

# Trends in the Geo-spatial world, and how to react to them as a NMA

Lecture KULeuven – 4th may 2018

# We live in a VUCA world

- Volatile
- Uncertain
- Complex
- Ambiguous

# Digital transformation

- Need for a strategy that allows flexible response
- Based on clear vision, clear goal
- But not fixing the way to go there
- Framework for choices

A stylized graphic of blue waves, rendered in various shades of blue with black outlines, swirling across the background. The waves are depicted in a cartoonish, illustrative style. The text "The information-tsunami" is overlaid on the lower portion of the waves.

The information-tsunami

# Data is the new gold

- Geo-data is the nuggets
- We are at the heart of the goldmine: everything happens somewhere

# Spatial Data Infrastructure

= The mining infrastructure

CLEARING  
HOUSE

HUMAN  
RESOURCES

ACCESS  
INFRASTRUCTURE

METADATA

PARTNERSHIPS

# SPATIAL DATA INFRASTRUCTURE

DATA

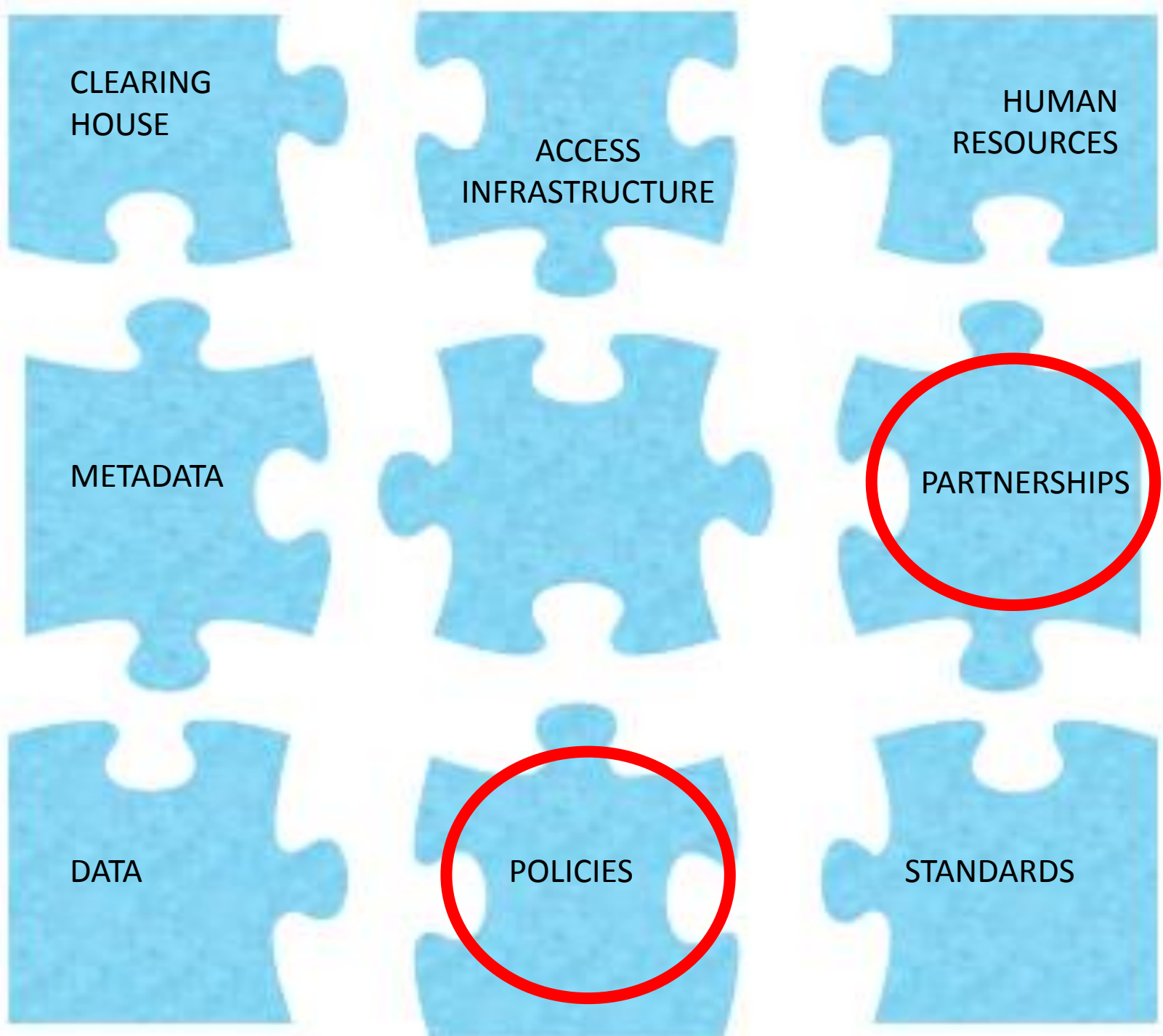
POLICIES

STANDARDS

# What will I talk about today

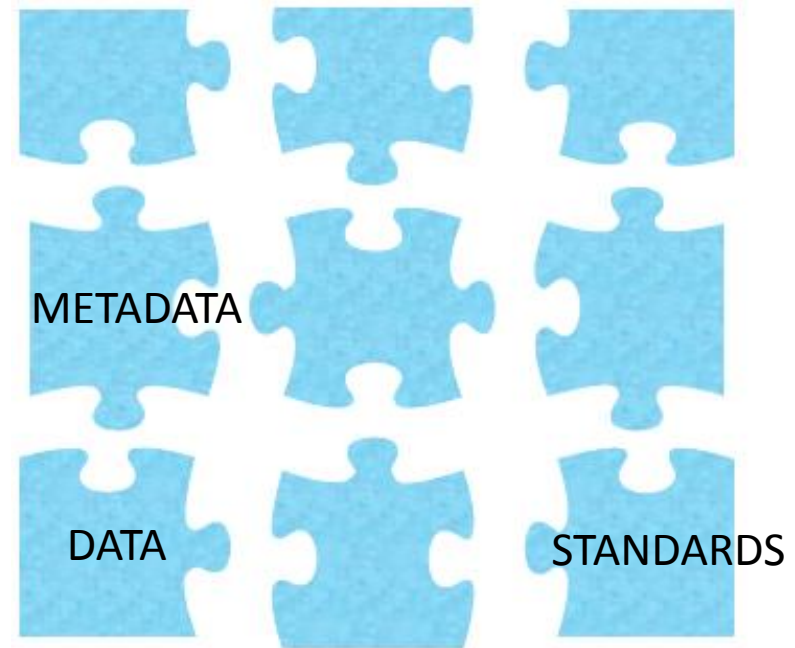
- What role for NMCA in the geospatial field
- What is the legal framework and Funding of SDI
- Coordination and Organisation – example of INSPIRE
- Geospatial Data Policies
- Geoweb services





