LandInfra for Geotechnics

Geotechnical Data Standardization Workshop

Paris, France

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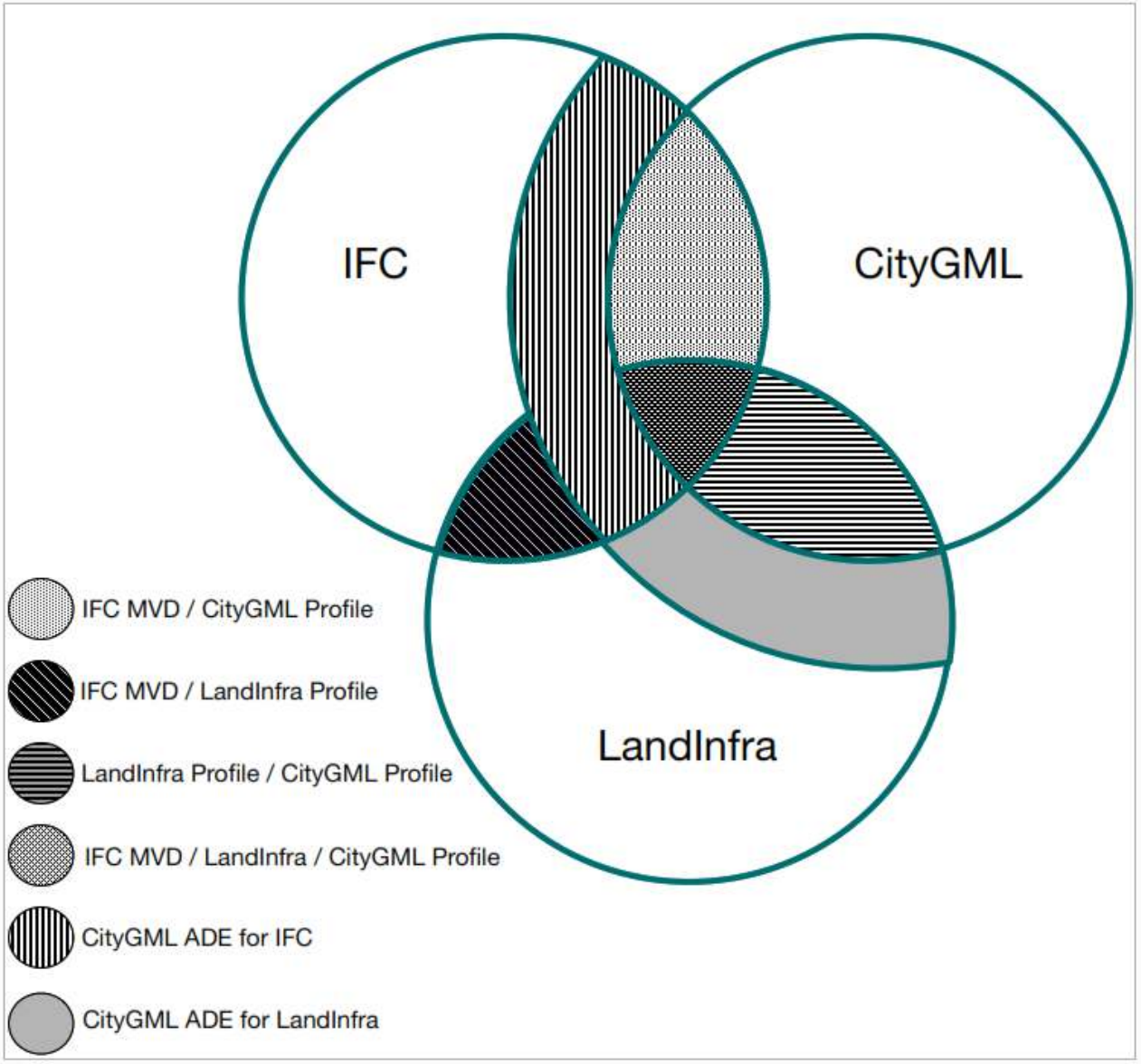
Making location count.

