Positioning technologies and Location Innovation HUB

Antti Jakobsson
United Nations/Finland Workshop on the Applications of Global Navigation Satellite Systems
Helsinki 25th October 2023

What we are? Creating Location Intelligence

- Services we offer: Consultation, Training , Testing infrastructure, Tools and Funding guidance on location technology

- Both for businesses and public sector

- Focus on four different themes:
  - Built Environment
  - Bioeconomy
  - Health and Wellbeing
  - Transportation and Logistics

- Three key technology sectors: AI and ML, High Performance Computing, and Cybersecurity.

- Coordinated by Finnish Geospatial Research Institute with a partner network.

Location Innovation Hub as a part of EDIH-network

- European Digital Innovation Hubs (EDIHs) are part of the EU's new Digital Europe Programme.
- Function as service points that boost digital investment and, in particular, the digitalization of SMEs.
- European not-for-profit actors
- Operation period 2023-2025 + possible extension for 4 years
- More information: https://digital-strategy.ec.europa.eu/en/activities/edihs

More than **150** EDIHs around Europe

321 million euros funding for the EDIHs

**4 Finnish EDIHs** (LIH, Finnish AI Region, Health Hub Finland ja Robocoast)

Co-funded by the European Union

Value is created together

10 business partners

15 universities, public organizations, and associations

22 associated partners

Knowledge transfer and services

7 reference data spaces

200 spatial data services

600 data sets

5 novel sensor data sets

50 000 potential location data services available through European Data Portal

Themes we are focusing on

Built Environment

Bioeconomy

Health and Wellbeing

Transportation and Logistics

GIS business accelerators

- Interoperability of location and other data
- Next generation navigation space
- Precise positioning

the European Union

Location Innovation Hub

Indoor navigation

Public safety

Fleet management

Navigation

AGV tracking

Geofencing

Drone tracking

Asset tracking
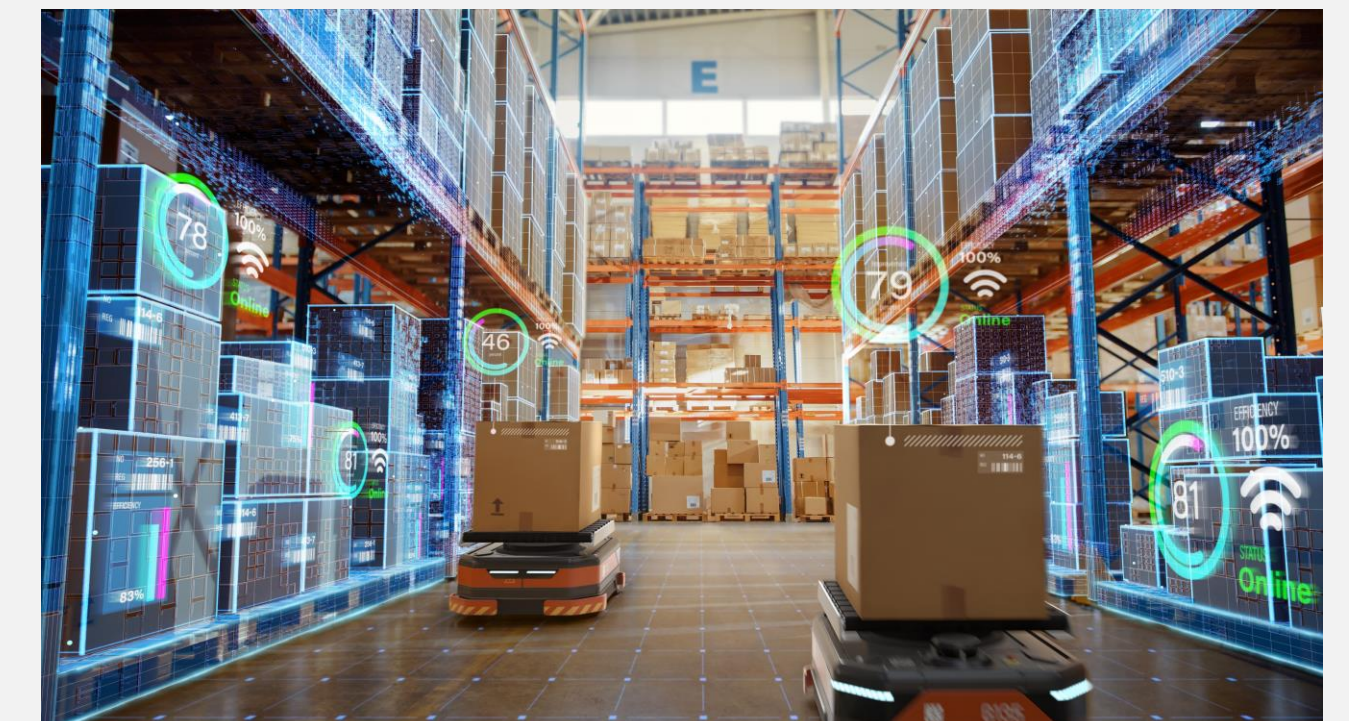
Search Engine Land » SEO » Local » Google Bard now can use your device's precise location for more relevant local results

