

Creating Interoperability based on National Services - example from GeoE3

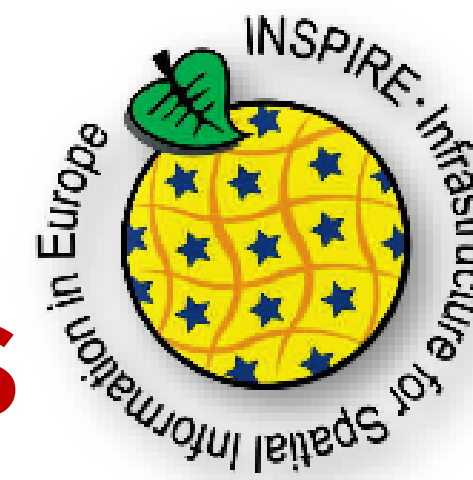
Antti Jakobsson

EuroGeographics Webinar: Empowering an Interoperable Europe 10th

Nov 2023

Defining now the future!

Common & Sectoral EU data spaces



Location
Innovation
Hub



Rich pool of data
(varying degree of
accessibility)

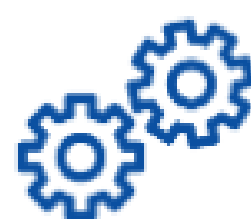
Free flow of data
across sectors and
countries

Full respect of GDPR

Horizontal
framework for data
governance and data
access



Health



Industrial
& Productive



Agriculture



Finance



Mobility



Environment
Green Deal



Energy



Public
Administration



Skills

Location

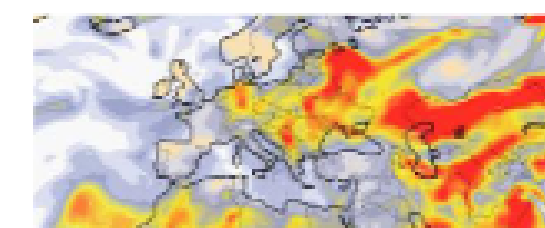
Location Location Location Location Location Location

- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)
- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

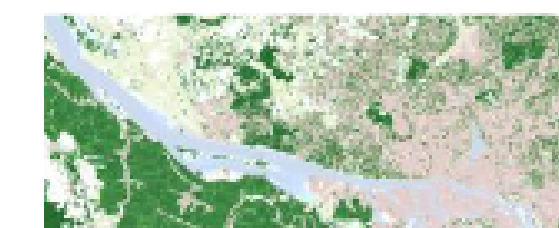
Personal Data Spaces



High-value data sets from the public



sector
e.g. weather,
geospatial,
statistics.



