KU LEUVEN

# Uptake of EO/Copernicus data for improving the performance of work processes

Glenn Vancauwenberghe
Spatial Applications Division Leuven (SADL)
KU Leuven

# Challenge

Need for a common view on **performance** in the context of Spatial Data Infrastructures

- Geomatics
- Economics
- Public administration
- Sociology of organizations
- Law

To investigate and understand the impact of technological, institutional, organizational, legal and economic aspects *(not a real benefits study)*

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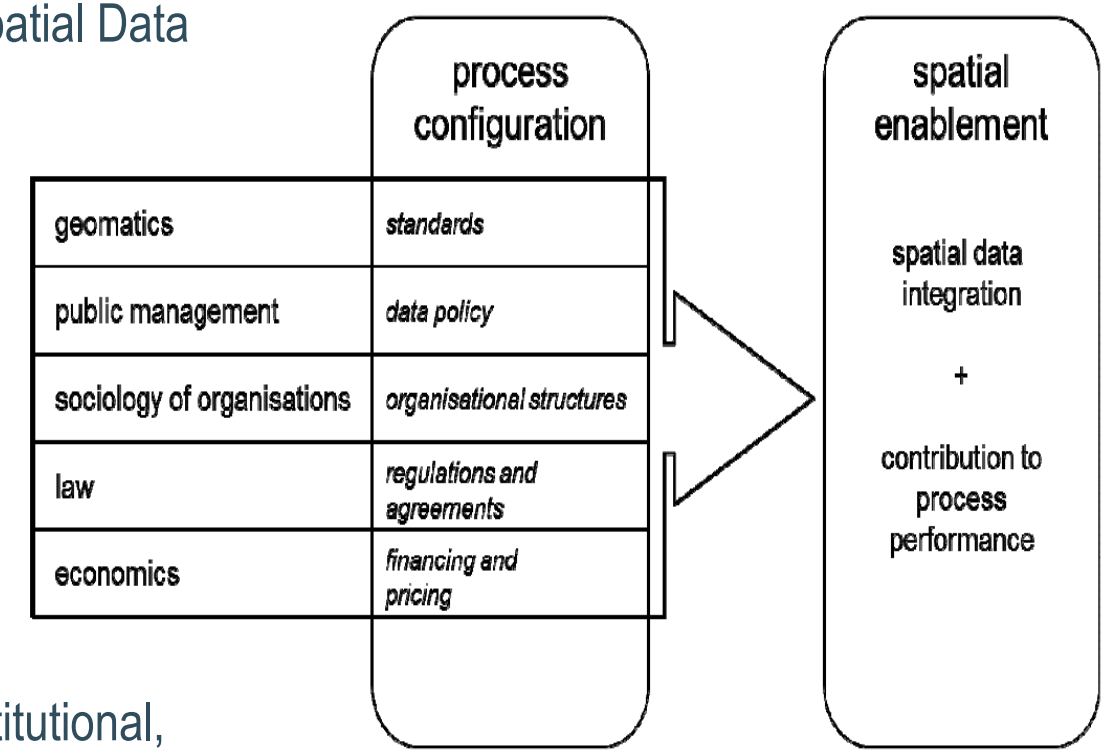