Google Bard now can use your device's precise location for more relevant local results

To enable this, manage your preferences in location settings.

Barry Schwartz on June 1, 2023 at 9:11 pm | Reading time: 2 minutes

Google Bard can now use your device's precise location to provide better local results to your questions. When you go to Google Bard, a popup dialog may show up that reads "To get more relevant responses, you can also choose to let Bard use your device's precise location."

The notice. Here is what you might see when you access bard.google.com:

Potential of positioning in our focus areas

- Interoperability of location and other data
  - Need of accurate location data
  - Knowledge of reference systems for example building industry
  - Use of accurate data as positioning reference
- Next generation navigation space
  - Combining outdoor and indoor positioining
- Precise positioning
  - All our focus areas
  - Robotics
  - Ports and other industrial areas
  - Weather
  - Mobility

Example companies working on this

- Koherent https://koherent.io/ Millimeter-precise positioning used in for example ports, smart factories, or self-driving vehicles
- Skyfora https://www.skyfora.com/ Next generation weather intelligence utilizing precise positioning
- Risutec https://risutec.fi/fi/ High accuracy positioning in precise forestry applications
- GIM Robotics https://gimrobotics.fi/ Universal 3D mapping and localization solutions for autonomous driving
- Kuva Space https://kuvaspace.com/ Earth observation through hyperspectral imaging
- Wirepas https://www.wirepas.com/ 5G Mesh Asset tracking
- Haltian https://haltian.com/ Asset tracking
- Septentrio https://www.septentrio.com/en GNSS receivers
- HERE https://www.here.com/platform/positioning Automated driving, fleet management, asset tracking, indoor positioning
- DIGIRAIL https://digirata.fi/en/
- Awake.ai httpss://awake.ai Port situational awareness
-
-

Co-funded by
the European Union

- Open House concept
- GeoMob Finland
- Webinars and other events
- Positio-magazine and newsletter

Discovery of strategic challenges and business opportunities

- Testing infrastructure
- Training
- Developer consultancy
- Reference data spaces and AI solutions

Communication and Matchmaking

Maturity Assessment

Innovation architecture

Innovation ecosystem

- Co-creation through challenges and Location Innovation Programme
- Other networks
- Business consultancy

Co-creation projects

New solutions in public and industy sectors

New joint offerings by SMEs

Location Innovation Hub

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Key outcomes expected

Data spaces

Work on reference data spaces to establish the link between geodata and other data. Seeking funding for these both in Finland and in Europe.

Innovations

Work on creating new innovation and business in location data and services. Create European based solutions, for example Location API business manual. Data integration guidance.

Test environments

Providing test before invest services: GeoE3 platform, next generation navigation space in Otaniemi, urban test environments, novel datasets and test areas.