What is happening in Europe and especially on Digital Twins and mapping agencies

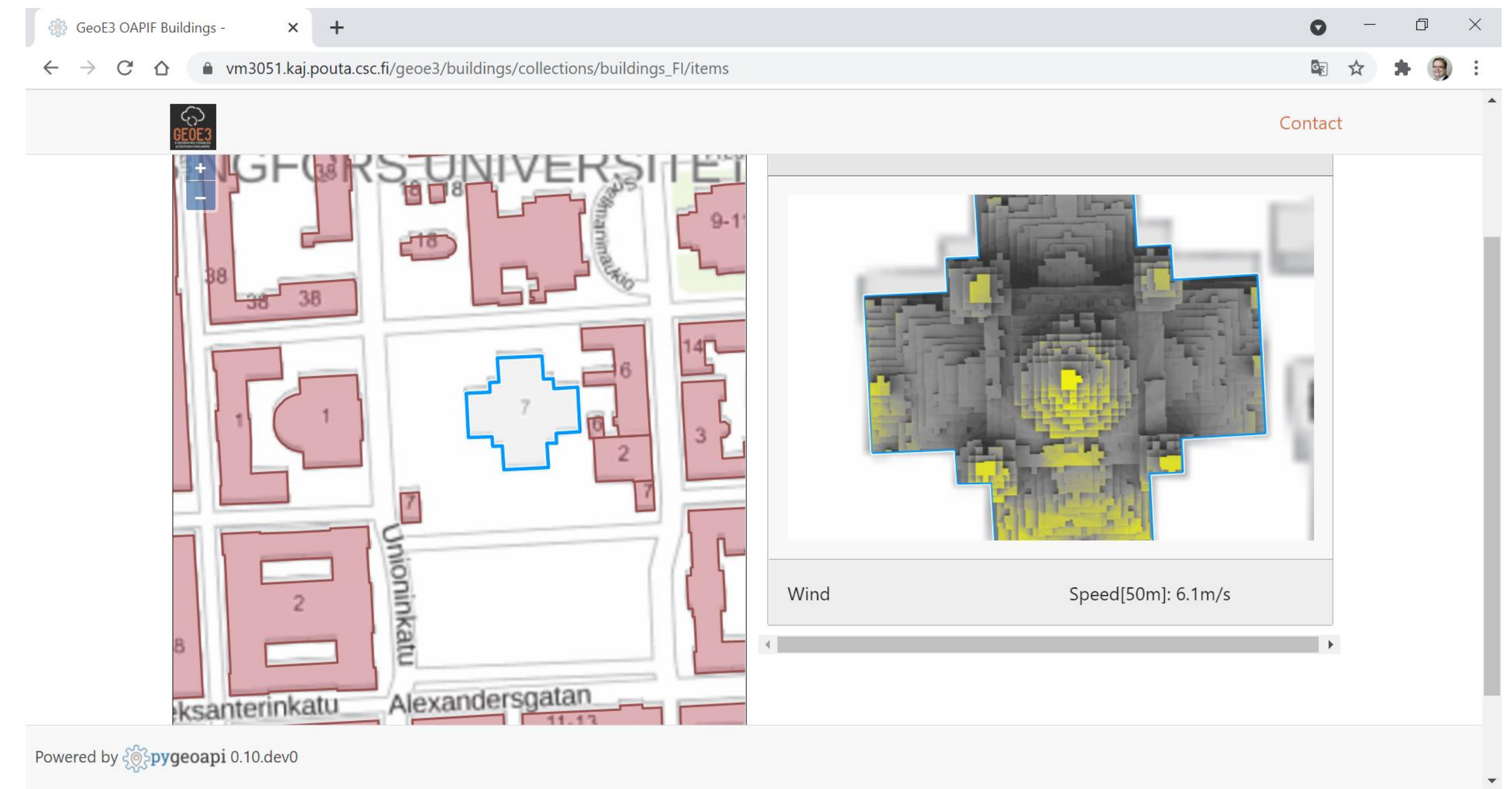
German digital twin 40 points per m2 ready 2025 ja update 3 year interval



