Georef – Linked Data Deployment for Spatial Data; Finnish Initiative

Georef – Linked Data Deployment for Spatial Data; Finnish Initiative

Esa Tiainen
National Land Survey Finland
Finnish Geospatial Research Institute FGI

Contents

- Linking spatial and non-spatial information
- Geocoding by place names
- Ecosystem platform
- Release the”dead knowledge capital” of information assets
- Examples of use

Place names for bridging information & data assets

- A lot of information carry place names **but**
- Most information do not carry direct location data
- This applies to data assets of any format
  - scientific research reports, different types of documents; textual, images, photos, movies, music etc
- To link or combine spatial data with these other data types we employ place names binded to coordinates
- But place names are tricky too
  - Many places have the same names (Paris, Texas), conjugations…

➢ To be usable they need unique identifiers i.e. httpURIs

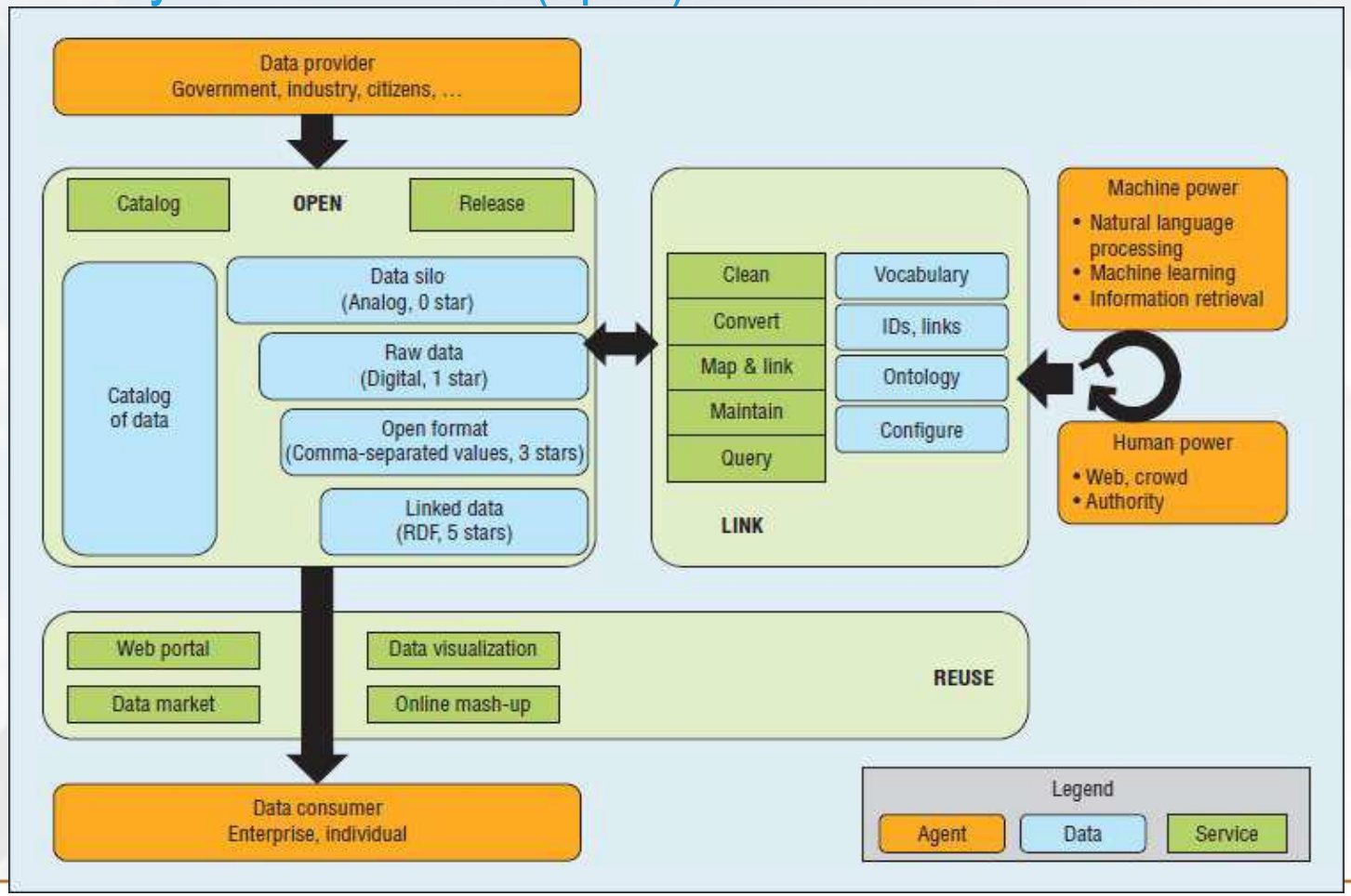
Georef in short = geocoding by place names

Georef is targeting to enable and improve data combinations of spatial data and any other data, scoping to

- Any web contents
- Public services, re-use of scientific and research data across disciplines
- Re-use in media (local-national; the Finnnish national broadcasting company YLE)
- Personalized services (tourism, education, specialized training …)
- Crowdsourcing: E.g. inclusion of community members and updating contents related to places and areas to provide and create novel viewpoints and information in city development (citizen science)

Message on implementation: Local is global!

