Open Data PSI Directive 2019

and the link to Open SDIs

Frederika Welle Donker & Bastiaan van Loenen

f.m.welledonker@tudelft.nl

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What to expect

1. Introduction to our research
2. PSI Directives 2003-2019
3. Open SDI
4. Open SDI Assessment
5. Discussion

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Knowledge Centre Open Data

Research focuses on the governance of open data, its impact, legal and financial conditions for implementing and adopting open data policies.

- Governance of open data
- Legal aspects of open data
- Open data business models
- Assessment of open data infrastructures
- Use and users of open data

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Some of our projects

- Safeguarding Data Protection in an Open Data World (SPOW) (2015-2019)
- The STIG: Stress Testing the Infrastructure for Geographic information (2011-2019)
- 4D Open Spatial Information Infrastructure for Participatory Urban Planning Monitoring (2016-2019)
- Governance of open GNSS-CORS (2018-2022)
- Twinning Open Data Operational (TODO) (2019-2022, H2020)

Open Spatial Data Infrastructure (open SDI)

- Effective governance of open spatial data, E-GOS (2016-2018, H2020) & E-GOS Local (2017-2019)
- Assessing secondary use of open government data (2018-2019)
- Use of location data in social media by government (2018)
- Map of open SDI (2017-ongoing)

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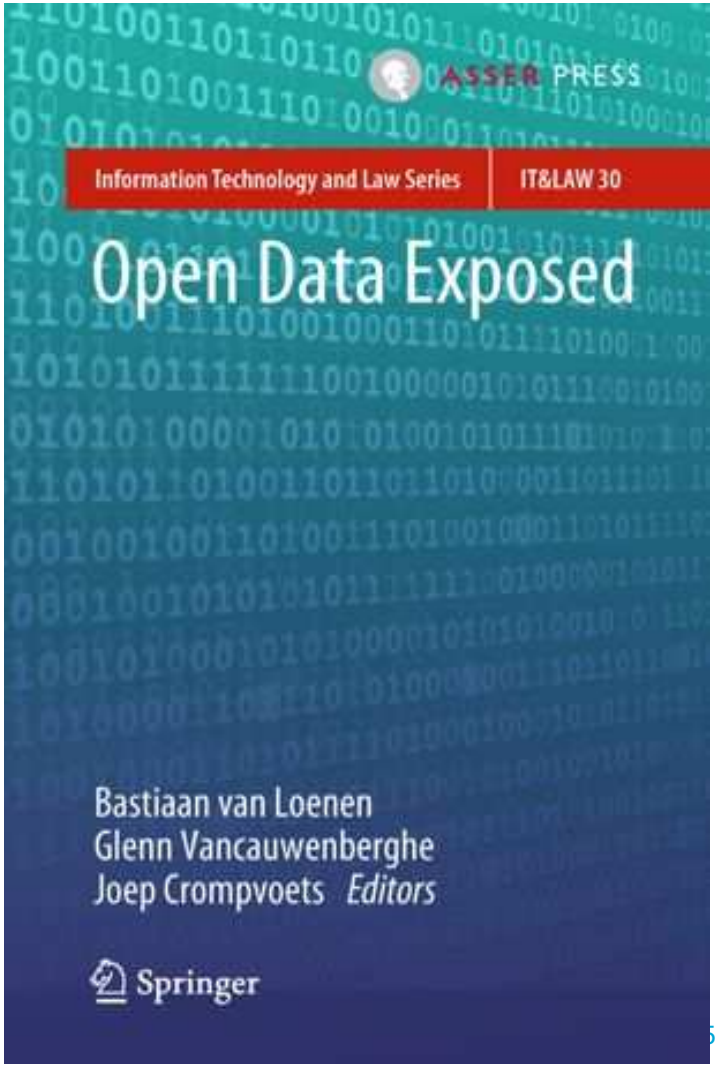
Our book:

https://link.springer.com/book/10.1007/978-94-6265-261-3#toc



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Open Data

1. Data Must Be Complete
2. Data Must Be Primary
3. Data Must Be Timely
4. Data Must Be Accessible
5. Data Must Be Machine-Processable
6. Access Must Be Non-Discriminatory
7. Data Formats Must Be Non-Proprietary
8. Data Must Be License-free
9. Compliance must be reviewable.
10. Data shall be available as a whole and at no more than a reasonable reproduction cost

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Or simply

- Data without any restrictions in the use and provided for **free**

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If Open data, then….

"The coolest thing to do with your data will be thought by someone else"
(Rufus Pollock)

(Source: POPSIS report: http://ec.europa.eu/information_society/policy/psi/docs/pdfs/report/11_2012/summary.pdf)

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If Open data, then....

- 68 billion euro (Pira International, 2000)
- 27 billion euro (Dekkers et al., 2006)
- 40 billon euro (Vickery, 2011)

- For geodata: socio-economic impact: from DKK 1,592 million (2012) to 3,541 million DKK (2016) (PwC 2017)

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Costs of open data

1. Governance preparation costs
   - development of policy strategy, inventor
     potential datasets, buying out contra
2. Infrastructural costs
   - training of personnel, developing a data
     APIs, extra servers, etc.
3. Data transformation costs
   - anonymising / aggregating, metadata, etc
4. Operational costs
   - keeping data up to date, marketing/promotion
5. Lost income for data supplier

€20K-€100K per org. once off

€10K-€5M* per org. once off

€1K-€250K* per org. once off

€10K-€200K* per org. per annum

€1K-€105,5M per org. per annum

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** Costs are often included in regular data management costs / innovation programmes*

A short history of PSI re-use in EU

1989	• EC Guidelines for improving the synergy between the public and private sectors in the information market
1998	• Green paper: “Public sector information: A key resource for Europe”. COM(98)585 final
2003	• Directive 2003/98/EC on the re-use of public sector information (PSI Directive 1.0)
2013	• Directive 2013/37/EU on the re-use of public sector information, amending 2003/98/EC (PSI Directive 2.0)
2019	• Directive 2019/../EU on the re-use of public sector information RECAST (PSI Directive 3.0)

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2003 PSI Re-use Directive

Successes:

- Harmonised the basis legal framework for re-using PSI across EU
- Eliminated (some) anti-competitive practices by public sector bodies

Failings:

- insufficient clarity and transparency;
- locked resources;
- excessive charging and lack of a level playing field;
- inconsistent approach across the Member States;
- Insufficient enforcement of re-use provisions.

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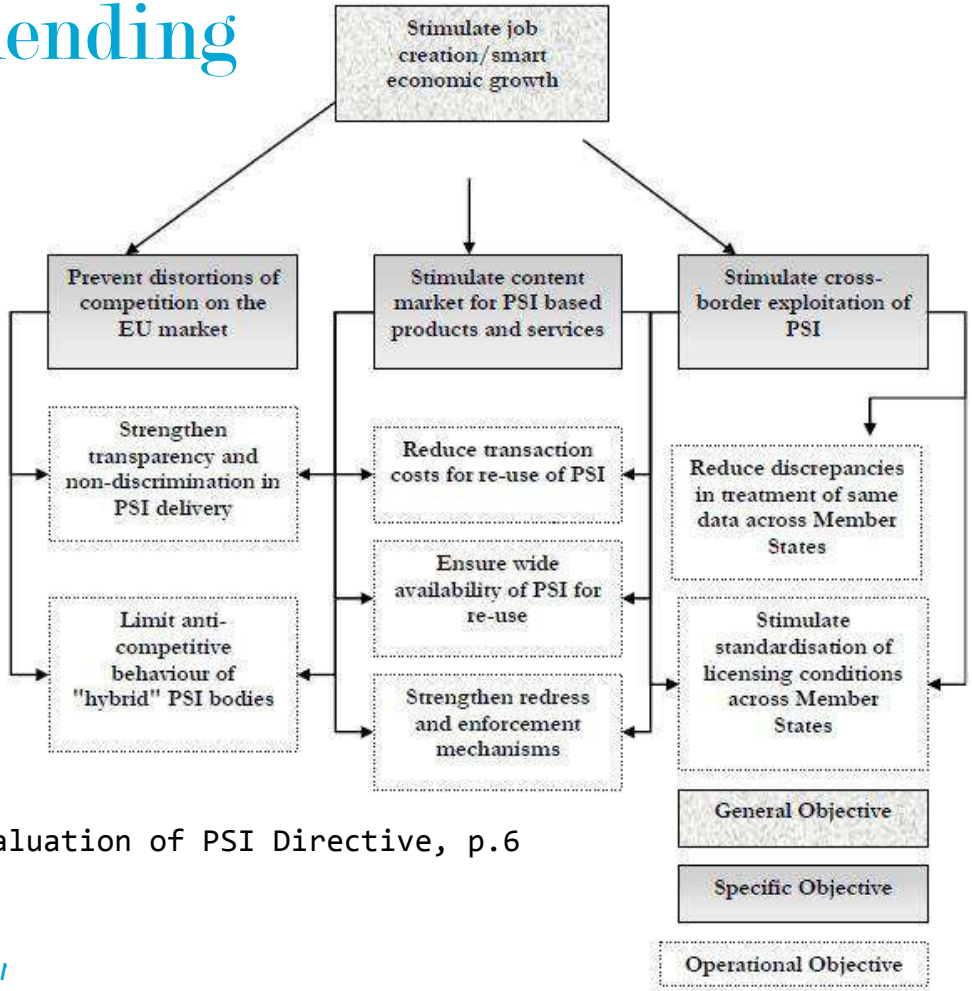
2013/37/EU amending 2003/98/EC



Source: SWD(2018)145 final. Evaluation of PSI Directive, p.6

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2013/37/EU amendments of 2003/98/EC

- Extended the scope to the cultural sector
- Limited charges to marginal costs
  - exceptions for self-funded agencies
- Recommendation to make PSI available:
  - in open and machine-readable formation (as far as possible) and with metadata
  - Without legal barriers for reuse (Open Data licences)
- Allowed some (temporary) exclusive contracts
  - Where necessary to provide service in the public interest
  - For digitising cultural content
- Introduced rules for redress / complaints

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Review of 2013/37/EU methodology

- Study on the functioning of the PSI Directive
  - Interviews, workshops, online survey
- Open Data Maturity in Europe – 2017 Report
- Input from Member States
- Stakeholder consultations
  - Including an impact assessment
- Literature review of impact assessments

Additional support measures

- Guidelines on recommended standard licences, datasets and charging for the re-use of documents adopted in 2014 (2014/C 240/01);
- Creation of an open data portal for EU documents and a European data portal infrastructure federating existing open data portals, including support services;
- Funding of research and innovation projects

Open Data Maturity assessment

- Open Data Readiness
  - Existing policy
  - Licencing norms
  - Impact of open data
  - Usage of open data
  - Level of coordination at national level
- Portal Maturity
  - Usability of portal
  - Reusability of data
  - Spread across domains

