

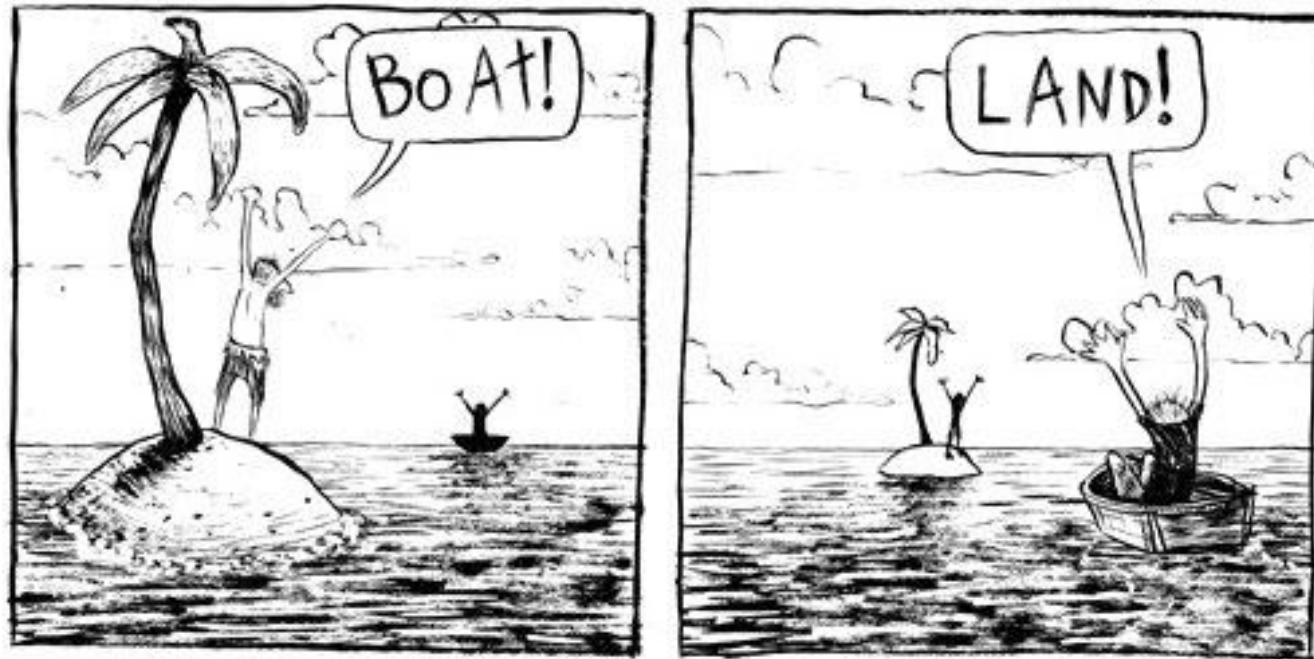
Spatial Data Infrastructure – the great enabler?

– a Danish Public Sector View on Interoperability



Chief Advisor
Ulla Kronborg Mazzoli

PERSPECTIVE



Phil McAndrew MAD Magazine 2011

Agency for Data Supply and Infrastructure *AKA SDFI*

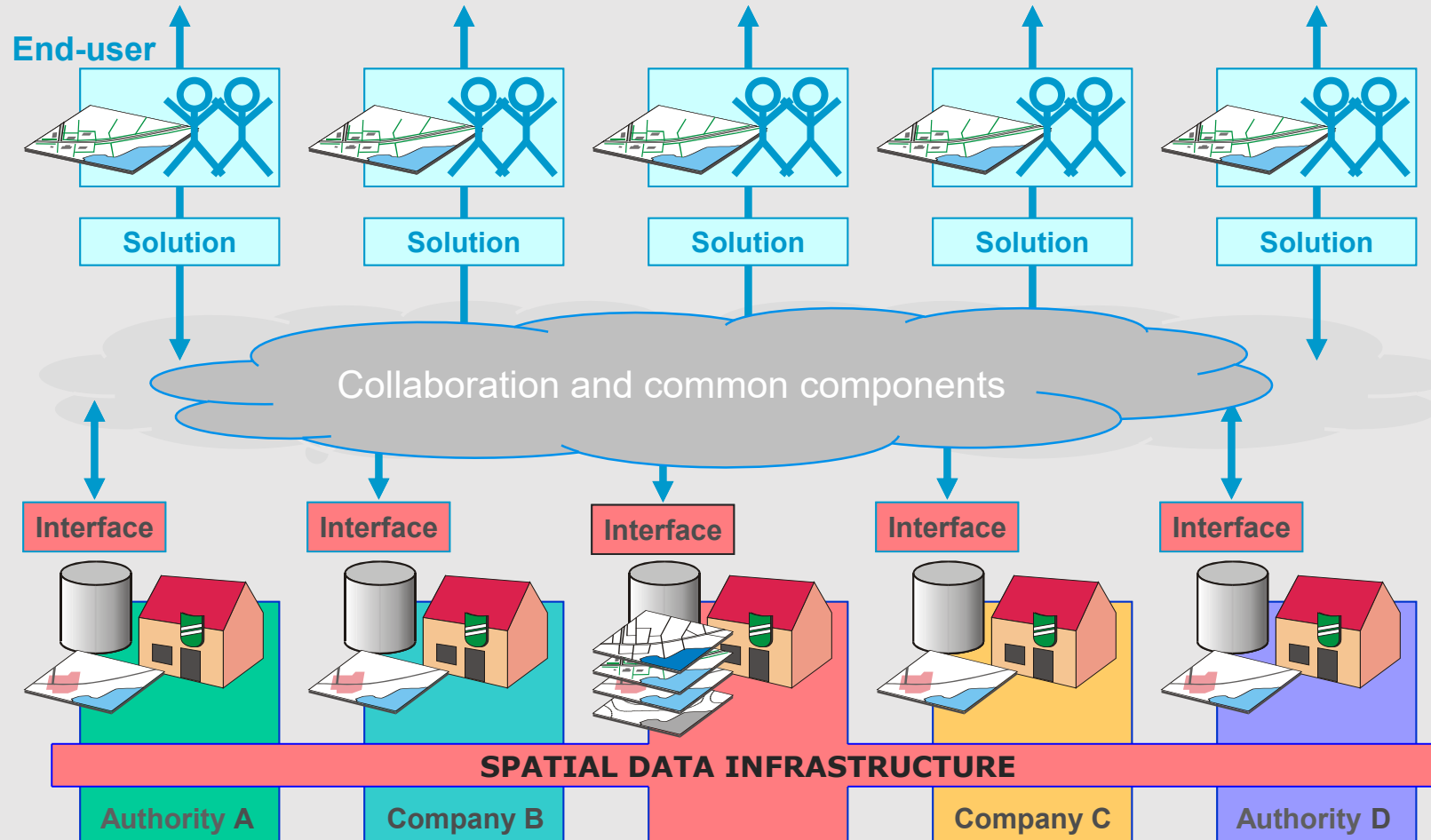
Part of the Ministry for Climate, Energy and Utilities

