INCREASING DIGITALISATION AWARENESS & READINESS OF DANISH COMMUNITIES

in collaboration with

KL

29.10.2024
DENMARK

European Commission | serendipity | Capgemini | OASC OPEN & AGILE SMART CITIES & COMMUNITIES | technopolis group | imec embracing a better life | EUROCITIES | ICLEI Local Governments for Sustainability EUROPE | Deloitte.

Welcome

Søren Nørgaard Madsen

(KL)

Teddy Sibern

DOLL

Ignacio Garcia Vega

(Serendipity)

European Commission

AGENDA

European Commission

Detailed Agenda Overview

Phase 0: How to Start Your Digitalisation Journey

29.10.2024 10:00

TIME	TOPIC	SPEAKER(S)
10:00 - 10:10	Welcome	**Søren Nørgaard Madsen** *(Local Government Denmark)* **Teddy Sibern** *(Head of DoLL)*
10:10 - 10:20	Introduction to Local Digital Twins	**Martin Brynskov** *(Founding Board Director and Standardisation Lead, OASC)*
10:20 - 11:00	Local Digital Twins and their Role in Achieving EU Green Deal Objectives	**Marianne Knudsen and Mathias Preisler Schødt** *(Head of section in Agency for Climate Data)* **Ben Cahill** *(We Build Denmark)*
11:00 - 11:15	Coffee break	
11:15 - 11:30	Assessing Your Digital Readiness with LORDIMAS	**Martin Brynskov** *(Founding Board Director and Standardisation Lead, OASC)*
11:30 - 12:00	Enabling Technologies: Open Data Platforms and Data Spaces	**Søren Lundsgaard Jørgensen** *(City of Aarhus)*
12:00 - 12:30	Developing Your Implementation Roadmap	**Ignacio Garcia Vega** *(Serendipity)*
12:30 - 13:30	Lunch / Networking Break	
13:30 - 14:00	Supporting Ecosystems and Collaborations	**Jesper Algren** *(Head of Innovation Aarhus | EDIH | EDIC | Citcom)* **Gabriela Ruseva** *(EuroCities | Living-in.Eu)*
14:00 - 14:30	Funding Opportunities for Local Communities	**Andreas Nykjær** *Danish Agency for Digital Government NCP for the Digital Europe Programme*
14:30 - 15:00	Q&A and Closing Remarks	

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WELCOME TO DOLL

European Commission

Digital Outdoor Living Lab

Welcome

1. Introducing Digital Outdoor Living Lab.
2. Organization and strategic focus.
3. Eco-system and community engagement.
4. DOLL *"Three Layers of Smartness"* innovation platform.
5. Project highlights.

DOLL

DIGITAL OUTDOOR
LIVING LAB
WE BUILD DENMARK

Digital Outdoor Living Lab

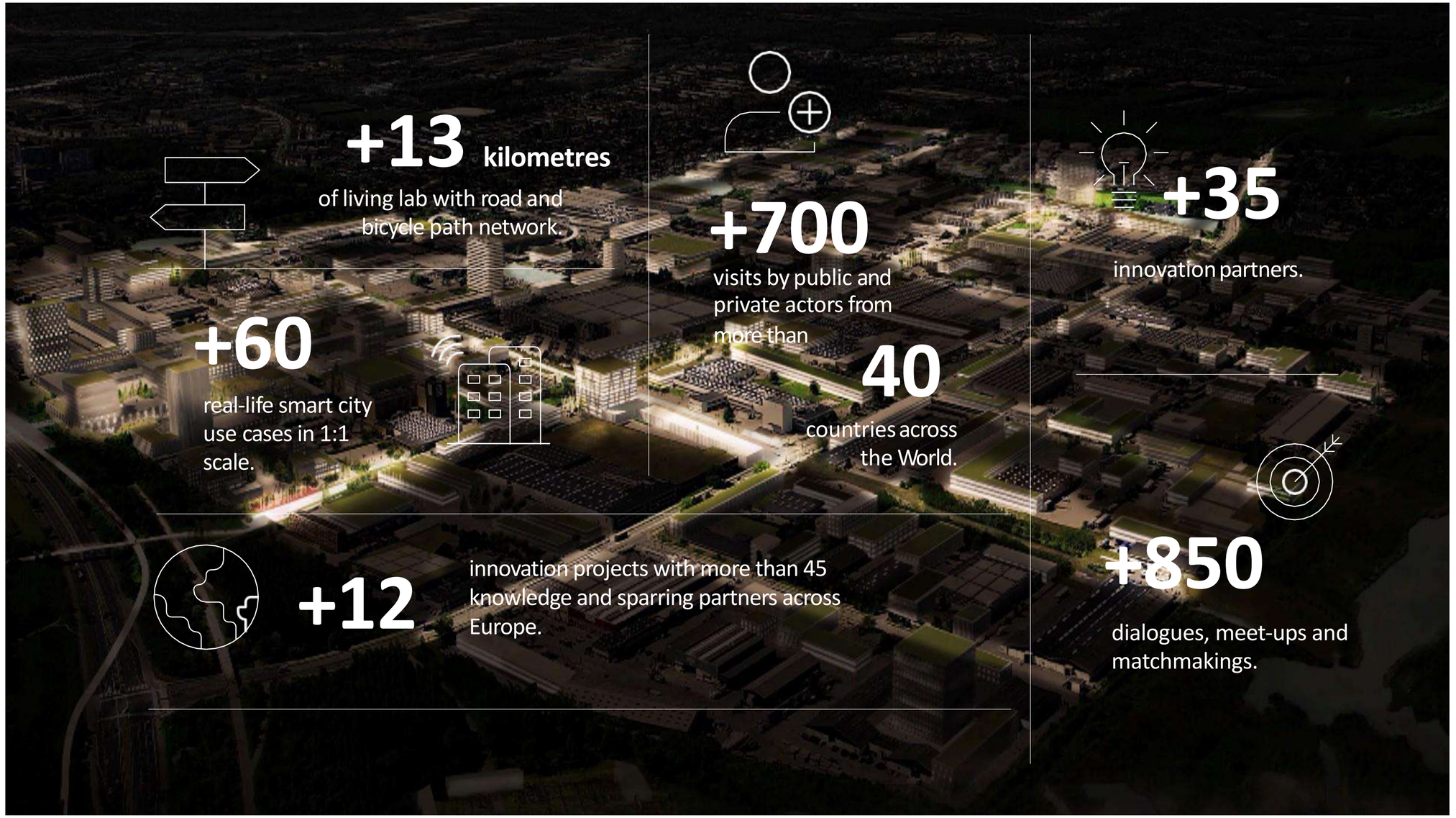
Mobility and Traffic.