Location API business manual

Location Innovation Hub

Business models

Version 1.0 | March 2023
Starter Kit for Data Space Designers

Lifecycle management

5G   Copyright and licenses

Ethical questions

Security   Sensor APIs

OGC APIs | Building Blocks for Location

FIWARE

Global and national guidance

OVERTURE MAPS FOUNDATION
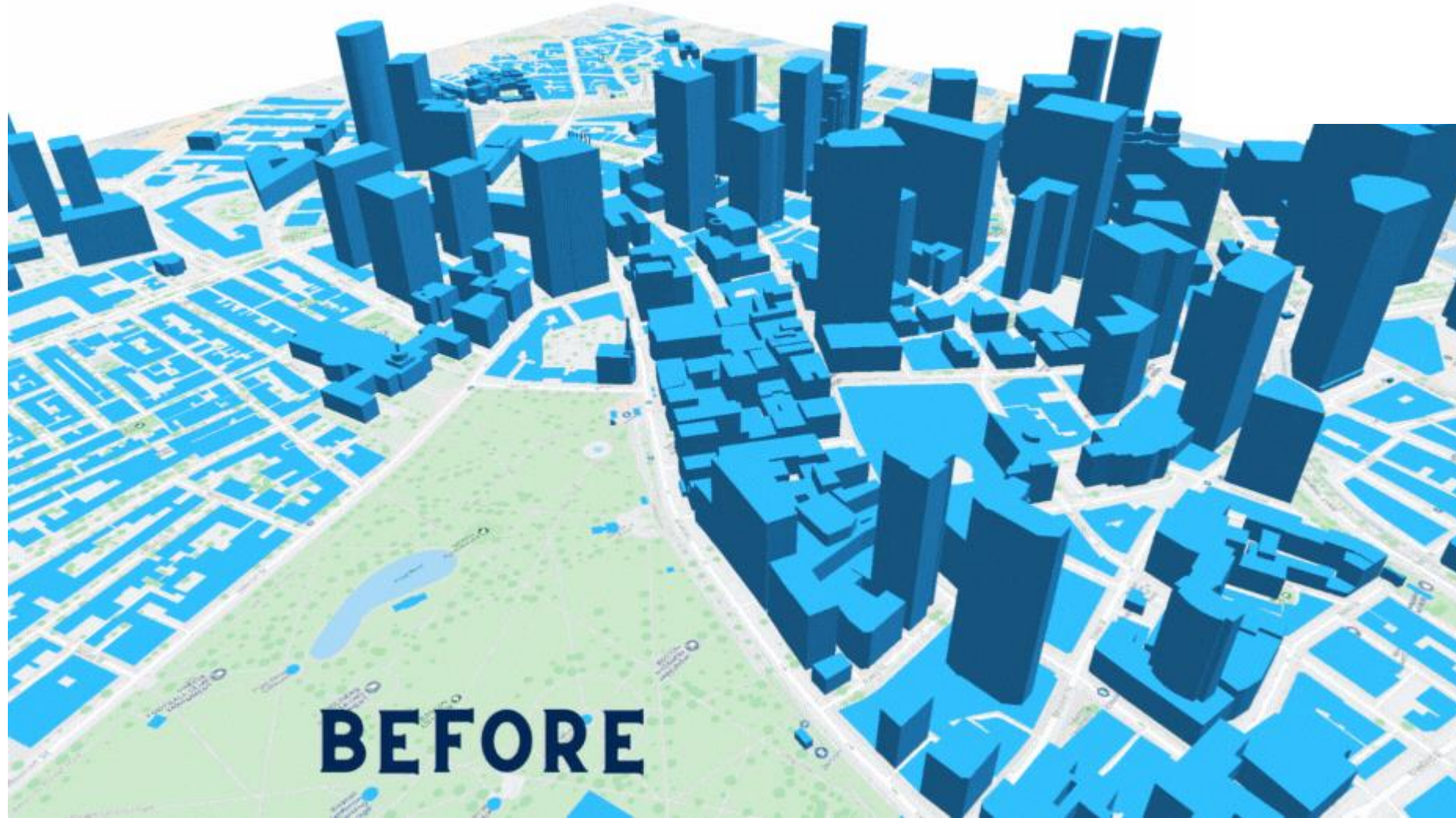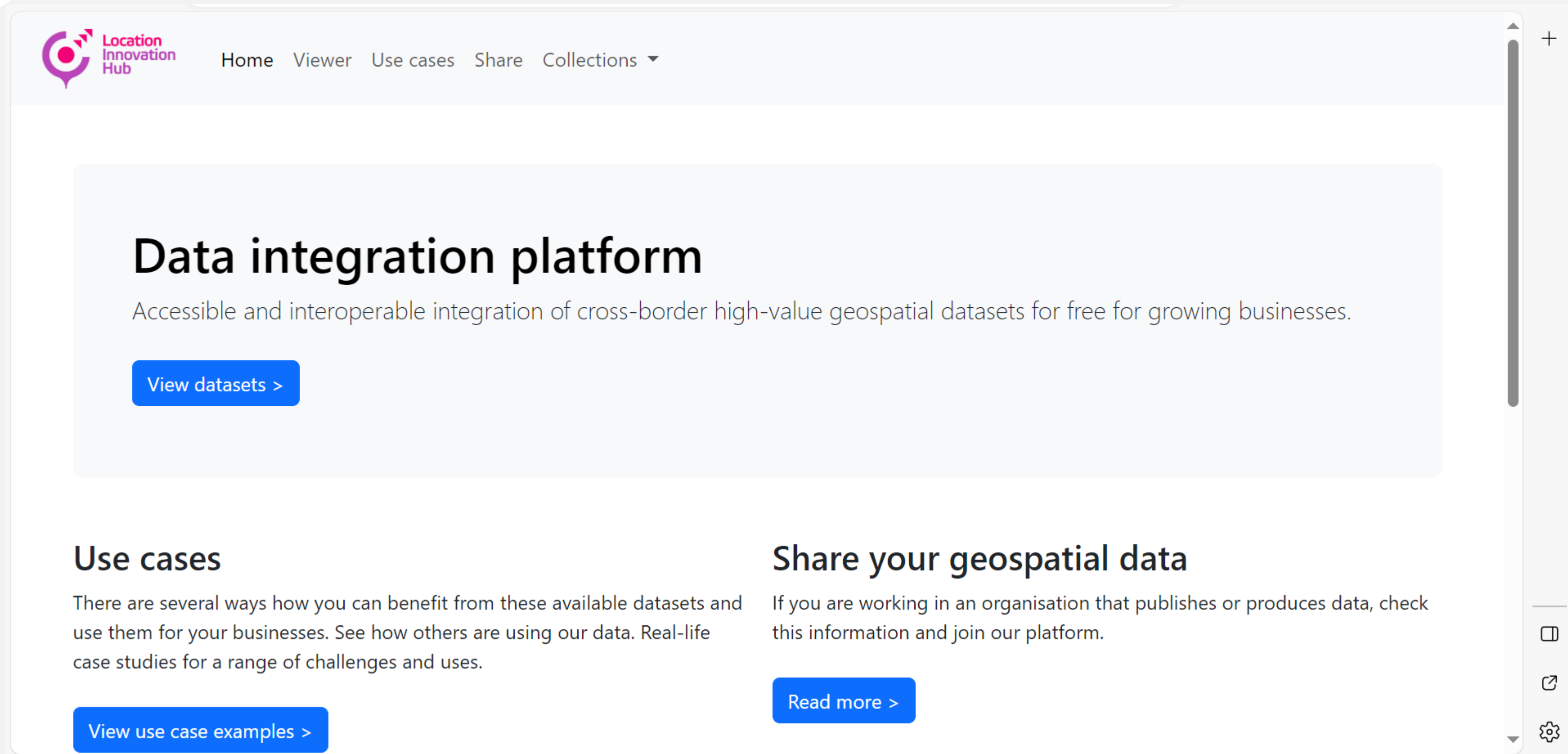
BEFORE

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

3D LoD2 available in Finland, Netherlands, Estonia, other countries generated from 2D