Estonia maa-amet 3D buildings + vegetation

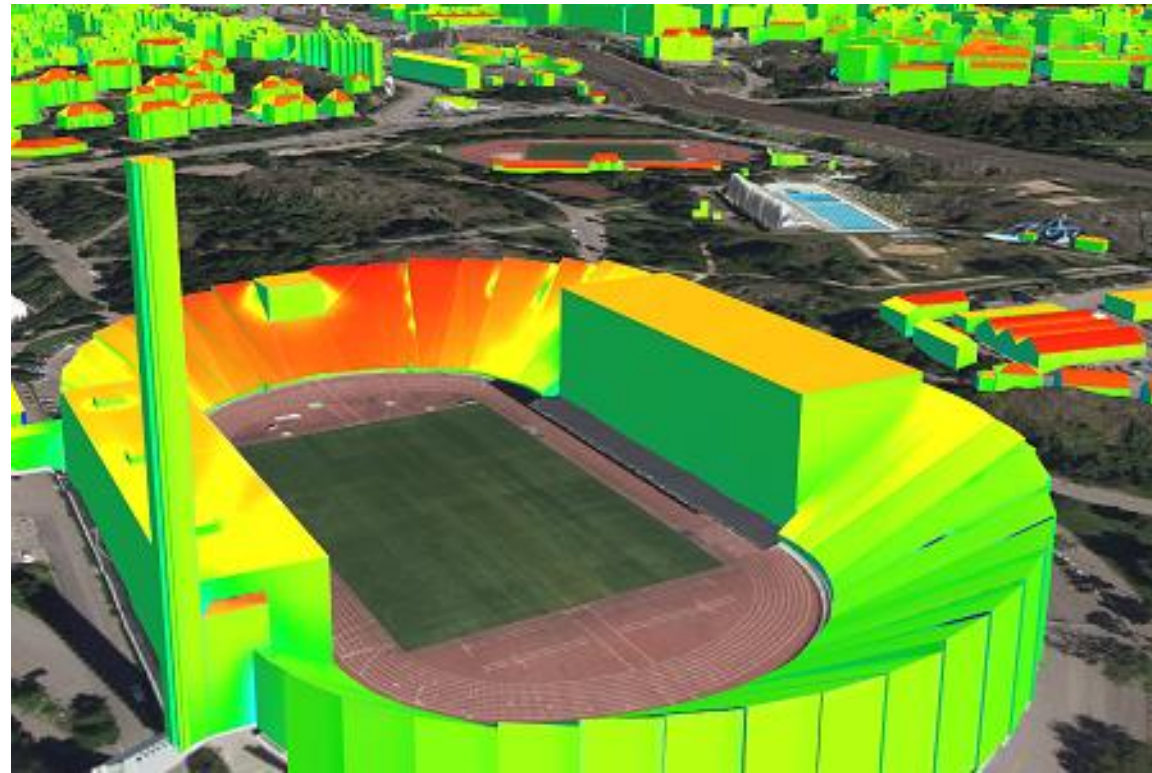
Why we need Location data in European Data Spaces

- Location connects different data and makes it understandable
- Digital twins means not only 3D data but also various dashboards combining huge data volumes
- Everything happens somewhere so location-based user interfaces are natural



Example Solar Energy Potential In Helsinki combining meteorological data with building data and digital surface model (GeoE3 demonstration platform)