Ecosystem of linked (open) data



Georef -linked data service and development platform

Non-spatial data source

Data extract based on place name

Linked data /theme

Metadata

TOOLS

Vocabularies (annotation)

Asset & content descriptions Crowdsourcing …

Machine analytics/ AI

On-line place name tagging

Conjugation of proper names

URI-search to place names, location on map

Proposition/ places with same names & different source

LINK

Transformation of data assets to linked data (triple store - RDF)

Up-to-date place names

Historical place names

RDF W3C

TJS OGC

Services

- Service platform
- Personalized services
- APIs

Spatial data

- Map
- 3D –NTDB

Displaying URIs on map & other documents

Linking to maps, location and spatial entities

Map archives

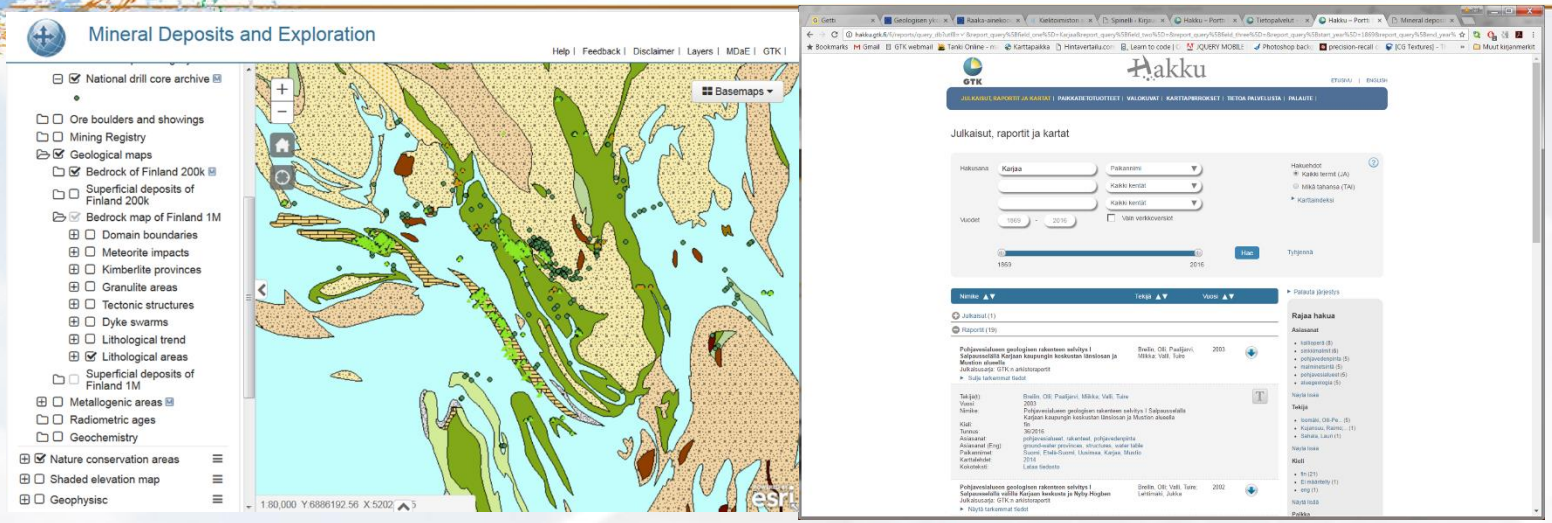
Metadata

Release the"dead knowledge capital" of information assets

Georef presents a way to realize cababilities of spatial data

- To add value when combining data
- To make visible phenomenons that are hidden
- To visualize and verify processes of long term
- To show the interaction or correlation of things or events

- To combine spatial data with all other data is to boost and realize the mighty potential of spatial data
- And to release the hidden "dead capital" of information resources
- This is why we need to employ place names with httpURIs



Place names bridging information & data assets

Example: Need to merge individual research reports and survey maps (Geological survey) and further across disciplines

J.J. Sederholm, Pohja, Hermansö 1906

Prototype - cases

- Learning and education: Spatial data for AI-supported learning methods, professonial training)
- Operational and research data: Inter- and cross-discipline data combinations through spatial data (Geological Survey, all of the web)
- Crowdsourcing
  - To enrich data capture in environmental or cultural heritage contexts
  - To enrich address assets for improving rescue, logistics (address as a place)
  - Citizen science
- Media: news on map - online, locating recorded contents of same place

Thank you for interest!

More information
Esa Tiainen
senior adviser / johtava asiantuntija
National Land Survey/ Maanmittauslaitos
Finnish Geospatial Research Institute FGI

esa.tiainen@nls.fi
www.maanmittauslaitos.fi
www.fgi.fi