NMCA and provider of data infrastructure + tele-brb

Part of Digital Government – Spatial Data



From many sources and used in many domains



DATA SHOULD ONLY BE
COLLECTED ONCE

DATA SHOULD BE
MAINTAINED WHERE THIS
CAN BE DONE MOST
EFFECTIVELY

IT SHOULD BE EASY TO
GET AN OVERVIEW OF
THE AVAILABLE DATA
AND INTERNET SERVICES

DATA SHOULD BE
COMBINABLE,
REGARDLESS OF THEIR
SOURCE

THERE SHOULD BE CLEAR
CONDITIONS WHICH ASSURE
THAT DATA CAN BE UTILISED
BY MANY USERS IN
MANY CONTEXTS

THE INFRASTRUCTURE MODEL



SDI - the teacher

- No one can provide an SDI alone
- Different roles and responsibilities
- Pool the skills and divide the cost
- Collaborate under “good” governance



NO STANDARDS
NO INTEROPERABILITY

International standards

Geospatial standards

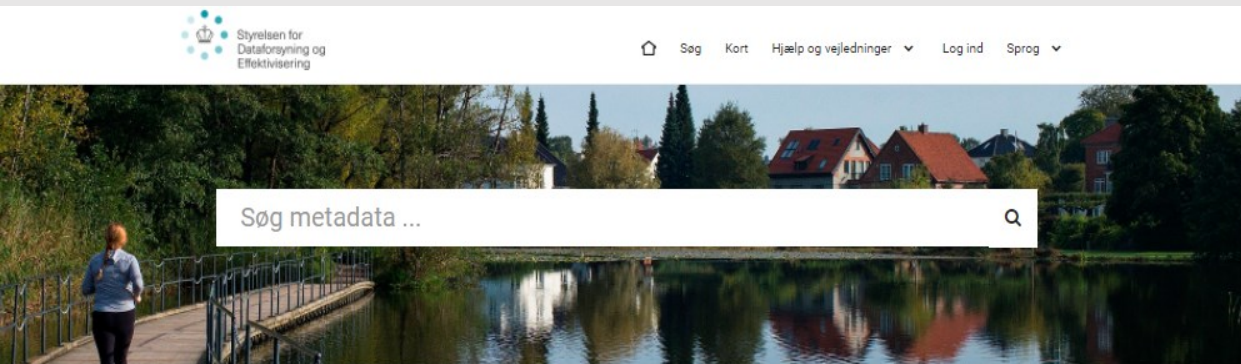
- ISO/TC211
- OGC (Open Geospatial Consortium)
- IHO (The International Hydrographic Organization)

ICT standards

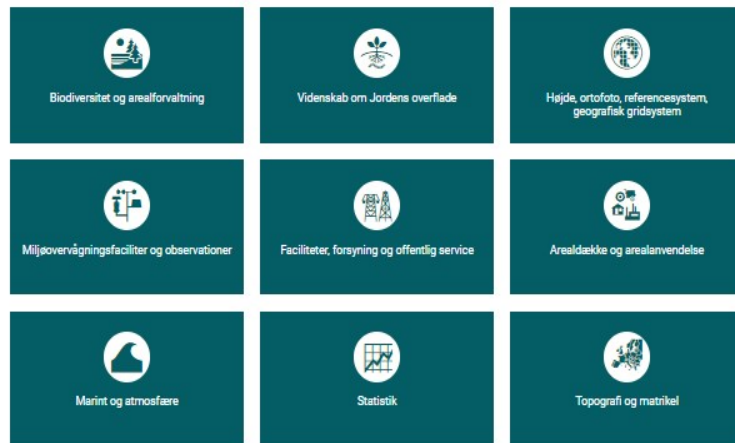
- ISO/CEN
- ETSI
- OASIS
- W3C (World Wide Web Consortium)
- ...and many more



Geoportal and ODD portal



geodata-info



Kontakt

Styrelsen for Dataforsyning og Effektivisering
Rentemestervej 8
2400 København NV
7254 5500
sdf@sdf.dk
EAN-nummer: 5798009813640
CVR-nummer: 37 28 41 14
Support:

Besøg også

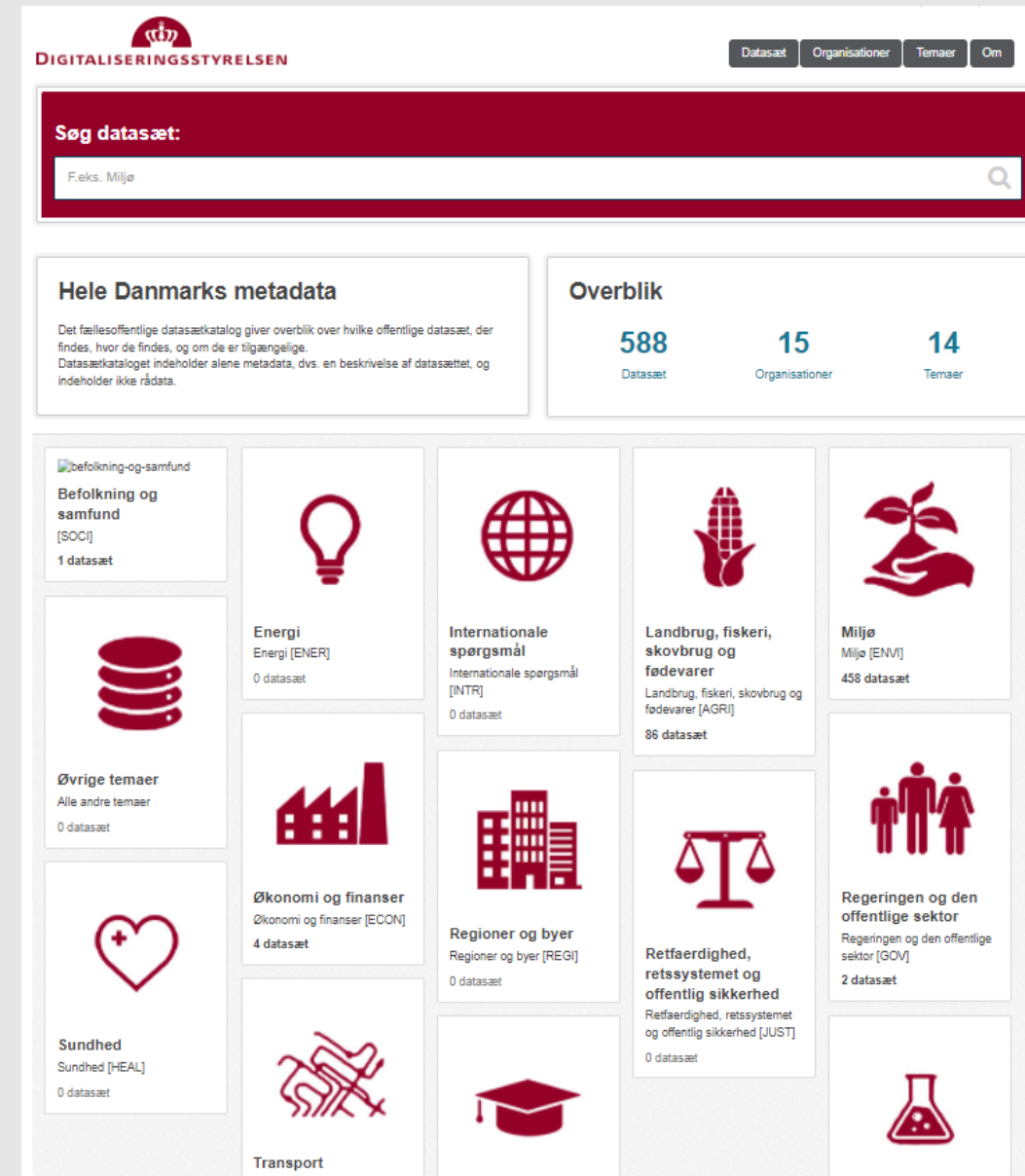
Styrelsen for Dataforsyning og Effektivisering
INSPIRE Danmark
European Commission > INSPIRE
Brugstedet.dk – eksempler på geodata-anvendelse

