



INSTITUT NATIONAL  
DE L'INFORMATION  
GÉOGRAPHIQUE  
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# **Developing linked data activities and strategy at IGN France and in EuroSDR**

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**SDI.Next: Linked Spatial Data in Europe**  
**Amersfoort, March 12th 2019**

# At IGN

# DATA LIFT (2010 – 2013)

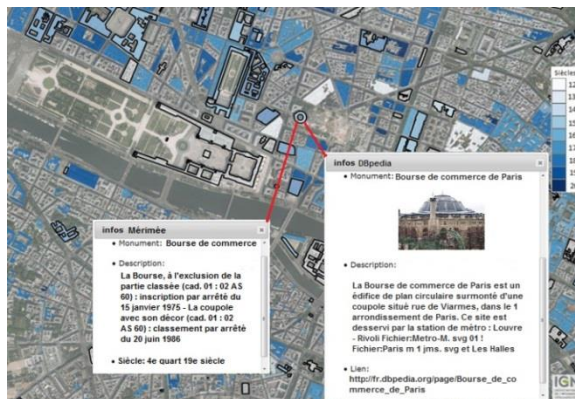
- RESEARCH PROJECT INVOLVING INSTITUTIONAL, ACADEMIC, INDUSTRY AND INNOVATION PARTNERS
  - Interconnecting linked data, dealing with the large number of overlapping ontologies, right and access management
  - Designing an open source platform to publish existing datasets as linked data
- @IGN : 4 VOCABULARIES REUSED BY OTHER DATA PRODUCERS
  - <http://data.ign.fr/def/geometrie> : geometry vocabulary
  - <http://data.ign.fr/def/ignf> : coordinate reference system vocabulary
  - <http://data.ign.fr/def/geofla> : administrative units vocabulary
  - <http://data.ign.fr/def/topo> : topographic features vocabulary
- 2 PUBLISHED DATASETS BASED ON THESE VOCABULARIES + 1 PROTOTYPE SPARQL ENDPOINT ([data.ign.fr](http://data.ign.fr))



# SOME EXPLOITATION OF GEOLINKED DATA

- USING TOPOGRAPHIC FEATURES TO FACILITATE INTERCONNECTION BETWEEN DATA AND TO RENDER AT DIFFERENT SCALES

Feliachi, Abadie, Hamdi 2013



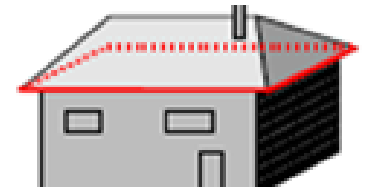
- DESIGNING NEAROFF VOCABULARY TO PUBLISH LINKS BETWEEN DBPEDIA AND IGN TOPO DATA

Da Silva, Borne 2013



# FURTHER RESEARCH : THE SEMANTICS OF X,Y

- CONTEXT : ABDELFETTAH FELIACHI PHD, 2014-2017, FUNDED BY IGN
- A VOCABULARY TO ADD METADATA TO GEOMETRIES (DESCRIBING THEIR SEMANTICS) :
  - WHAT SHAPE, ASPECT IN THE REAL WORLD DOES THE GEOMETRY MODEL
  - THE RESOLUTION ( ~ LEVEL OF DETAIL, SCALE)
  - THE PLANIMETRIC ACCURACY
- AN ADAPTATIVE INTERCONNECTION METHOD, IMPLEMENTED IN SILK, USING THIS VOCABULARY



# TAKING LINKED DATA FROM RESEARCH TO DEVELOPMENT AND PRODUCTION AT IGN ...

- TRANSFER OF LINKED DATA COMPETENCES AND RESULTS TO IGN DEVELOPMENT TEAMS => DIFFICULT PROCESS
  - Not seen as a priority in a very disruptive context
- COLLABORATE WITH ORGANISATIONS SHARING SIMILAR OBJECTIVES:
  - Other French organisations : statistical institute, geological survey, national library, ...
  - European mapping agencies : Eurosd, ...
- EVOLVE TOWARDS OPEN INNOVATION DEFINING COMMON DEVELOPMENT DELIVERABLES WITH PARTNERS : IGN*fab*
- LINKED DATA RESULT MAINTENANCE
  - <https://github.com/esgn/adminexpress2rdf>

# LINKED OPEN STATISTICS HACKATON (sept 2018)

- HACKATHON WITH FRENCH NATIONAL STATISTICS BUREAU (INSEE) IN THE LINKED OPEN STATISTICS ESSnet FRAMEWORK
  - Aim the hackathon : Design, produce and use LOD
  - Linked Open Statistics and Linked Open Geodata interconnection
  - Use of statistical time series and RDF data cube ontology
  - Development with Python, Java, React+R, GraphDB, ...