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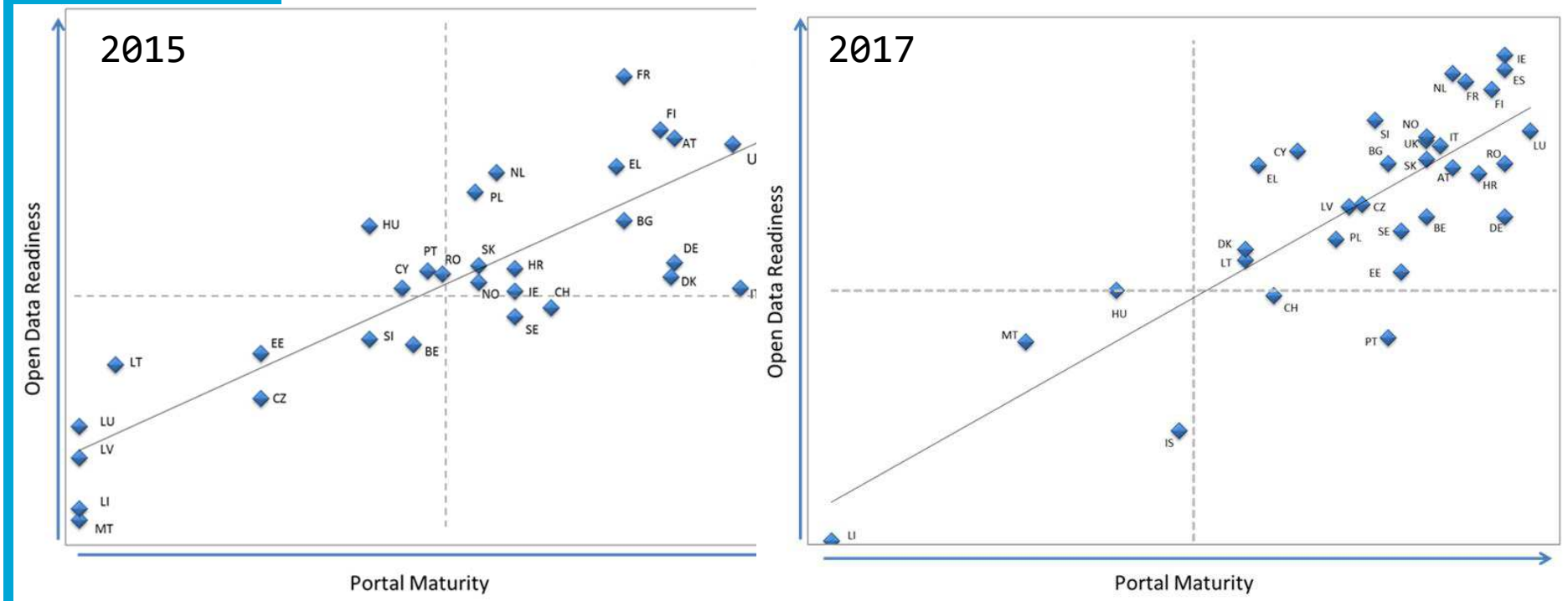
Open Data Maturity in EU



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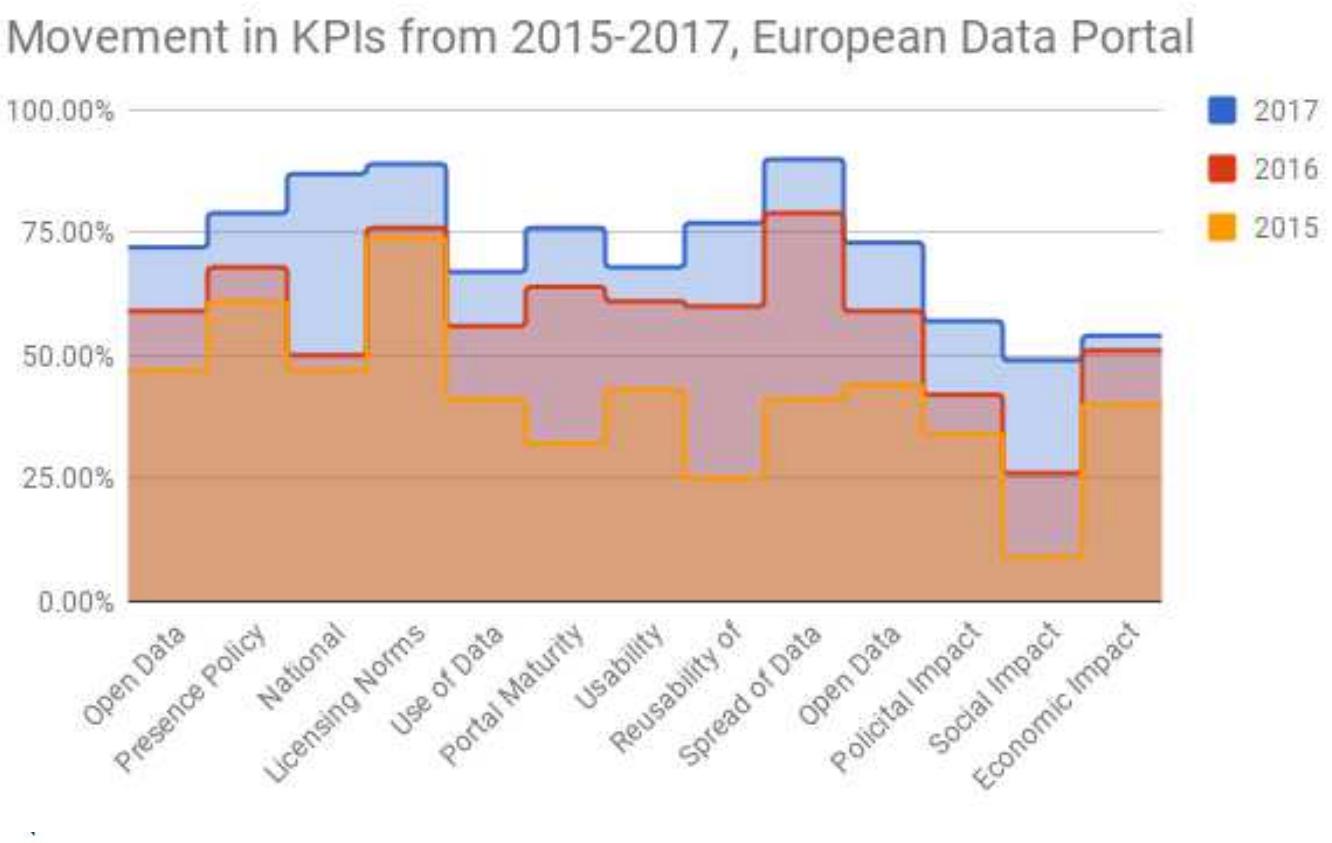
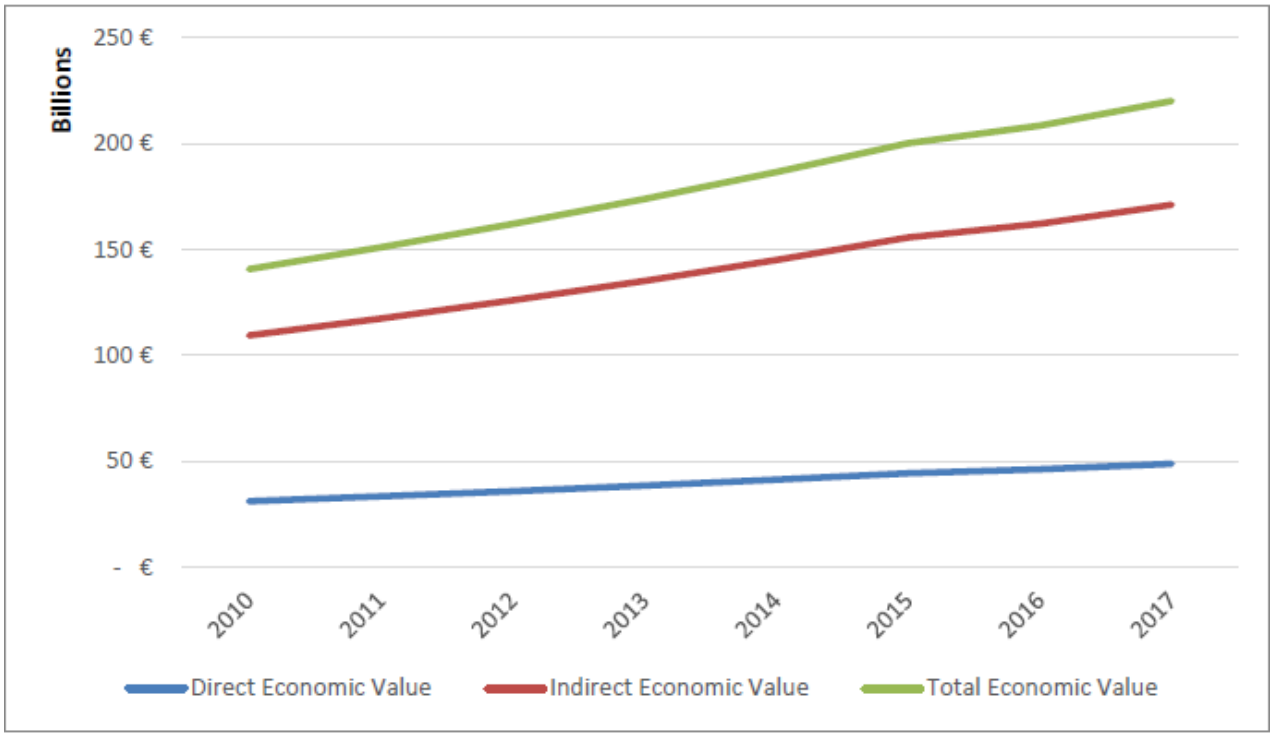
Movements from 2015 to 2017



Direct, indirect and total economic value of PSI (EU28, 2010-2017)



Source: Impact Assessment Support Study, Deloitte, 2018.

Outcomes of the review

- Exclusive contracts were disincentivised and rules clarified
- Raised the issue of PSI data lock-in due to excessive charges
- Stimulated the digital content market for PSI-based products & services
- Increased monitoring of open data supply → more open datasets available

Open data PSI Directive recast

- Aims to remove remaining and emerging barriers
- Expands the scope to
  - public undertakings
  - Scientific data (not just the publications)
- Identifies High Value datasets to be published as open data
- Dynamic data available via APIs
- Promotes the use of Open Data (open by default)

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Extended Scope

- Encourages the inclusion of all public undertakings that collect, process and use information to carry out a public task.
  - Utilities, transport companies
- Member States may also include private companies delegated to carry out a public task
- Research data resulting from public funding (according to FAIR principles)

Charges

- Data available free of charge
- If necessary: charges not to exceed marginal cost of a request
- Self-funded agencies, public undertakings & libraries: allowed to charge more but charges must be set according to objective, transparent and verifiable criteria. Total income may not exceed cost of collection and production.