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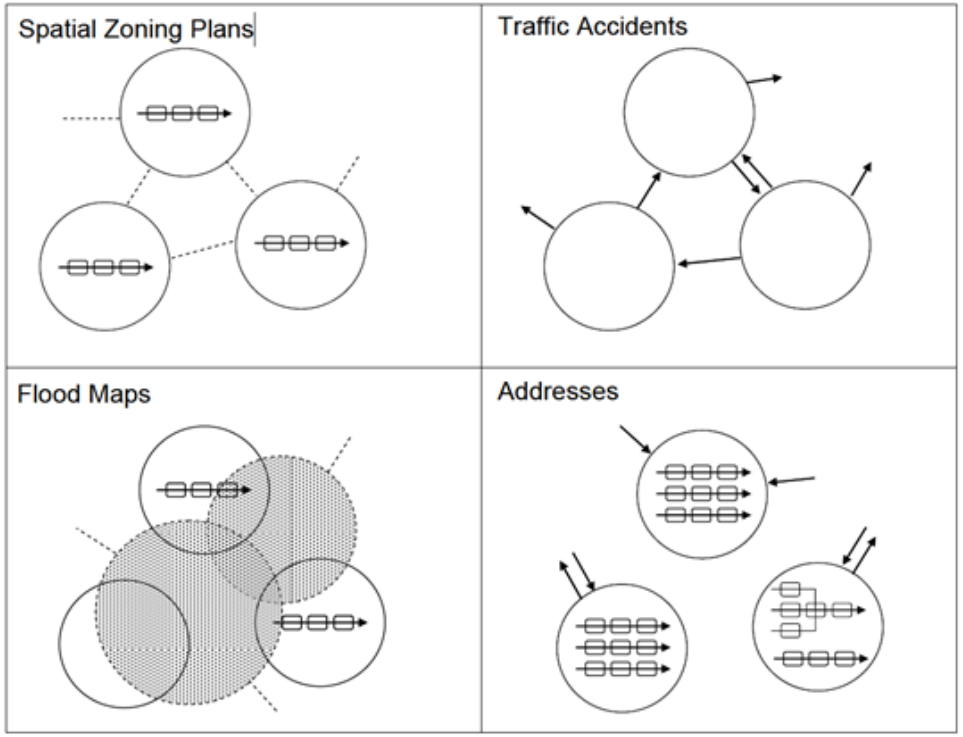