Road infrastructure and structural health.

Environmental monitoring.

Intelligent outdoor lighting.

Intelligent buildings.


+13 kilometres
of living lab with road and bicycle path network.
+700
visits by public and private actors from more than
40
countries across the World.
+35
innovation partners.
+60
real-life smart city use cases in 1:1 scale.
+12
innovation projects with more than 45 knowledge and sparring partners across Europe.
+850
dialogues, meet-ups and matchmakings.

We Build Denmark

National innovation cluster for building and construction sector.

Twin transition: Digitalisation and sustainability.

Strategic focus area: Intelligent buildings and urban environment in between buildings (smart and sustainable cities).

Innovation method and platform: Digital Outdoor Living Lab.

Physical reality, digital reality, and virtual scenarios.

Innovation projects → real-life cases 1:1 scale, digital twin and virtual scenario creations.

Target group: Technology, solution and data providers, and private/ public decision-makers.

Company partners testing and demonstrating solutions, systems and data applications at DOLL Living Lab.

TECHNOLOGY providers.

SOLUTION Providers.

DATA Providers.

KNOWLEDGE partners.

3. Eco-system and Community Engagement.

Public and private decision-makers visiting DOLL Living Lab.

COPENHAGEN CAPACITY

STATE OF GREEN

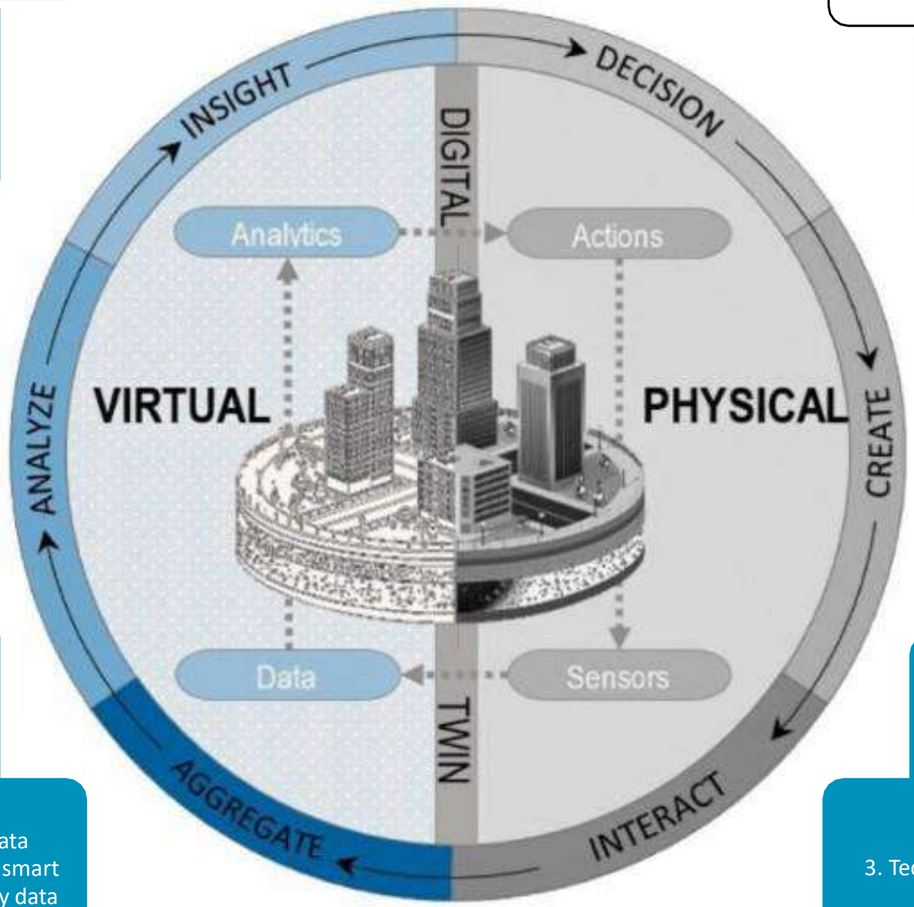
MINISTRY OF FOREIGN AFFAIRS OF DENMARK
Invest in Denmark


DOLL
Lighting the future of smart cities


nd introduction by WBDK
and Deliverables until 1.1.24 by DTU & Imec
1.0 by WBDK
Overview and Connections by WBDK
ed
ch – out and about in DOLL Living Lab
2.0 by WBDK
peration of Nordic Super Node by WBDK
– POWER?
between facilities
the day by WBDK