Dynamic data

- Data must be made available within a reasonable period, pref. ASAP
- Dynamic data immediately after collection or after an update, and via an API to facilitate internet / mobile / cloud applications → real-time
- Open APIs should pref. be used with internationally recognised standards

High Value Datasets as open data

1. Geospatial
2. Earth observation and environment
3. Meteorological
4. Statistics
5. Companies and company ownership
6. Mobility

All HV datasets available as open data and via APIs and bulk download (where relevant)

Limit to exclusive contracts

- Excising exclusive contracts to be phased out
- Contracts may not grant exclusive rights to PSI
  - Lock-in of PSI due to public-private partnerships
  - Creates risk of excessive first-mover advantages
- More chances for SMEs

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Monitoring

- Regular updates of Open Data Maturity Reports
- Member States to monitor:
  - Extent of reuse of PSI
  - Conditions under which PSI is made available
  - Redress practices

Link to Spatial Data Infrastructures

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Open Spatial Data Infrastructures (SDIs)

A working definition:

> "An SDI where all stakeholders commonly ***govern, share and use*** open geodata"

In essence:

Open SDI = (1) Open spatial data (product) + (2) open infrastructure (process)

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Effect open spatial data in NL

Year	2012	2013	2014	2015	2016	2017	2018
#datasets	41	64	78	91	104	131	155
#hits on services	?	580 million	1.1 billion	2.1 billion	4.4 billion	6.3 Billion	10.8 billion

Source https://www.pdok.nl/over-pdok

OpenSDI: Open spatial data

1. Application of principles of open government data to spatial data

2. Government data + **non-government** data

Government data shall be considered open if it is made public in a way that complies with the principles below:

1. Complete
   All public data is made available. Public data is data that is not subject to valid privacy, security or privilege limitations.
2. Primary
   Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.
3. Timely
   Data is made available as quickly as necessary to preserve the value of the data.
4. Accessible
   Data is available to the widest range of users for the widest range of purposes.
5. Machine processable
   Data is reasonably structured to allow automated processing.
6. Non-discriminatory
   Data is available to anyone, with no requirement of registration.
7. Non-proprietary
   Data is available in a format over which no entity has exclusive control.
8. License-free
   Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privil

Compliance must be *reviewable*.

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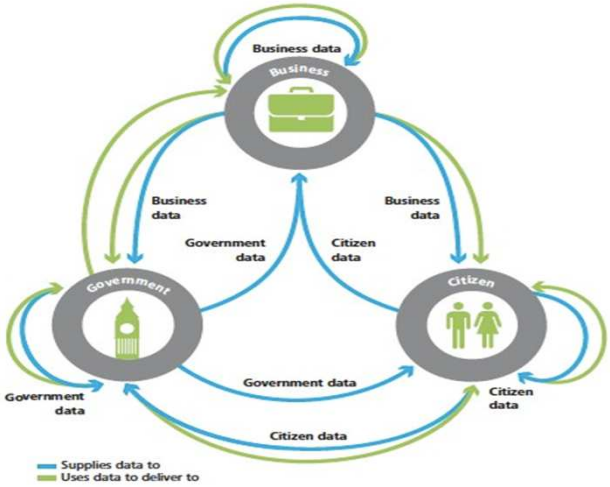
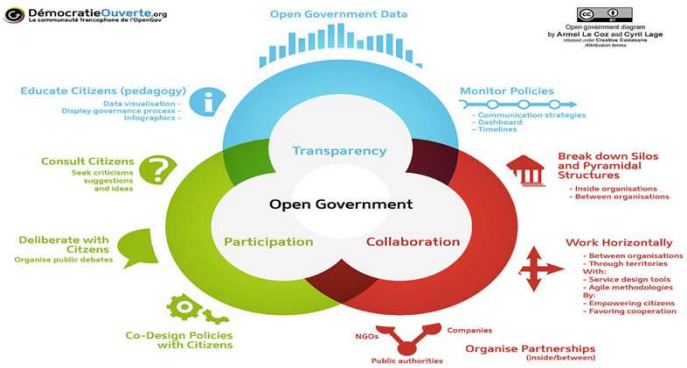


(2) Open infrastructure

Simple: open governance + open implementation =
a co-created spatial data infrastructure

‘Open government’:
- Transparency
- Participation
- Collaboration



Stages of co-creation:
1. co-initiation
2. co-design
3. co-implementation
4. co-evaluation

Open SDI Assessment

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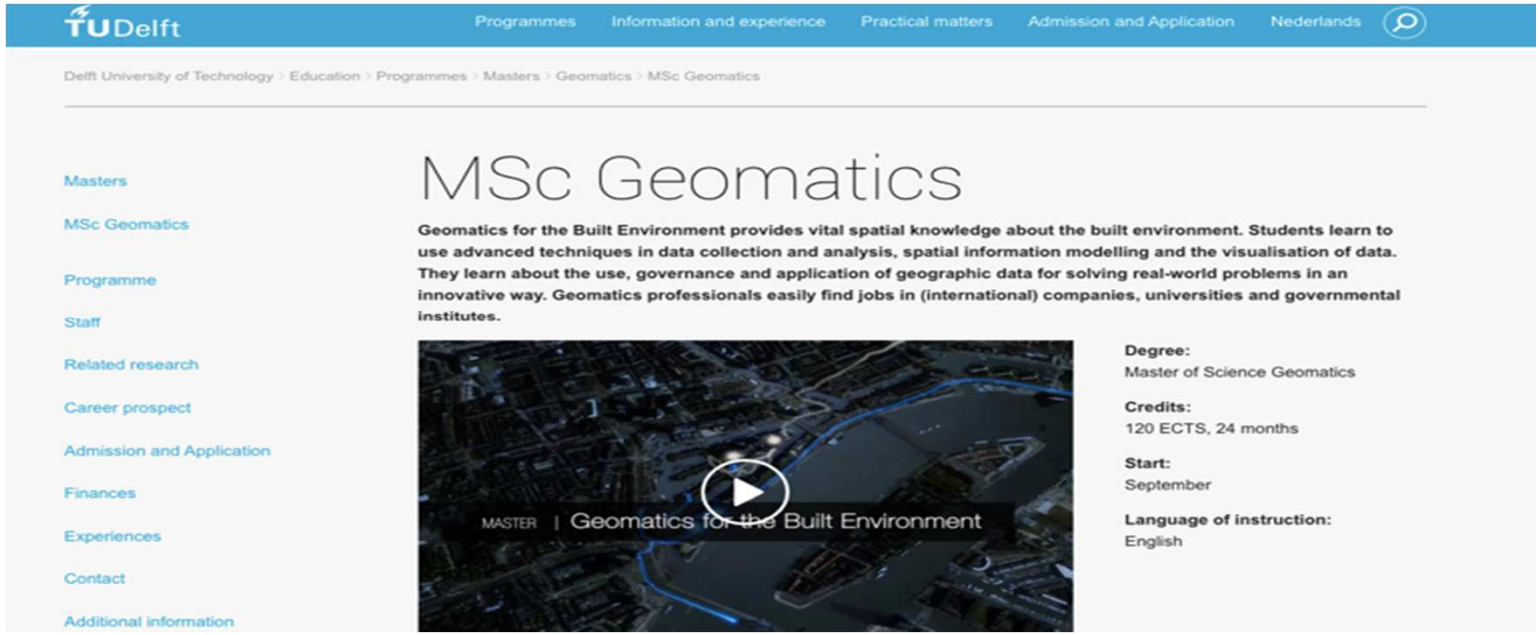
Context



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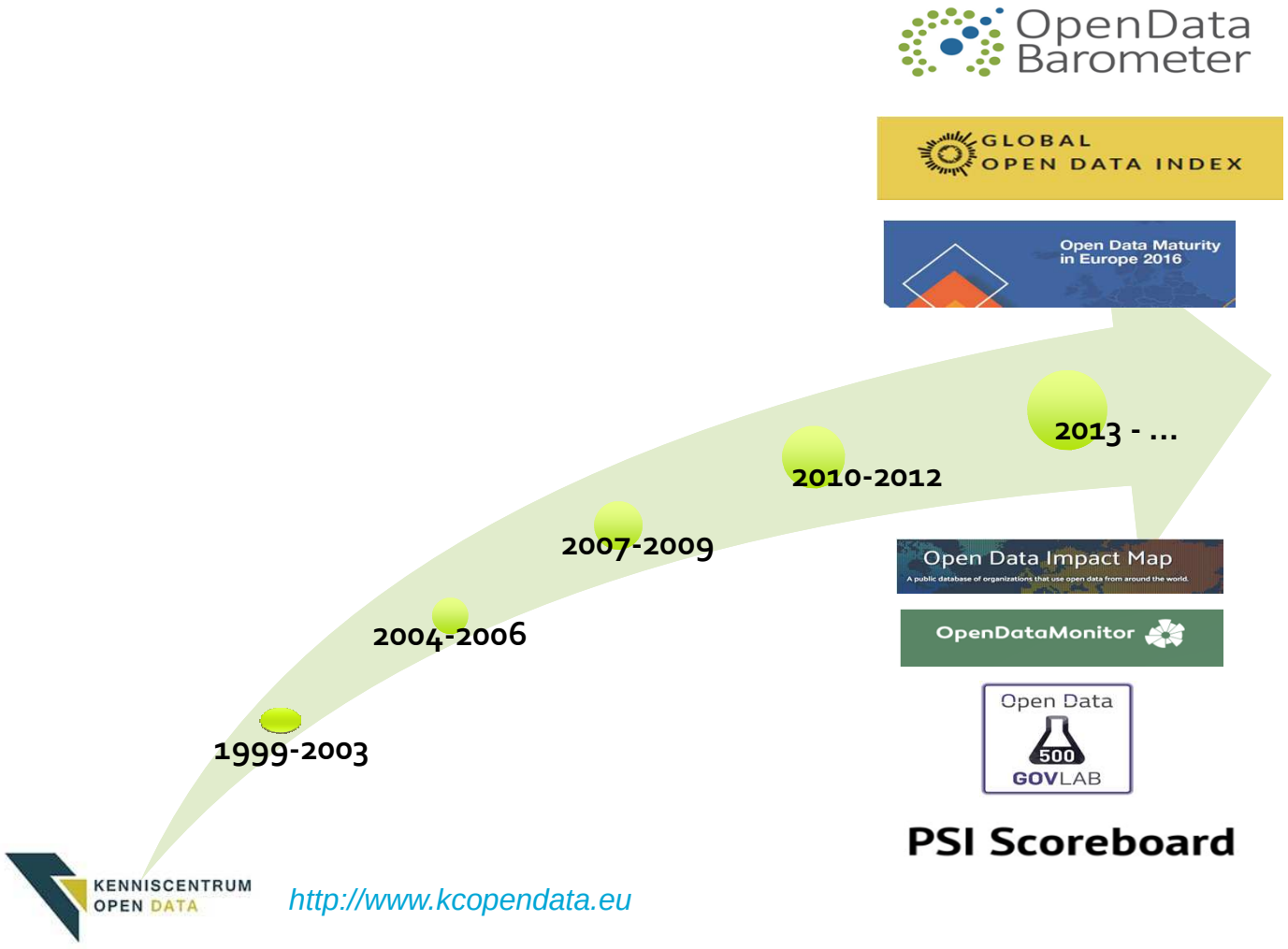

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OpenSDI assessment framework

1. Readiness	2. Data	3. Impact
Technological and non-technological components	Availability and accessibility of spatial data and services	Use of spatial data and services and associated benefits
To involve (government and) non-government actors in developing and implementing the SDI	**To government, businesses, citizens, non-profit organizations and other actors**	**By and for government, businesses, citizens, non-profit organizations and other actors**

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1. Readiness

- Establishment of components to enable the participation of non-government actors in implementing SDI/INSPIRE

- Indicators
  1.1. vision on Open SDI
  1.2. participation of non-government actors in SDI decision making
  1.3. open data policy (for all – spatial – data)
  1.4 non-government data included in the SDI

2. Data

- Availability and accessibility of spatial data to non-government actors

- Focus on two data sets:
  - topographic data 1º10,000 & address data (2017)
  - elevation data and transport network (2018)
  - parcel map and road network (at least 1:20k)(2019)