# Role of NMCA

- Old school: NMA as data producer

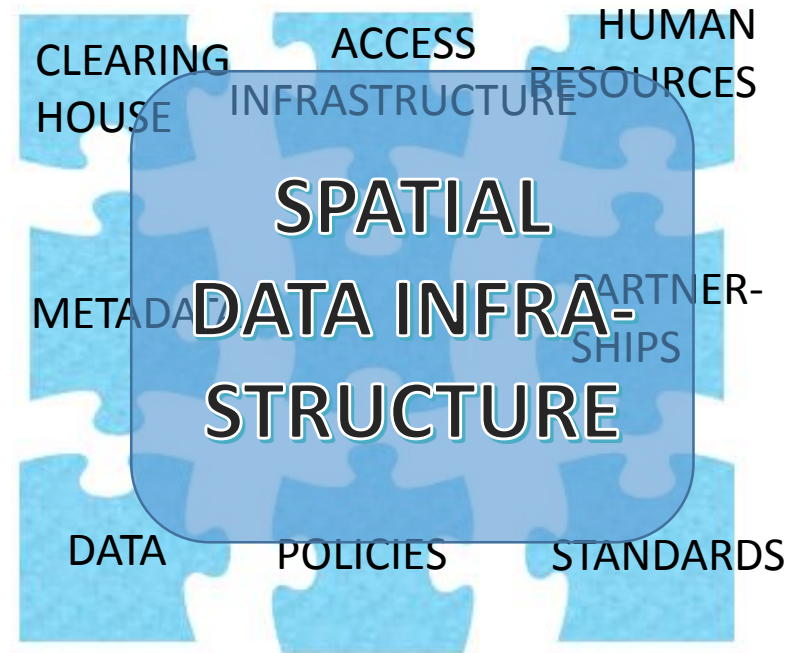


# NMA as Geo-spatial data reference authority

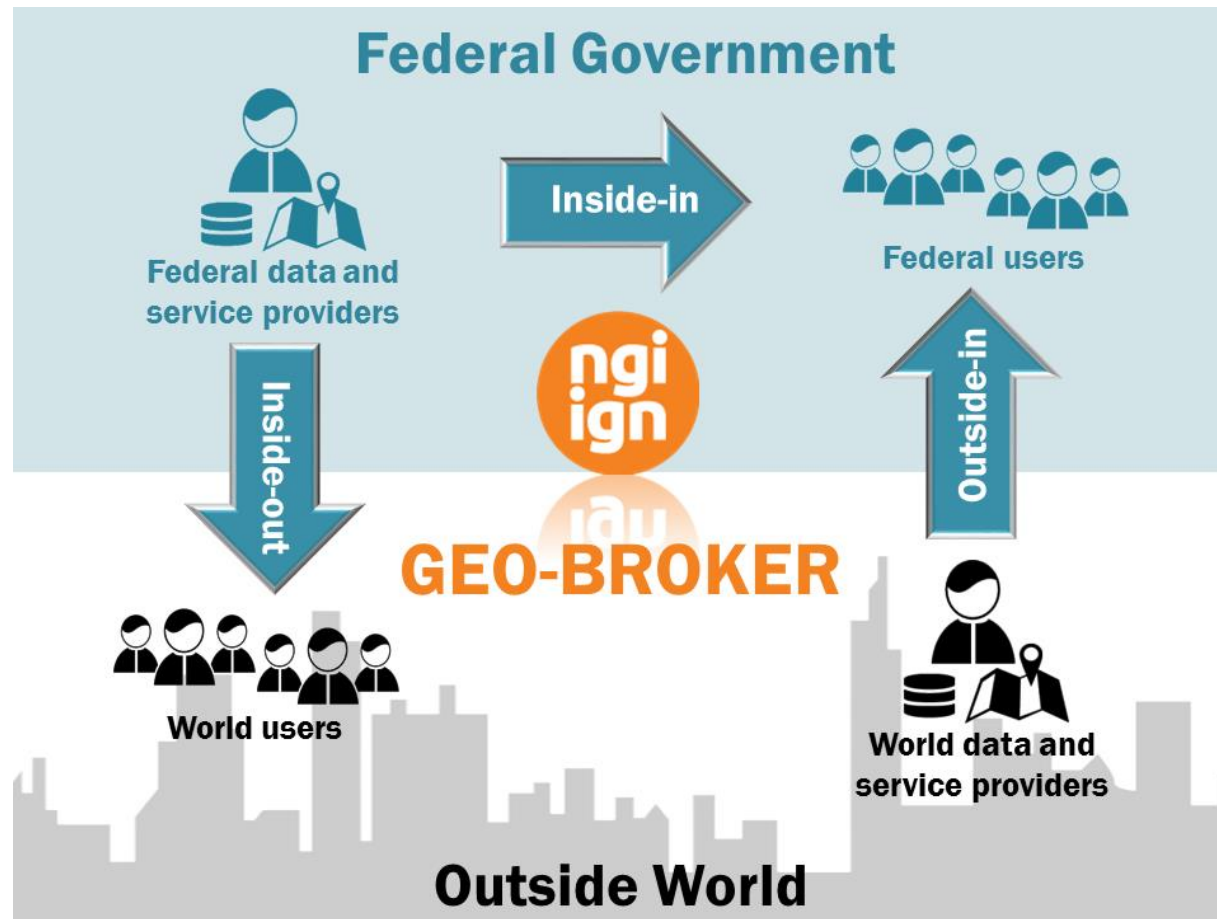
- Geodetic reference system
- Authentic source of reference topographic information
- Land information (cadastre of “master map”)
- Toponymic reference

