Panel of standards experts
- Questions and discussions

Publication

- Summarise the differences between the standards
- Articulate the challenges to integration and interoperability
- Propose action points to address these challenges

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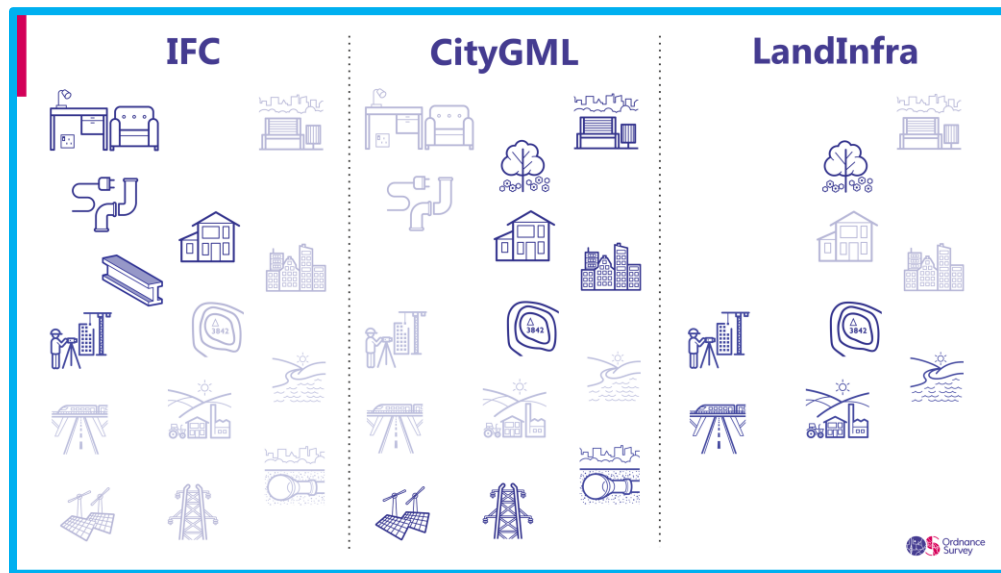


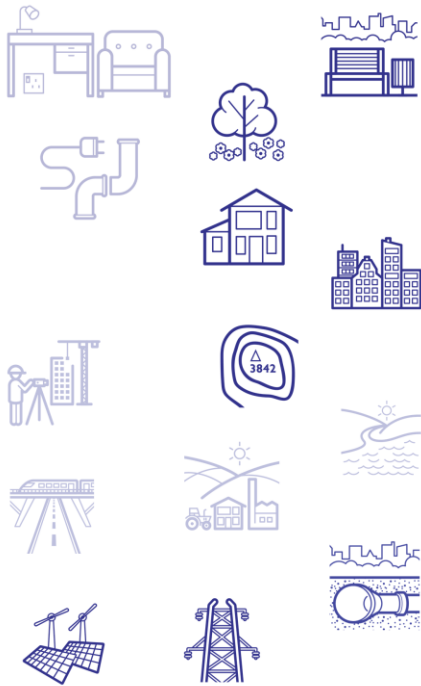
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IFC