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3. Impact

- Use of spatial data by non-government actors and associated benefits

- Indicators

  3.1. use cases of non-government actors using open spatial data

  3.2. studies showing the benefits of open spatial data

Results

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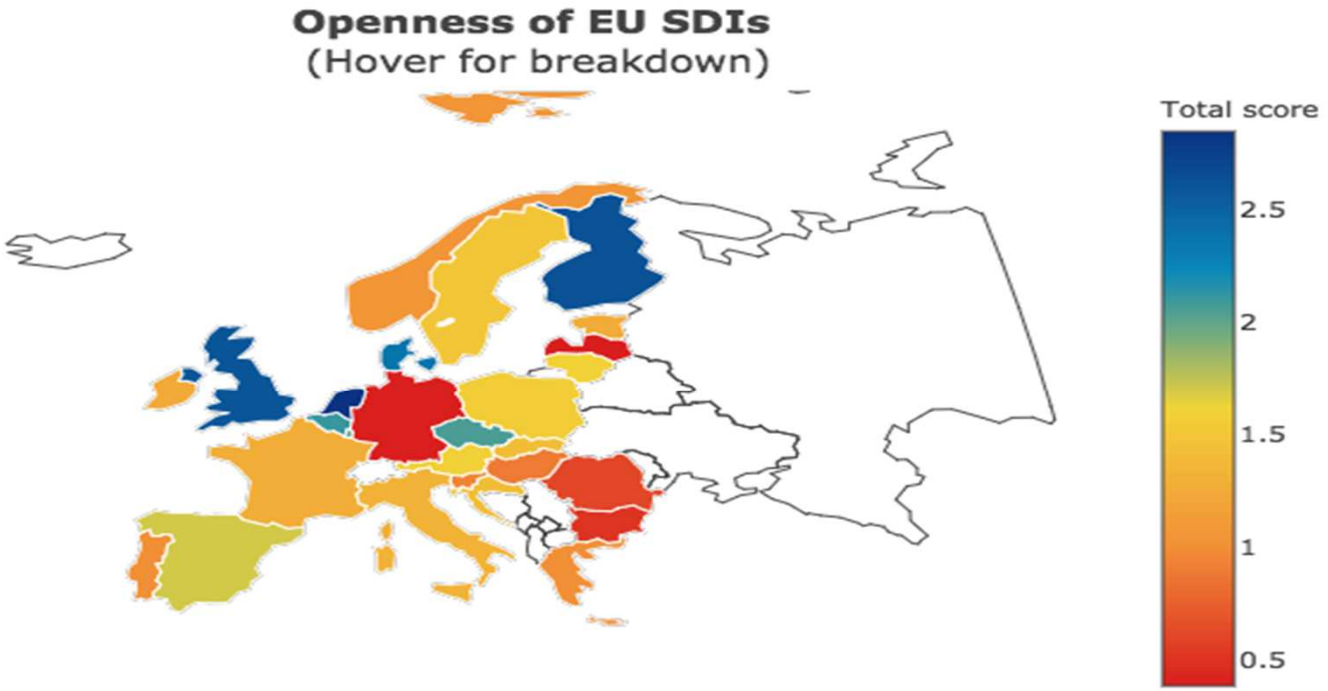
2017 Map of Open SDI



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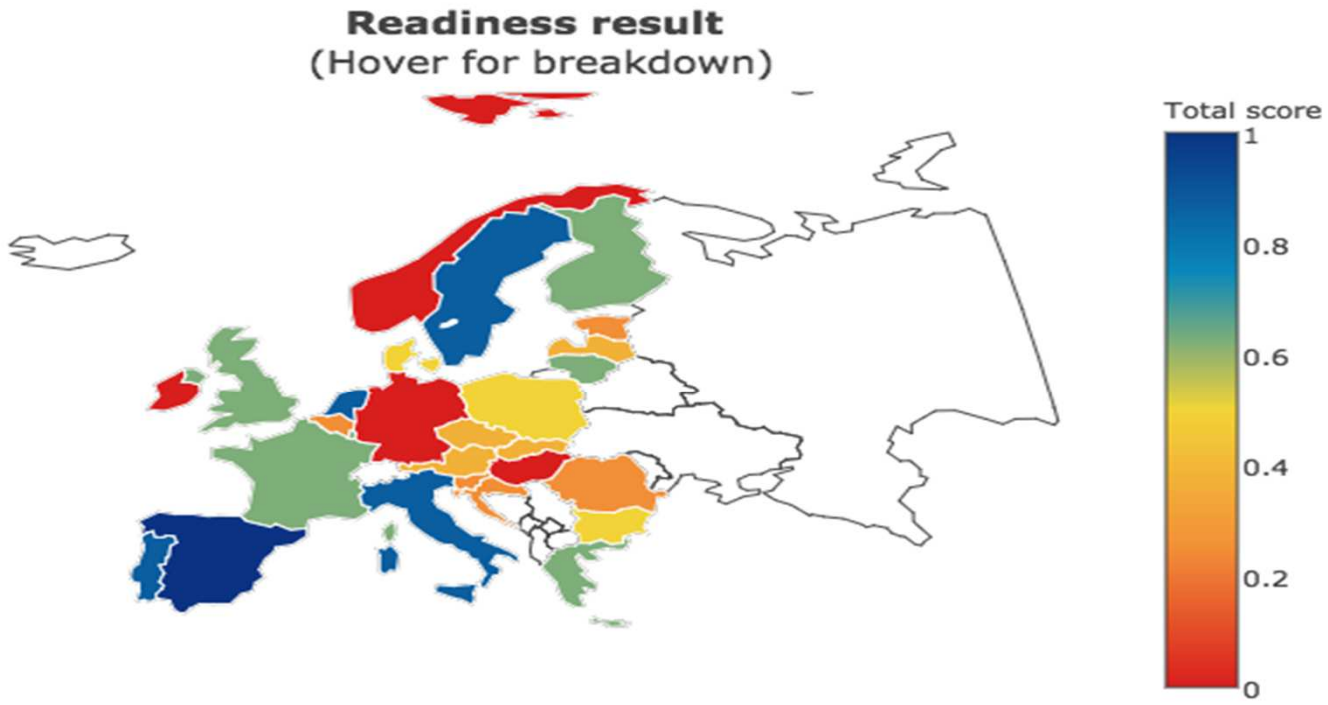
Map of Open SDI - Readiness



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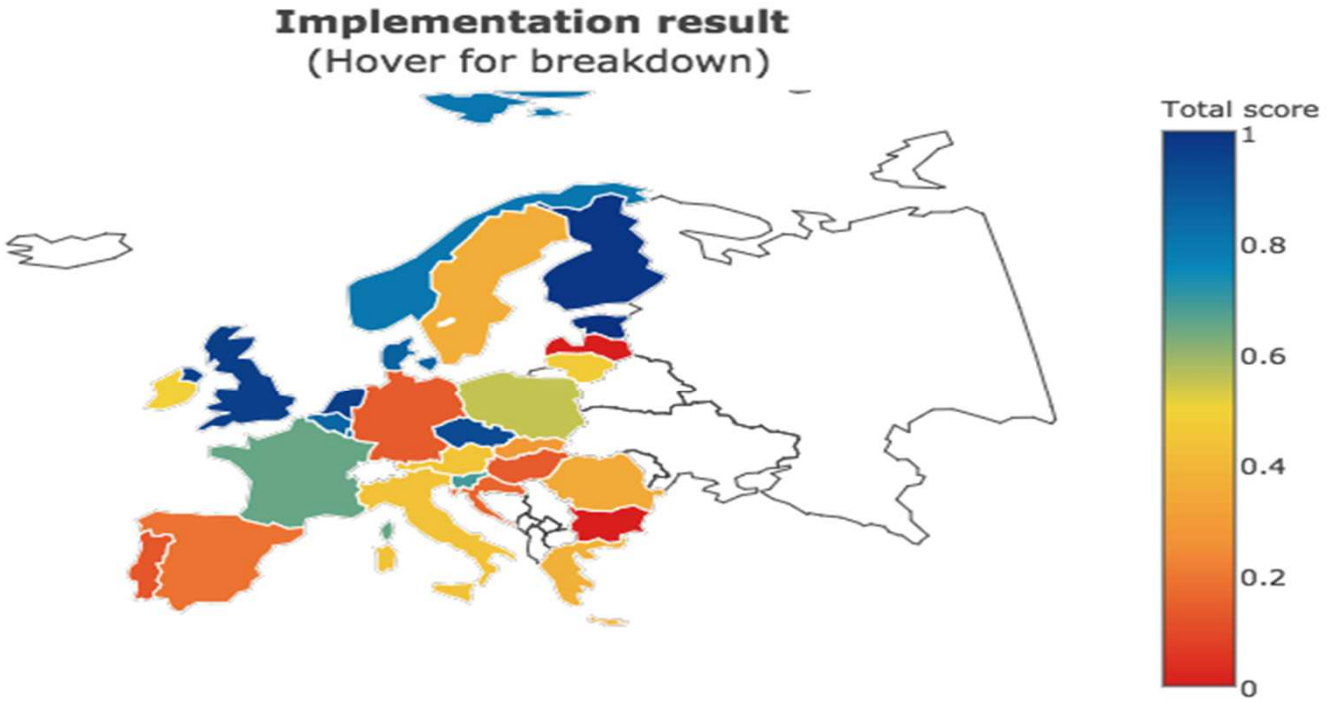
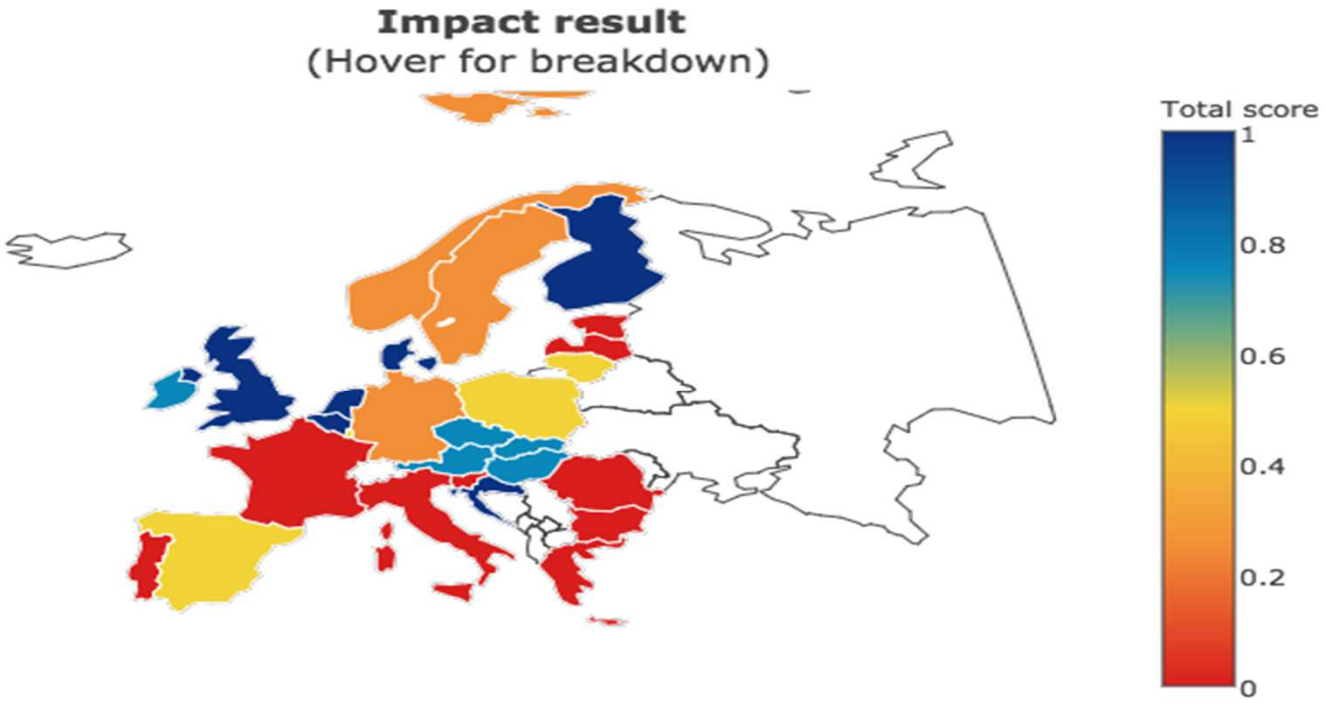
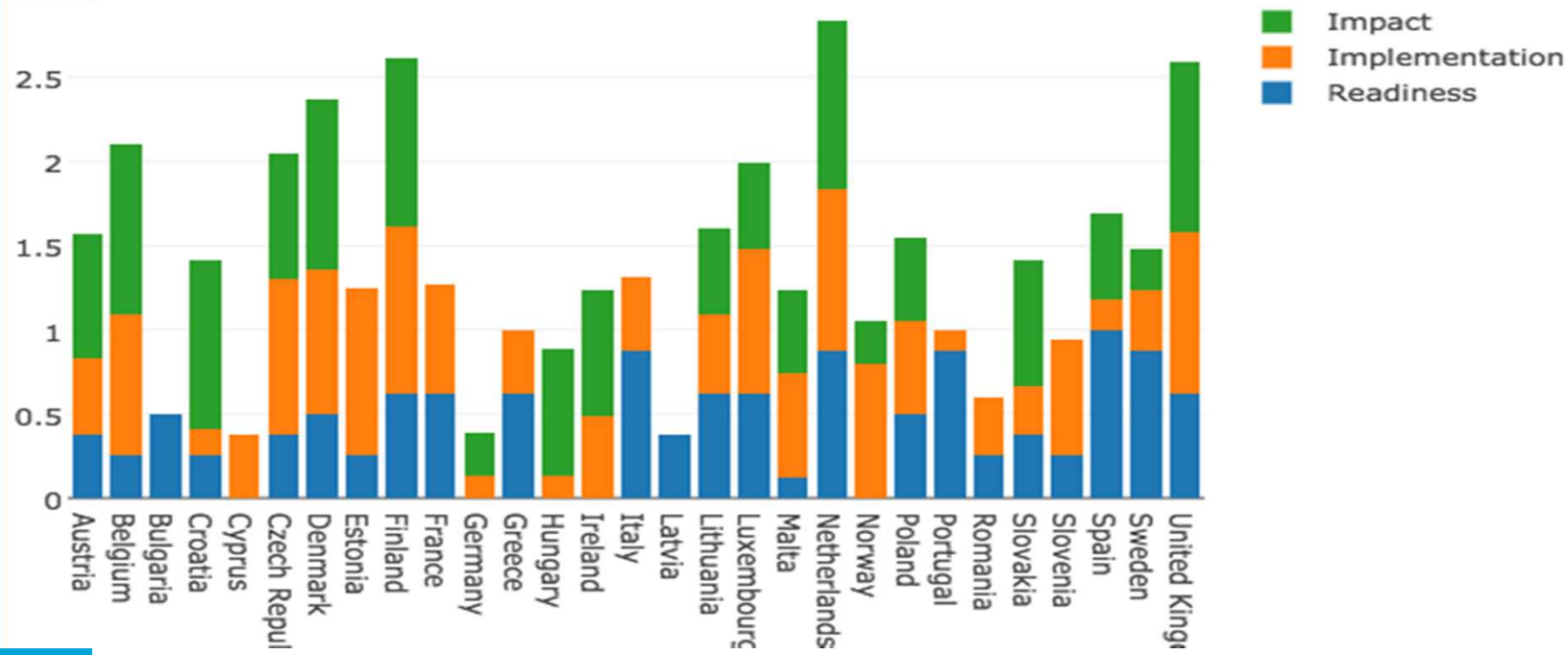
Map of Open SDI - Data