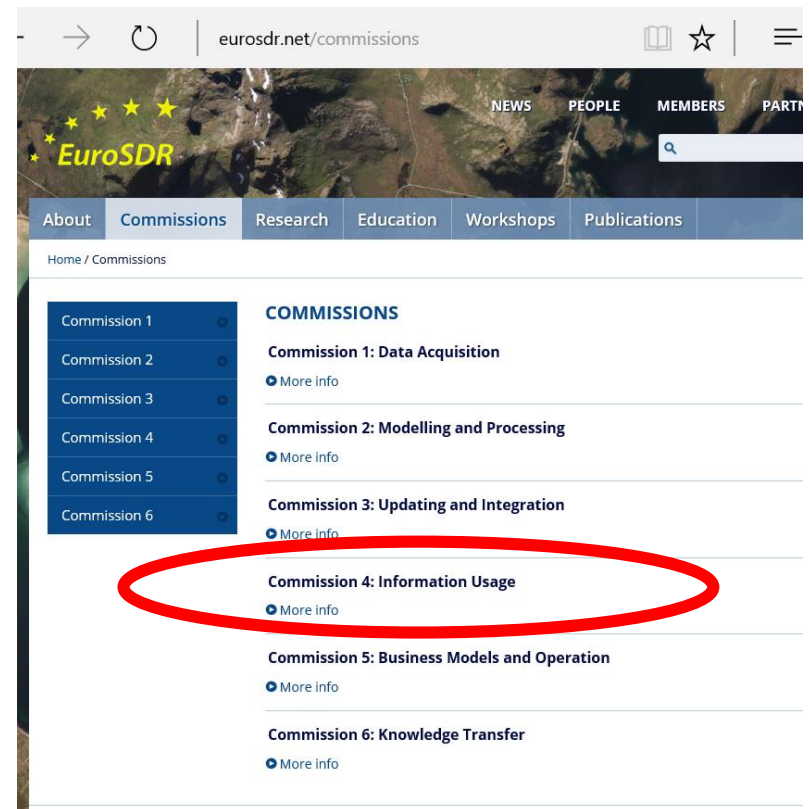




# In EuroSDR

# EUROSDR (<http://eurosddr.net>)

- A NOT-FOR-PROFIT PAN-EUROPEAN ORGANISATION (SINCE 1953) GATHERING NMCAS, RESEARCH INSTITUTES, UNIVERSITIES AND INDUSTRIES.
- FOCUSED, TIMELY, COST EFFECTIVE APPLIED RESEARCH IN SPATIAL DATA PROVISION, MANAGEMENT AND DELIVERY.
- WORKSHOPS, PROJECTS, BI-ANNUAL GENERAL MEETINGS, DOCUMENTATION



# EuroSDR activities

- **DELEGATES MEETINGS (2/YEAR) : REPORTS, KEYNOTES, BREAK OUT SESSIONS. PEOPLE FROM PRODUCTION, STRATEGY, RESEARCH DISCUSSING TOGETHER.**
- **WORKSHOPS, PROJECTS : DIALOGUE, STATE OF THE ART, MEMBERS REAL PROBLEMS AND DATA, DISSEMINATION**
- **BENCHMARKS GROUNDED ON MEMBERS DATA, ...**
- **PUBLICATIONS**
- **SUCCESSFUL E-LEARNING SERIES (EDUSERV)**



# EuroSDR Linked Data activity

- SEMANTIC WEB COMES WITH NEW OPPORTUNITIES AND NEW STAKES FOR LOCATION
  - But difficulties for some (most?) NMCAs to collaborate with linked data specialists or to even engage in this activity
- OBJECTIVES WRT LINKED DATA ACTIVITIES
  - Improve mutual knowledge to **improve communication**
  - **Design shared benchmarks based on unsolved issues in spatial data infrastructures** : isolate specific technical problems that could be solved by communities (code sprint, challenges, ...)
- OUR APPROACH
  - Workshops (2015, 2016, 2018, today)
  - EuroSDR Linked Data Group (new!)
  - Benchmark design (ongoing)



# A EUROS DR LINKED DATA GROUP (February 2019)

- CONNECT PEOPLE AWARE OF THE SPECIFIC CONTEXT OF ORGANIZATIONS WHO PRODUCE AND DELIVER SPATIAL DATA AND KEEN ENOUGH ON LINKED DATA
  - To reach a network where people can easily communicate and understand each other context
- GENERAL OBJECTIVES OF THE WORKING GROUP
  - Exchange information about mature enough solution to publish (our) data as linked data
  - Design harmonization solutions
  - Reach out users/usage (not only LOD developers)
  - Find extra resources
- COLLABORATIVE TOOLS
  - Wiki ([geometadatalabs.eu](https://www.geometadatalabs.eu)), chat service, ...

# DESIGNING SHAREABLE BENCHMARKS

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- **SCHEMA ALIGNEMENT AND DATA INTERCONNECTION**
  - (INSPIRE) data product schemas, OSM tags, Wikipedia categories, (linked) open data.
  - Across producers (e.g.: buildings), across themes, across space, across time
- **DATA CARDS DESIGN WITH SAMEAS LINKS**
- **WORKFLOW REPRODUCIBILITY**
- **METADATA FOR PATCHWORK PRODUCTS**



# DESIGNING SHAREABLE BENCHMARKS

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- **GAZETTEERS, PLACES**

- rank places importance to support place names filtering during dezooming

- **SMART TEXT AND REGULATION**

- **FROM LINEAR COORDINATES TO GEOGRAPHICAL COORDINATES**

**Thank you for your attention**

**Join us!**

**[http://geometadatalabs.eu/Linked\\_data\\_main\\_page](http://geometadatalabs.eu/Linked_data_main_page)**