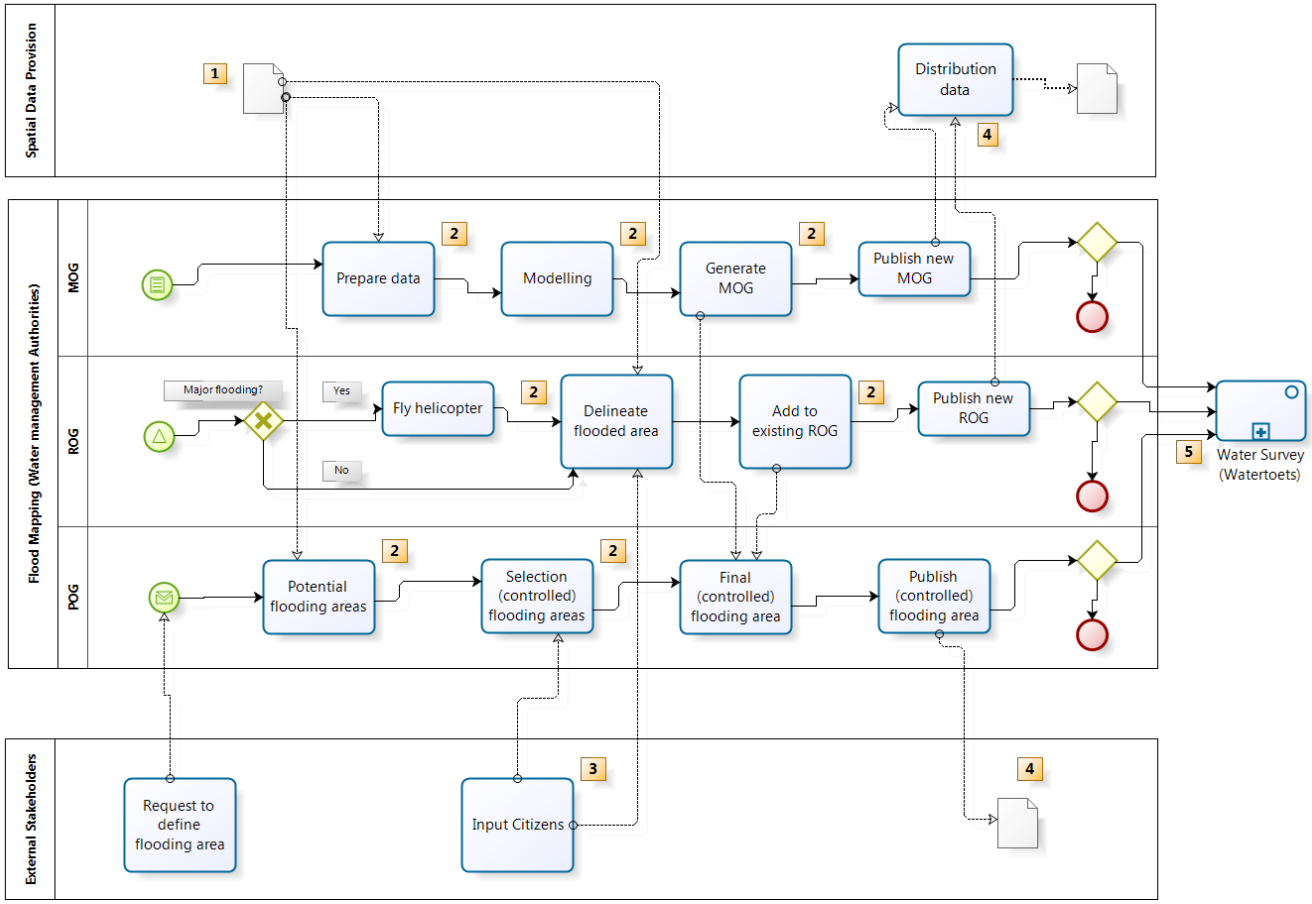
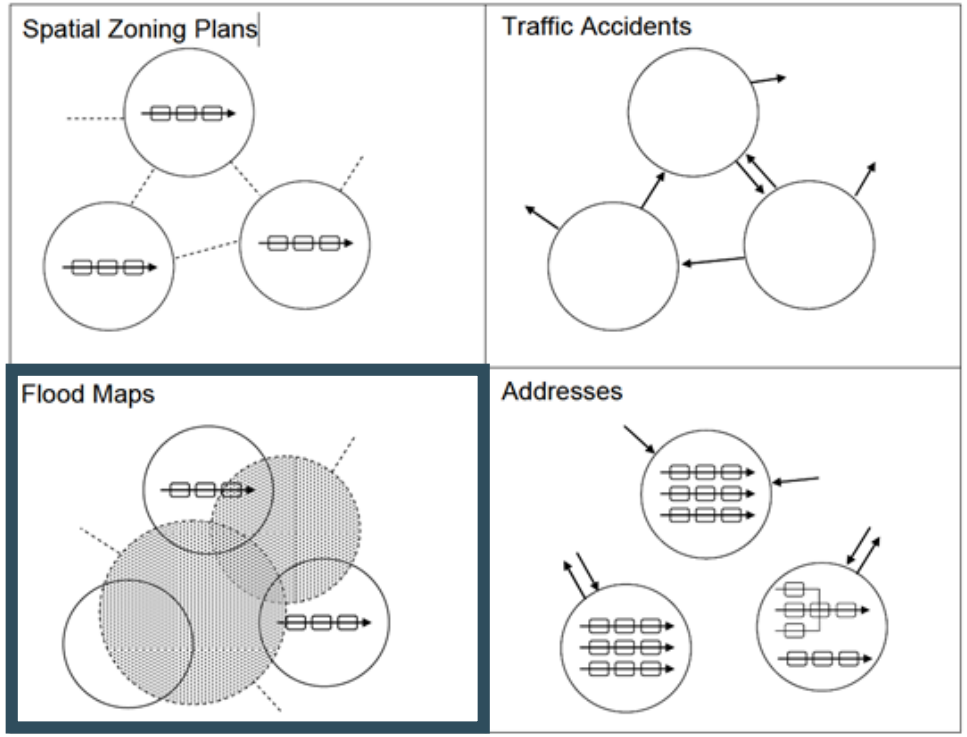
# A process view on SDI performance