Map of Open SDI - Impact



Map of Open SDI – overview 2017



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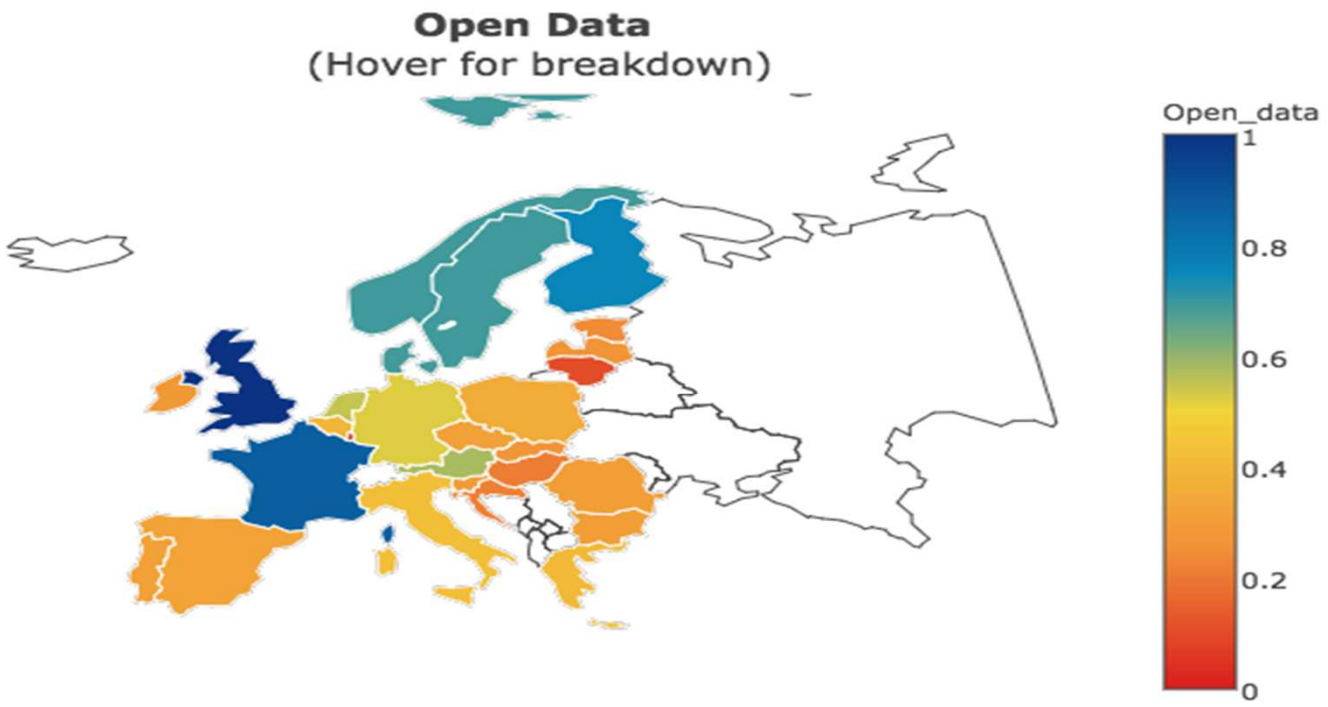
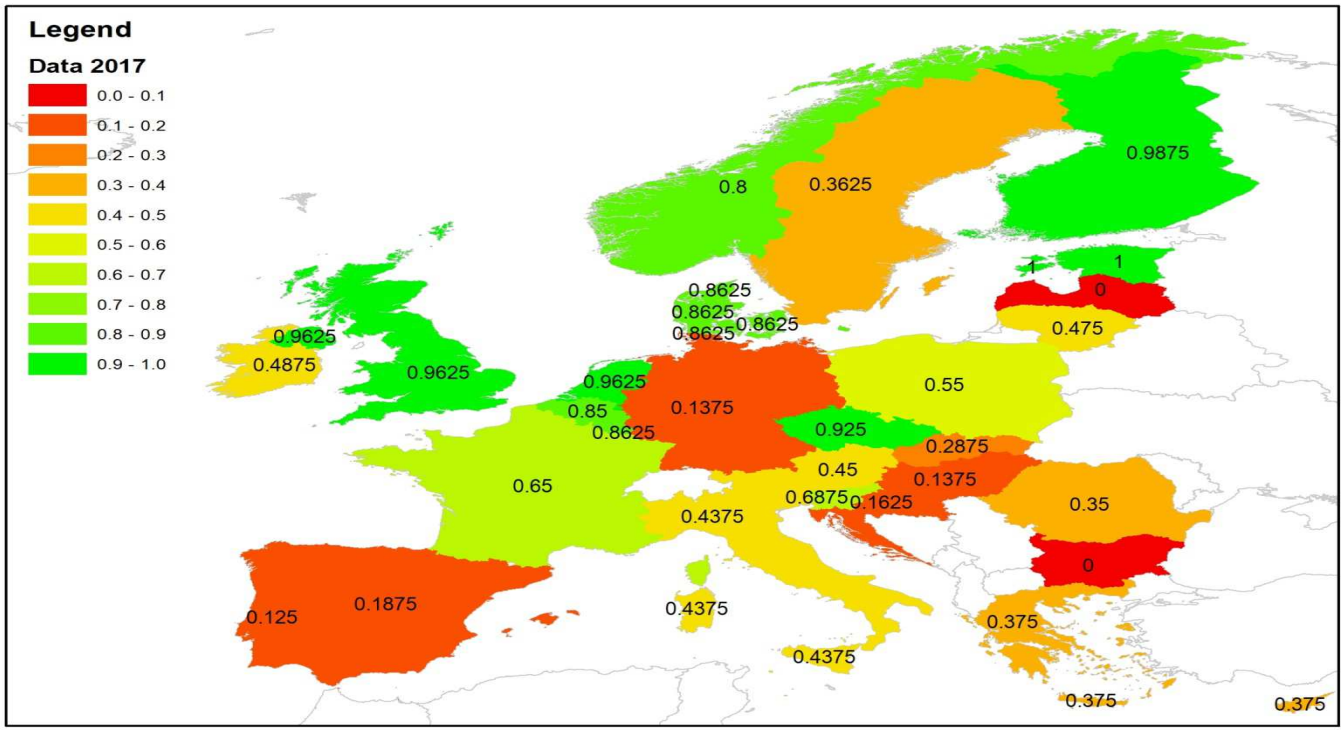
Map of Open data