CityGML



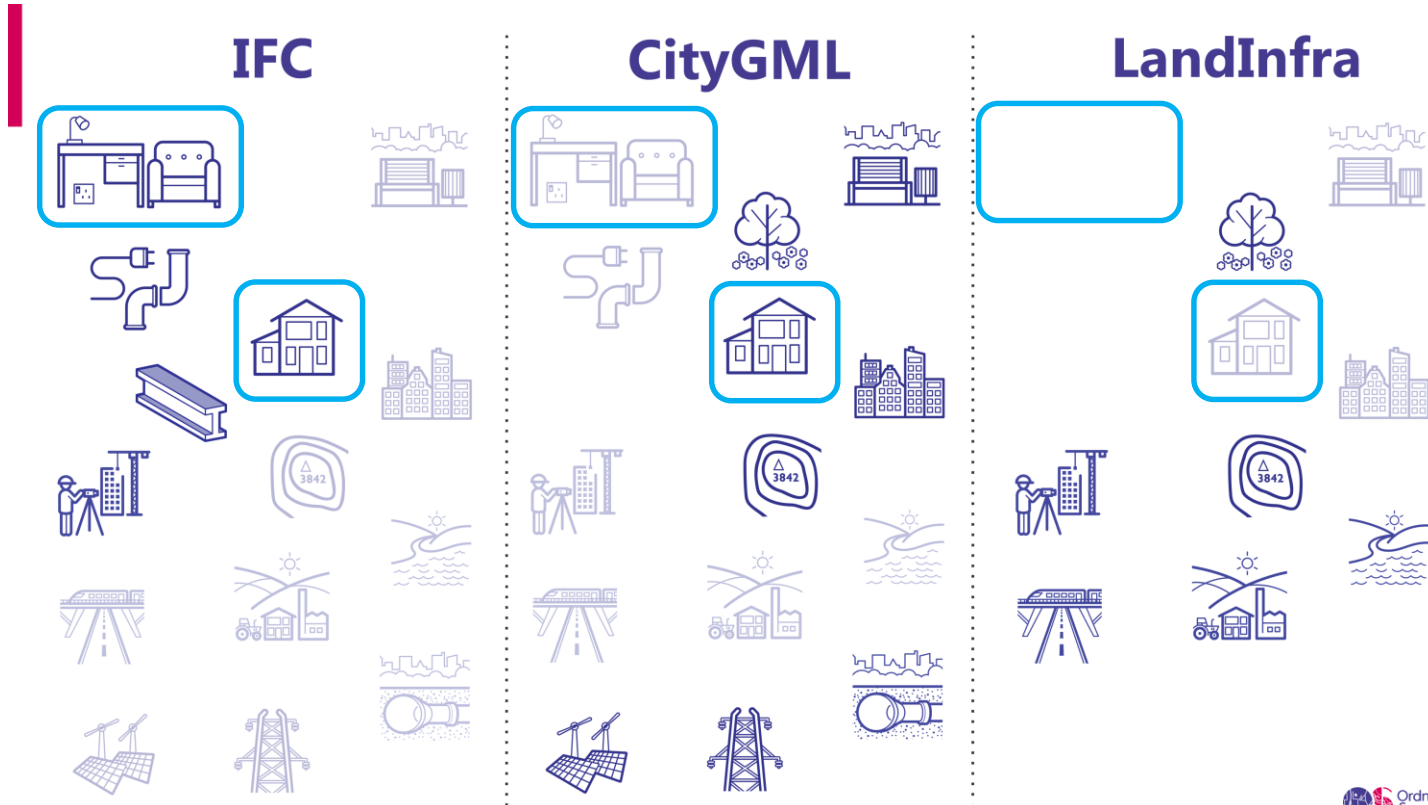
LandInfra



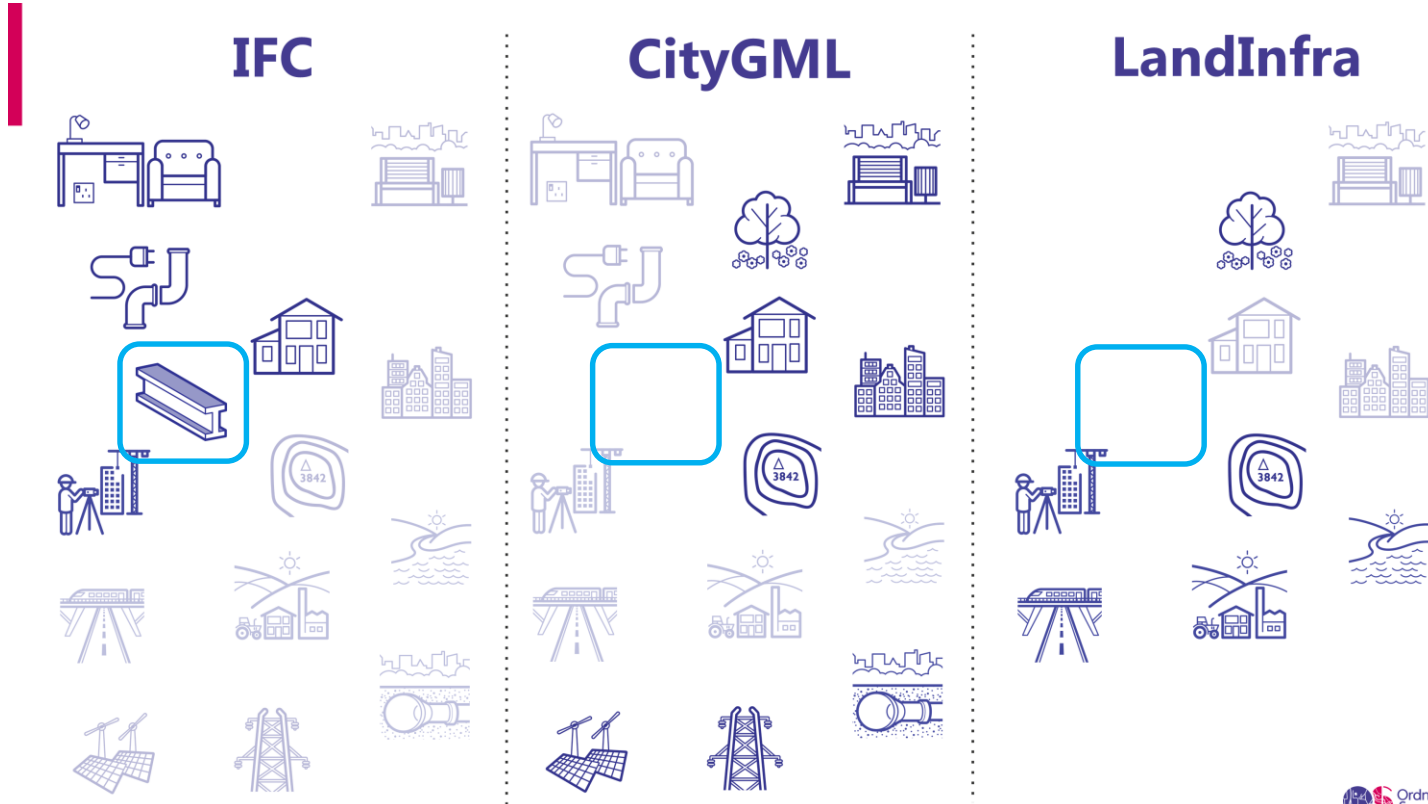
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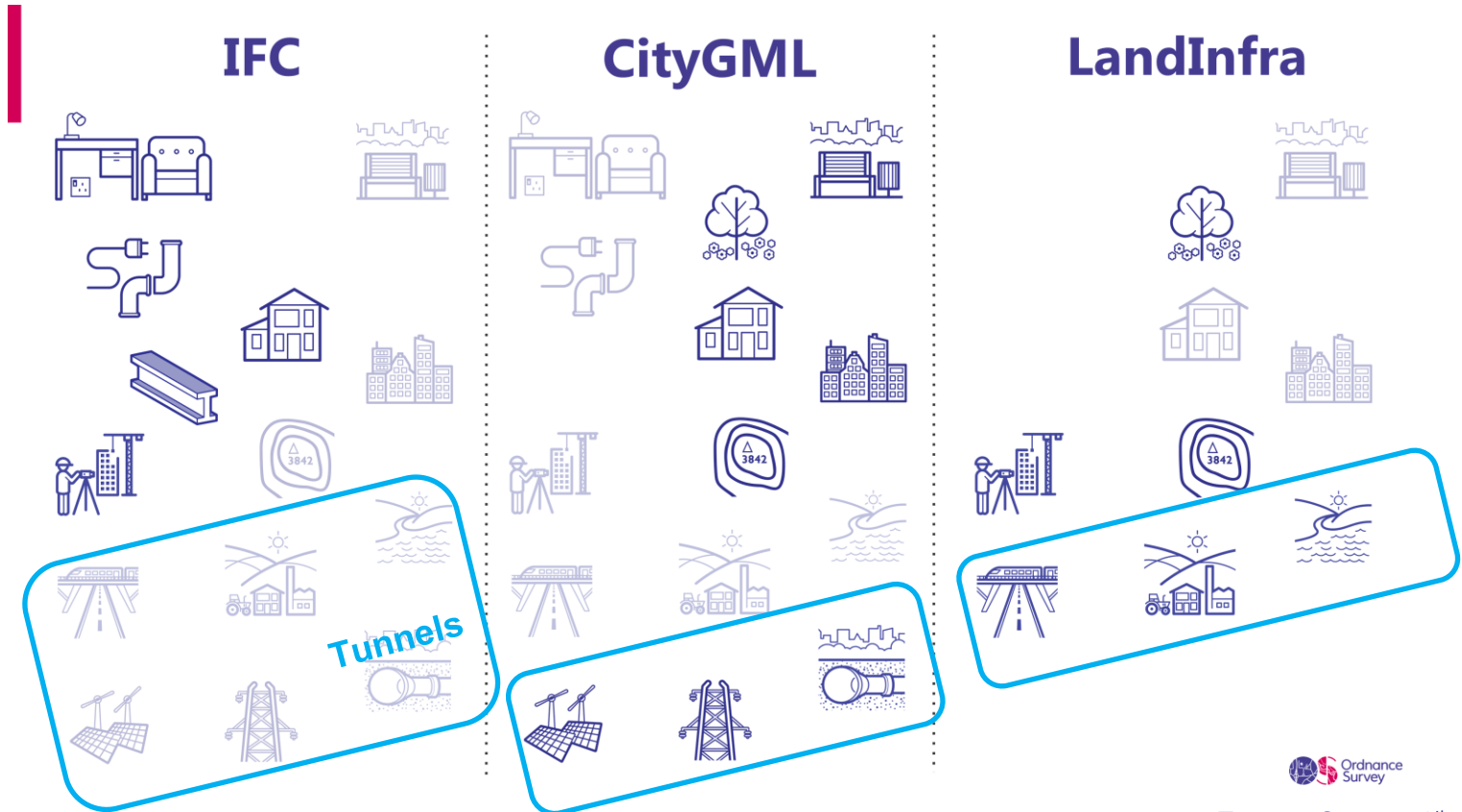
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CHALLENGES TO INTEGRATION

- Different conceptualisations.
- Inconsistency in geolocation.
- Different geometric representations.
- Contrasting real-world object identification.
- Predominance of dissimilar encodings.

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“The geospatial and built environment domains have traditionally been regarded as distinct. The coarser resolution data that describe existing environments have been handled by GIS practitioners and their software; the finer resolution, prescriptive designs of future builds have been dealt with in the AEC industry by BIM specialists.”

“The...task of enriching construction designs with real-world observation data is frustrated by the dilemma that visible object boundaries are often the only observables, which may be insufficient for the volumetric, parametric representations demanded by architects and construction engineers. Although there is an unambiguous mapping of CSG and Swept Solid geometries to B-Reps, there is potentially an infinite number of options for the converse. Determining the most appropriate means of representing within BIM models the irregular shapes derived from real-world surface observations remains a challenge and topic of discussion.”

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A challenge for tunnelling?