



# Beyond traditional SDI: New research topics and methods

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## Own **background** and **interests**

- Multi-disciplinary research projects, e.g. SPATIALIST
  - SDI functioning, network & processes, factors <> performance ...
- Geospatial standardisation
  - OGC community as innovative eco-system
- SDI & INSPIRE implementations
  - Belgium, Romania, Balkan, Catalunya ...
- Research on SDI assessment
  - INSPIRE State of Play, Geomaturity Index (UAE) ...
- Education & training supporting SDI implementation & use
  - Geospatial ontologies as a basis for a BoK on GI/EO
- Appointed by Flemish Government as member of Steering Group on I & ICT Policy
  - Integration of geospatial and e-Government

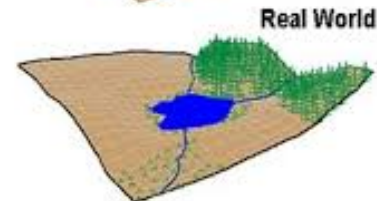
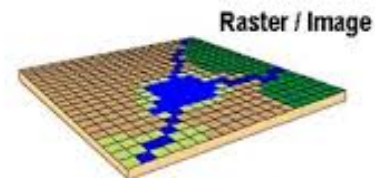


# Outline

- Beyond SDI's
- Which research topics ? - What
- Which research methods ? - How

# Beyond SDI

- What are we speaking about?
  - SDI as 'infrastructures'



# Beyond SDI

- Focus has been a lot on the ‘Publish-(Search)-Find-Bind’ paradigm
  - Geo-portals
- SDI research



“Talking about ...”:  
SDI as a research object



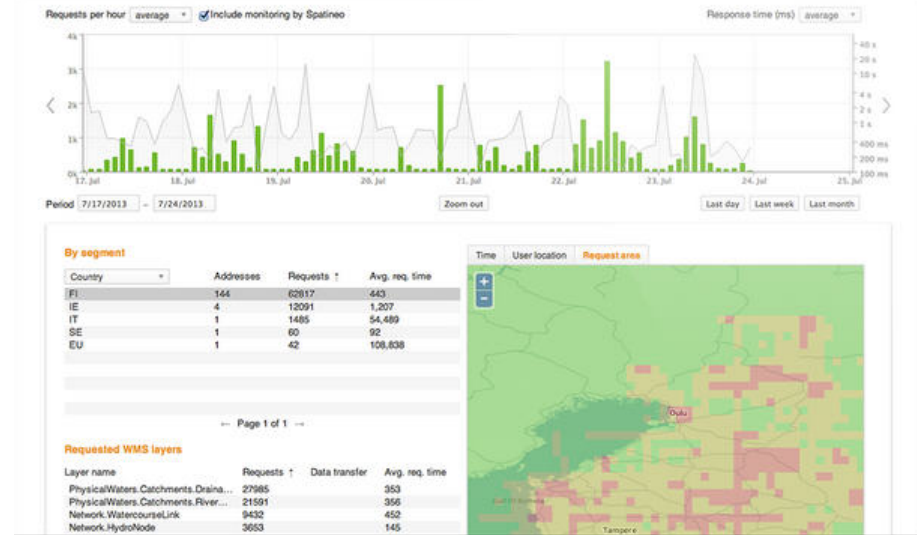
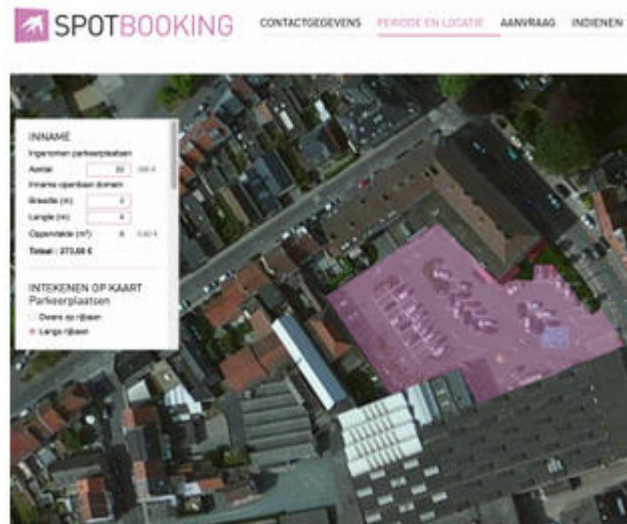
“Working on ...”  
SDI implementation and usage  
as research activity



