

Digital Twins for Urban Mobility Planning

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Welcome to explore experimentation opportunities in Helsinki!

Through the Testbed Helsinki website you can comprehensively find development and experimentation opportunities for new products and services offered by the City of Helsinki. The site is specifically aimed at companies and RDI actors. The key content areas of our testing platform activities are EdTech, Smart Mobility, Built Environment, Circular Economy and Health & Wellbeing.

Read more



FORUM VIRIUM HELSINKI



www.mobilitylab.hel.fi

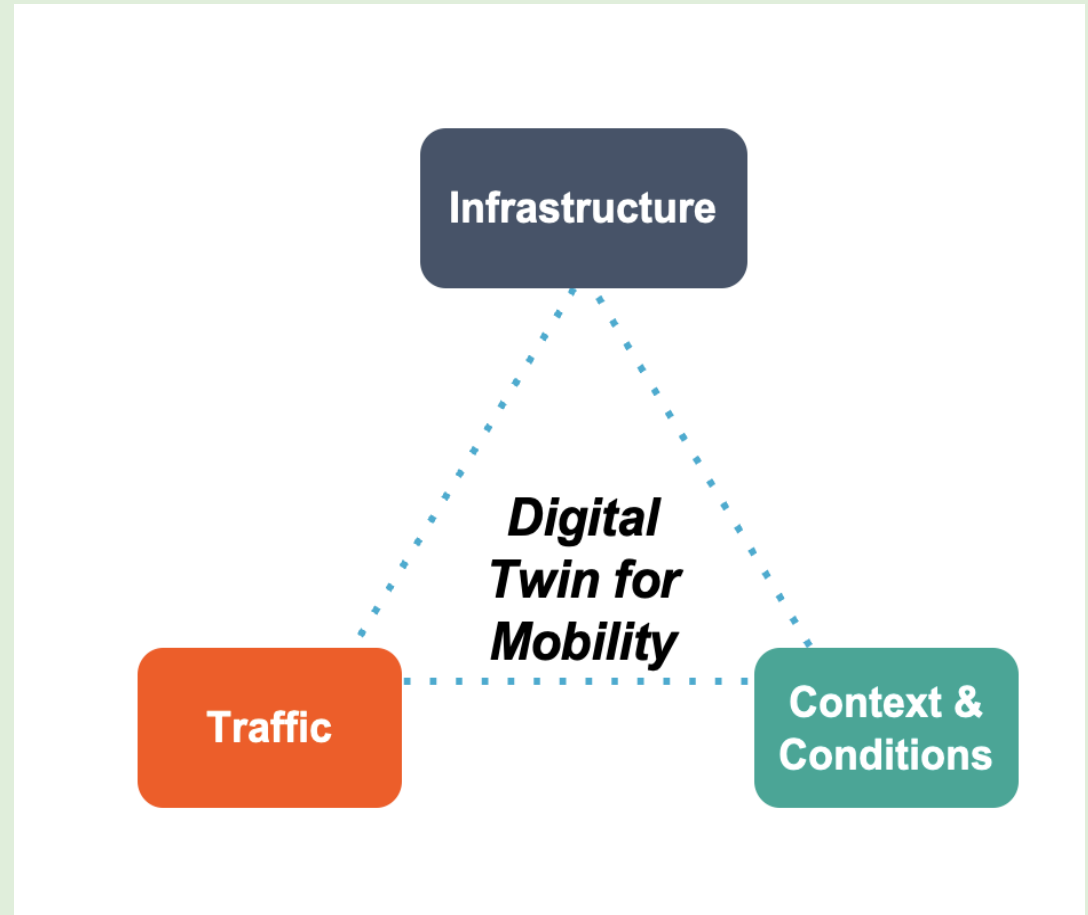
Helsinki as a Testbed

- Utilising city's resources (infra, buildings, street environment, ...), procurements, investments and service units as a testbed for developing new innovations, see testbed.hel.fi
- The objective from economic development point of view:
 - Supporting companies' research, development and innovation (RDI) activity and growth
 - Supporting creation of new business, and
 - Producing better services for the city and citizens



Digital Twin for Mobility

- Digital twin includes various data sources.
- It is not one system, but instead a constantly evolving combination of diverse data sources and information.
- Digital twin for mobility describes
 - the traffic itself,
 - traffic environment, and
 - related conditions and context.