# Role of NMCA

- Today: NMA as SDI facilitator

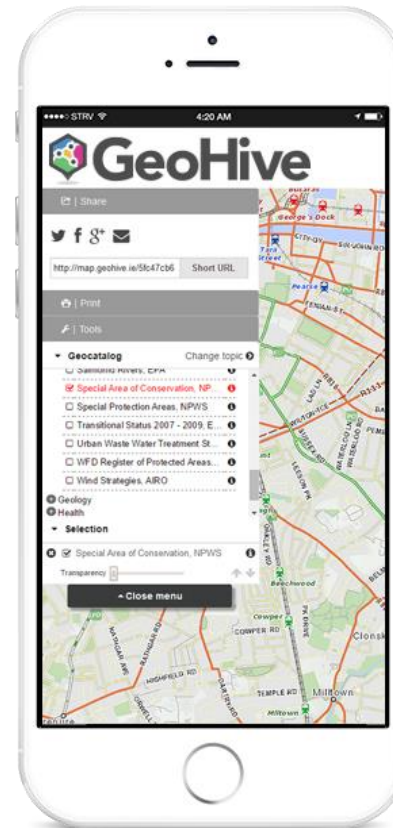
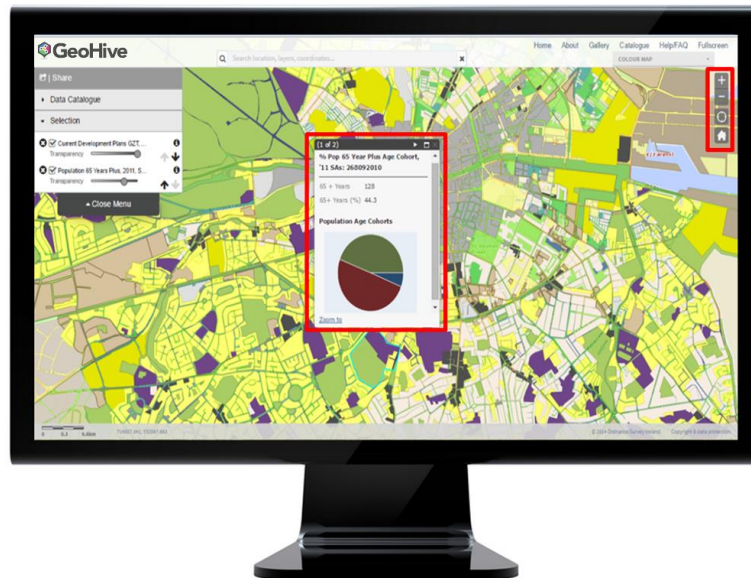