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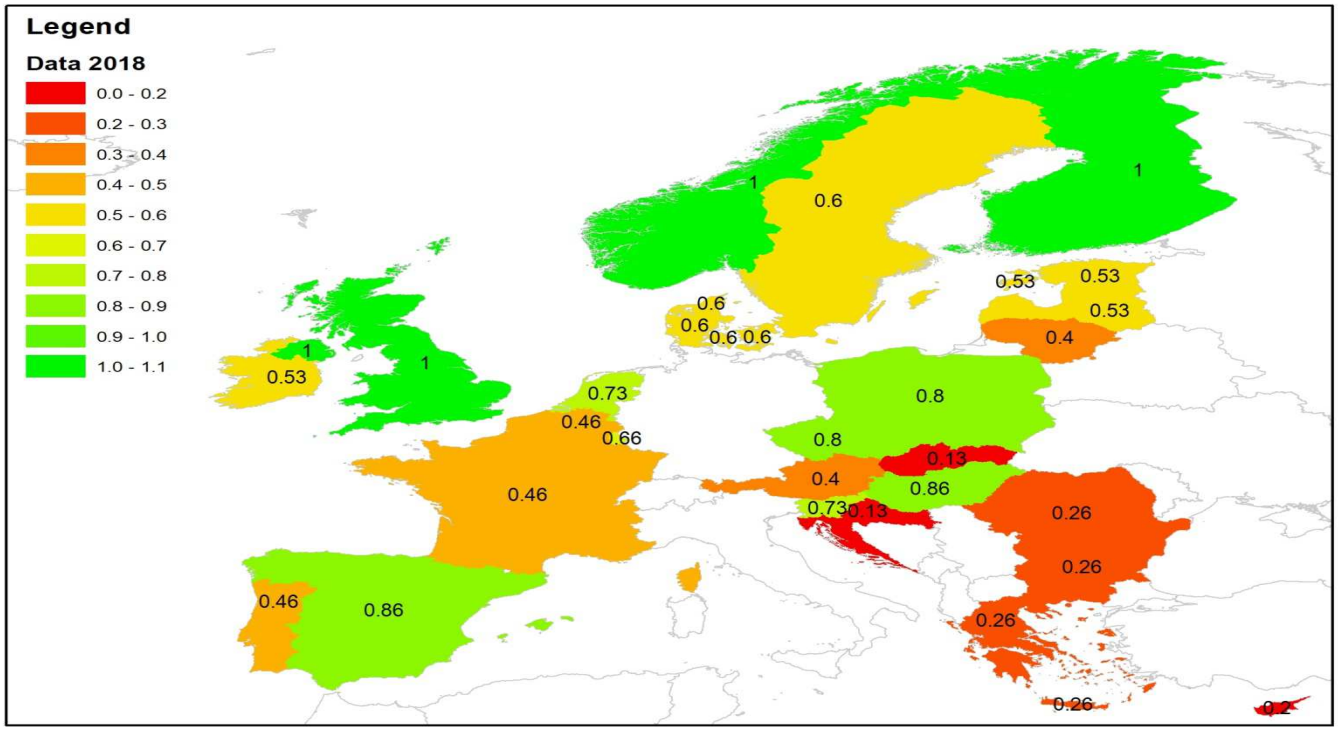

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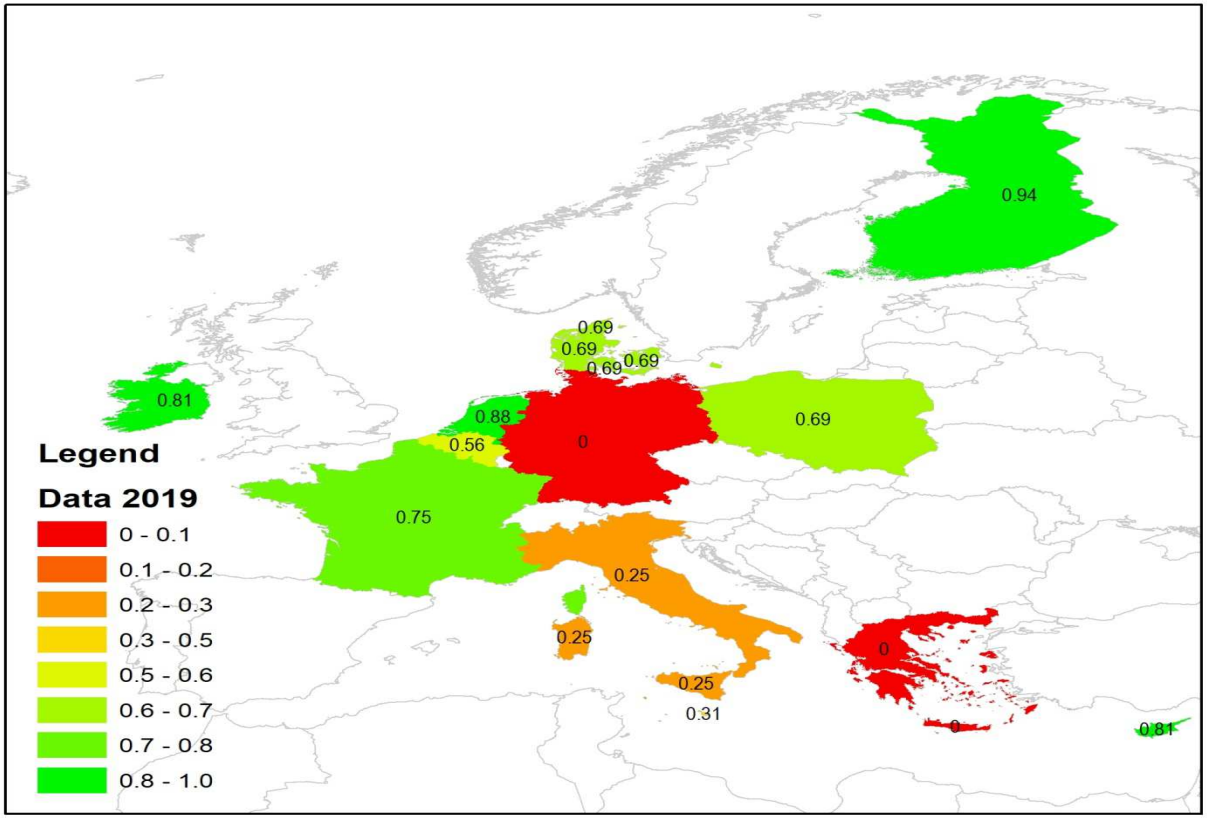
Legend
Data 2019
0 - 0.1
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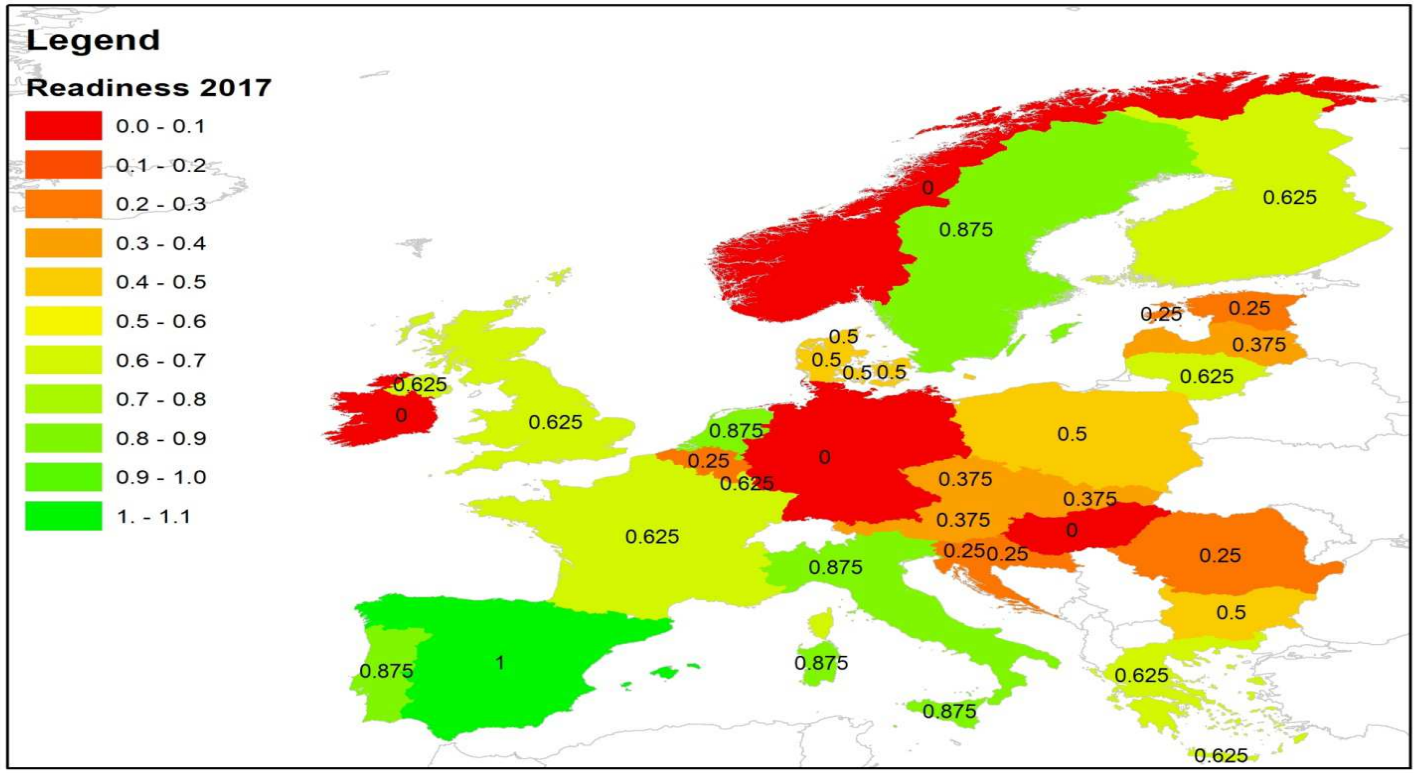

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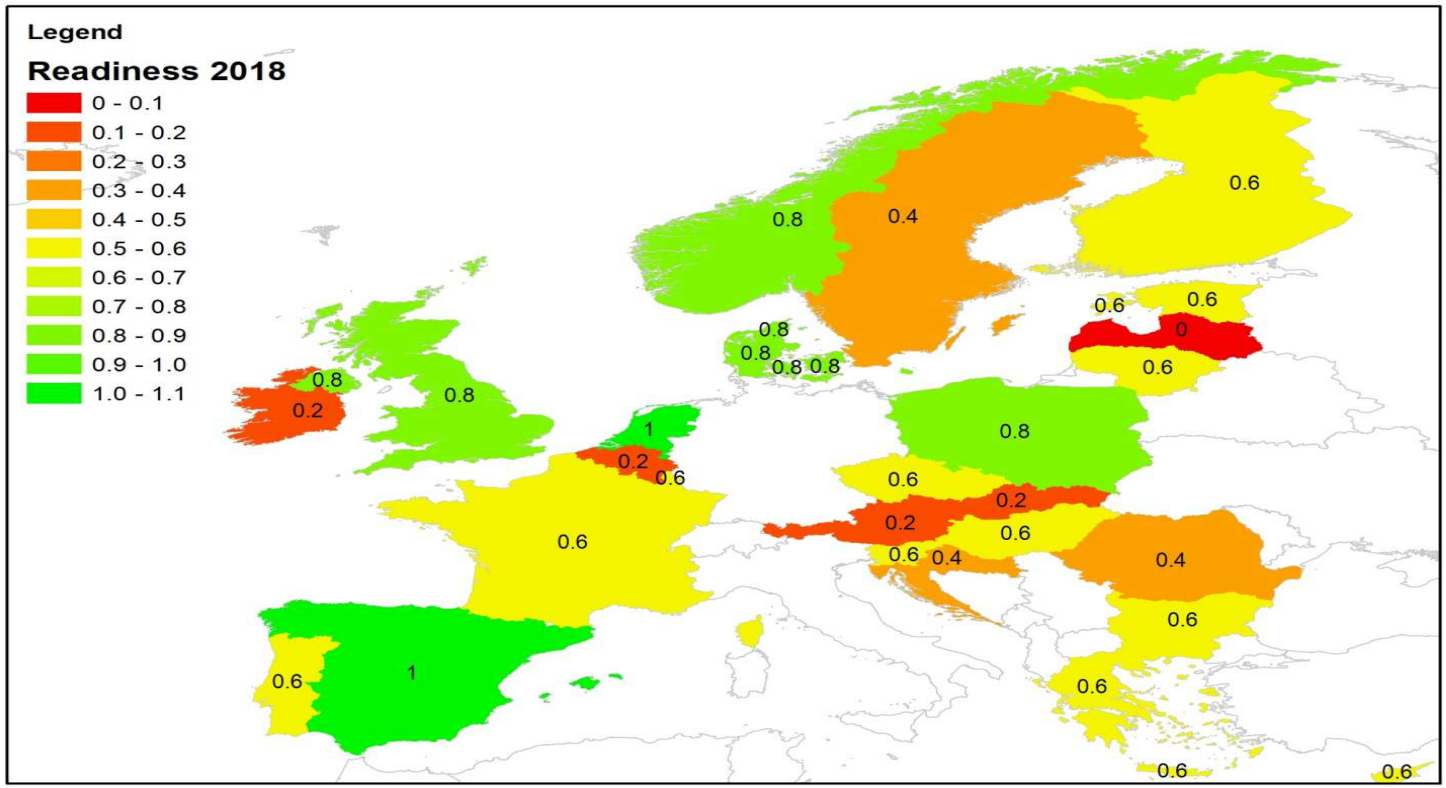