SEAT 4

DOLL Innovation Platform



3. VIRTUAL SCENARIO CREATION

8. Application building and demonstration (simulation, 3D visualization, prediction, etc.).

7. Scenario creation. Data analysis and insight analysis.

4. IMPACT ASSESSMENT and DECISION-MAKING SUPPORT

9. Community engagement and dissemination.

10. Desirability and viability of innovation.

2. DIGITAL REALTY

6. Safe and responsible AI. Training, algorithm creation and validation.

5. Data quality test and validation.

4. Local digital twin data integration, aggregation, smart modelling and third-party data enrichment.

1. PHYSICAL REALTY

1. Real-life use-case installation in scale of 1:1.

2. Connectivity, control and CMS configuration.

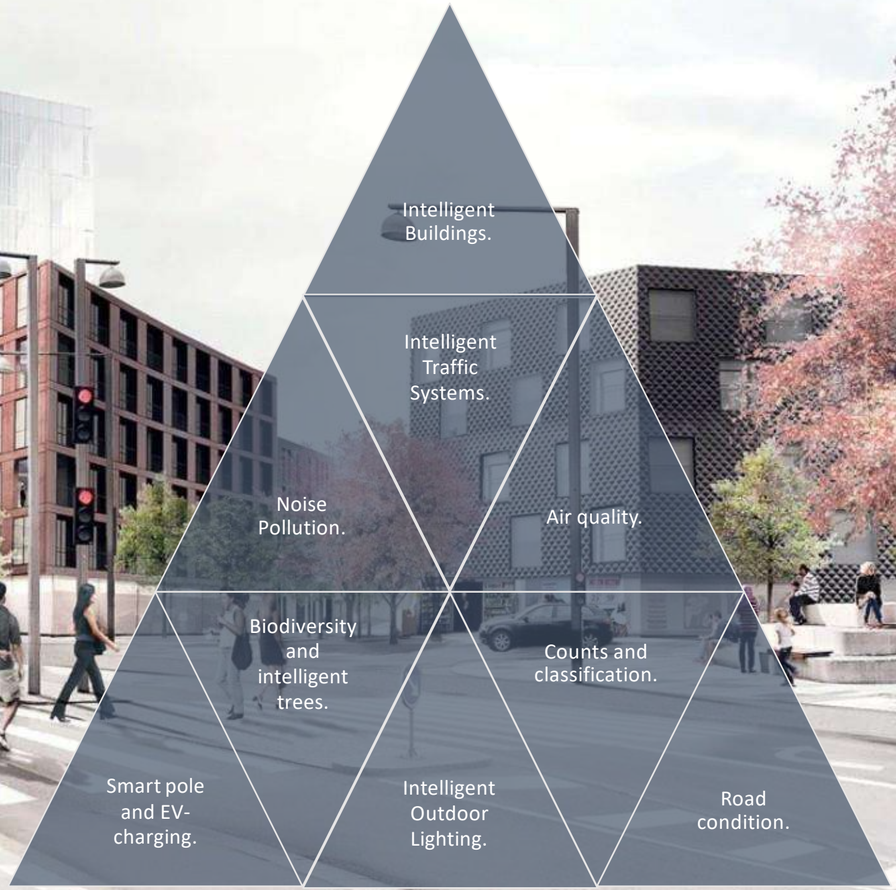
3. Technical and functional interoperability.


What is a smart environment and how to benefit from it?
Sustainability-, operation and maintenance challenges.
Public /private needs and challenges:
CO2-reductions. Net zero targets.
Traffic flow. Green and active mobility.
Energy efficiency.
Circular economy.
Safety, comfort, and wellbeing
Biodiversity.
Operation and maintenance cost reducitons.
Inventory and space optimization.
Counts and classification.
Technology trends and EU regulatory framework:
Interoperability Act.
Data Act.
Data Governance Act.
AI Act.
Cyber Security Act.
Digital Twin
Common data spaces.
Internet of Things.
Data Economy.

What is a smart environment and how to benefit from it?

Lighthouse cases presenting:

Interoperability.
Data-driven and connected.
Dynamic.
Smart data.
AI-powered.



4. DOLL "*Three Layers of Smartness*" innovation platform.

Digital Europe program

EU Testing and Experimentation Facilities (TEF).

Data driven and AI-powered services for Smart Cities and Communities.
→Project CitCom.ai.

Smart and Healthy Cities.
→ Project AI Boost.

Net Zero targets and circular economy
→ Project SMC NetZero

Nordic Super Node

DK, SE, FI

WBSK/DOLL, Center Danmark, Gate 21, GTM/Århus, Danish Technological Institute, Tampere, and RISE.

Central Super Node

BE, HO, LU, FR

IMEC, Brussels, Mechelen, …

Southern Super Node

ES, IT, GE, PO

Move, Connect, and Power

TEF profile and capabilities

Costumer Journey

Services

Needs

Five-year program, 298 mDKK, 11 countries

5. Project highlights.

European AI Testing and Experimentation Facility
for Smart and Sustainable Cities and Communities.