# NMA as national geo-information broker

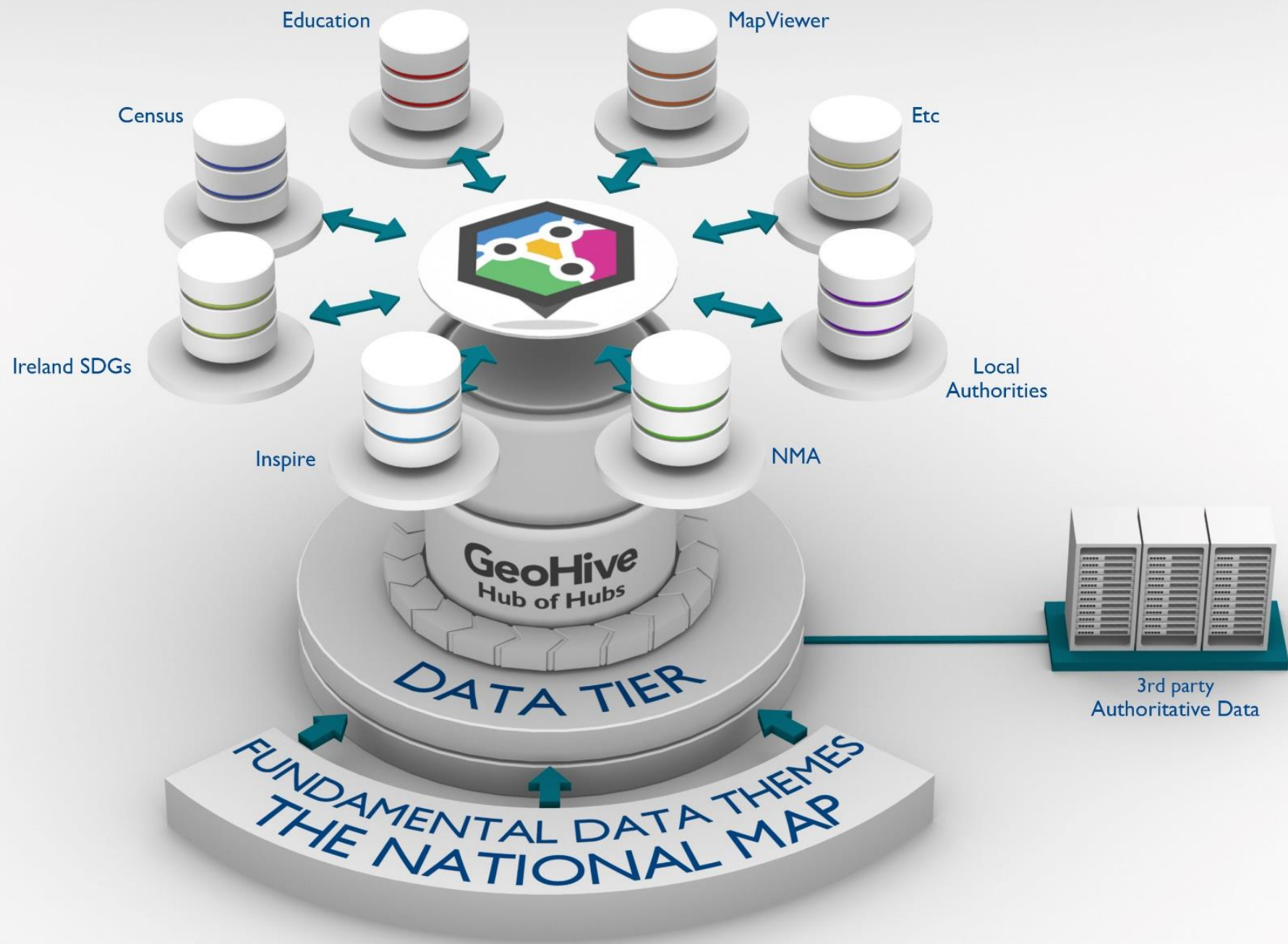


# Broker inside-out

- Making governmental data available to the outside world
- Good example: OSI GEO HIVE







# Geodata as a public utility service





# Broker outside-in

- Make other data available to government
  - local authorities data
  - crowd sourced data
  - private sector data

Public tender for navigation data

# Geo-optifed1

## Needs in central government

- One dataset for navigation en geolokalisatie

- Univoque intervention planning

## Role of NGI

- Central procurement agency

- Centre of Expertise

## TomTom data

## Users group

- Geïntegreerde Politie, Dienst 112 FOD Binnenlandse Zaken (brandweer en medische interventieteams),

- ASTRID, FOD Mobiliteit en Vervoer, Defensie, NGI

- Uitbreidbaar voor federale gebruikers



# Data policy



# Provocation

- Some things are free
- Others (unfortunately) are worthless







"Vale más la vida  
de un ser humano  
que todo el oro  
del hombre más rico del mundo."

*He*





Hasselt



Nieuws

Regio

Sport

Ontspanning

Opinie

Dossiers

Tv-gids

Tot uw dienst

Kies uw gemeente

ZOEK

Binnenland

Buitenland

Economie

Media & Cultuur

In de Rand

Wetenschap

Interactief

Video

Weer

Experts

nieuws > binnenland

# Senioren binnenkort niet meer gratis met tram of bus



Aanbevelen

124

Tweeten

6

+1

0

16/04/12

BINNENLAND

Senioren betalen volgend jaar wellicht tussen 30 en 35 euro voor een

## Meest gelezen

### Mechelse Feesten gelast Maanrock 2013 af



15/03 **MECHELEN (2800)** Voor het eerst sinds de start vindt er deze zomer geen Maanrock plaats. Dat heeft de raad van bestuur van de vzw Mechelse Feesten vrijdagavond beslist. In 2014 komt er wel een nieuwe editie, maar ...

### Economische crisis is in 2014 gedaan



15/03 **ECONOMIE** De crisis in Europa gaat voorbij in 2014. Dat zegt de Europese Commissie in een uitgebreid rapport over de economische toekomst van de eurozone. De oorzaak is de goede aanpak van de crisis ...

Microsoft

Surf zonder zorgen.

# The challenge

How to avoid that *free*  
equals  
*worthless*

...



# WORTHLESS!



# Open (1) DATA

- Easy access to government data
- Often translated as ‘free access’
  - For ‘education and science’
  - For ‘the citizen’
  - For commercial reuse
- Legal framework: PSI directive
- Open data initiatives at Federal and regional level



# Full government funding

- Taxpayer bears full cost
- Everyone pays, whether you use the service or not
- Everyone pays the same, whether you use the service a lot or a little
- No link between usability and financing
- Added value goes to (big) commercial players that do not pay taxes (in our country)

# How then?

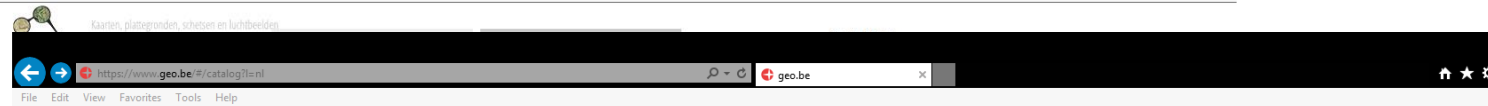
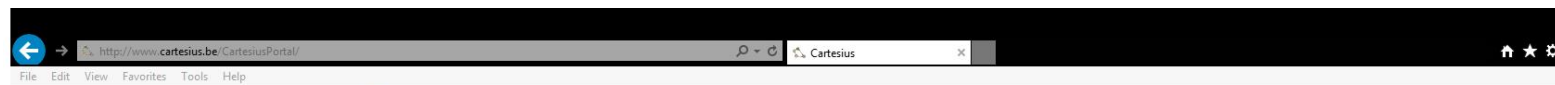
- Mixed model
  - View freely accessible
  - Free use for private purposes
  - Commercial reuse has to be paid for
    - Private sector doesn't mind paying for quality public data and services





# Open NGI data and services

- All NGI-data open for federal government
- Topomap viewer [www.ngi.be/topomapviewer](http://www.ngi.be/topomapviewer)
- Cartoweb service
- Cartesius portal [www.cartesius.be](http://www.cartesius.be)
- Federal geoportal [www.geo.be](http://www.geo.be)



## Zoeken via de kaart

De gegevens en de bijbehorende webservices bekijken.