# Beyond SDI

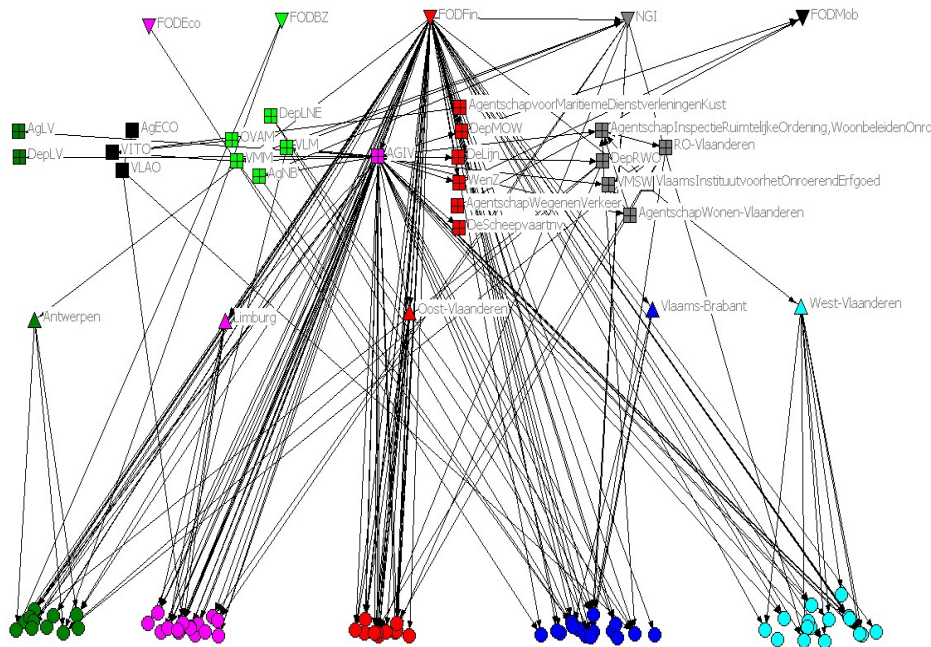
- Relatively few research on the usage and uptake and how this works

Lack of real multi- and interdisciplinarity ...



Applications, user behaviour, enriching the SDI, enhancement of processes ...