GeoE3 Use cases



Solar energy potential
and energy efficiency
of buildings

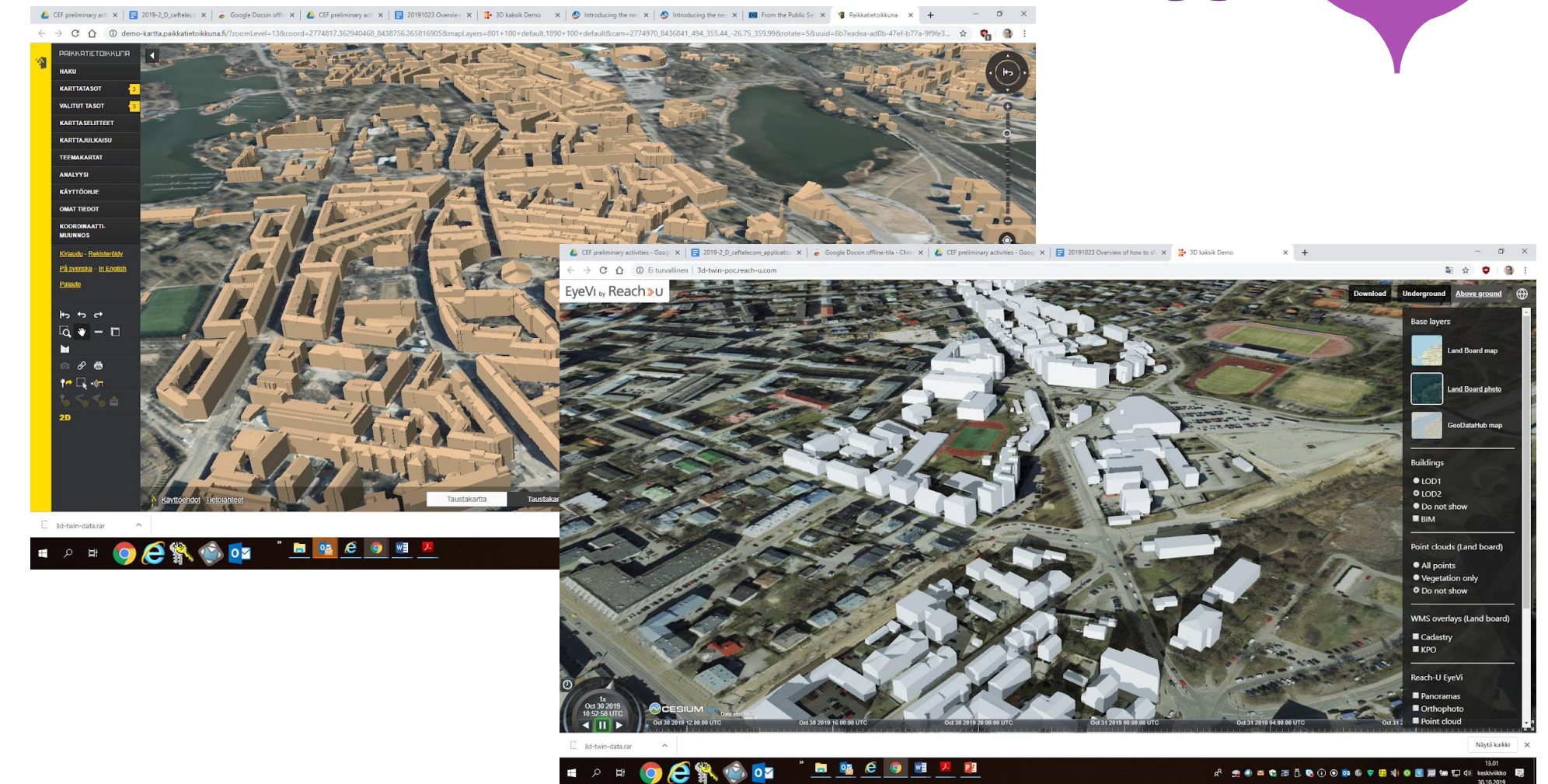
**Optimized use of
solar energy**

**Energy efficiency of
buildings**



Co-operative
Intelligent Transport
Systems and
Advancing map
enhanced driver
assistance systems
leading to automated
driving