IDBE Alignment Concept



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Some Industries and Standards

+…

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It all started with LandXML

- LandXML specifies an XML file format for civil engineering design and survey measurement data.
- The primary goals for providing a standard data format are:
  - Data exchange between software applications
  - Long-term data archival
- Volunteer organizations and individuals have contributed to the development of LandXML via LandXML.org
- The LandXML community consisted of over 650 organizations with 750 members in over 40 countries and there were over 70 registered software products that supported LandXML as of 2009.
- But then LandXML fell upon hard times and the OGC was approached to assume maintenance of the schema

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Land and Infrastructure (LandInfra)

- The Land and Infrastructure Conceptual Model Standard (LandInfra)
  - It's all about the land upon which infrastructure facilities are built
  - and the infrastructure facility improvements themselves
  - including the surveying necessary for the construction and recording of the facilities and land interests
- "use case driven subset of LandXML functionality, but that is implemented with the OGC Geography Markup Language (GML) and supported by a UML (Unified Modeling Language) conceptual model"
- LandInfra is the conceptual model, specified as a proposed OGC Standard following ISO and OGC Topics (example. 1 / 2 / 19 & 20)
- An InfraGML encoding standard followed in 8 Parts

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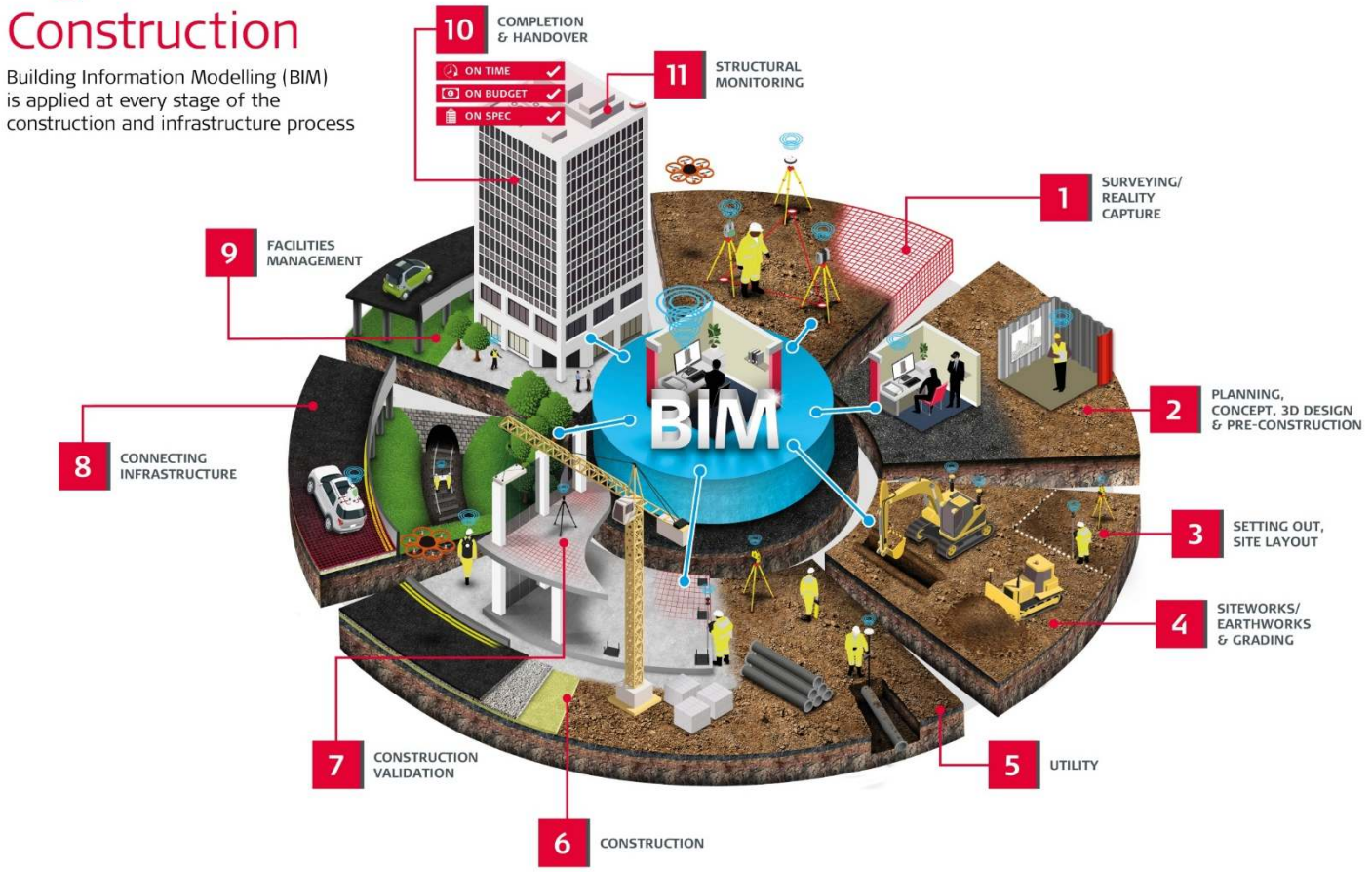
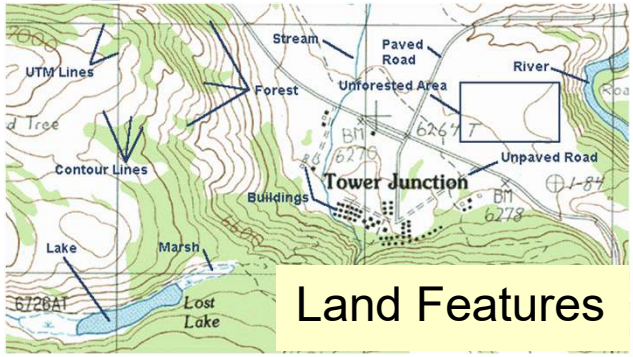
Some Use Cases