[Naar de mapviewer >](#)

## Zoeken in catalogus

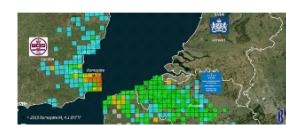
De inventaris van de gegevens en de webservices raadplegen volgens verschillende criteria en de bijbehorende metadata bekijken.

[Naar de catalogus >](#)

## Onlangs toegevoegd



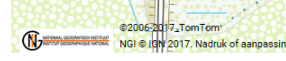
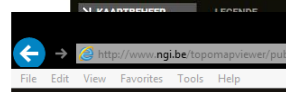
DATASET  
Sub-city Districts in Belgium. Urban audit



DATASET  
ROB Earthquake catalogue and database



DATASET  
Functional Urban Areas in Belgium. Urban



# Open (2) SOURCE

- Basic idea:
  - Source code of programs is freely available
  - Everyone can contribute to the development
  - No monopoly
- In practice
  - Big community needed
  - Big investment in own developments
  - Support needed (even more)
- Innovative motor

# Open (2) STANDARDS

- Open Geospatial Community
  - Standardisation-initiative on geodata
  - Many organisations and software providers are joining
  - Facilitates modular approach

# Licencing policy using creative commons licences

- **CC-BY** : Attribution ;
- **CC-BY-ND**: Attribution ; no modification (No Derivable)
- **CC-BY-NC**: Attribution; no commercialization (No Commercial)
- **CC-BY-NC-ND**: Attribution; no commercialisation, no modification.
  
- **CC-BY-NC-NS** : Attribution ; no commercialisation, no diffusion (No Sharing) ;
- **CC-BY-NC-ND-NS** : Attribution; no commercialisation, modification or diffusion – internal use only

# Open (3) MIND

- collaboration
- Willing to find compromise
- Willing to step away from “I am right”
- ...











## Why are reference data important?

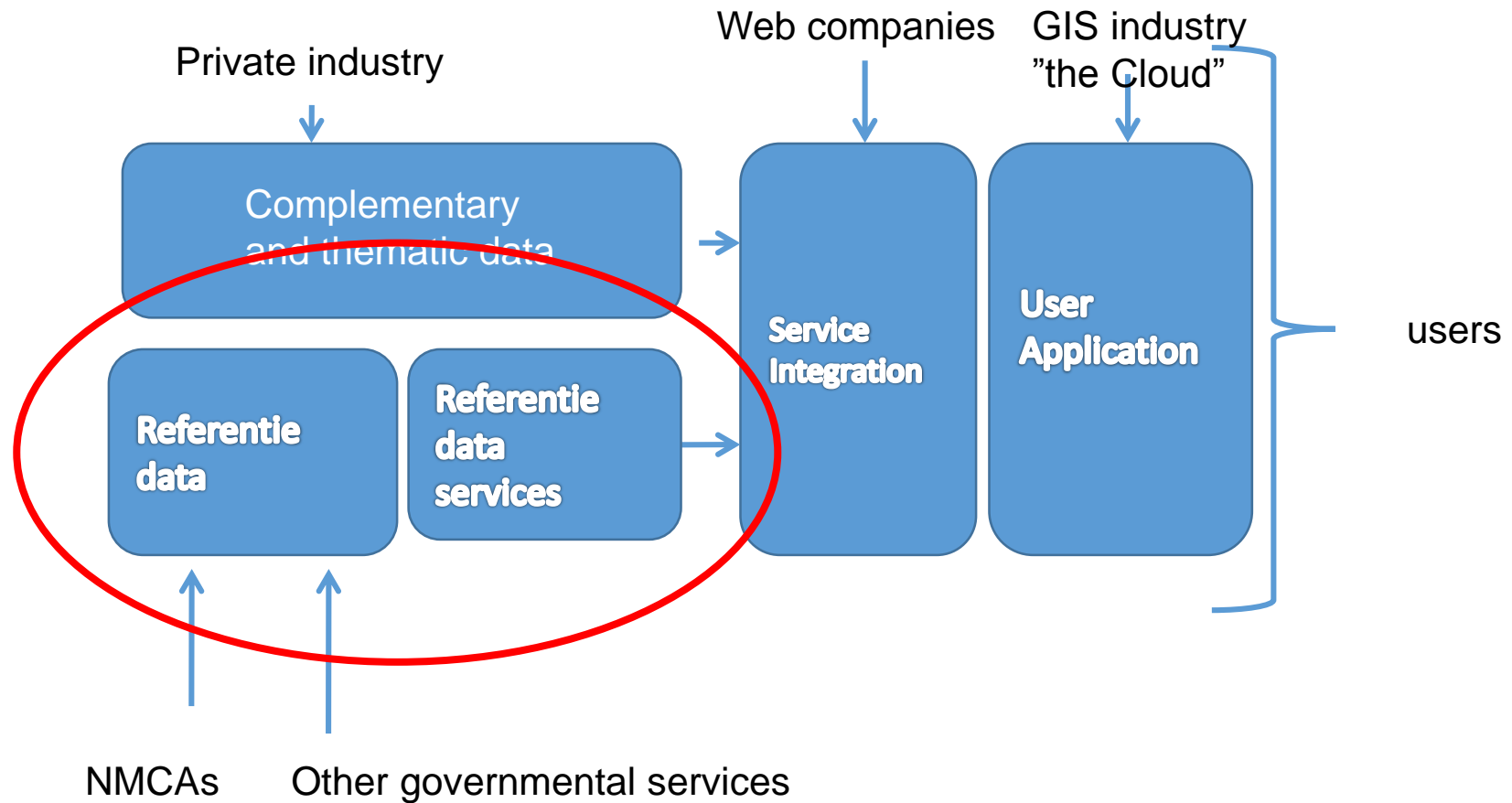
Users ask for a  
certified source of  
quality data