Følg os

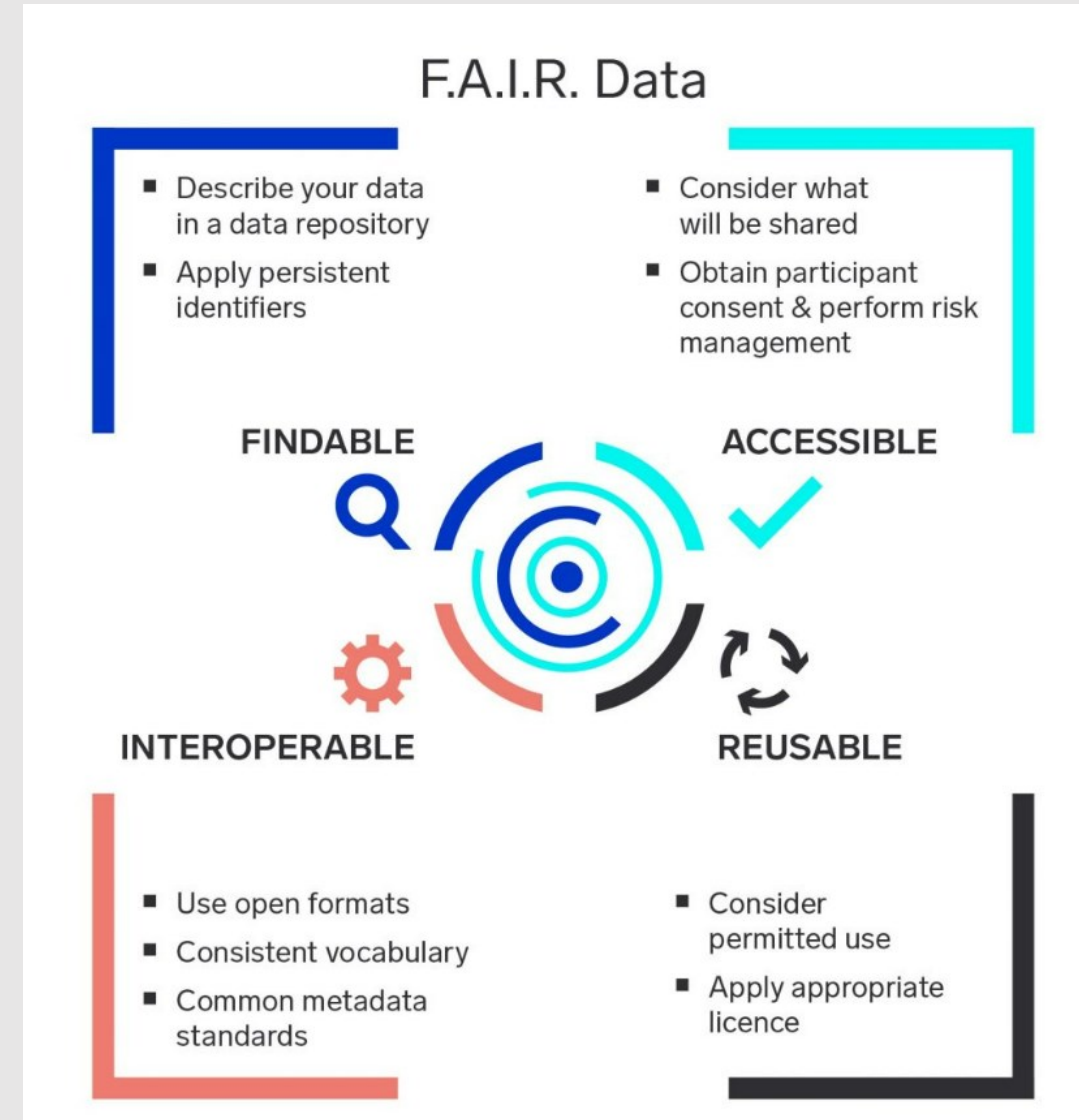
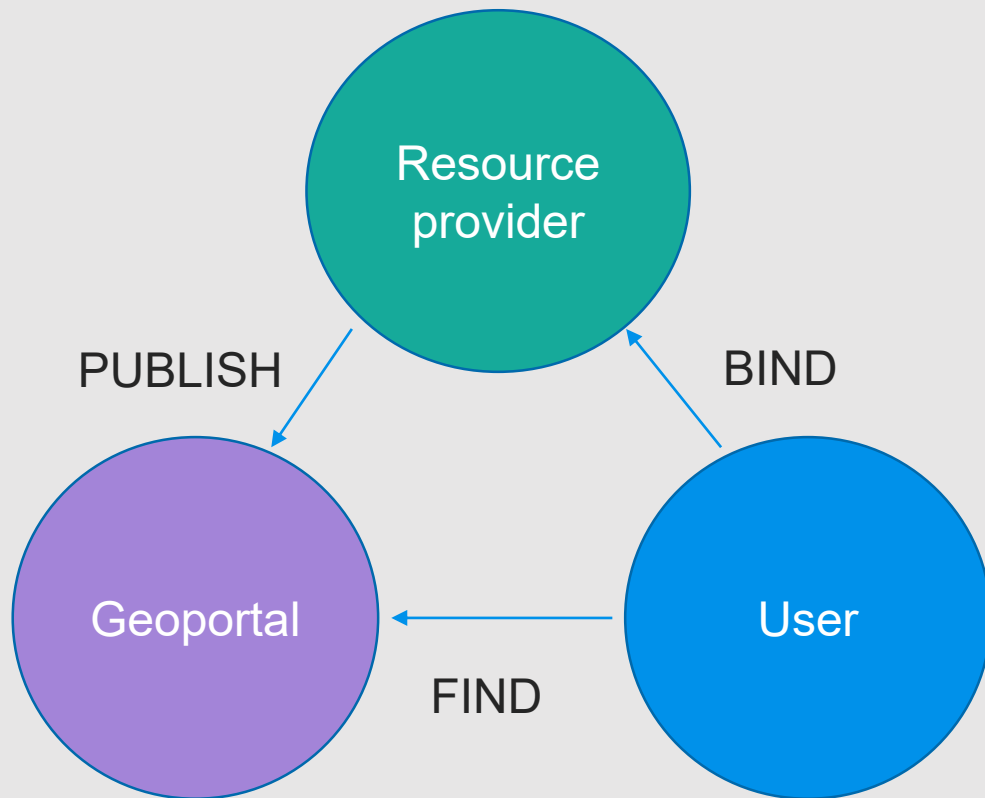
in Styrelsen for Dataforsyning og Effektivisering (LinkedIn)
Nyhedsbrev

