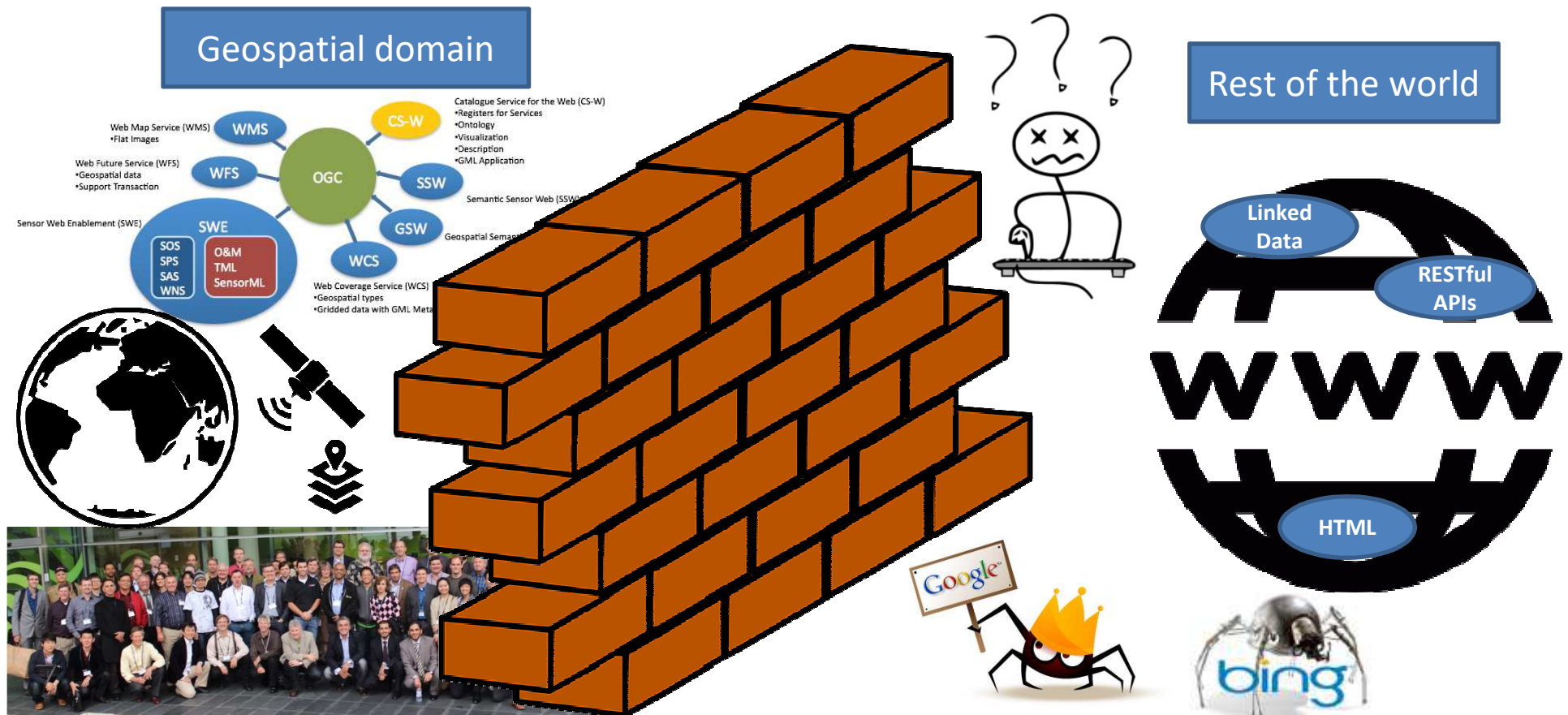# Spatial data on the web: Open Metadata
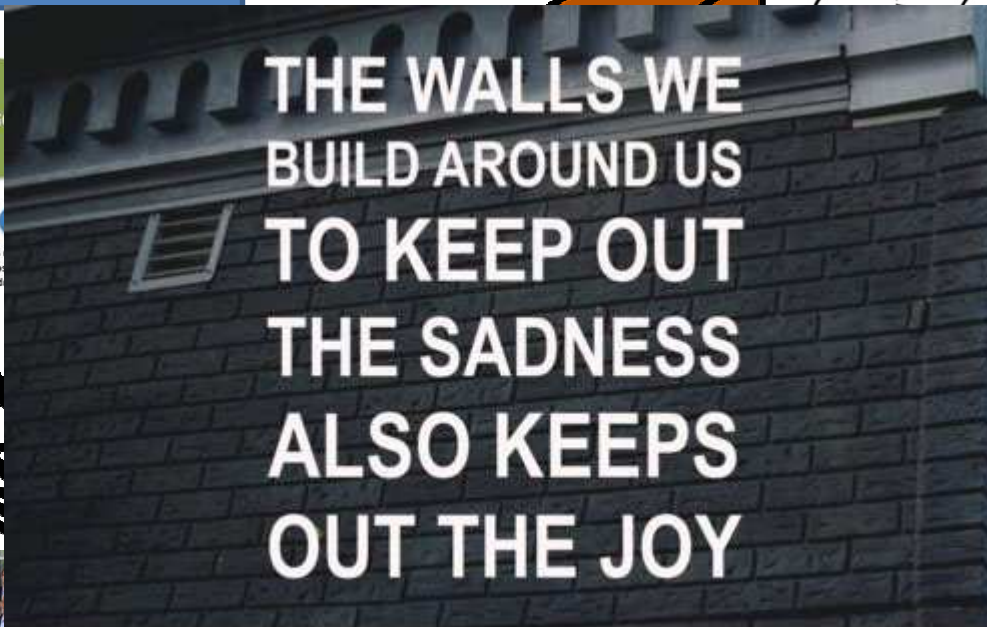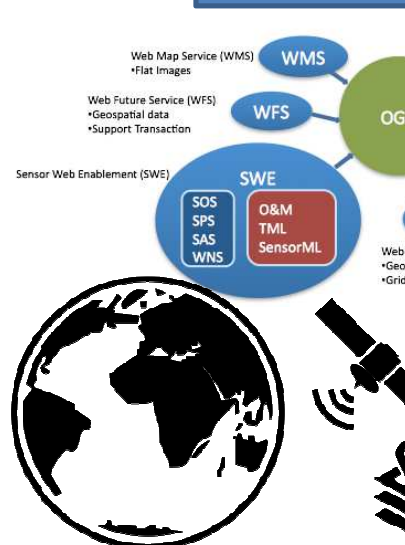
Linda van den Brink, Ine de Visser