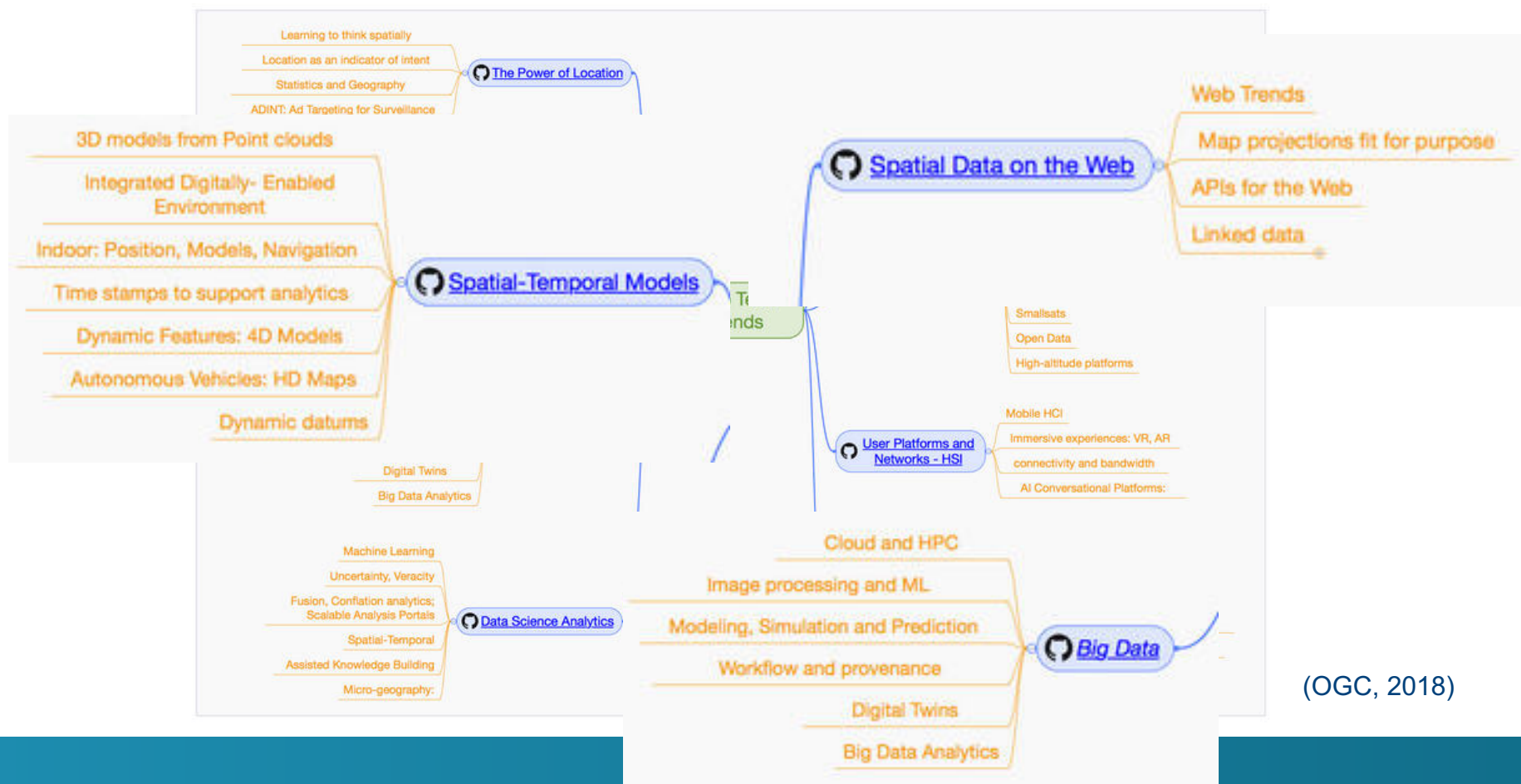
- Research on sharing:  
Who is connected with whom?  
(SNA), re-use practices ...





# Which research topics?

- Many technological and non-technological challenges remain ...
- ... taking into account the technological and societal developments



(OGC, 2018)