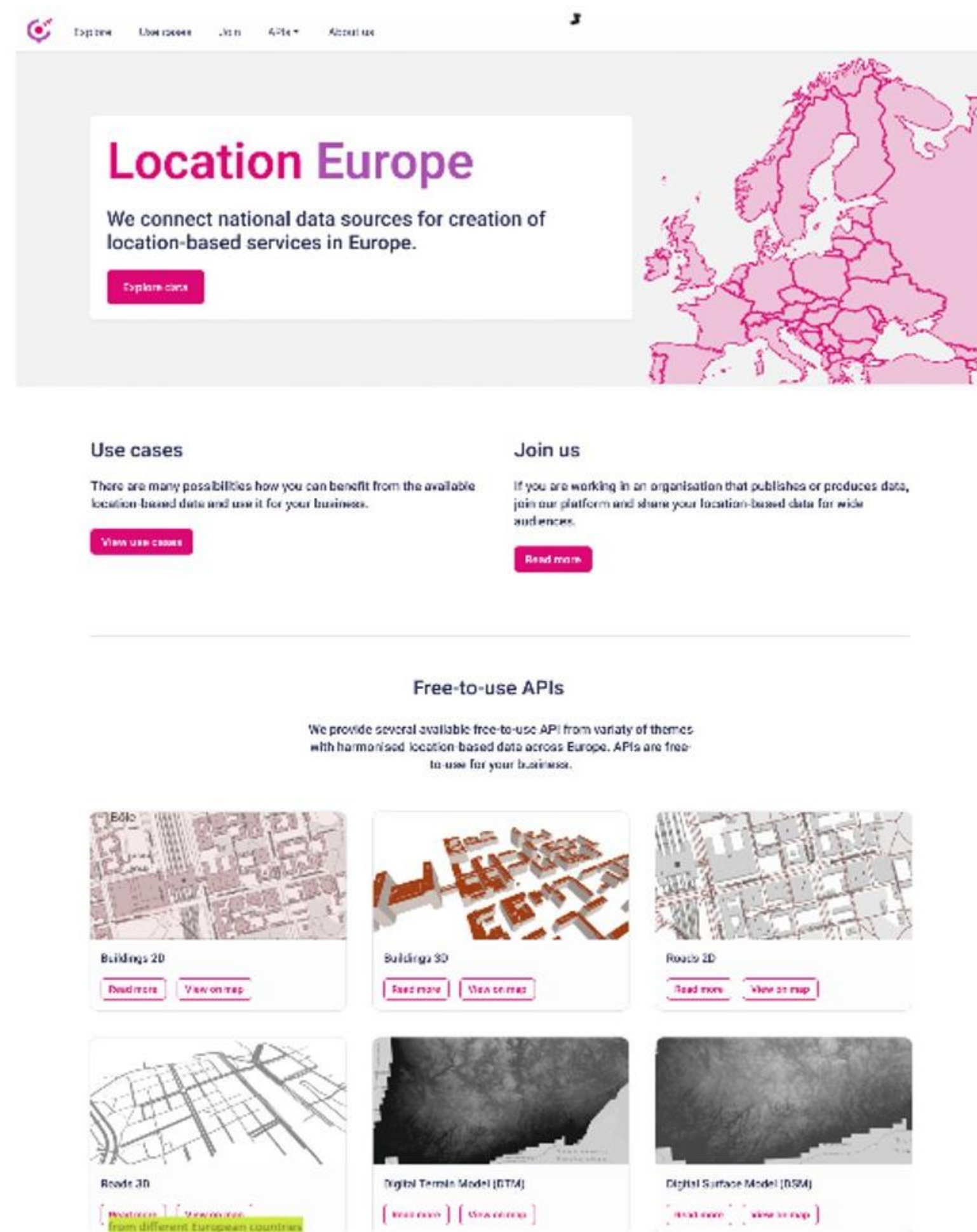
**Cleaner and safer
transport**



Cross border & Cross
domain Smart City
Finland Estonia

**City planning for
sustainable energy**

**Sustainable
urbanization**



The screenshot shows the homepage of the Location Europe platform. At the top, there is a navigation bar with links: Explore, Use cases, API, and About us. The main header features the 'Location Europe' title and a subtitle: 'We connect national data sources for creation of location-based services in Europe.' Below this is a 'Explore data' button and a map of Europe. The 'Use cases' section describes how businesses can benefit from the data, with a 'View use cases' button. The 'Join us' section invites organizations to share their data, with a 'Read more' button. The 'Free-to-use APIs' section lists six available APIs: Buildings 2D, Buildings 3D, Roads 2D, Roads 3D, Digital Terrain Model (DTM), and Digital Surface Model (DSM). Each API card includes a thumbnail image, the API name, and buttons for 'Read more' and 'View on map'. The Roads 3D card has a yellow highlight on the text 'from different European countries'.

Location Europe

We connect national data sources for creation of location-based services in Europe.

[Explore data](#)

Use cases

There are many possibilities how you can benefit from the available location-based data and use it for your business.

[View use cases](#)

Join us

If you are working in an organisation that publishes or produces data, join our platform and share your location-based data for wide audiences.

[Read more](#)

Free-to-use APIs

We provide several available free-to-use API from variety of themes with harmonised location-based data across Europe. APIs are free-to-use for your business.

Buildings 2D

[Read more](#) [View on map](#)

Buildings 3D

[Read more](#) [View on map](#)

Roads 2D

[Read more](#) [View on map](#)

Roads 3D

[Read more](#) [View on map](#)

Digital Terrain Model (DTM)