30 nov 2016

The geospatial world
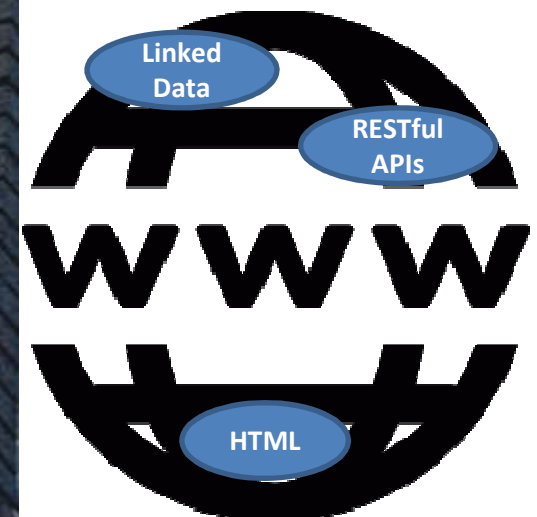
Spatial data >> to the Web
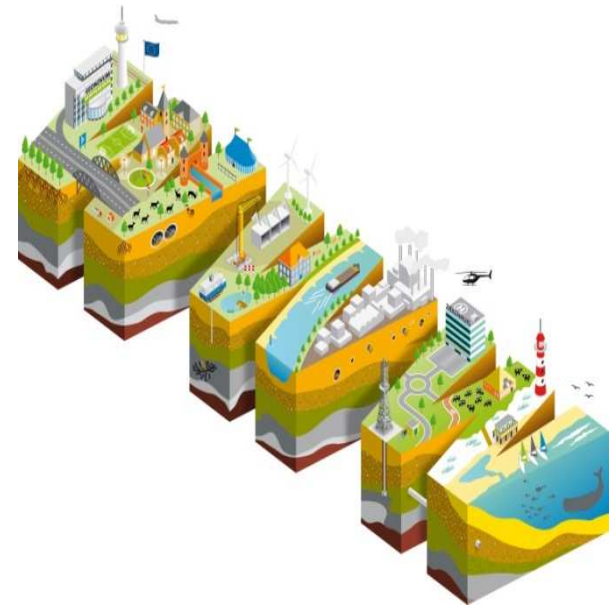
#geo4web testbed
https://github.com/geo4web-testbed/general