- **Proposed solution**: focus on the – public sector – processes in which data are created, collected, accessed, processed, used and shared
- Beyond the data creation/collection process, but looking at the **overall policy process** in which the data creation/collection takes place (as sub-process)
- Processes – *relatively* – easy to understand, also by non-experts (and linked with the 'daily lives' of citizens)
- Inter-organizational processes, involving municipal, provincial and central government organizations



# A process view on SDI performance



# Findings & results

Differences in the 'spatial data performance' of processes:

1. Relation with explanatory variables, such as the level of standardization, but also organization and governance of the process
2. Impact on the overall performance of the process, in terms of efficiency, quality, flexibility, innovation, transparency and reliability *(qualitative information)*
3. *Significant differences between organizations*

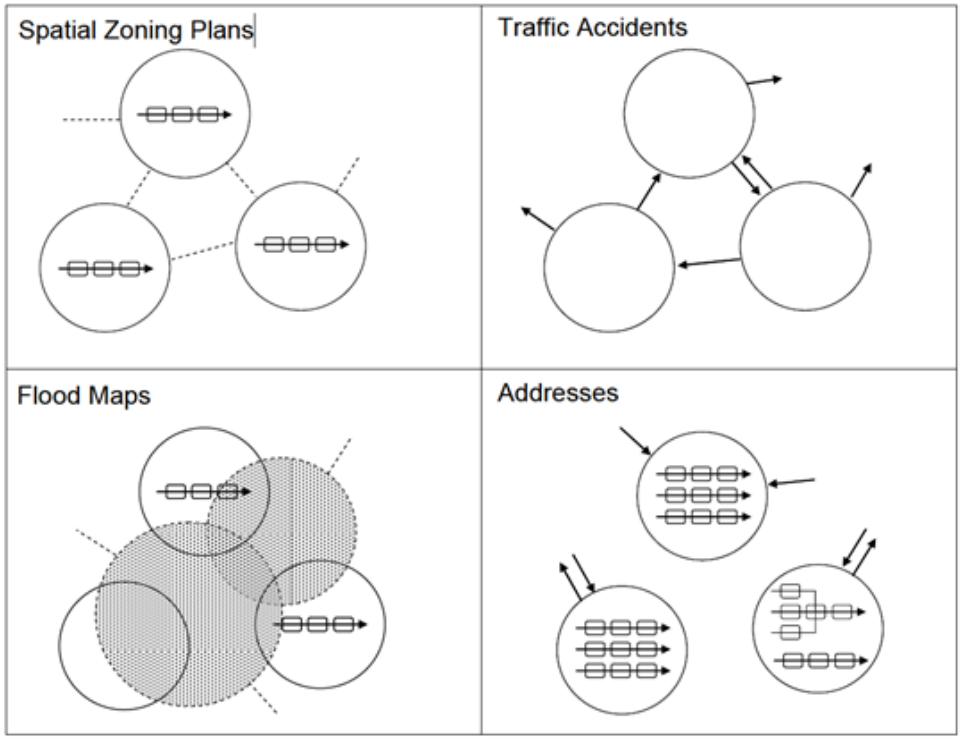
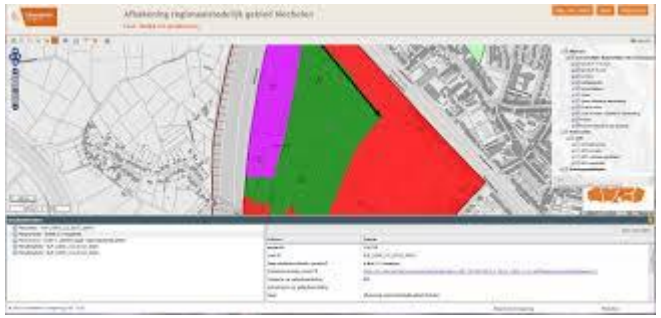
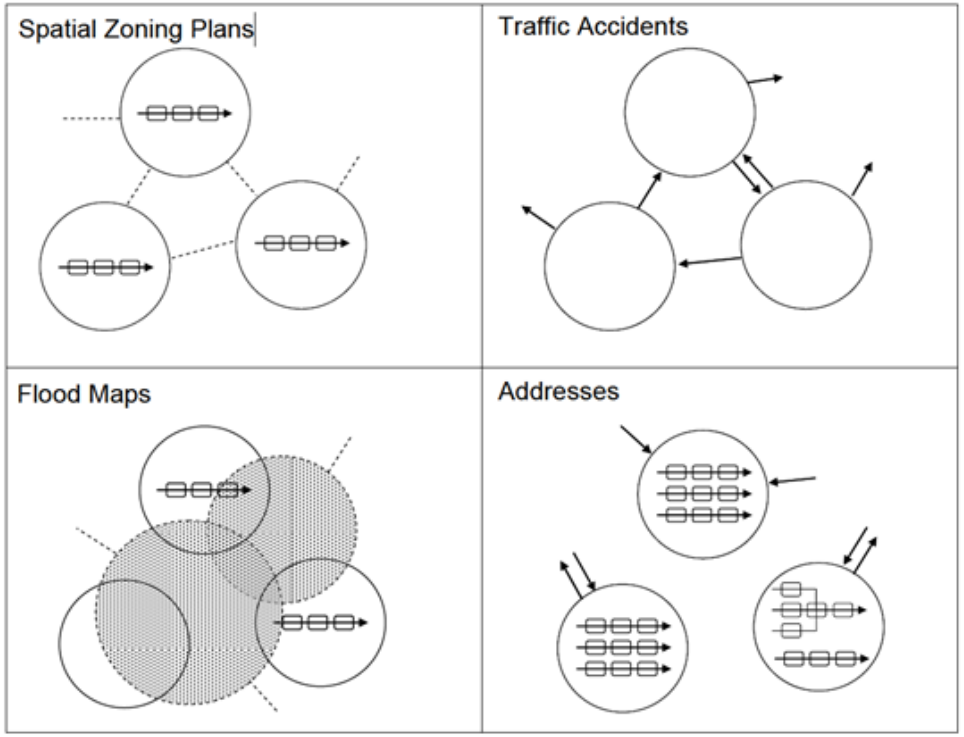



Table 3. Spatial data performance.