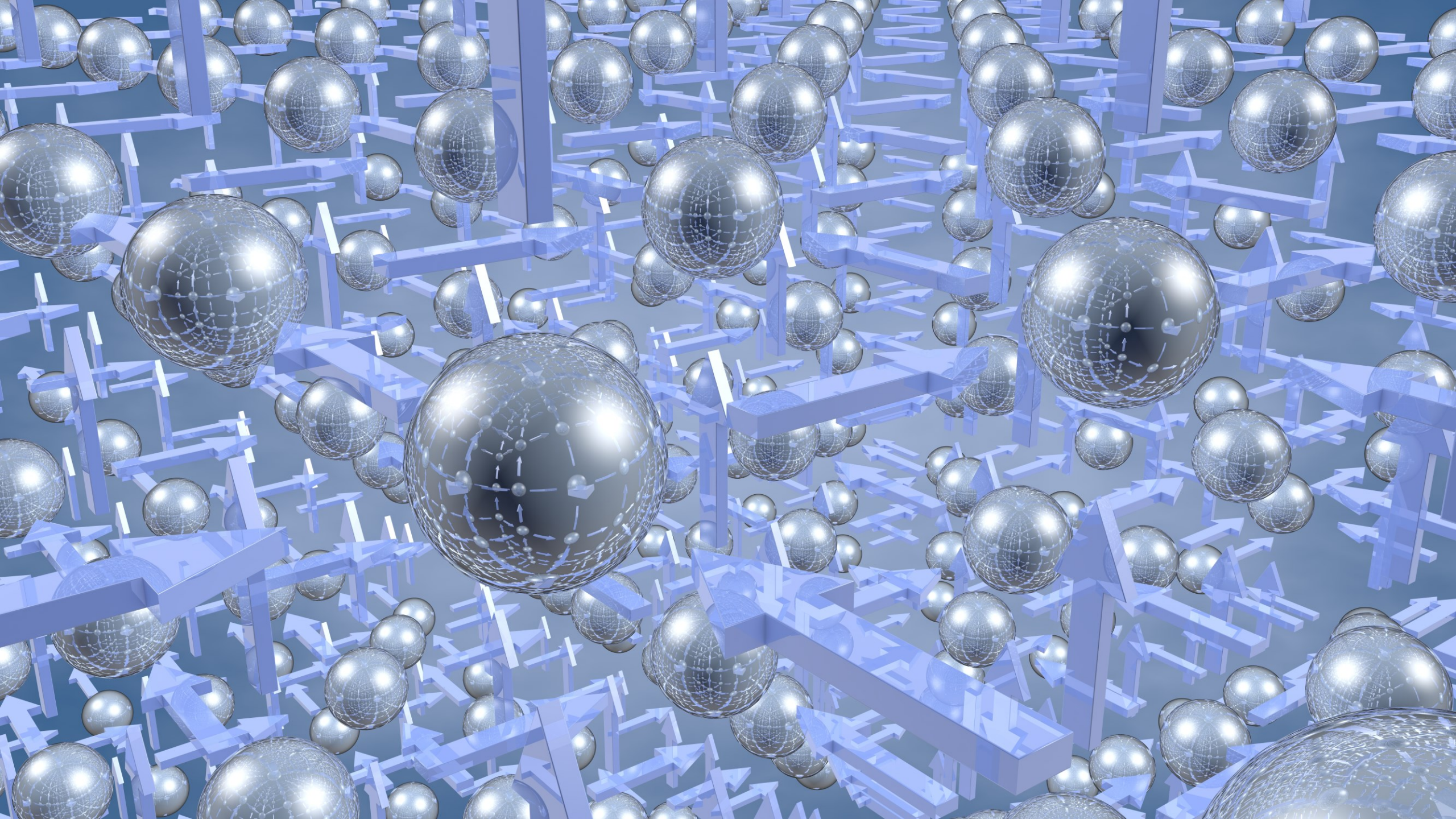
Om geodata-info

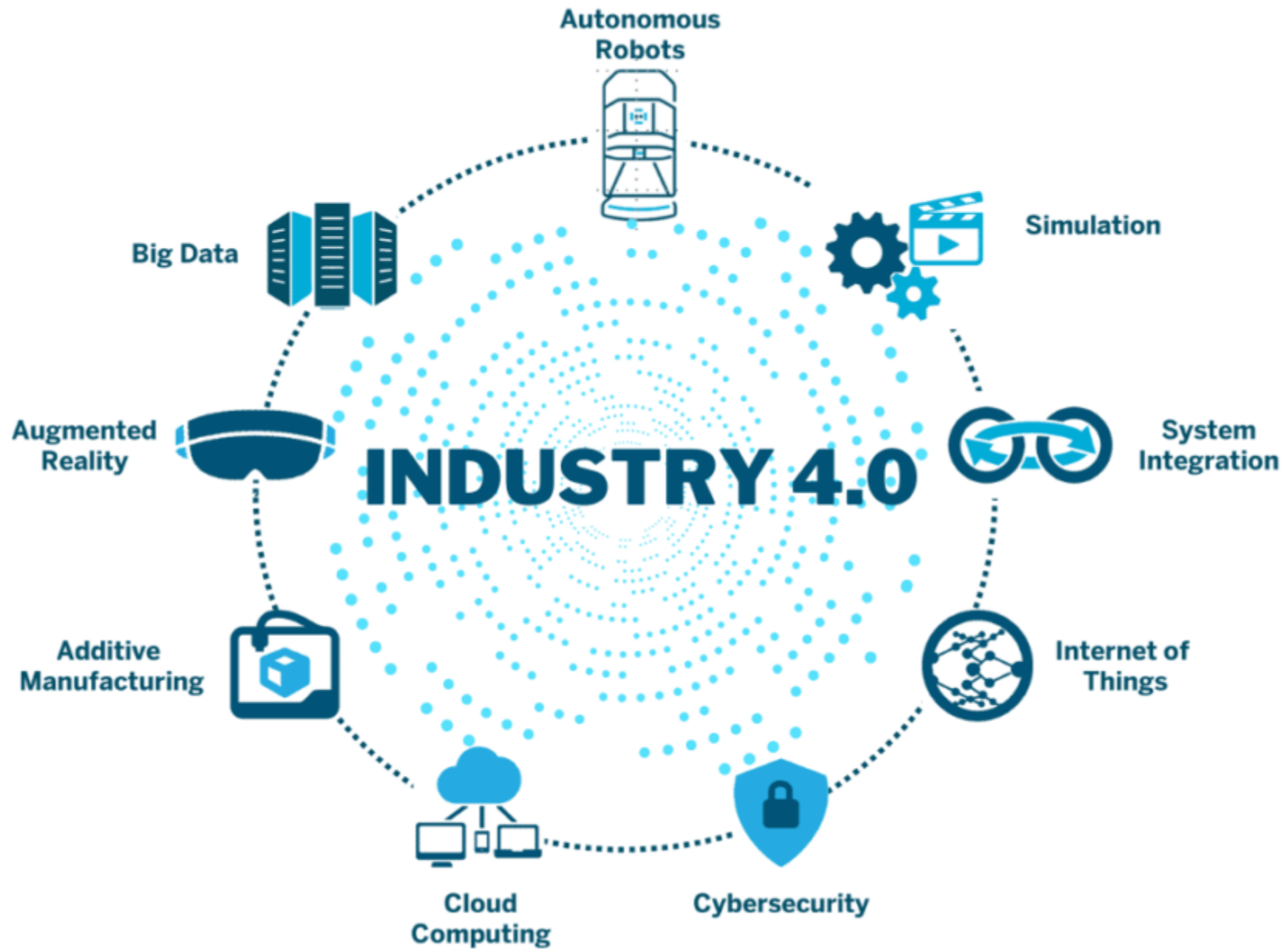
Om geodata-info
Tilgængelighedserklæring
Styrelsen for Dataforsyning og Effektivisering er en del af:



Combine and interact.... interoperability








Towards a sustainable geospatial ecosystem beyond SDIs¹

Serena Coetzee, University of Pretoria, South Africa
Michael Gould, Esri and University of Jaume I, Spain
Bruce McCormack, EUROGI
Zaffar Sadiq Mohamed-Ghouse, Spatial Vision, Australia
Greg Scott, UN Global Geospatial Information Management
Alexander Knoch, University of Tartu, Estonia
Nadine Alameh, Open Geospatial Consortium
Josef Strobl, University of Salzburg, Austria
Andreas Wytzisk, Bochum University of Applied Sciences, Germany
Thirumalaivasan Devarajan, Anna University, India

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¹ This paper is the outcome of a series of discussions about a the authors between November 2020 and July 2021, initiated by the Umbrella Organization for Geographic Information (EUROGI).