OBJECTIVE OF THE SESSION

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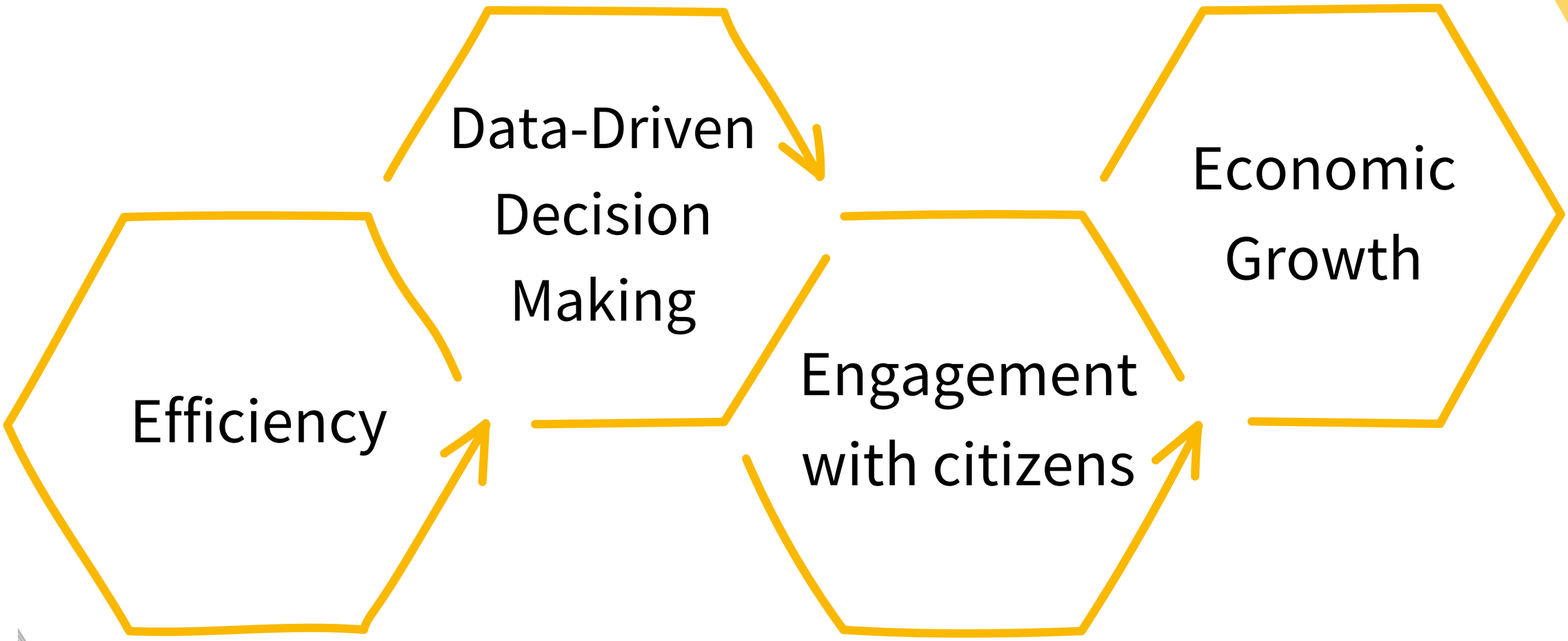
Context

Quality of life in our cities depends on better services and operations (mobility, waste management, environment, urban planning..). Use advanced technologies brings in:



EU Initiatives to support Digital Transformation for cities

- Support cities in **their digital transformation** (National Smart Communities, Online Procurement Helpdesk)

- Harness the full potential of AI and Local Digital Twins: **Local Digital Twin Toolbox**

- Setting an **AI-driven ecosystem of innovative solutions**, bringing tech. companies and cities (EDIC – LTD CitiVerse)

Main Objective of the session

Increasing awareness and readiness, supporting EU communities that have not yet begun their digital transformation journey by providing resources, best practices, and training to develop digital strategies.

Scaling deployment of digital infrastructure, assisting communities with existing digital transformation strategies in deploying enabling digital infrastructures and tools based on commonly agreed standards.

Promoting Local Digital Twins, creating a European Local Digital Twin (LDT) toolbox that will facilitate the deployment of digital twins for innovative urban planning and sustainable solutions.

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Main Approach of the sessions

HYBRID DISSEMINATION SESSION:

This introductory session delivers valuable insights into European digital topics, featuring presentations from experts who communicate in a clear and accessible manner.

It is designed for city and local community representatives and decision-makers, providing them with essential information and understanding to advance their digital initiatives.

The goal of this session is to raise awareness among the target group, and sets the stage for the follow-up training sessions.

ONLINE TRAINING SESSIONS:

These sessions are specifically tailored to address the unique needs of individual communities.

They offer comprehensive training on relevant digital topics and tools, ensuring participants gain the in-depth knowledge and skills required to effectively implement and manage their digital transformation projects.

The goal of these sessions is to provide participants with a hands-on approach to each of the topics disseminated in the hybrid event.

PROMOTING EUROPEAN INITIATIVES:

Promoting and disseminating European Initiatives to support communities in their digitalisation strategy.

The goal is to make sure communities know and utilise these resources and communities available at European level such as Living-in.EU, LORDIMAS, European data space for smart communities, the Online Procurement Helpdesk, the Local Digital Twin Toolbox or the LDT EDIC among others.

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The Journey

WHY

Discovery Phase

Unlocking the potential of digitalisation

Learn about Local Digital Twins' foundational concepts, their role in urban decision-making, and how they support the EU Green Deal's sustainability objectives through practical examples and case studies.

HOW

Planning Phase

g the foundation of your digital journey

Learn about LORDIMAS for assessing digital maturity and developing an implementation roadmap to advance digitalisation, including the role of open data platforms and procurement support.

SUPPORT

Empowerment Phase

Empowering your digital transformation

Explore ecosystems and funding opportunities to accelerate your community's digital transformation through collaboration and financial support.

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INTRODUCTION TO LOCAL DIGITAL TWINS

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Introduction to Local Digital Twins

Martin Bynskov

Founding Board Director and Standardisation Lead, OASC

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What is a Local Digital Twin?