The Netherlands
Dinxperlo
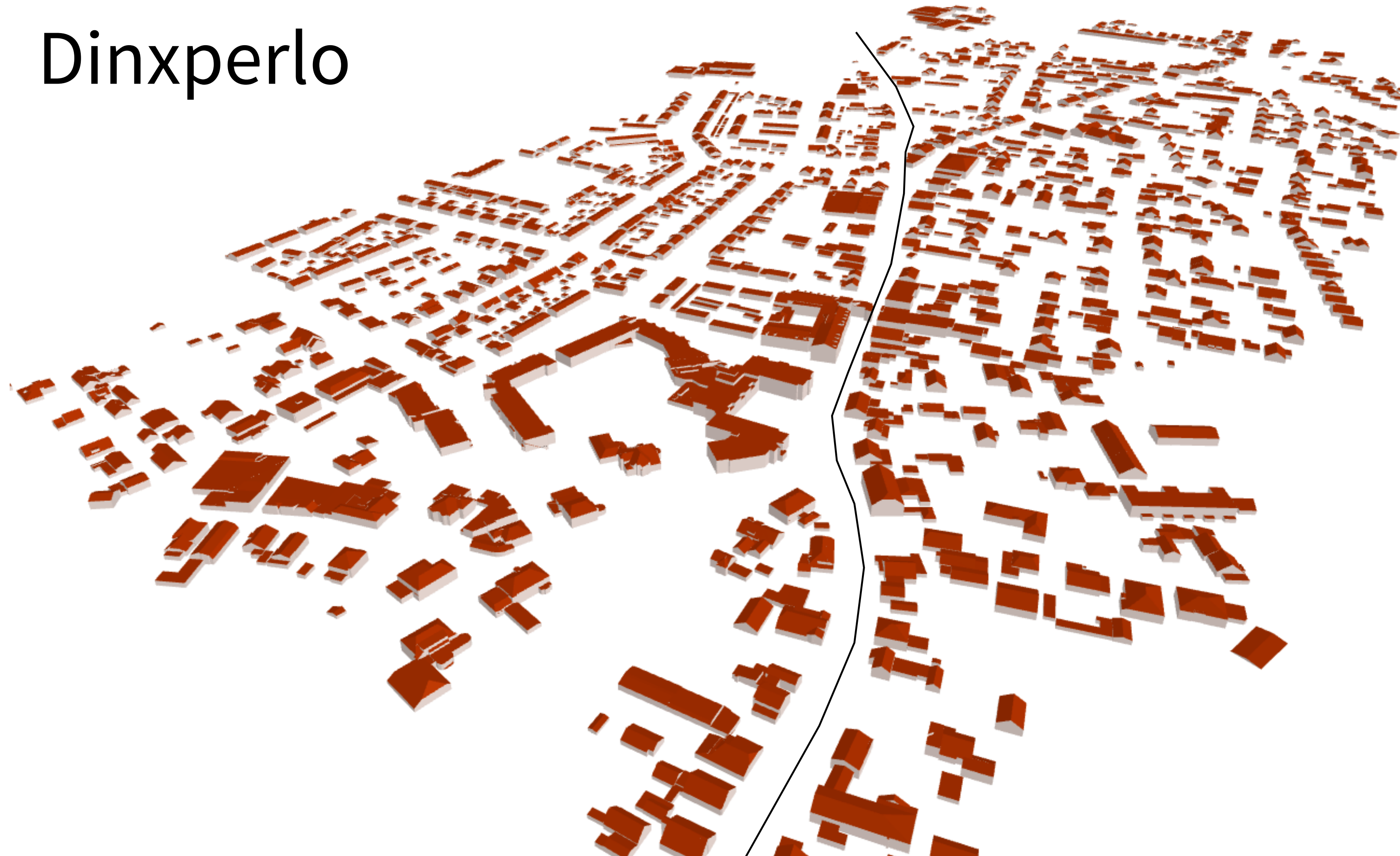
Germany
Suderwick