UN-GGIM
UNITED NATIONS
COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

Future Geospatial Information Ecosystem: From SDI to SoS and on to the Geoverse

Making the Step Change Using the
Integrated Geospatial Information Framework

July 2022
Discussion Paper

The Power of Where

**A GEOSPATIAL
KNOWLEDGE
INFRASTRUCTURE
TO ENHANCE THE
WORLD ECONOMY,
SOCIETY AND
ENVIRONMENT**

Jointly Organized by

**GEOSPATIAL
WORLD**
ADVANCING KNOWLEDGE FOR SUSTAINABILITY

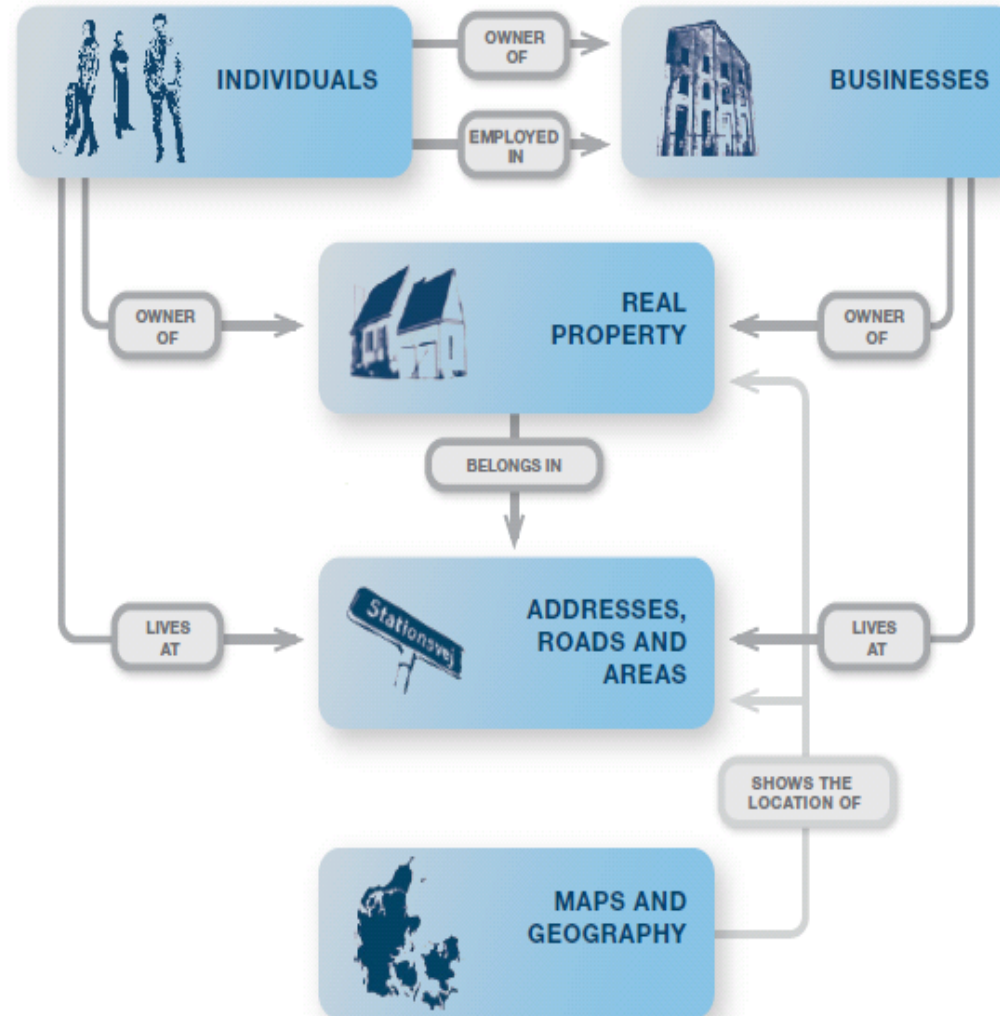


Strategic Partners

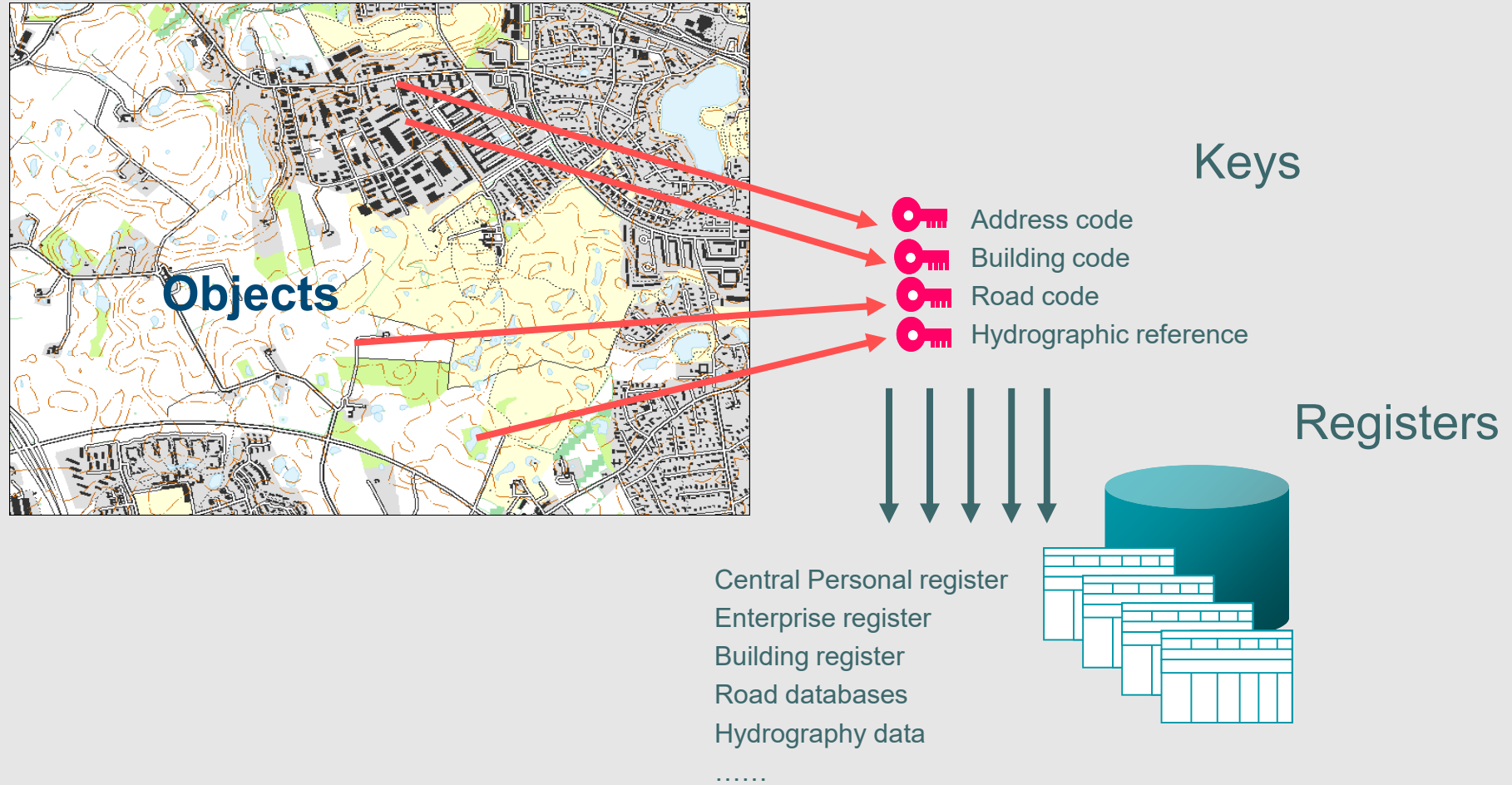




Connecting on a strong foundation



SDI is the backbone





Health



Industrial &
Manufacturing



Agriculture