- ✦ An experimental testbed of Geonovum
- ✦ Q4 2015-Q1 2016, phase 1
- ✦ Q2-Q3 2016, phase 2

- ✦ To investigate how geodata can become part of the web ecosystem

- ✦ Findable by search engines
- ✦ Friendly for developers

- ✦ Those experiences are used as input for the OGC/W3C Spatial Data on the Web Best Practice (SDWBP)

Open metadata

✦ Existing Spatial Data Infrastructure (SDI)
  – Geospecialists

Beside serving the geospecialists also serve other communities:
  – Linked data
  – Open data

'Metadata interoperability is achieved by the use of metadata standards and harmonization/ transformations between different metadata standards (Longhorn. 2005)'.

SDW BP: "Make your data indexable by search engines"

✦ Exposing data *on the Web* means that it can be discovered directly using search engines.

✦ **This doesn't mean metadata is no longer necessary**; it is still needed for clients and users to judge the usability of the data for their purposes.

✦ Both metadata and data should be exposed in a discoverable way on the web.

To make metadata (and your entity-level data) indexable by search engines

✦ Generate one HTML page per resource - one page for the metadata record and one page for each entity in the dataset.

✦ Include structured markup (see schema.org) that the search engines can use to make more detailed assumptions about your resource(s) and drive better search performance. Either create pages beforehand or generate them at query time via an API.

✦ Provide a path for search engines to find your pages - either crawling to each entity from a 'collection' object (which provides the entry point for the web crawler) or being directed by sitemaps.

Best **Practice!**

GEONOVUM

✦ Dutch geoportal (NGR) is currently implementing the recommendations of the testbed as mentioned in previous slide
✦ In addition, geoDCAT becomes available as output format of the CSW (catalog service)

GeoDCAT

- ✦ To specify spatial attributes that are not available in DCAT.

- ✦ GeoDCAT-AP provides an RDF syntax binding for the metadata elements defined in the core profile of *ISO19115* and in the INSPIRE metadata schema *INSPIRE-MD*.
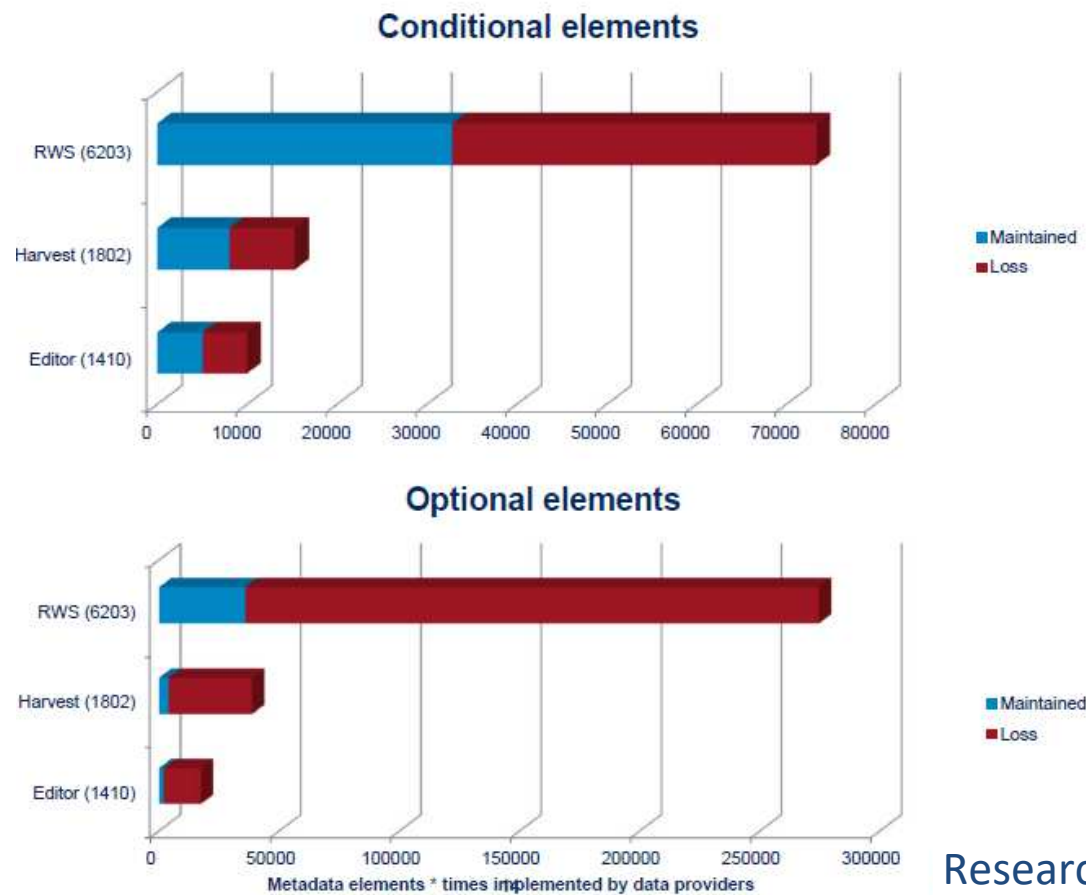
Experience with mapping ISO 19115 with geoDCAT