Interchange data through the compete live cycle of Infrastructure Facility



LandInfra / InfraGML

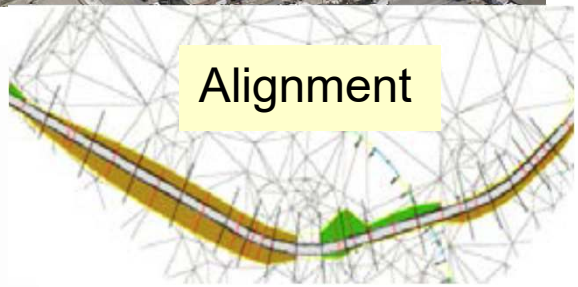
http://www.opengeospatial.org/standards/landinfra



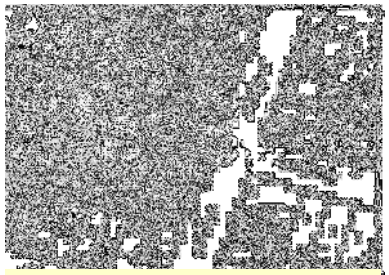
Land Features

Facilities

Projects



Alignment



Land Division

Core

Roads

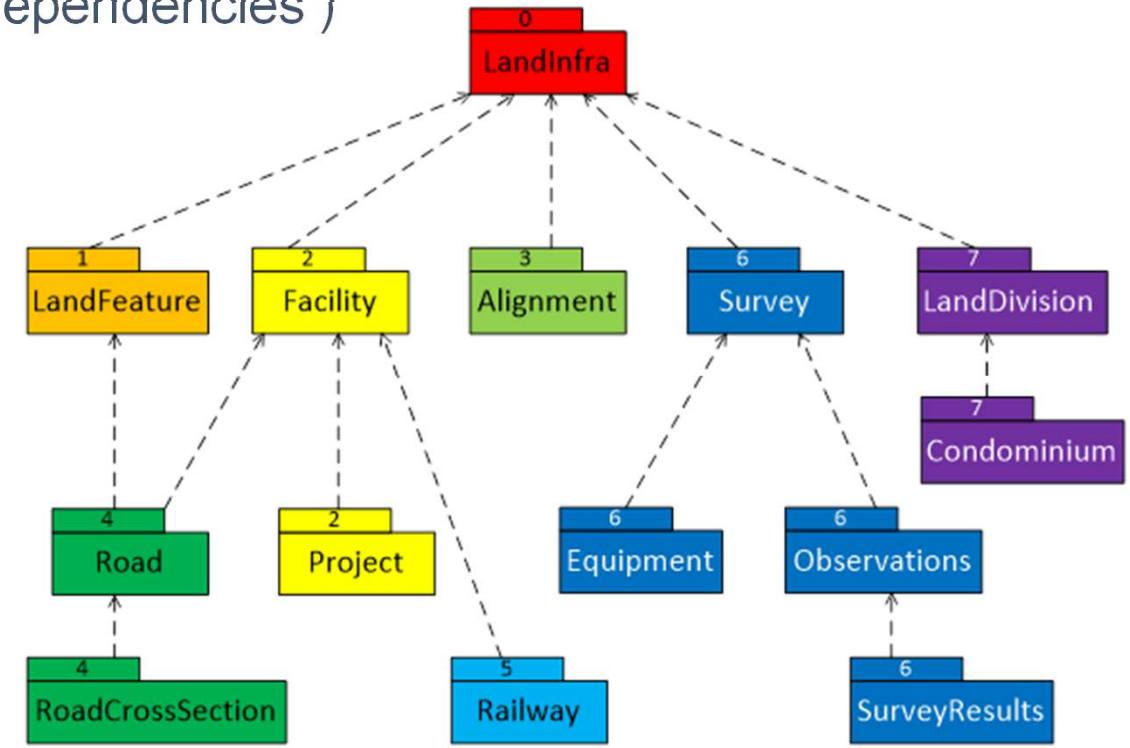
Condominiums

Survey

Railway

LandInfra / InfraGML Structure

- Split in 7 Parts (containing all 14 InfraGML Requirement Classes matching LandInfra RCs)
- Each part have its own (standard) document
- Encoding & Application could choose which parts it will support (with involving dependencies)



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Focus

- LandInfra/InfraGML is primarily focused on (infrastructure) Facilities, the Projects that improve them, the Land on which they are constructed, and the Survey information necessary for the construction and recording of the facilities and land interests
- Facility is limited to a campus, motorway, railway line, etc.