The 'on the web' world

The real world – *but not all  
can be seen from the sky ...*

Reference data are part of the solution







SEARCH

MAP LAYERS

SELECTED LAYERS

2

MY DATA

CREATE EMBEDDED  
MAP

MAP LEGENDS

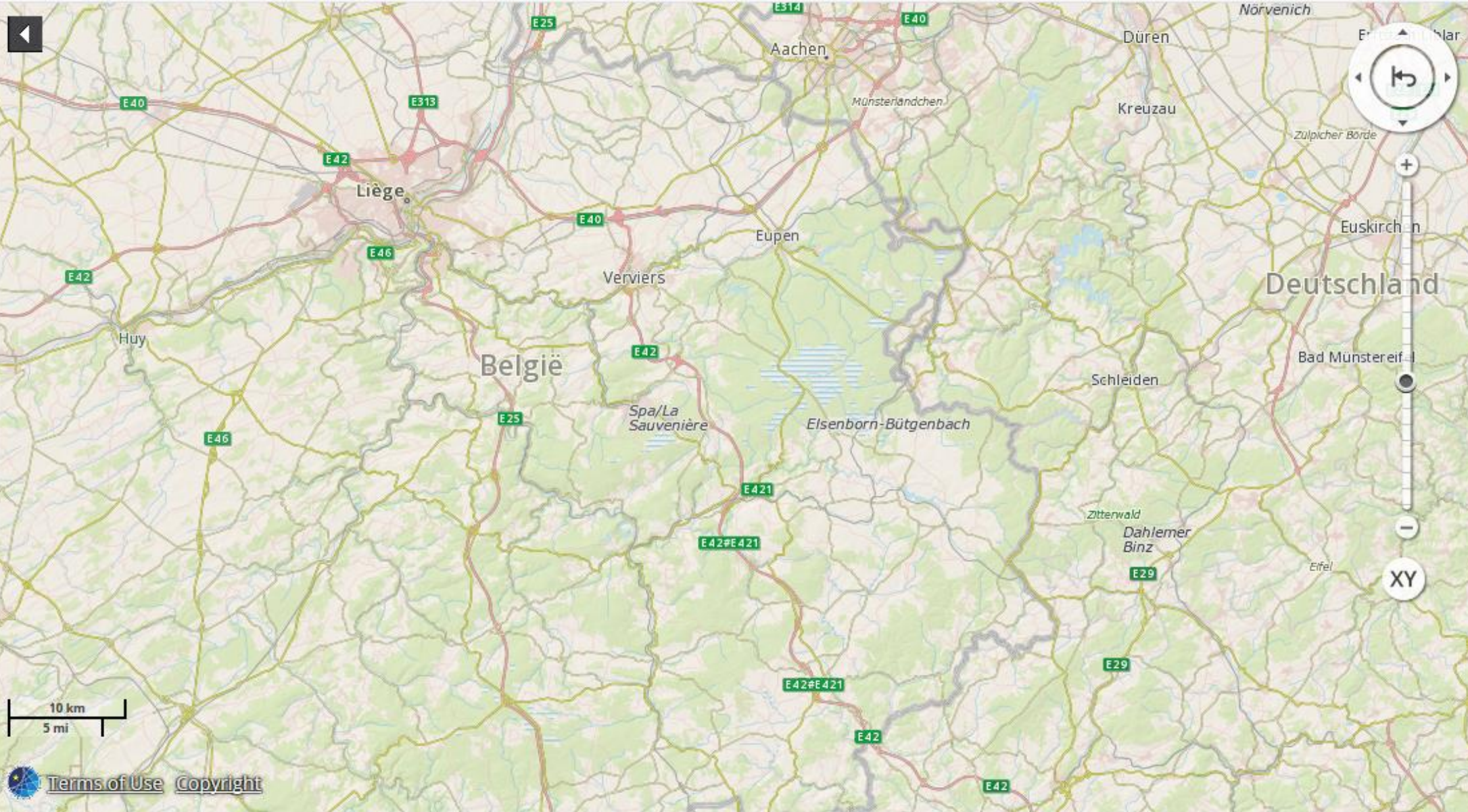
USER GUIDE



Username

Password

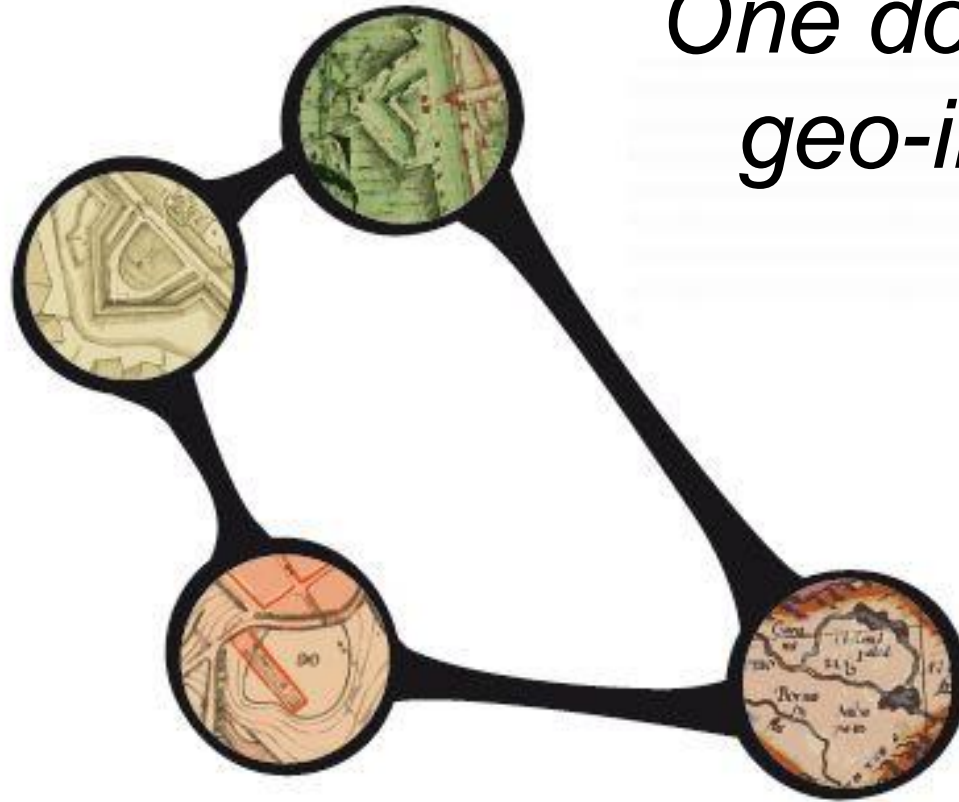
Login

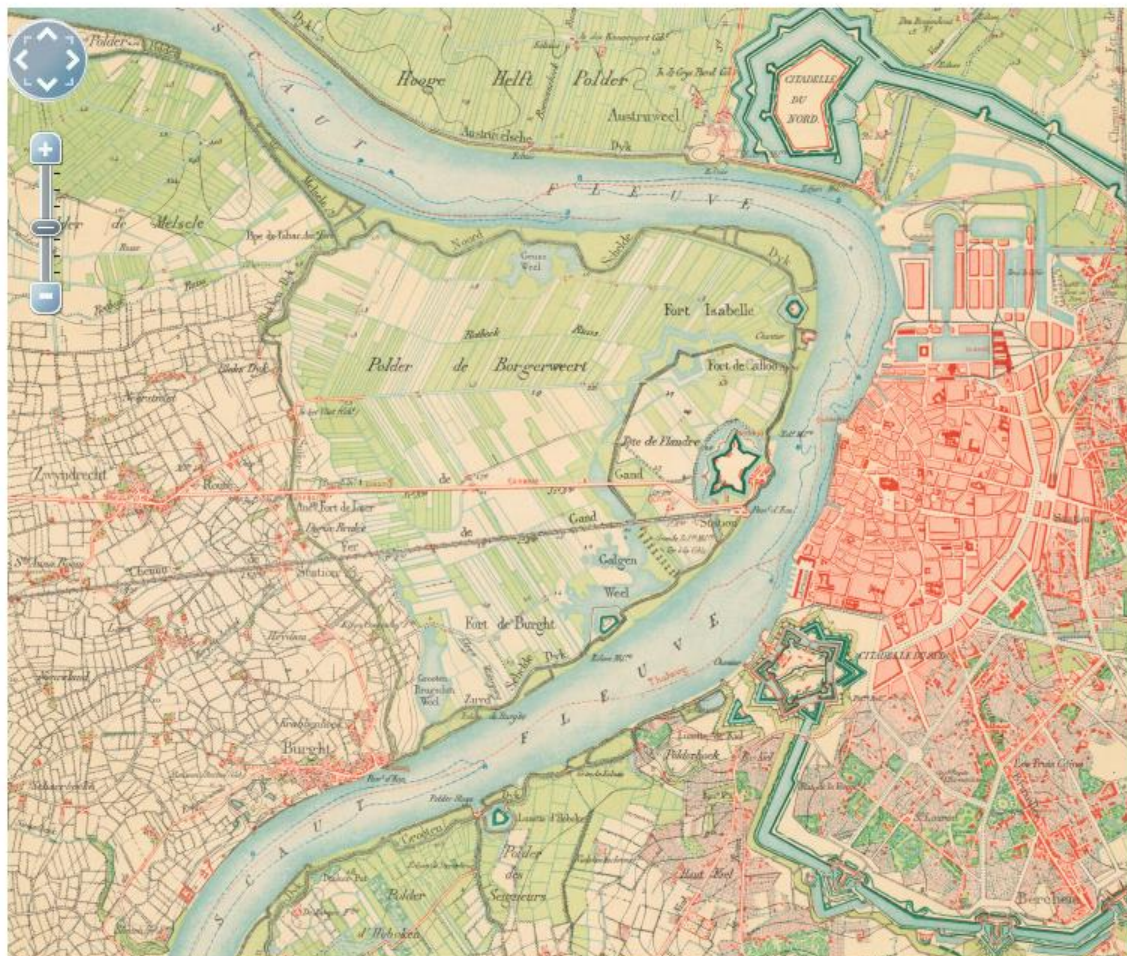




# Cartesius

*One door to historical  
geo-info*





Detail  
Zoeken  
Resultaten




### CARTE TOPOGRAPHIQUE DE LA BELGIQUE

**TOELICHTING** [Title] Carte topographique de la Belgique  
[subTitle] Feuille XV, planchette 3 Anvers  
[Author][s] Depot de la Guerre [Publisher]  
Depot de la Guerre [datePublication] 1865  
[Collation] [numbe ...

**ORGANISATIE** Nationaal Geografisch Instituut (NGI) =  
Institut Géographique National (IGN)

**DATUM** 1863

**SLEUTELWOORDEN** Cartografisch niet-georeferereerd

[+ Metadata](#) [Bekijk beeld](#) 




### XVII. PROVINCIAE BELGII SIVE GERMANIAE INFERIORIS : PRISCIS TEMPORIB[US] CIRCULO BURGUNDICO S.R.I. ANNUMERATAE QUARUM X HODIE MAXIMAM PARTEM HISPANIARUM NON NULL ...

**TOELICHTING** [Augsburg] : Tobias Conrad Lotter, [1757-] - 1  
carte : en coul., ill., arm. ; 48,7 x 58 cm -  
Milliaria Germanica communia 15 in uno  
gradu = [10,6 cm], [et al.] - Oude kaarte der  
Nederlanden ...