Green Deal



Energy



Public
Administration



Skills

CONTENT

- Driven by stakeholders
- Rich pool of data of varying degree of openness

- Sectoral data governance (contracts, licenses, access rights, usage rights)
- Technical tools for data pooling and sharing

Personal
data spaces

High Value
Datasets
from public
sector

Technical infrastructure for data spaces



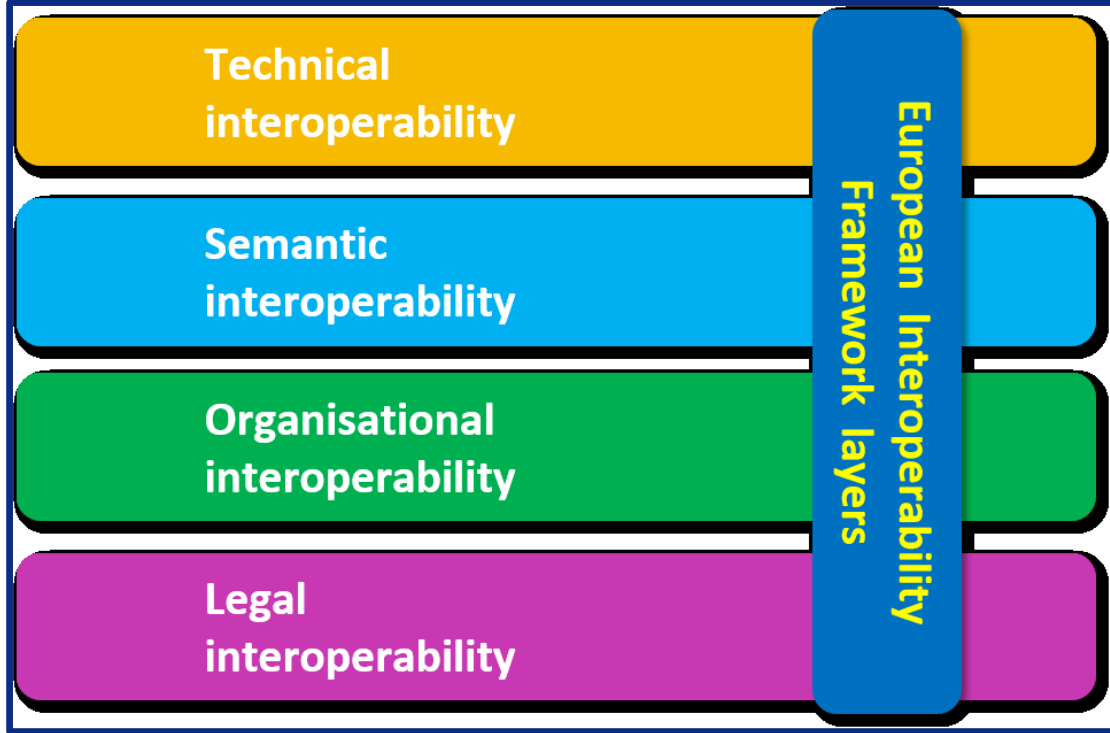
Edge
Infrastructure &
Services

Cloud
Infrastructure &
Services

High-Performance
Computing

AI on demand
platform

AI Testing and
Experimentation
Facilities

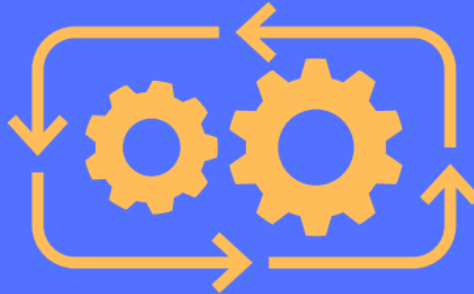


European Interoperability Framework





Minimal Interoperability Mechanisms (MIMs)