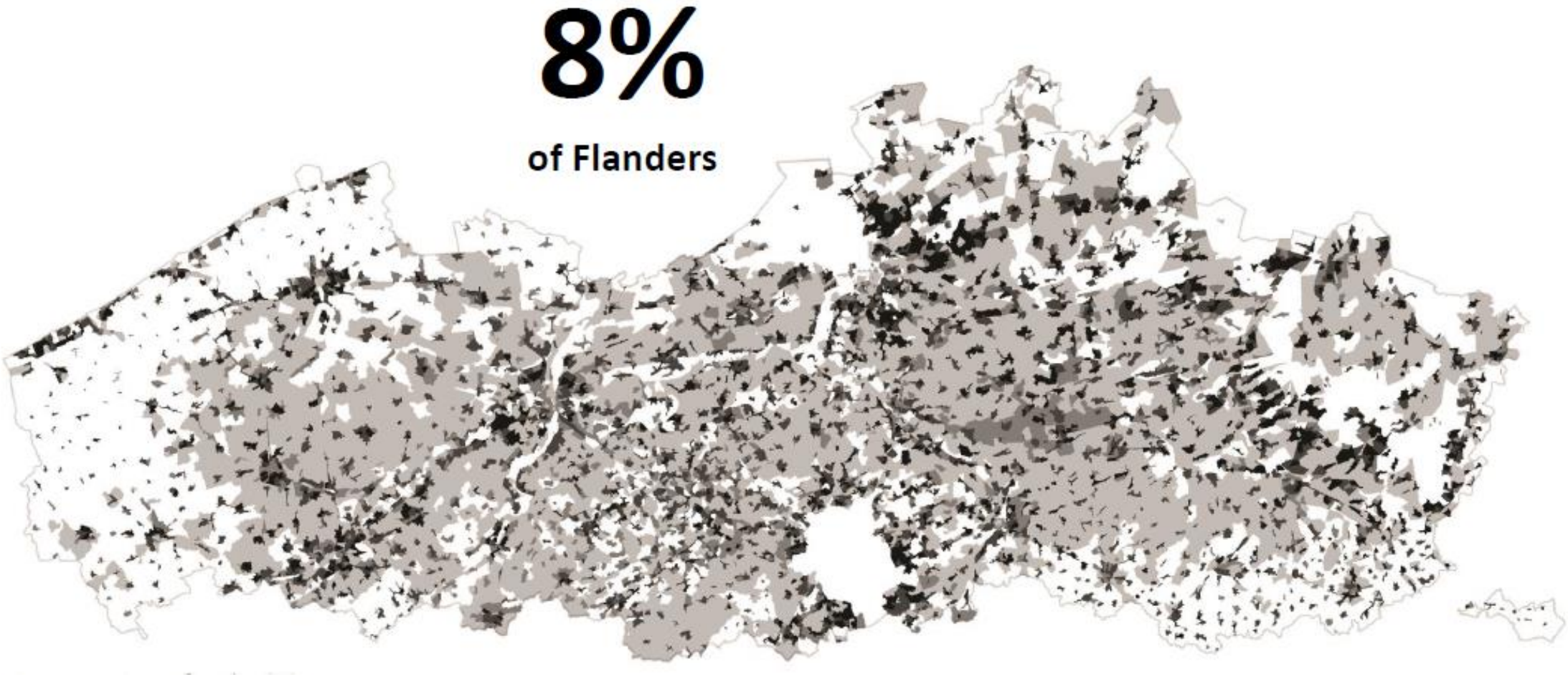
| | Zoning Plans | Flood Maps | Addresses | Traffic Accidents |
|---|---|---|---|---|
| Efficiency of access | High | High | Medium | Low |
| Intensity of use | Medium/high | High | Low | Medium |
| Degree of sharing | Medium/high | Medium | Low | Low |
| Spatial data performance | High | High | Low | Low |