A **Digital Twin** is a continuous learning digital copy of real-world assets, systems and processes…

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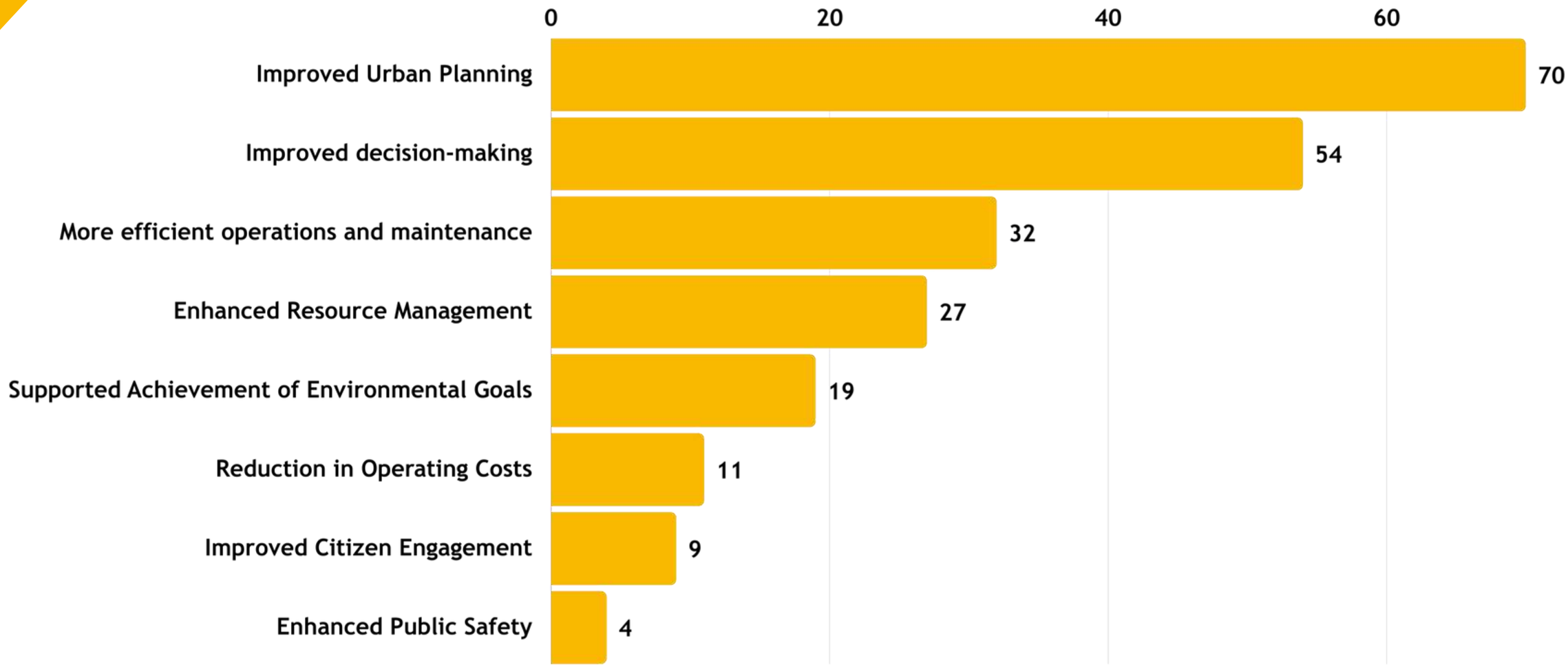
A digital twin is a
digital or virtual copy
of physical assets or products.

What Are LDTs Used For?



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Application Use Case

1. Urban Planning / Zoning / Development
2. Asset & Infrastructure Management
3. Environmental & Climate Monitoring
4. Public Safety and Crowd Dynamics
5. Transportation and Pedestrian Planning
6. Facilities Management

Land use
Building footprints
Shadow and wind patterns
Asset tagging
IoT Sensors
Infrastructure data
IoT sensors
Topography
Water and Climate Models
Optical sensors
Video
GPS
Lighting
Traffic
Ped counting
Building details
HVAC and utilities
Optical sensors

GIS
Planning
Public works
Economic development
Parks
Transportation
Environment
Police
Fire
Emergency management
Public safety
Facilities management


Data, the new soil
European Commission
#DigitalEU

Unique Value Proposition of LDTs

Connect legacy systems

Make data understandable

Explore policy impact

Influence better public decisions

Experiment and innovate in cities and across regions

DUET

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LOCAL DIGITAL TWINS AND THEIR ROLE IN ACHIEVING EU GREEN DEAL OBJECTIVES

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The Role of Cities in the Green Transition

Cities play a pivotal role in achieving climate neutrality by 2050,
the goal of the European Green Deal, accounting for:

75 % of EU citizens

65 % of the world's energy consumption

+70 % of global CO2 emissions

European cities can contribute to the Green Deal target of reducing emissions by 55% by 2030 and, in more practical terms, to offer cleaner air, safer transport and less congestion and noise to their citizens.

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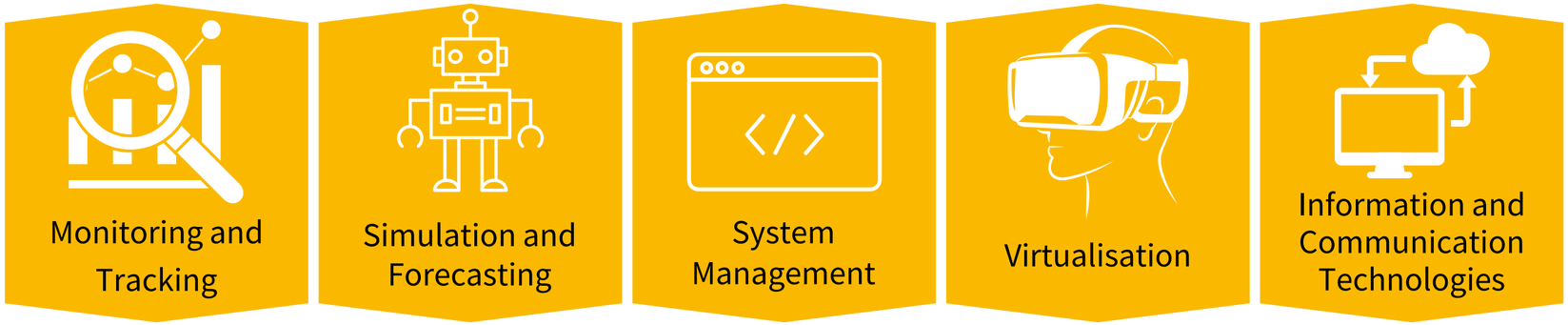
The Twin Green and Digital Transition Go Hand in Hand