Tietoa rakennuksesta

Katuosoite : Rikhardinkatu 1

Rakennuksen tila : voimassa

Valmistunut : 1899-12-31

Käyttötarkoitus : Asuinrakennus

Rakennusaine : Puu

Rakennuksen korkeus : 23.94 m

Rakennuksen pohjan korkeusasema : 7.6

Kerroksia : 5

Kerrosala : 4940 m²Kokonaisala : 5580 m²Tilavuus : 20264 m³

VTJ-PRT : 1030462353

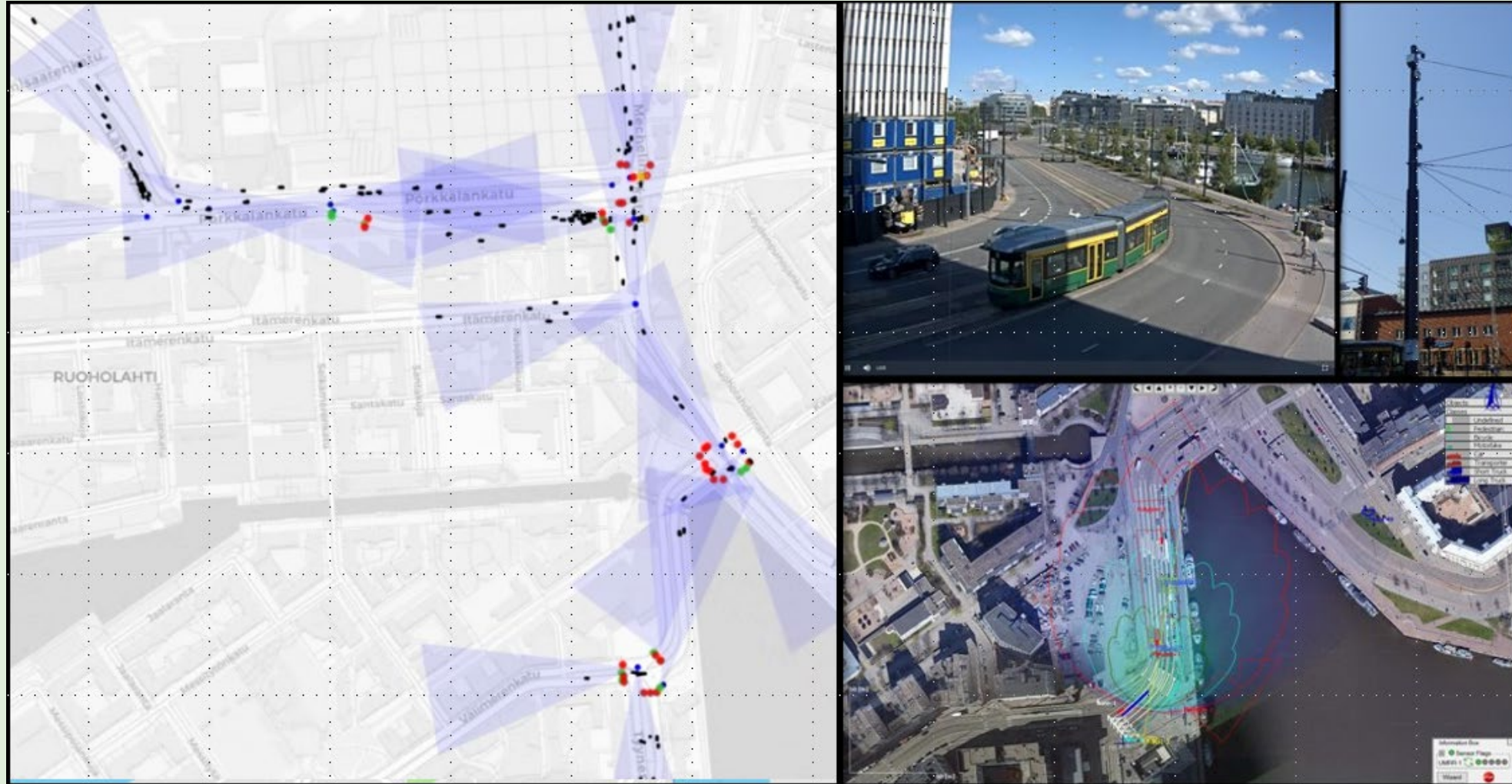
RATU : 438

gmIID : BID_22bb428d-8114-4a1e-b935-97905853b7be

Traffic measurements, LiDARs



Traffic radars, cameras & AI to optimize traffic lights



Camera

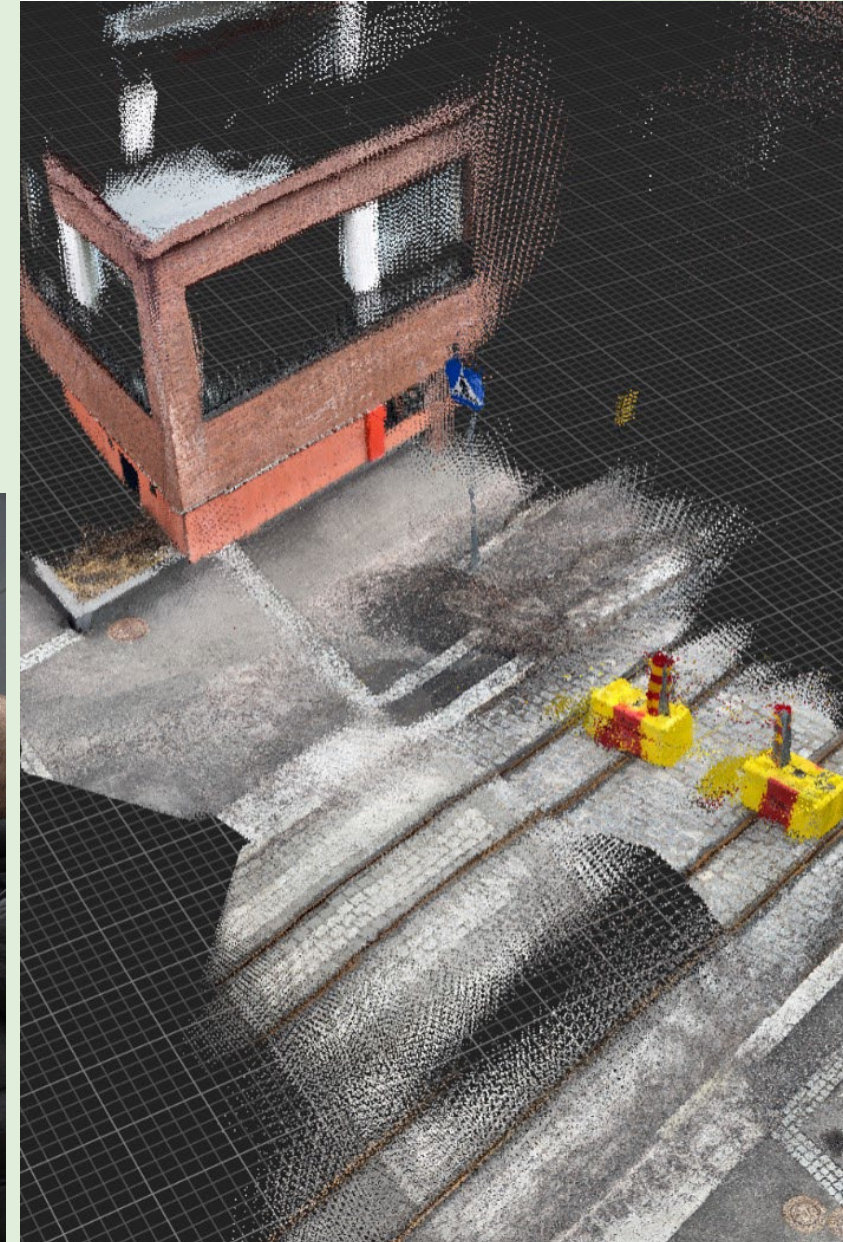
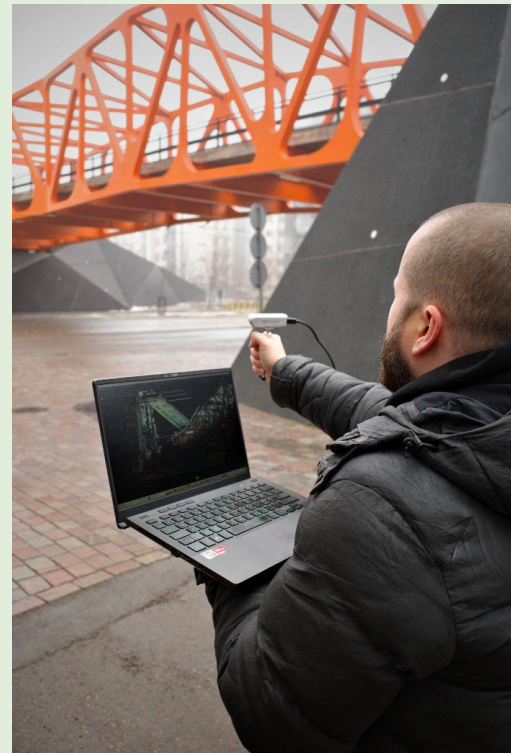
Radar