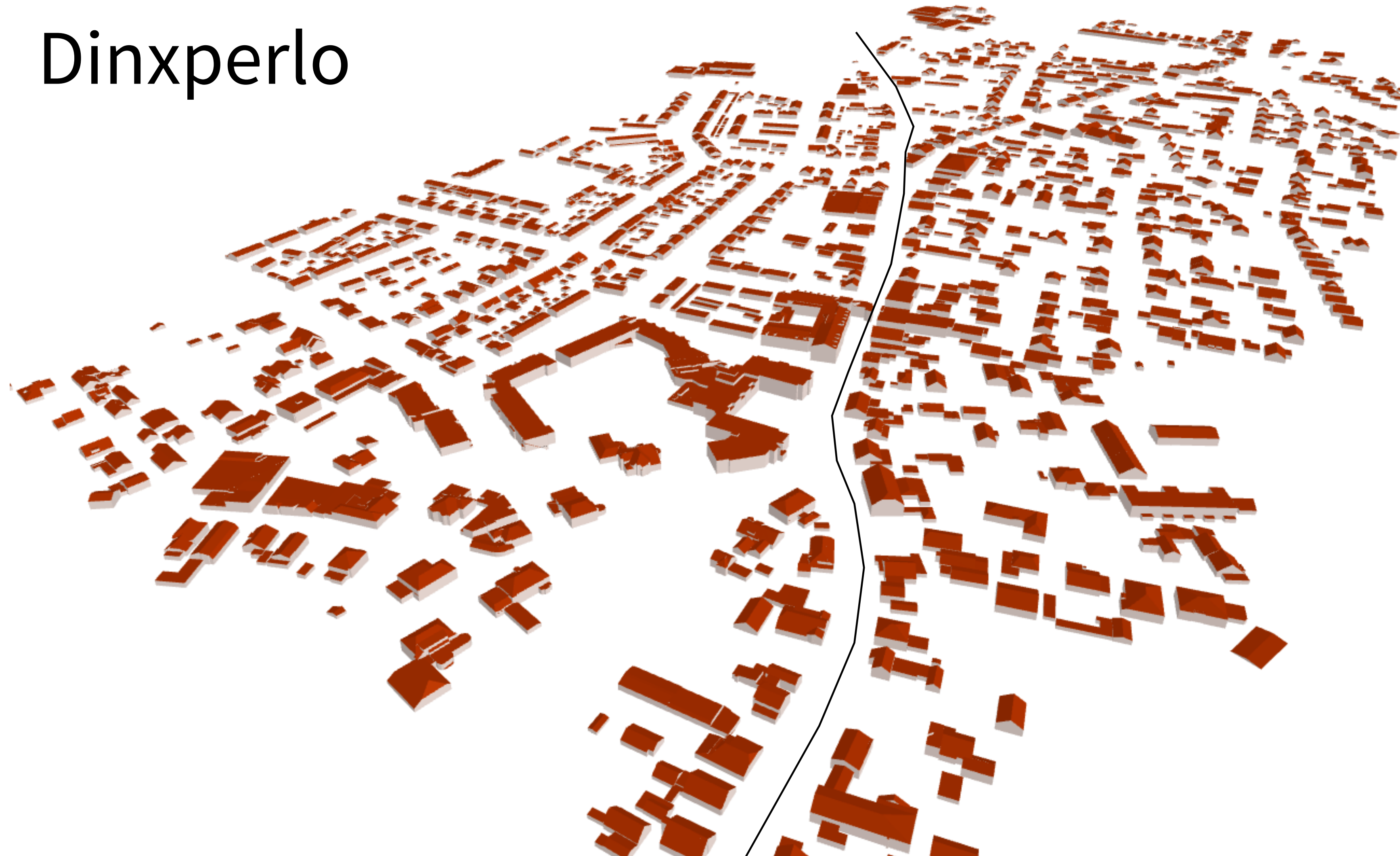
[Read more](#) [View on map](#)

Digital Surface Model (DSM)

[Read more](#) [View on map](#)

Data integration platform available for test before invest type of service development