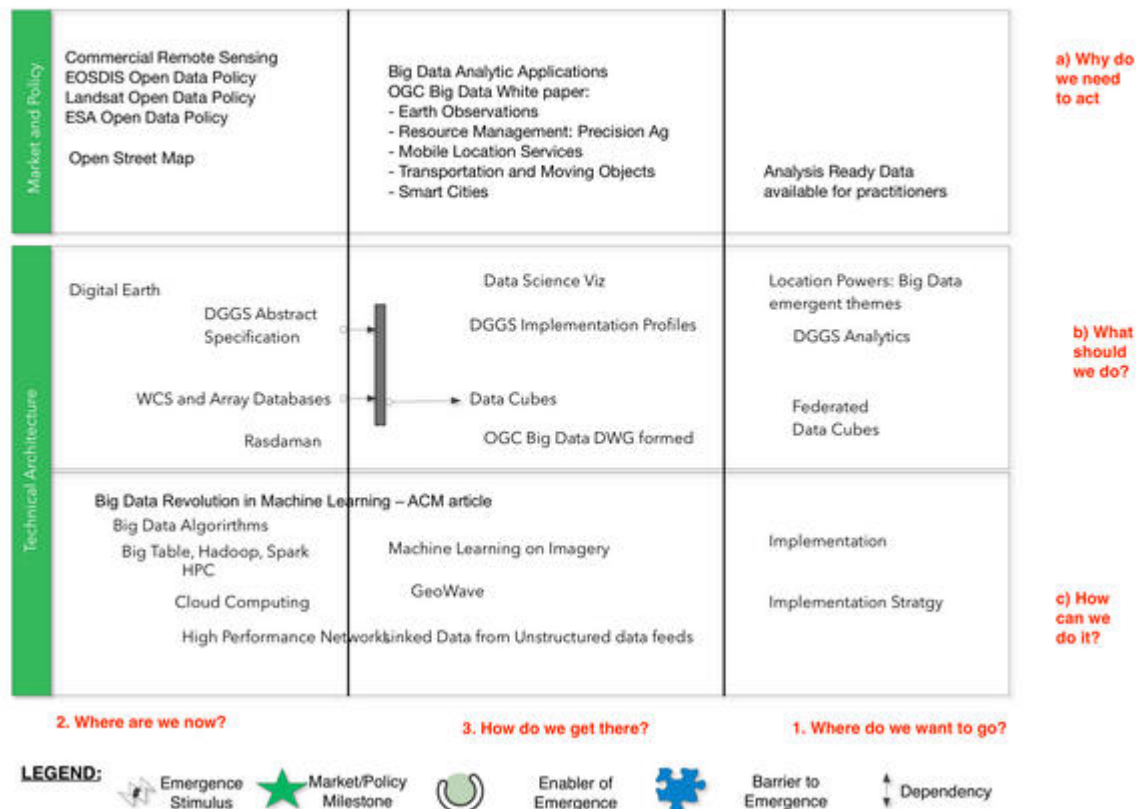


# Which research topics?

- Need to define roadmaps for multi-disciplinary research

Tue Oct 03 2017

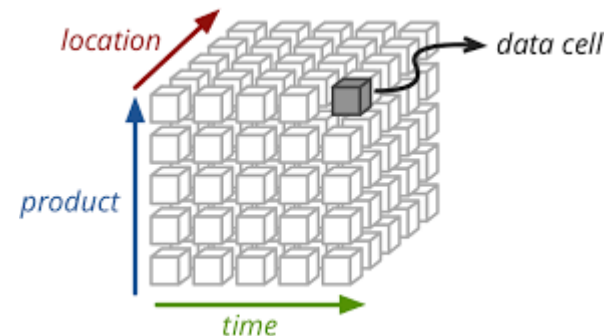
## Open Data Analytics Roadmap




(OGC, 2018)

# Which research topics?

- Extending and integration of SDI data models
  - This is a user problem ... geospatial data from different sources, integration with other information
  - Enriching SDI with other information from the web using Linked Data techniques
- 3D/4D data models
  - Integration with BIM
  - Indoor location
  - AR/VR
- Resolving the problem of time and dynamic information
  - Working with data cubes and O&M for ...
  - ... dynamic processes such as weather patterns and models



# Which research topics?

- SDI and work flows
    - Orchestration and chaining of web services ...
    - ... and embedding/automating these in e-Government processes
  - Location enablement
    - Geospatial API's for exploitation
- 
- Open data and secure access
    - Technological challenges based on AMF and SSO ...
    - ... including organisational issues

# Which research topics?

- Own ideas/plans for H2020 proposals
  - Framework for measuring process performance of location enabled work processes
  - Open data and secure access in a federated environment
  - Big data and spatial analytics for detecting utility network problems
  - Center of Excellence for 3D/4D geodata



# Which research methods?

- Multi- and interdisciplinary research
  - University – Companies – Public Bodies



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## Spatial data on the Web

### Geen updates meer missen?

Automatisch op de hoogte blijven? Meld je aan voor één van onze nieuwsbrieven.

Vul hier je e-mailadres in

INSCHRIJVEN



# Which research methods?

- Living labs
  - Not everything should be set-up as a big research project
    - Flexible (and small) budgetting
  - More experiments
    - In the form of hackathons, climathons, mapathons ...
- Academic SDI ?
  - Old idea within AGILE
    - Exchange / re-use of scientific data
    - ... + experiments



# Conclusions

- SDI should not be considered in its narrow sense
- Choice of research topics can be supported by a road map based on technological and societal trends
- Building an SDI research eco-system using living lab approaches



Thank you!



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