# Findings & results





# Ongoing case study



# Mapping and monitoring of gardens

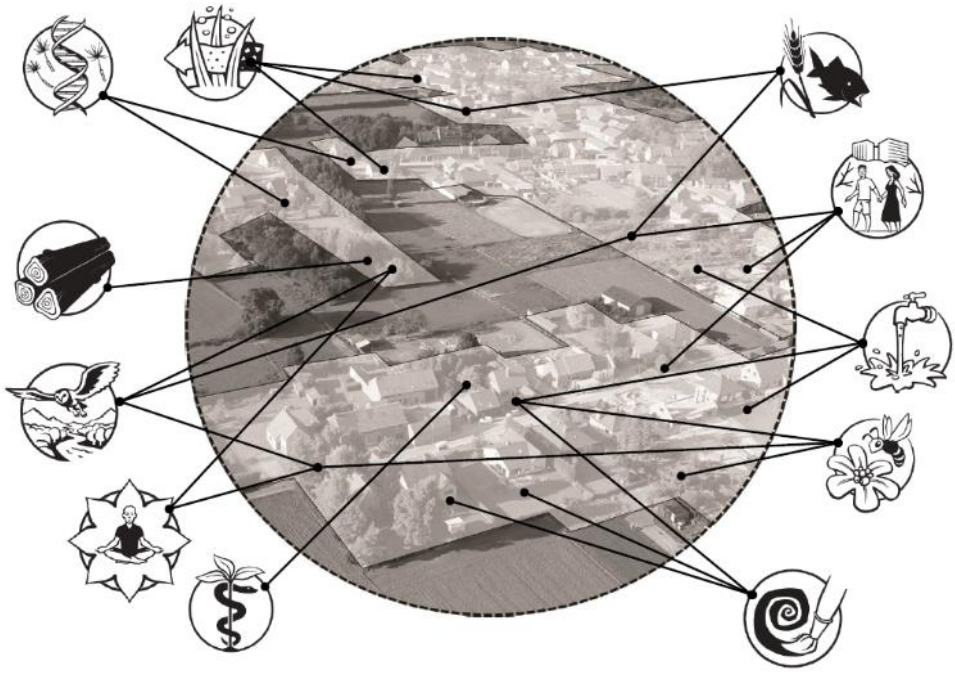
Importance of the **green network** (for local environmental quality of life)

Not only forests and public green, but also gardens *(e.g. in the Brussels Capital Region, 43% of the urban green is domestic garden)*

Various policy documents and actors recognizing the importance of gardens, but…

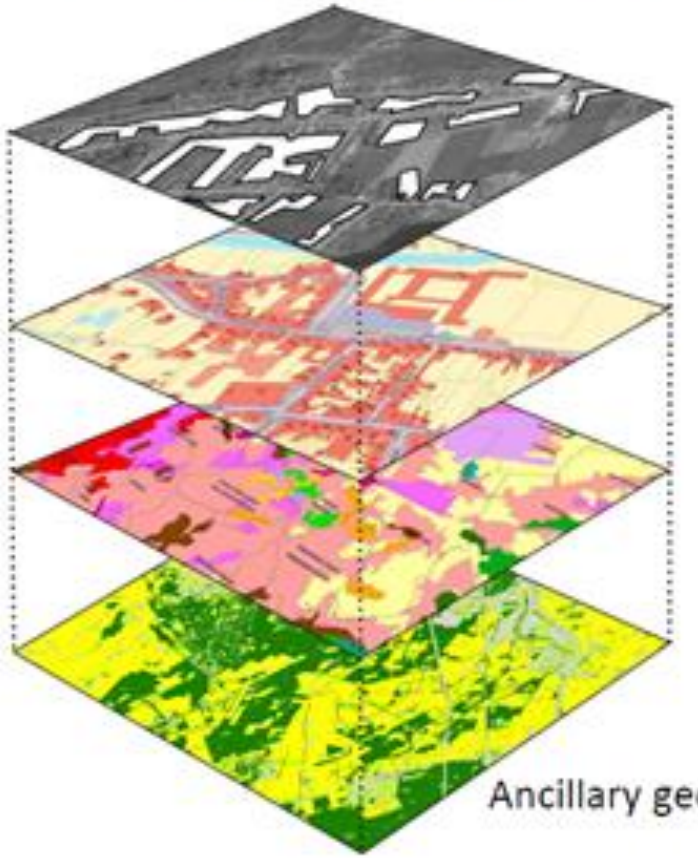
Reliable, systematic and integrated base-line data on gardens are almost completely missing

**Project idea:** explore the potential of remote sensing data (both airborne and satelitte-based) and crowd-sourced data to map and characterize gardens and garden-complexes at a local to regional scale



Cook et al. (2012); Davies et al. (2011)