The Netherlands Dinxperlo



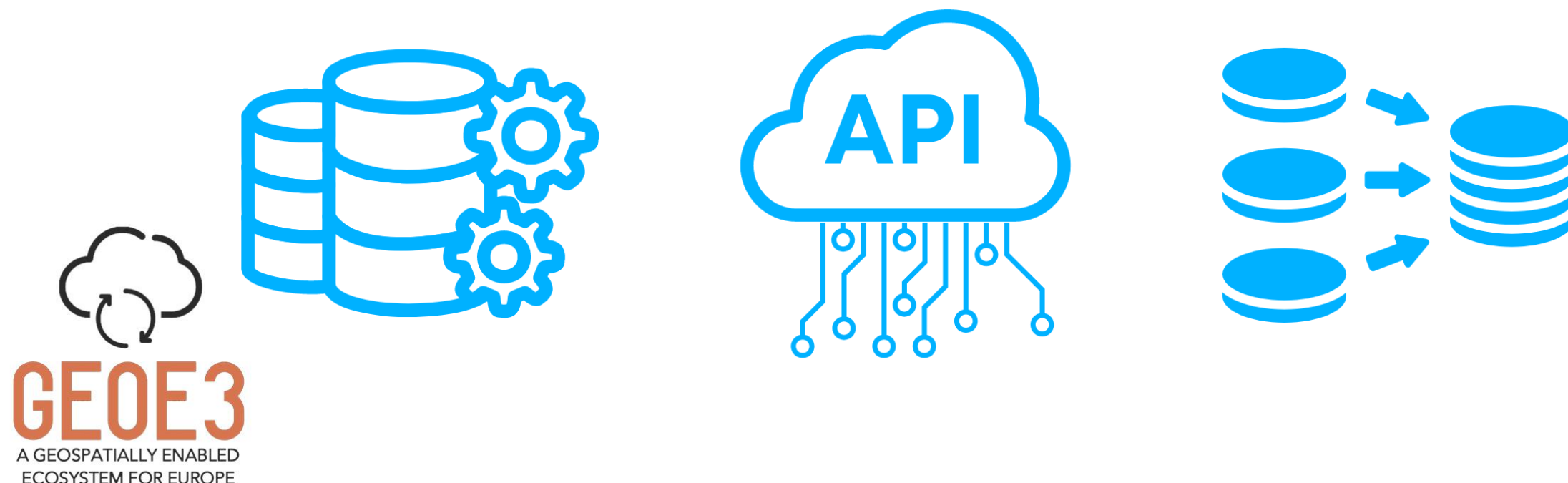
Germany
Suderwick

Interoperability map - maturity model – Buildings 2d/3d

Country/Dataset	Legal aspects/Organizational aspects	Technical aspects/Data access		Semantic aspects		
	National data accessibility and integration arrangements	metadata discoverability	data accessibility	Vocabulary and data specifications	Data content and data quality	Quality assessment (QA)
Finland/Buildings, 2D	Level 1 (Open data, no national platform)	Level 1 (no DCAT AP)	Level 3 (OGC API)	Level 1 (definitions available but not MR)	Level 1 (national schema)	Level 1 (QA available but not published)
Finland/Buildings, 3D (test dataset)	Level 1 (Open data, no national platform)	Level 0 (no metadata)	Level 1 (no API)	Level 1 (definitions available but not MR)	Level 1 (data content limited)	Level 0 (no QA)
Norway/Buildings, 2D	Level 0 (not considered as open data)	Level 3 (DCAT AP)	Level 2 (WFS but not OGC API)	Level 2	Level 2	Level 1? (QA available but not published)
Norway/Buildings 3D (not available)	Level 0	Level 0	Level 0	Level 0	Level 0	Level 0
Netherlands/Buildings, 2D	Level 2 (Open data, national platform)	Level 2 (no DCAT AP)	Level 2 (WFS but not OGC API)	Level 2 (definitions available with RDF)	Level 1 (national schema)	Level 1 (QA available but not published)
Netherlands/Buildings, 3D	Level 2 (Open data, national platform)	Level 2 (no DCAT AP)	Level 1 (downloads, OGC API coming soon)	Level 1 (definitions available but not MR)	Level 1 (national schema)	Level 0 (No QA)
Spain/Buildings, 2D	Level 1 (Open data, no national platform)	Level 2 (DCAT AP)	Level 2 (WFS but not OGC API)	Level 1 (definitions available but not MR)	Level 2 (INSPIRE schema)	Level 1? (QA available but not published)
Spain/Buildings, 3D (not available)	Level 1 (Open data, no national platform)	Level 0 (no metadata)	Level 2 (national API with KLM format)	Level 1 (definitions available but not MR)	Level 1 (national schema)	Level 0 (No QA)
Estonia/Buildings, 2D	Level 2 (Open data, national platform)	Level 2 (no DCAT AP)	Level 3 (OGC API)	Level 2 (INSPIRE schema)	Level 2 (INSPIRE schema)	Level 1 (QA available but not published)
Estonia/Buildings, 3D	Level 2 (Open data, national platform)	Level 2 (no DCAT AP)	Level 3 (OGC API)	Level 1	Level 1 (national schema)	Level 1