- Decomposition occurs below this level: FacilityPart (road, railway run, building) down to its components / elements (pavement, track, land parcel) and representations (3D models, string lines, cross sections)

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Current Scope

In

- Alignment – released
- Road - released
- Railway - released
- Survey - released
- Land Division - released
- Land Features - released
- Site improvements - ongoing
- Wet infrastructure

Out

- Land administration
- Utilities (except for location)

Marginal or undetermined

- Buildings
- Bridge / tunnel
- Networks
- Road Design
- Underground Utilities

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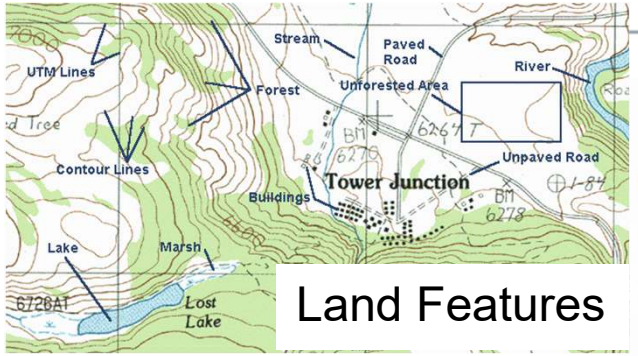
LandInfra / InfraGML

http://www.opengeospatial.org/standards/landinfra

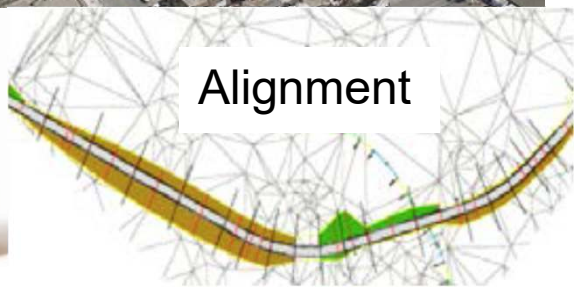


Land Features

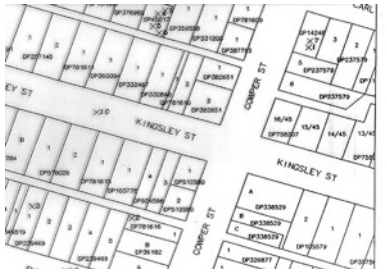
Facilities

Projects

Core



Alignment



Land Division

Roads

Railway

Survey

Condominiums

Storm Drainage

Water Distribution

Wastewater

Underground Utilities

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Questions ?

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