**1. Mask of spatially explicit 'garden polygons'**



Ancillary geographic data

LiDAR & orthophotograhs

**2. Generic private green classification**

**3. Development of crowd sourcing**

*GRB*

*Agricultural land parcels*

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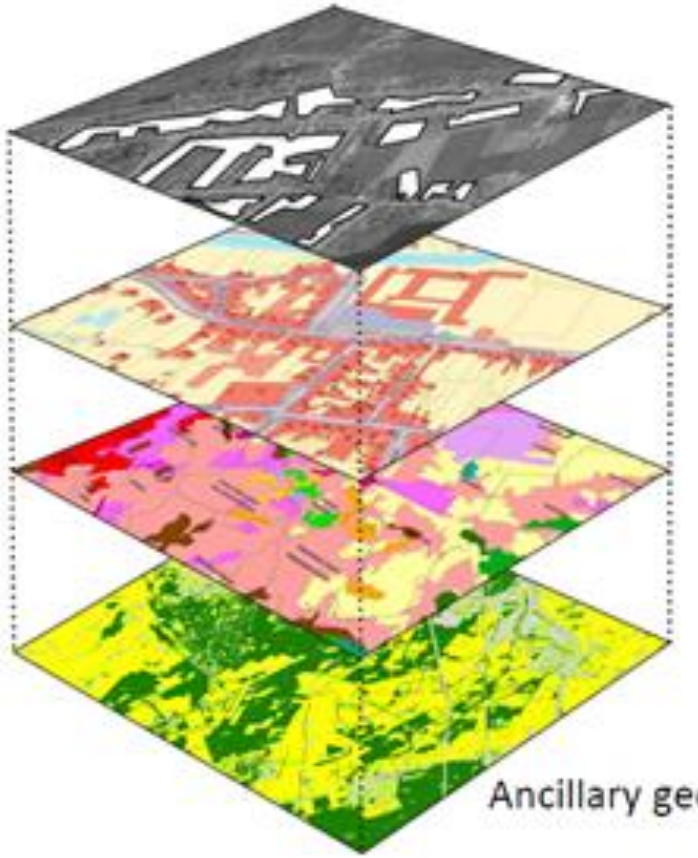

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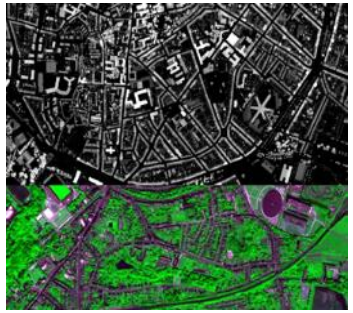

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## 2. Generic private green classification

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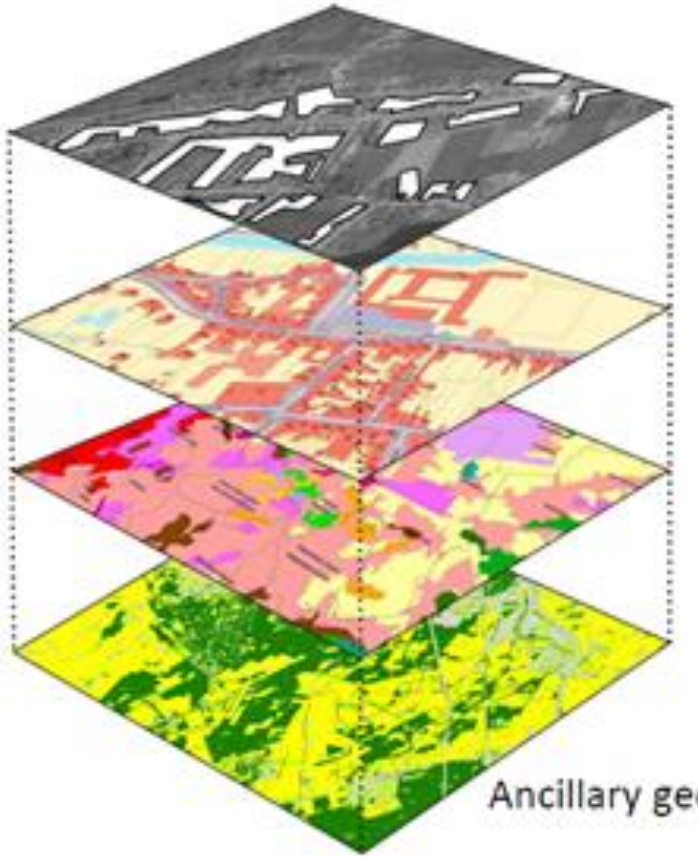