Location Innovation academy

- Part of [GeoE3-project](#), which accelerated the accessibility, interoperability and integration of cross-border geospatial data and services over the past two years.
- After the project, The Academy is hosted by Open Geospatial Consortium and Location Innovation Hub
- Three different courses:
 - Data management
 - Service management
 - Data and service integration



Location Innovation Academy offers a comprehensive set of modules that supports modern and cross-border management, integration, processing, and sharing of geospatial data and services.

academy.ocg.org

This is Location Innovation Hub

- Coordinated by Finnish Geospatial Research Institute and services are provided with a partner network.
- Target audience: businesses and public organizations.
- Tools, testing infrastructure, business and technical consultation, and training.
- Funding opportunities.
- We focus on four different themes: Built Environment, Bioeconomy, Health and Wellbeing, and Transportation and Logistics.
- Three key technology sectors: AI and ML, High Performance Computing, and Cybersecurity.



Join our European Core Data Provider network



Mission

- Support European Data Spaces on interoperable location data
- Work towards increased use of location data in Europe

Objectives

- Working with the national European Digital Innovation Hubs and helping these to use location data. Each Participant will co-operate with their national hubs and the Location Innovation Hub (Finland).
- Continue to maintain the services and the platform created in the CEF project GeoE3.
- Provide open data sets and services as test beds for the European Digital Innovation Hubs.
- Work to create European Digital Twins on location data in built environment, bioeconomy, traffic and health
- Organise demonstration activities, events and training for creation of interoperability. These may be organized as webinars or using e-learning modules (Location Innovation Academy)
- Seek further funding opportunities through Digital Europe Programme or Horizon Europe for creation of Digital Twins or interoperable services

Partners and Associated partners



European core data provider network



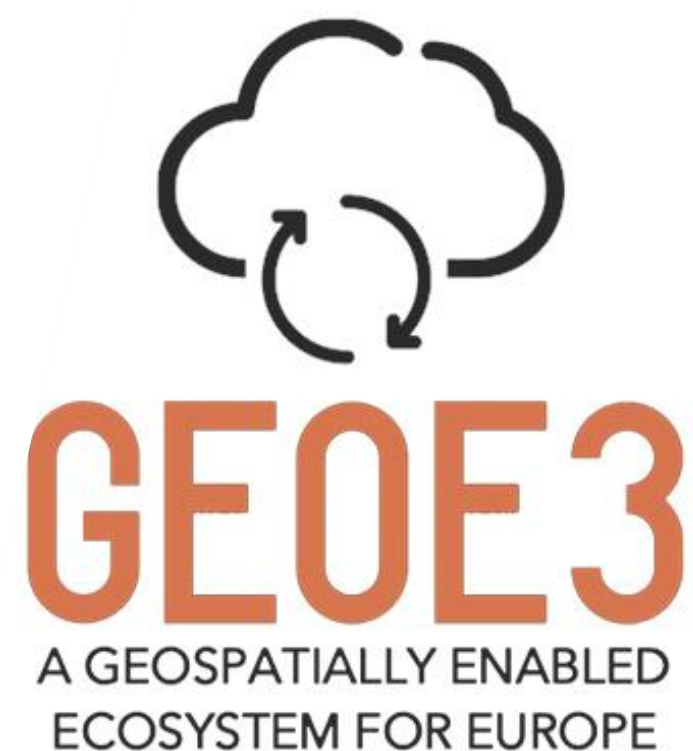


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Thank you

**WWW.
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EDIH

European
Digital Innovation
Hubs Network



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the European Union