Air quality sensors

LIDAR

Collecting data: CitySight – Street Level

- Reasonably priced devices and available software tools can produce good quality data and 3D point clouds



Analysing data: Automatic categorization of traffic control objects

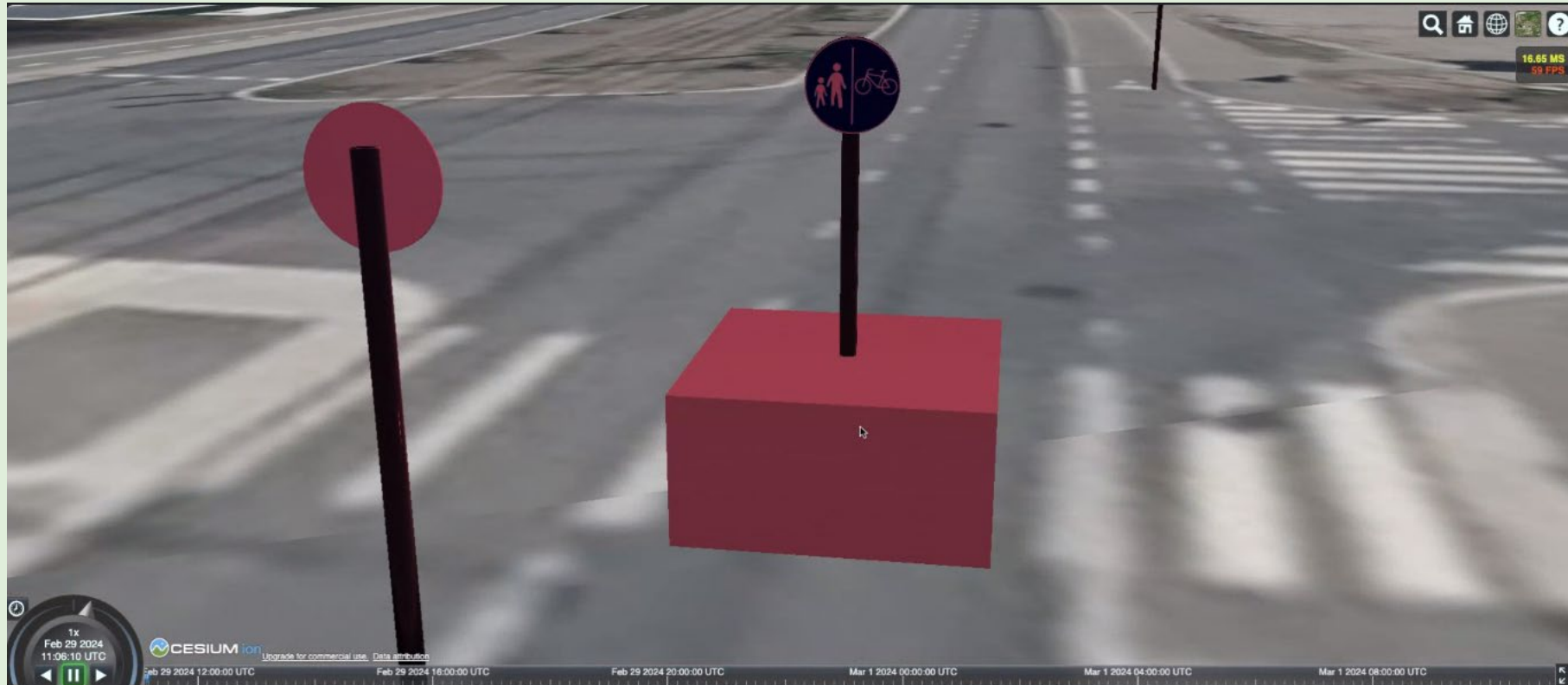
- AI analysis of 360 pictures to identify traffic control objects → Mapped with point cloud data for accurate positions

1. Road
2. Sidewalk
3. Building
4. Wall
5. Fence
6. Pole
7. Traffic light
8. Traffic sign
9. Vegetation
10. Terrain
11. Sky
12. Person
13. Rider
14. Car
15. Truck
16. Bus
17. Train
18. Motorcycle
19. Bicycle