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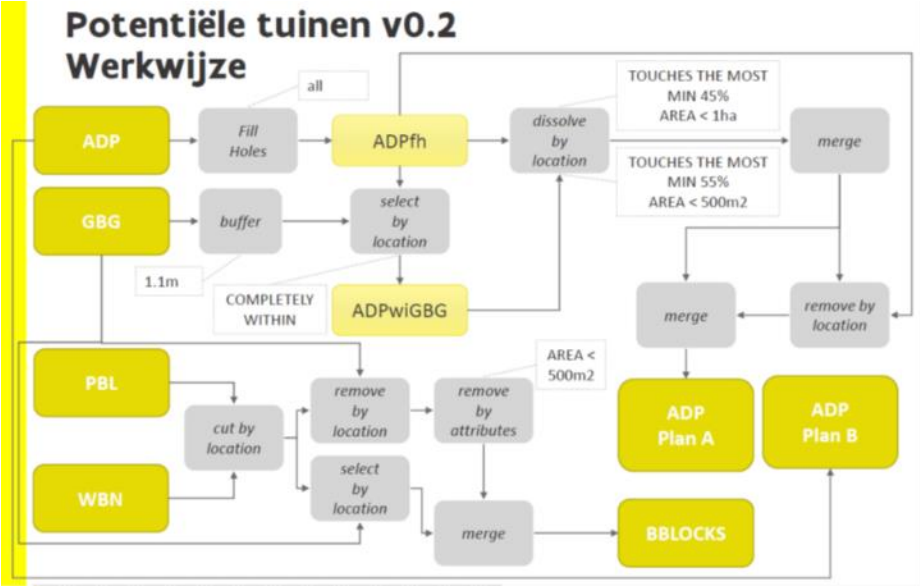
# Understanding the (sub-)process

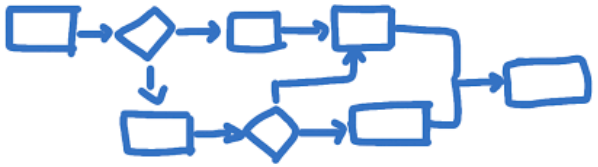



Improving the 'data sub-process':

*geospatial data + EO-data + citizen data + administrative data*

To feed into many different other processes:

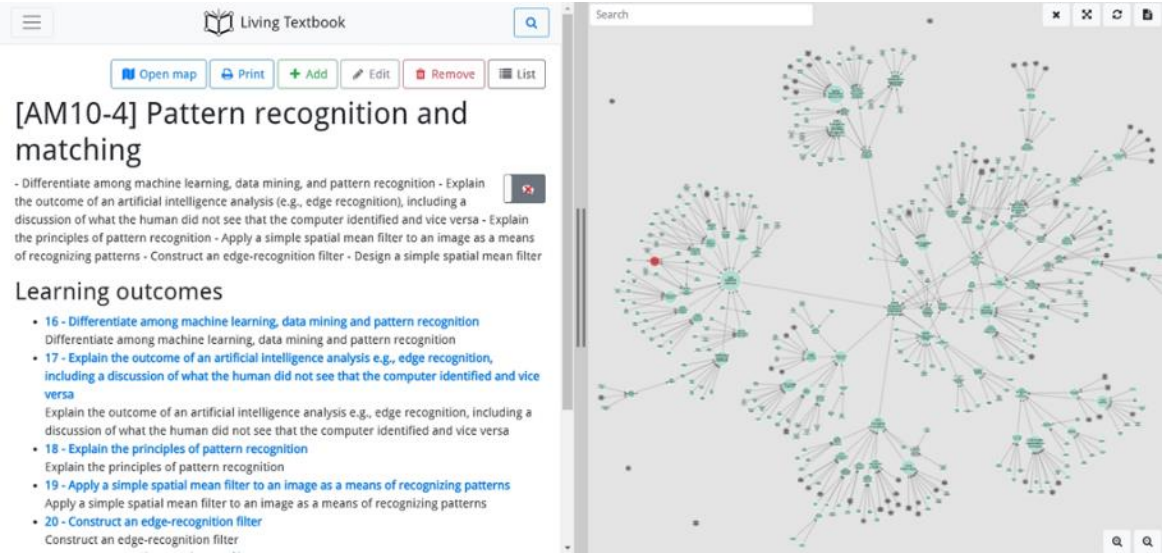
- Policy preparation: determining policy goals based on insight on the current state of gardens
- Policy implementation: identification of 'hot spots' where policy action is required
- Policy evaluation: monitoring the effect of a specific policy initiative



End-users at different levels and in different sectors (including the citizen)

# Knowledge mapping

- Which knowledge/skills are needed (in different project steps)? **Development a Body of Knowledge for EO/GI**
- Cross-disciplinary knowledge/skills (e.g. *expert in EO/GI value assessment)*



# Thank you

**Contact information**
Glenn Vancauwenberghe
glenn.vancauwenberghe@kuleuven.be

**EO4GEO**
http://www.eo4geo.eu/
http://eo4geo.uji.es/

**MyGardenLab**
Thérèse Steenberghen (KU Leuven)
Spatial Applications Division Leuven

**Garden Monitor**
Ben Somers (KU Leuven)
Remote Sensing and Terrestrial Ecology