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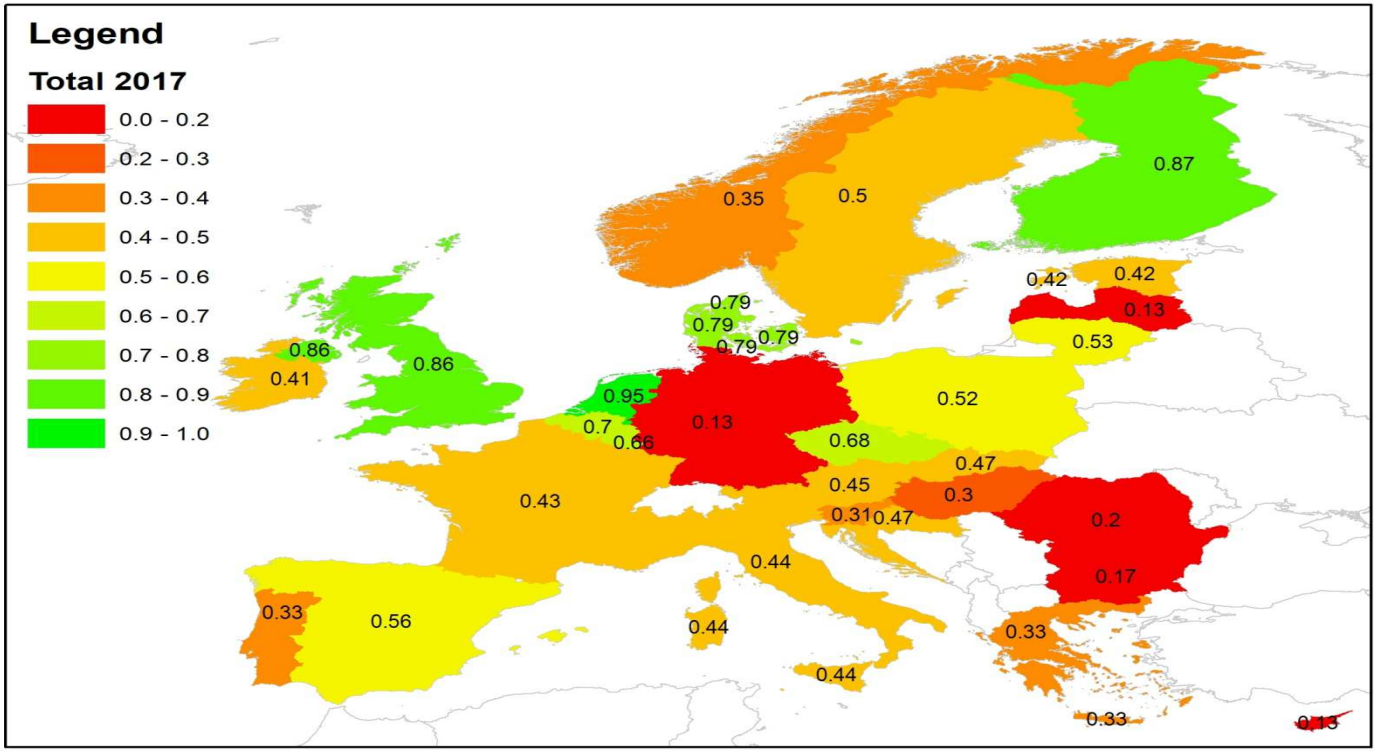
Legend
Total 2017
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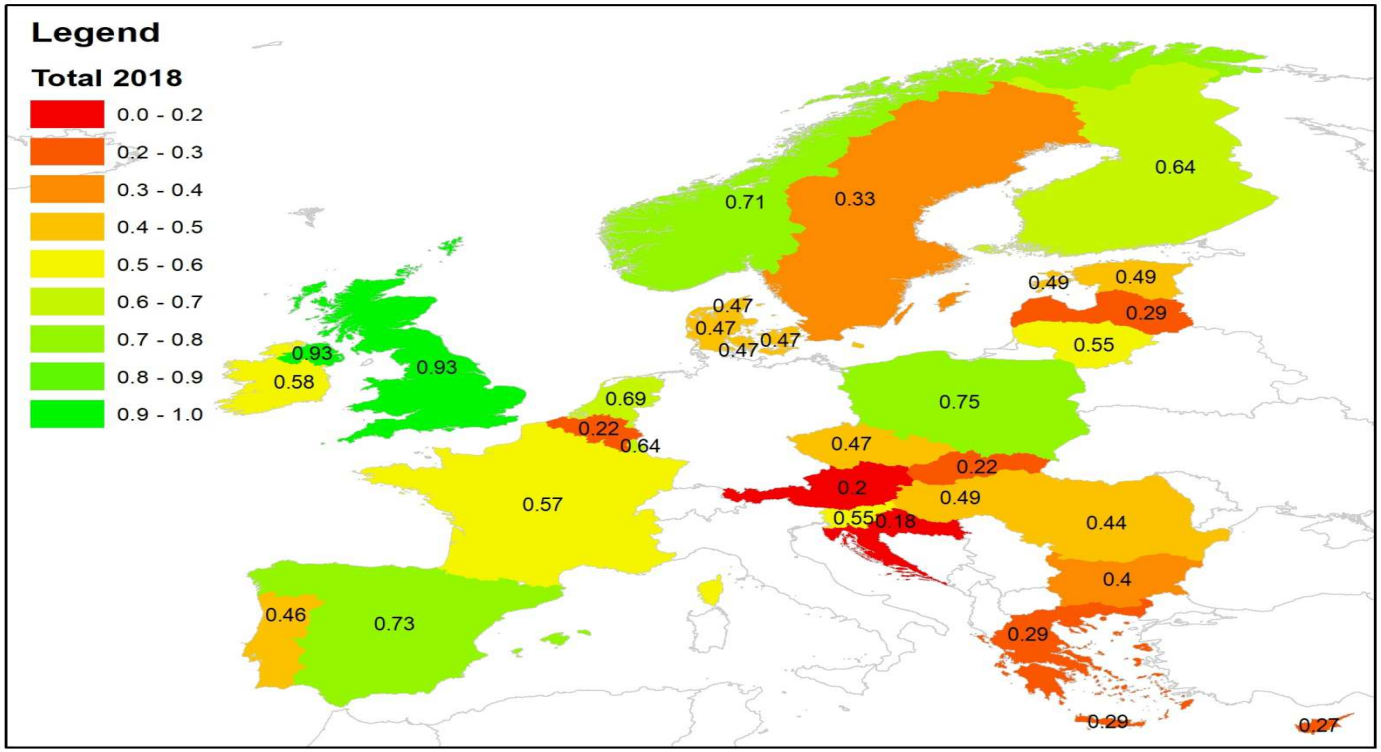

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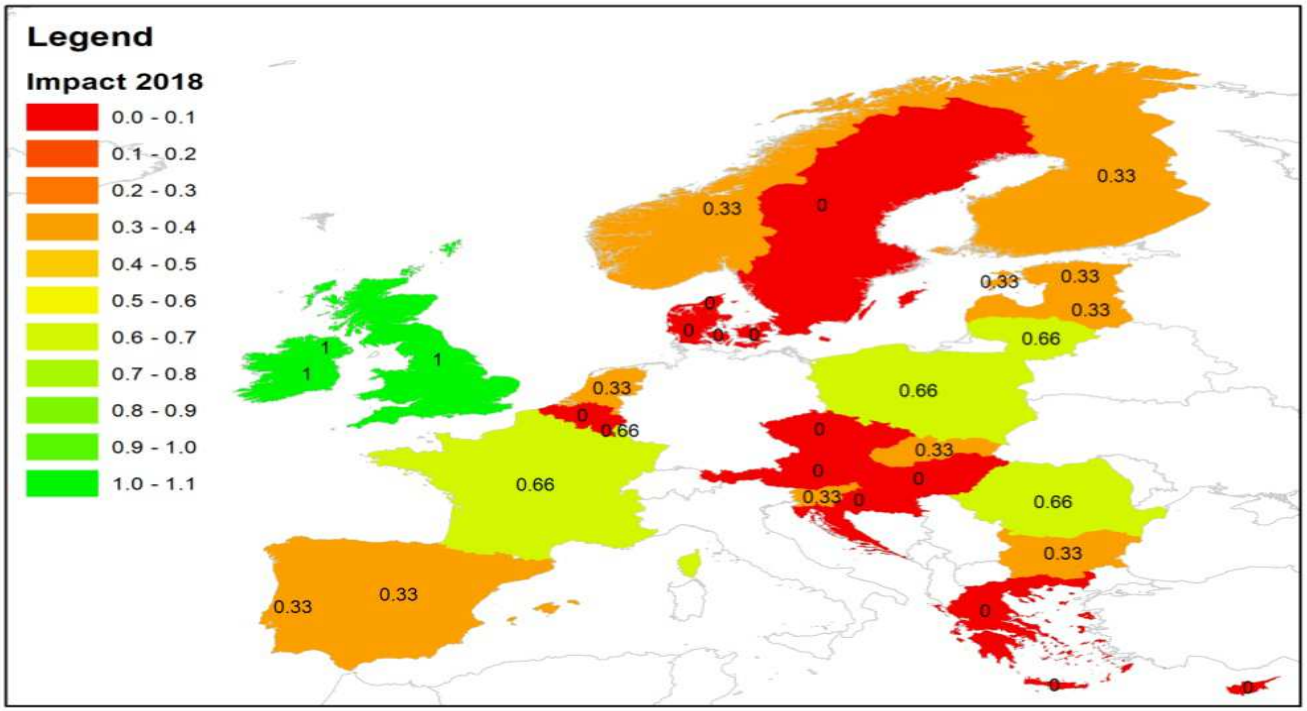