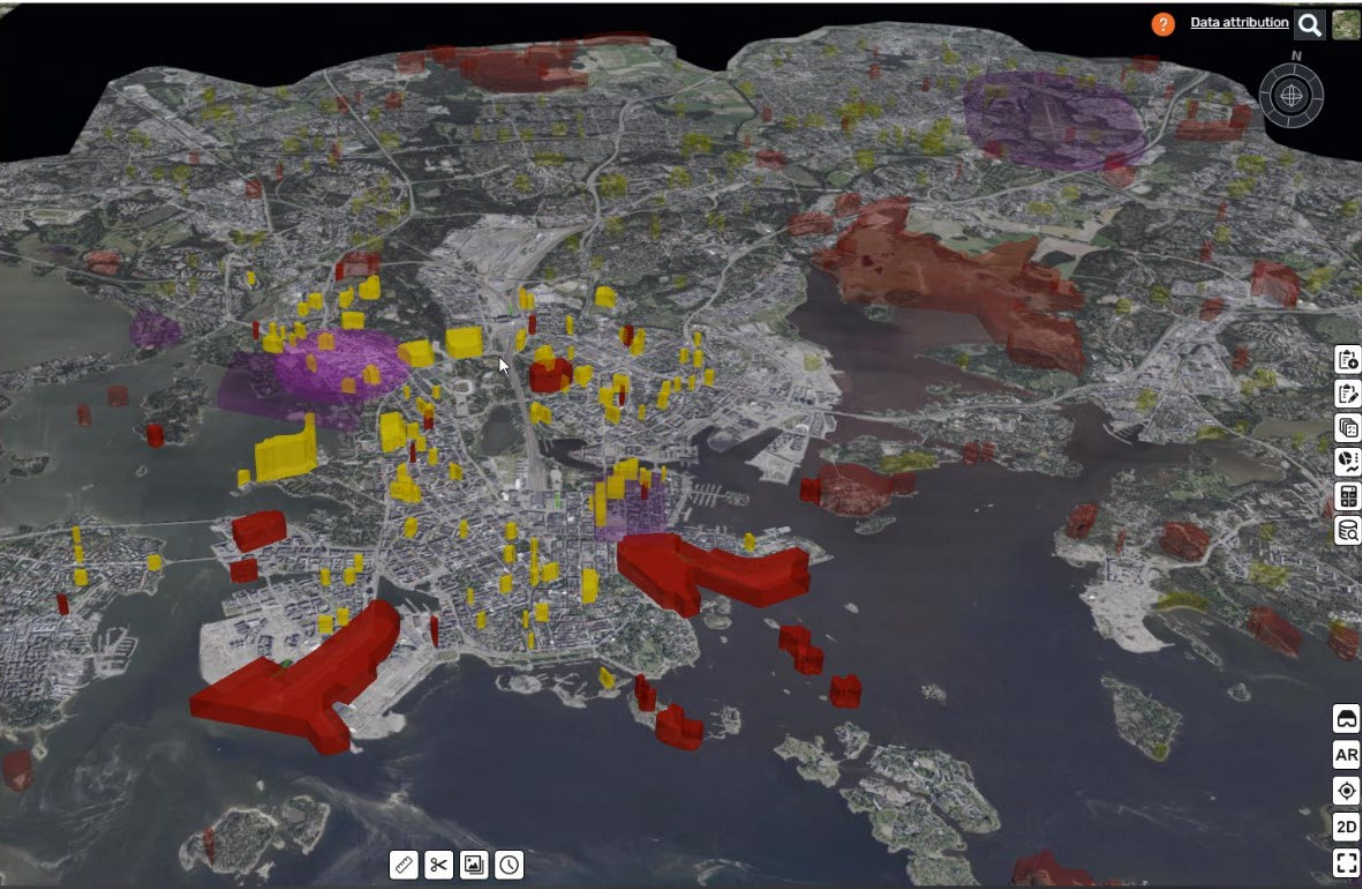


Visualizing data: Integration of 3D tiles to QGIS

- 3D objects can be created based on 2D images and plotted in QGIS, helping planners better utilize the potential of available data



Once there's data and tools available, it can be used for viewing and planning e.g. drone operations



...or for creating game environments



As for Nordic cooperation...

- Nordics is one market area
 - utilize similarities, align goals
 - learn from others, help scale the solutions