- The digital transformation is taking place against a backdrop of rapid climate change
- The EU's policy agenda looks at digital twins as far-reaching technologies that can support smart cities in contributing to the European green deal strategy, enhancing energy efficiency, adaptation of society to climate change and resilience of urban centres.
- Placed into urban contexts, digital twins help smart cities to reassess their urban planning, transforming how cities are displayed, monitored and managed



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Climate Neutral and Smart Cities Mission

- 112 climate-neutral and smart cities by 2030. **3 Danish cities (Aarhus, Copenhagen & Sønderborg**)
- Ensure that these cities act as experimentation and innovation hubs to put all European cities in a position to become climate neutral by 2050

100 EU cities

12 cities from Horizon Europe associated countries

Cities from every Member State

Capital cities

Small, medium, large cities

Frontrunners and less prepared cities

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National Examples

Local Digital Twins and their Role in Achieving EU Green Deal Objectives

Marianne Knudsen
Head of section in Agency for Climate Data

Mathias Preisler Schødt
Head of section in Agency for Climate Data

Ben Cahill
We Build Denmark

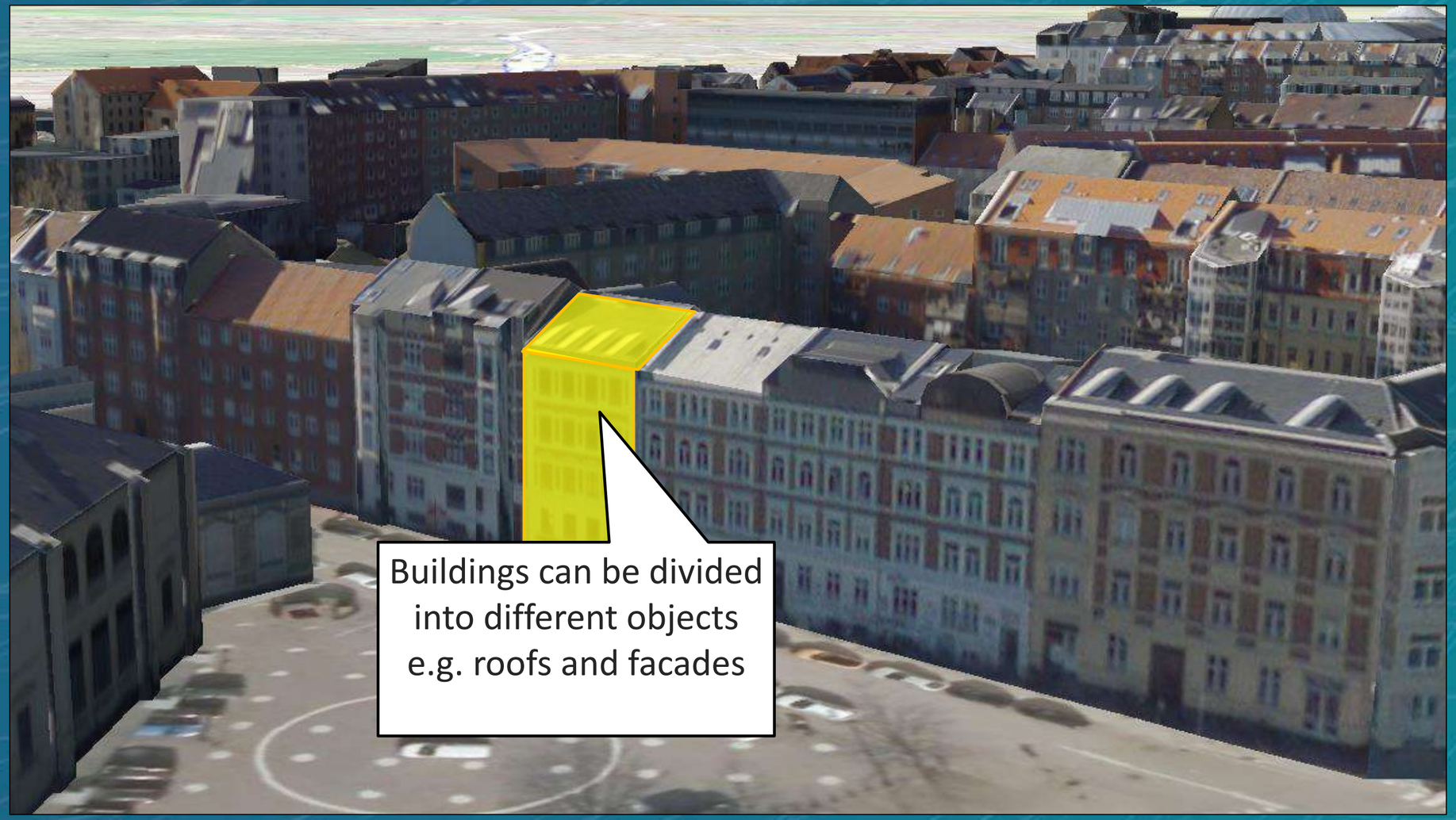
European Commission

National Digital Twin

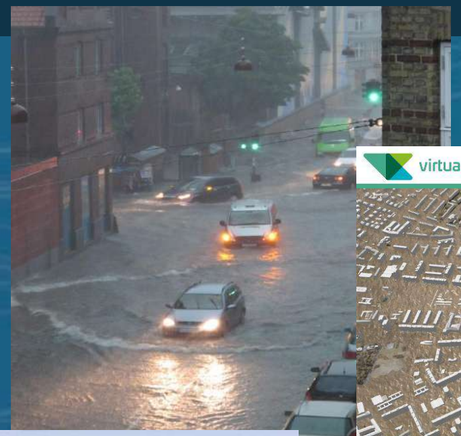
Agency for Climate Data

Digital Twin as common referenceframe

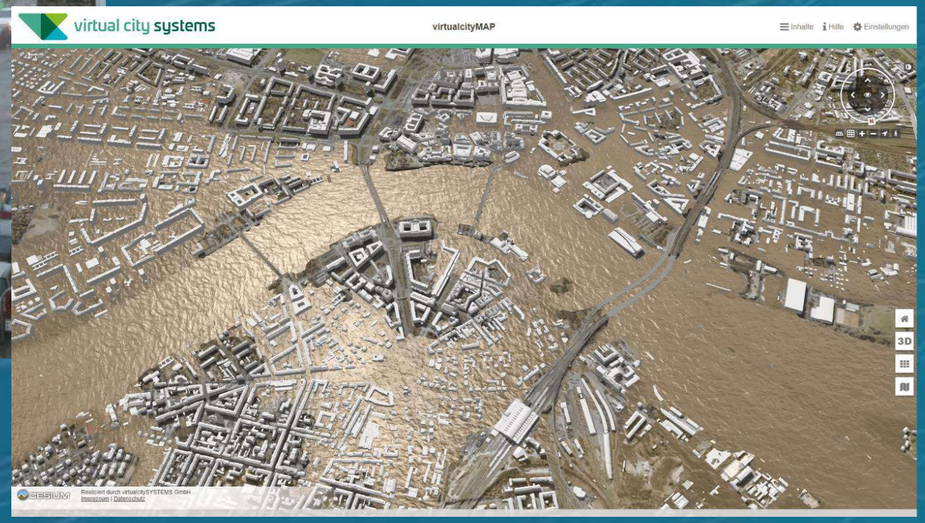
- 3D-data management system (vision: future basic public data)
- Standardized and updated
- Object-based model with unique ID’s. Possible to connect to other registers
- Function as a platform for IoT and Smart City.



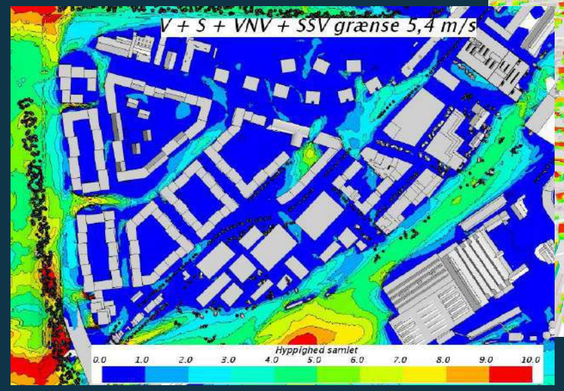
Examples of use cases :



Climate adaption



Energy optimization



Physical planning

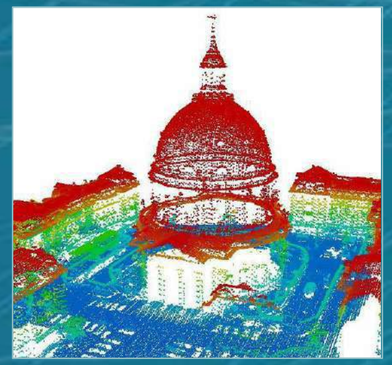
Analyzes: view, wind, noise, light/shadow, solar potential

Simulation of storm surge scenario of 6 m in Aarhus in Denmark's Digital Twin with 3D orthophotos

The digital twin is interactive and can be shown on detailed level

DATA FOUNDATION:

- The Danish elevation model
- Building polygon from GeoDanmark (footprint)
- GeoDanmark orthophotos