**ORGANISATIE** Koninklijke Bibliotheek van België (KBR) =  
Bibliothèque Royale de Belgique (KBR)

**DATUM** 1757

**SLEUTELWOORDEN** Cartografisch niet-georeferereerd

[+ Metadata](#) [Bekijk beeld](#) [KBR Viewer](#) 



### BELGIUM SIVE INFERIOR GERMANIA : IN SUAS XVII PROVINCIAS DIVISA



# BeSt Address: interconnecting regional address registers

**UrBIS, CRAB,  
PICC/ICAR**

Scope = Regional

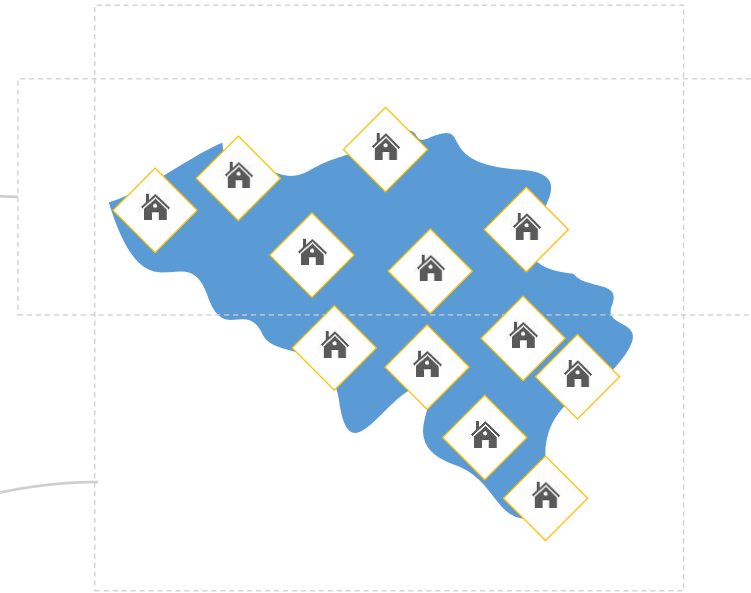


CRAB-standard = validated by the steering committee GIS-Flanders, and serves as a model for the national BeSt-address model

**BEST**

Scope = Belgium

Joint initiative of the regions and the federal authorities regarding the development and activation of a system for the smooth exchange of address information in Belgium



# BeST Add as linked (open) data?

- Best Add as Open Data?
  - Which pricing model?
  - Which licensing model?
- Best Add as Linked Data?
  - Which URIs for address identifiers?
  - Which Vocabularies?
  - Which infrastructure?

The ISA Programme would support a pilot in this area.

## 5 stars for linked open data

- ★ Available on the web (whatever format) *but with an open licence, to be Open Data*
- ★★ Available as machine-readable structured data (e.g. excel instead of image scan of a table)
- ★★★ All the above, plus: non-proprietary format (e.g. CSV instead of Excel)
- ★★★★ All the above, plus: Use open standards from W3C (RDF and SPARQL) to identify things, so that people can point at your stuff
- ★★★★★ All the above, plus: Link your data to other people's data to provide context



# Political framework

# UNGGIM

## **Aims and Objectives**

The United Nations initiative on Global Geospatial Information Management (UN-GGIM) aims at playing a leading role in setting the agenda for the development of global geospatial information and to promote its use to address key global challenges. It provides a forum to liaise and coordinate among Member States, and between Member States and international organizations.



## Annual sessions

- ▶ Seventh session
- ▶ Sixth session
- ▶ Past sessions

## Overview

- ▶ Mandates
- ▶ Aims and Objectives
- ▶ Bureau
- ▶ Regional Committees
- ▶ Expert and Working Groups
- ▶ Thematic Groups

## Quick links





UN-GGIM: EUROPE

UNITED NATIONS COMMITTEE OF EXPERTS ON  
GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

About UNGGIM: Europe

Working Groups

Executive Committee

Meetings

UNGGIM: Europe Tweets

Fifth Plenary Meeting of UN-GGIM: Europe

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Apr 25, 2018

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The Fifth Plenary Meeting of the European Region of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM: Europe) will be held from 6 - 7 June 2018 in Brussels, Belgium. The meeting venue is the Crowne Plaza Brussels, Le Palace 3, Rue Gineste, 1210 Brussels, Belgium. This Plenary Meeting of UN-GGIM: Europe is being hosted by Eurostat.

The Fifth Plenary Meeting of UN-GGIM: Europe will bring together senior executives from national geospatial information and statistical authorities within Member States, and international geospatial experts from across the region. It will provide participants with an overview of the successful activities carried out by the regional entity during the past year.

The draft agenda is available [here](#).

Fourth Joint UN-GGIM:  
Europe - ESS - UNECE  
Meeting  
Demonstrating geospatial  
value is key to regaining  
public trust in experts says  
UN-GGIM: Europe  
UN-GGIM: Europe  
announces new Executive  
Committee

[more](#)

FORTHCOMING EVENTS

06/06/2018 to 07/06/2018  
Fifth Plenary Meeting of  
UN-GGIM: Europe

[Past events](#)

Country reports

RELATED TWEETS

EuroGeographics



# Legal framework

- . National level
- . European level
  - INSPIRE
  - PSI

# Coordination

## How to make an NSDI in Belgium?

- Spatialist/Prof Bouckaert
  - Hierarchy / market / network
- 3 conditions for 'good governance'
  - From organisations with databases to databases with organisations
  - Demand driven supply
  - Multidisciplinary approach

## How to make an NSDI?

- SDI don't create themselves
- a law helps but cannot make it work in practice
- Data <> information
- GDI has to be the 'backbone' of the 'back-office' of all facets of public authority
- Governance is the key, bureaucracy and power thinking are the bolts



WHAT TO REMEMBER?

- **Collaboration is a necessity**
- **Sharing of knowledge is essential**
- **Trust is indispensable**

Ingrid Vanden Berghe

ivb@ngi.be

# 3 x OPEN

Open DATA

hopefully not worthless

Open STANDARDS

if possible open Source

Open MIND

or you cannot work together

All you need is the plan,  
the road map  
and the courage to press on  
your destination

E. Nightingale

e-gov  
+ g-gov

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i-gov

ivb@ngi.be