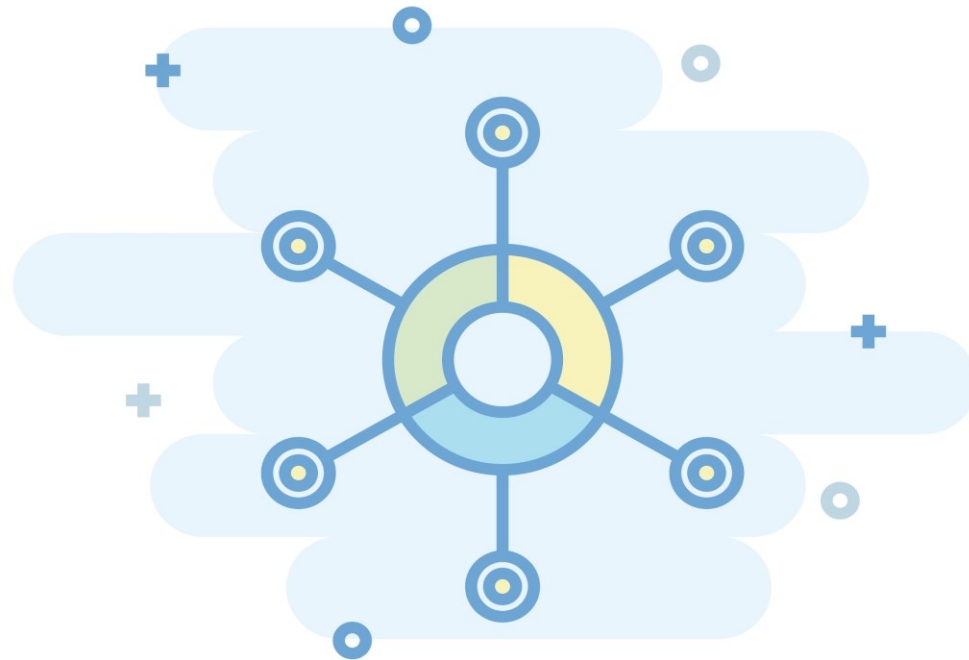
..the minimal ... to achieve interoperability of data, systems and services

MIM7 - Places

Requirements:

1. Expose data through a service interface either through OGC WFS or **OGC API** features.
2. Ensure that all published features have **unique identifiers** that follow the requirements of the **Inspire directive** data specifications or the work of **W3C** in the data on the web best practice, chapter 14 Identifier management

I really miss a requirement on metadata...it's only FAIR



BUSINESS MODEL

Advancing Digital Agency: The Power of Data Intermediaries

INSIGHT REPORT
FEBRUARY 2022



ISSN 1831-9424

JRC SCIENCE FOR POLICY REPORT

Mapping the landscape of data intermediaries

*Emerging models for
more inclusive data governance*

Micheli, M.
Farrell, E.
Carballa-Smichowski, B.
Posada-Sánchez, M.
Signorelli, S.
Vespe, M.

2023

Joint
Research
Centre

EUR 31576 EN

Towards a Common Definition of Open Data Intermediaries

ASHRAF SHAHARUDIN and BASTIAAN VAN LOENEN, Faculty of Architecture & the Built Environment, Delft University of Technology
MARIJN JANSSEN, Faculty of Technology, Policy & Management, Delft University of Technology

The role of open data intermediaries is considered instrumental in the supply and use of open data. There are various definitions of open data intermediaries in the literature and some of them are quite different from each other. These definitions can benefit from harmonization so knowledge about open data intermediaries can be developed on top of a shared understanding of what open data intermediaries mean. The objective of this article is to propose a common definition of open data intermediaries. We first carried out a systematic literature review and compiled the definitions of open data intermediaries from the literature. We found that each definition can be broken down into four basic components: (i) Who are the actors of open data intermediaries? (ii) What do they do? (iii) Where are they located in the open data lifecycle? and (iv) Why are they needed? We then conducted another round of data gathering and analysis to substantiate the four basic components. We proposed the following common definition of open data intermediaries: Third-party actors who provide specialized resources and capabilities to (i) enhance the supply, flow, and/or use of open data and/or (ii) strengthen the relationships among various open data stakeholders.

CCS Concepts: • Information systems → Information systems applications • Human-centered computing → Collaborative and social computing • Social and professional topics → Computing and business;

Additional Key Words and Phrases: Open data, intermediaries, infomediaries, definition

ACM Reference format:

Ashraf Shaharudin, Bastiaan van Loenen, and Marijn Janssen. 2023. Towards a Common Definition of Open Data Intermediaries. *Digit. Gov. Res. Pract.* 4, 2, Article 6 (June 2023), 21 pages.
<https://doi.org/10.1145/3585537>

1 INTRODUCTION

Digitalization brings forth a great volume and range of data. Opening up data allows data to be re-used by various sectors, including businesses, researchers, and civil society groups, which can generate tremendous value for society. The International Open Data Charter defines open data as “digital data that is made available with the technical and legal characteristics necessary for it to be freely used, re-used, and redistributed by anyone, anytime, anywhere” [30] (see also Reference [45]). There are many benefits of open data discussed in the literature.

Everything happens somewhere

Spatial data is the essence of how we relate, connect and interact with the world as modern human beings



Thank you for your attention!

Ulla Kronborg Mazzoli

Chief Advisor

National INSPIRE Contact Point

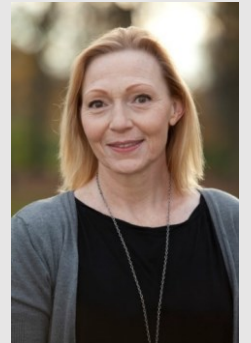
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