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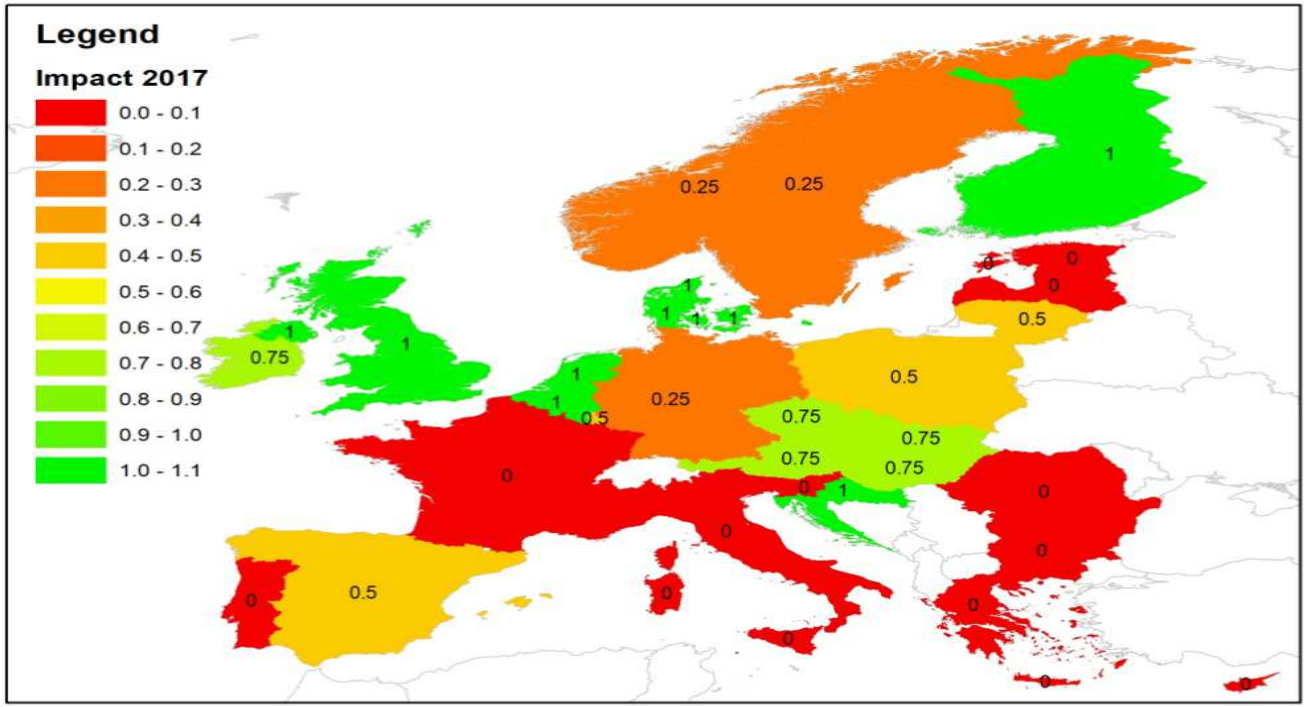

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International (non-)spatial data user

- **Hard to find:**
  - Language barrier
  - Not in first 20 Google results
  - No common dataset naming
  - Multiple access points
- **Hard to understand:**
  - Language barrier
  - Geoportal search gives irrelevant results
- **Hard to use:**
  - Many datasets
  - National licenses

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Is open data the panacea?

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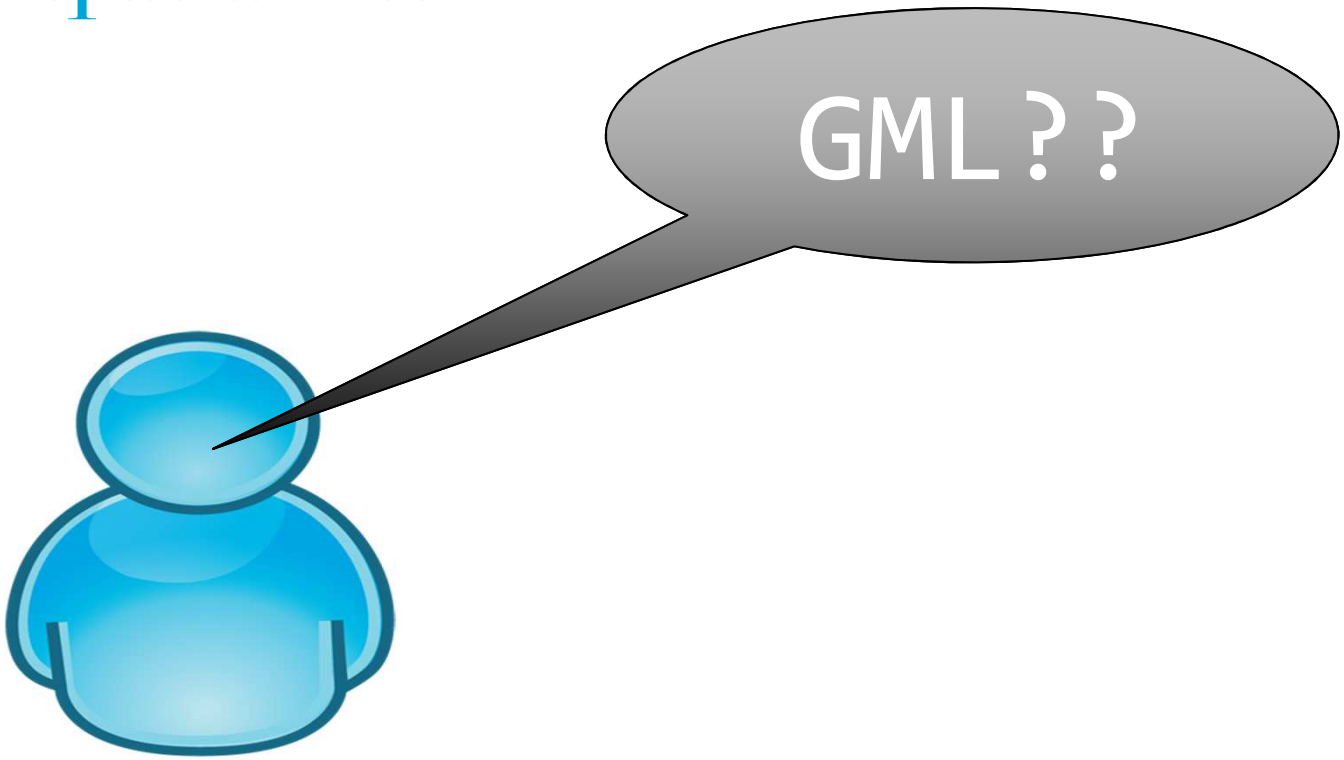
Non-spatial user



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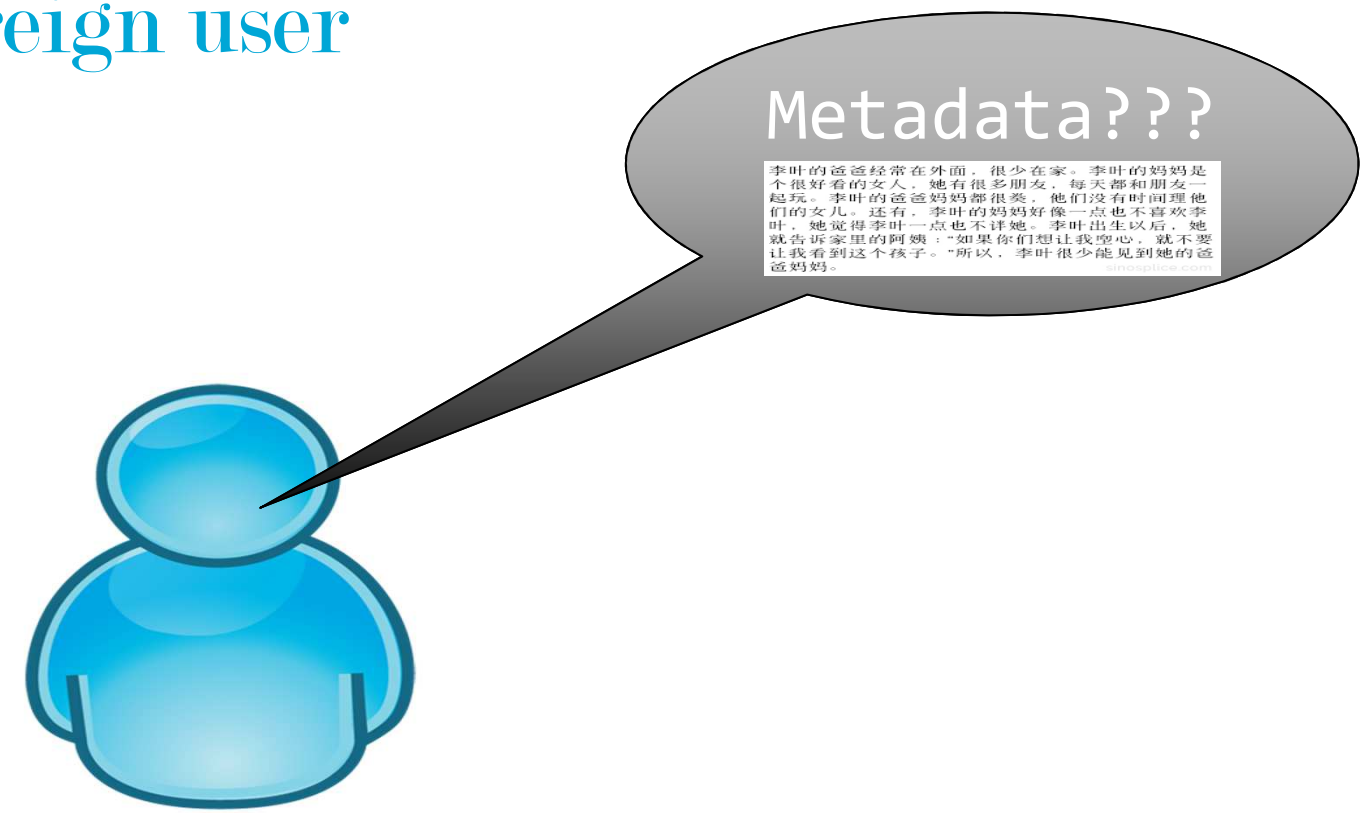
Foreign user



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But…

- Research performed by a special group of users: (non native) students:
  - !
  - ?

Research challenge

- How to assess the performance of open SDIs?

Open SDI = Better performing SDI?

Link OD PSI & INSPIRE

- Producer, or user driven, or?
- Fixed services:
  - API allowed?
  - Need for flexibility to adapt to rapidly changing environments?
- Users of INSPIRE?
  - “Collect it once (process it once) use it once”

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http://www.kcopendata.eu

Intermediate conclusion

- Concept of SDIs around since 1989
- Users mentioned, and sometimes considered
- but involved?
- Open data on the rise,

however

- mostly open government data
- OpenSDI: “An SDI where all stakeholders commonly ***govern, share and use*** open geodata”

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Research challenges

- User oriented strategies:
  - Who is the user, needs and how to involve?
- Data as an asset or data as an infrastructure?
- Towards an Open Spatial Data Ecosystem:
  - What is it?
  - Why do we need it?
  - How to establish it?
- Open SDI governance:
  - Roles, responsibilities and rights of (non-government) actors?
- (Open) SDI Assessment:
  - Impact: use, users and benefits of an SDI (how to monitor and compare at country level)
  - Automated assessment/benchmarking
- How to stay ahead of non-geo!?

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Thank you for your attention

KNOWLEDGE CENTRE OPEN DATA
Delft University of Technology

Comments? Questions? Interested to contribute?

Let us know!

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