Mandatory elements
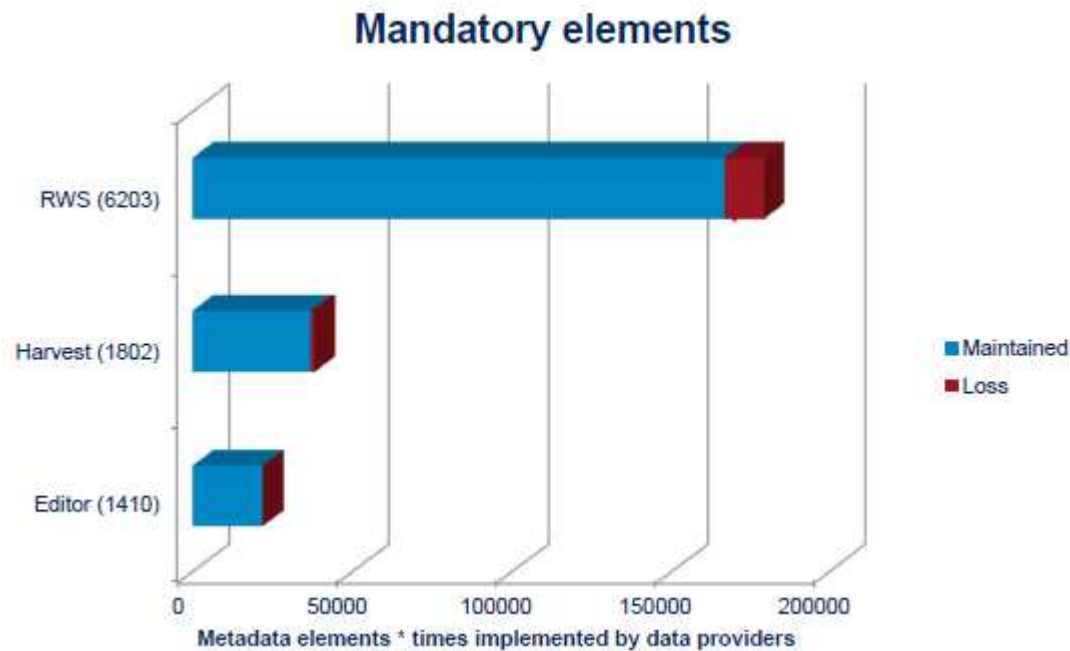
Hidden transformation loss: specific elements mapped to the same DCAT element

Research by R. van Setten

Mapping ISO 19115 with geoDCAT

Research by R. van Setten

Spatial coverage

✦ Metadata of spatial datasets should include the spatial coverage of the features by reference to a named place in a common vocabulary for geospatial semantics (e.g. GeoNames),

✦ In addition, use a set of coordinates to specify the boundaries of the area either as a bounding box (add glossary ref) or a polygon - as is "normal" in the geo world.