Next Generation Navigation Space

Target: test environment for indoor navigation

Seamless experience indoor/outdoor

Otaniemi, FGI premises

Agri/Food test areas

Forest test areas
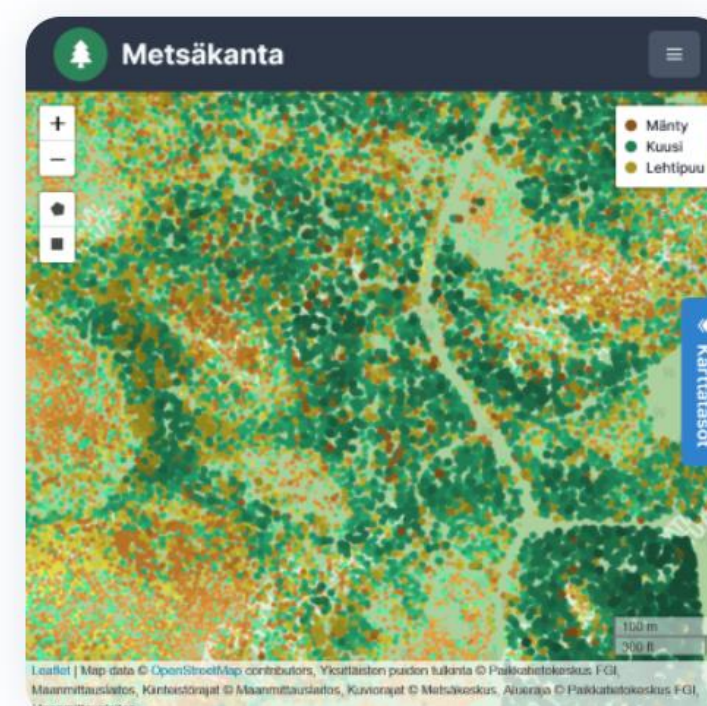
Urban test areas

Target: Digital Twins, Smart cities

Visualisation environments

Target: Decision making, VR, AR

Geomob Finland

Collective Crunch scalable forest inventories, tracking of forest health and biodiversity, and monitoring of carbon changes
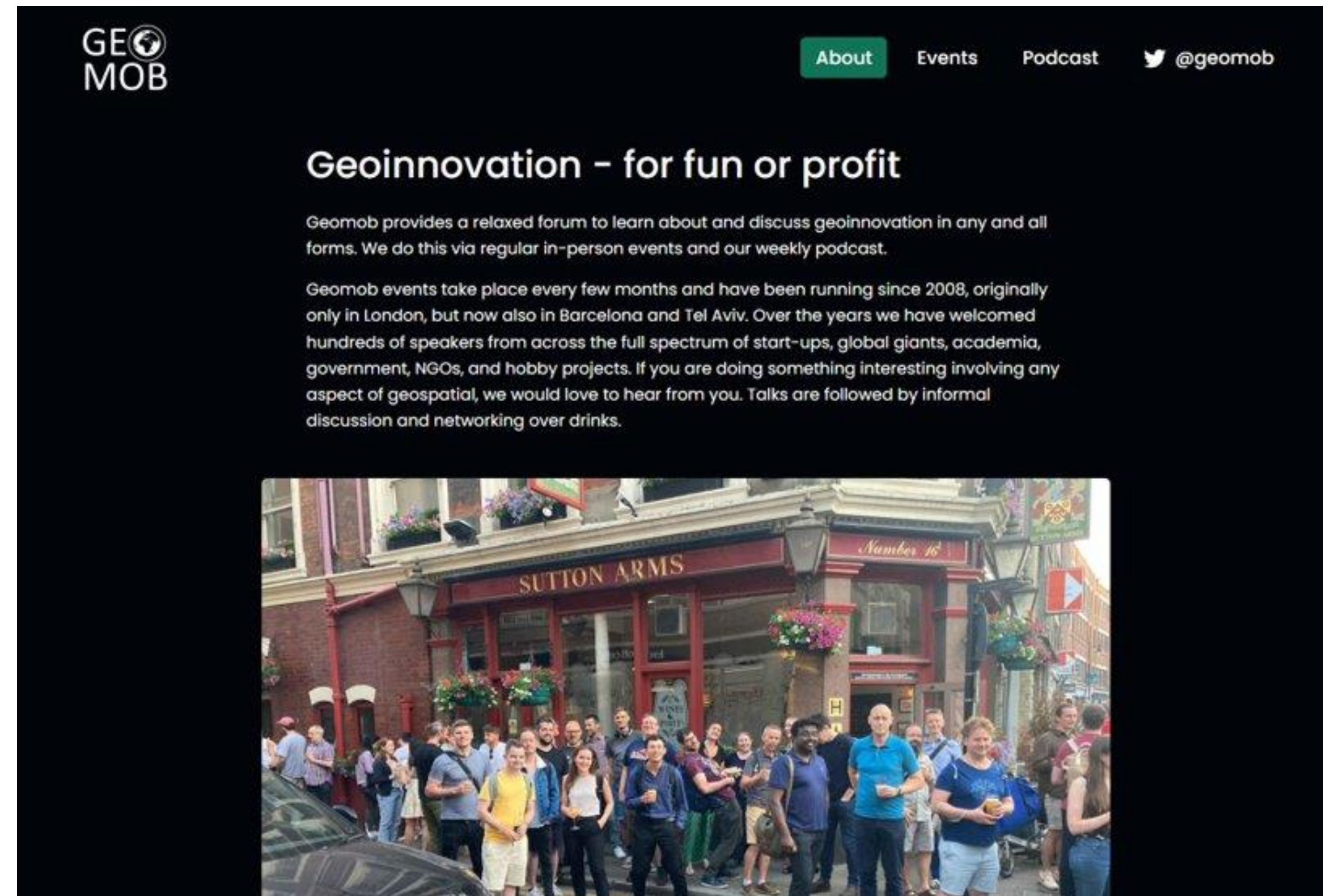
Funding and networks