✦ Implementatie voorbeeldje bounding box

# Testbed: linked data proxy on top of SDI
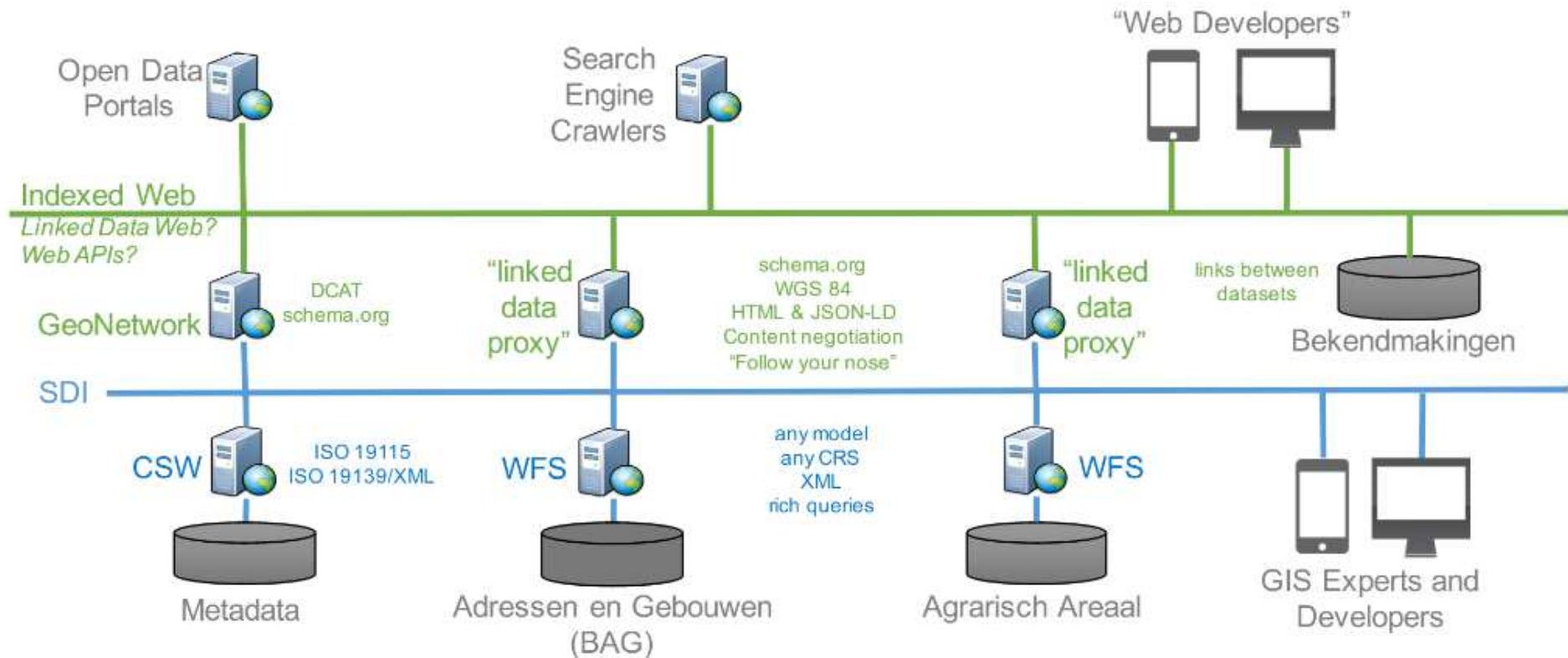
Testbed lesson learned: Mapping to schema.org

✦ Spatial catalog records are typically structured as ISO 19139 XML

✦ Most obvious missing properties are typical spatial properties such as **spatial resolution** and **projection info**.

✦ Spatial coverage: Bounding box / polygon vs identifier of a geographic location > do **both**

✦ See also [testbed report](#) and https://github.com/geo4web-testbed/geo-extension-to-schemaorg

dataset	http://schema.org/Dataset
series	http://bib.schema.org/Collection
service	http://schema.org/Service

In conclusion

✦ Existing SDI's should and can be the foundation of publication of spatial (meta)data on the web

✦ Metadata is still needed
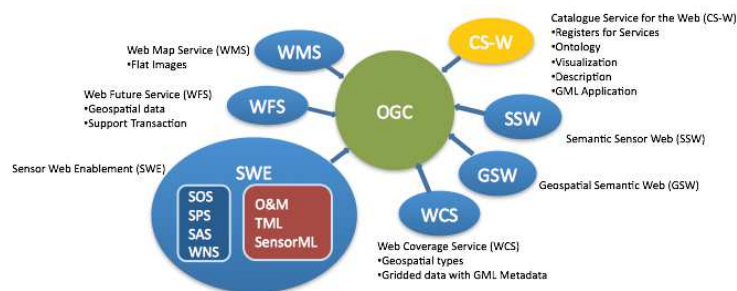
Thanks. Any questions?

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#geo4web

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