EU Funding workshops

Business consultnacy

Public sector network – Sectoral networks

Location Innovation Programme - challenges

Development consultancy

Need a solution where location component is needed? We will help

Training

Geospatial Challenge Camp – Health and well-being
September- December

Open House

LIH Open house: Paikkatiedosta uutta liiketoimintaa
29.3.2023 klo 15:30 | Vierailukeskus Joki, Turku

Sanna Jokela
Gispo Oy

Timo Huttunen
TechTurku

Eero Salminen
Ramboll Oy

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Partners and Associated partners

Location Innovation Hub

Partner logos: A? Aalto University, ADVIAN, arbonaut, CSC, esri Finland, GEOFORUM, GISPO, GTK, Ilmatieteen laitos / Meteorologiska institutet / Finnish Meteorological Institute, INTELLISYS, KEKSINTÖSÄÄTIÖ Foundation for Finnish Inventions, KIRAHub, Luke Natural Resources Institute Finland, Metsäteho Luomassa mahdollisuuksia, Mtech, OAMK, SITOWISE, Spatineo, Suomen ympäristökeskus / Finlands miljöcentral / Finnish Environment Institute, University of Helsinki, University of Turku, ubigu, Regional Council of Southwest Finland

Finnish institute for health and welfare, FORUM VIRIUM HELSINKI, here, HUAWEI, KAIRA CLAN, OIA // Oulu Innovation Alliance, septentrio, Open Geospatial Consortium

SAVONIA ammattikorkeakoulu, TAMPEREEN KAUPUNKISEUTU, Telia, Terrasolid, Trimble, u-blox, UNITE Forest-Human-Machine Interplay, University of Eastern Finland

European core data provider network

Republic of Estonia Land Board, Kartverket, kadaster, EuroSDR, eurogeographics, Gobierno de España Ministerio de Transportes, Movilidad y Agenda Urbana / Instituto Geográfico Nacional / Gobierno de España Ministerio de Hacienda y Función Pública / Dirección General del Catastro

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Thank you

www.
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