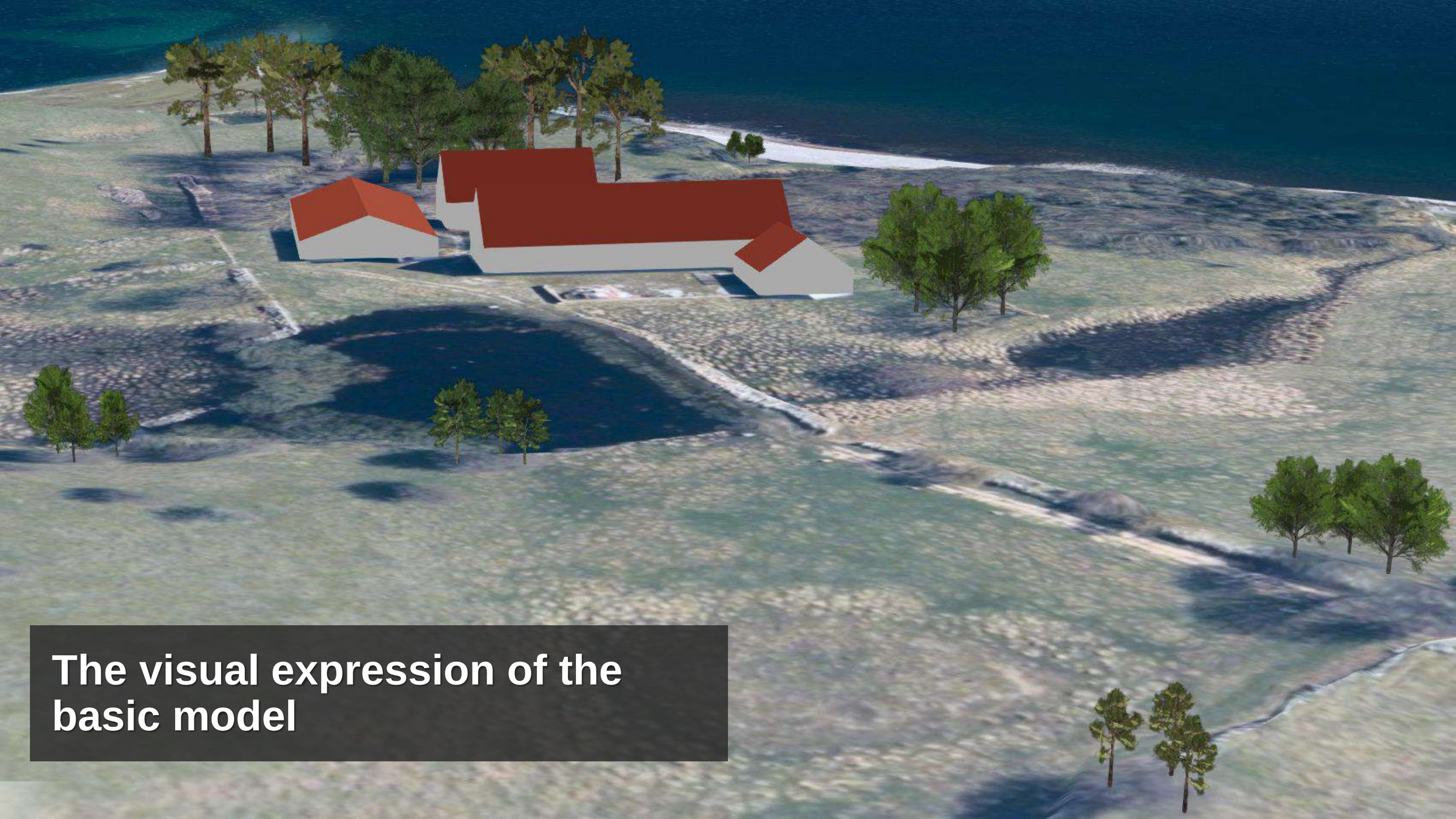


The Danish Elevation Model

GeoDanmark-buildings

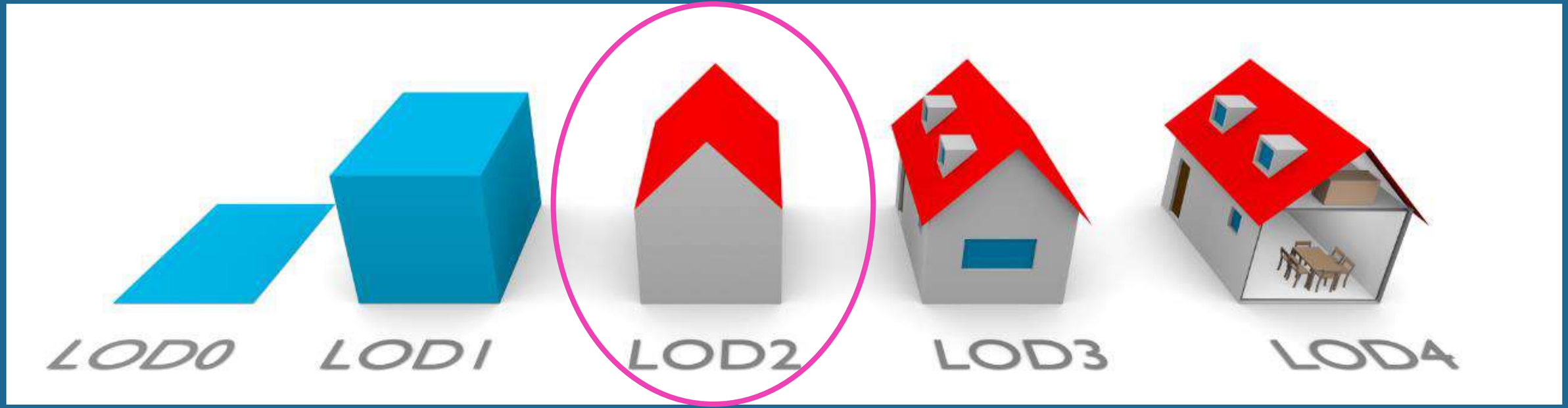
Orthophotos

Agency for Climate Data



The visual expression of the basic model

CityGML: Levels of Detail (LOD)



LOD0 er en 2,5D Digital Terræn Model, som kan draperes med flyfoto eller kort.

LOD1 er en "klodsmodel" og den mest simple modeltype. Husene fremstår med flade tage.

For en **LOD2**-bygning er de mest basale tagflader rejst, dvs. primært saddeltag.

En **LOD3**-bygning er en arkitektmodel og rejst med alle tagflader, samt vinduer og døre.

En **LOD4**-bygning er en arkitektmodel med interiøroplysninger såsom værelser og møbler.

Buildings

The buildings are produced in two levels of detail:

- LOD1 (rectangular box)
- LOD2 (box with standard roofs)

The production of buildings as a nationwide dataset has been tested in the pilot phase.

Buildings are continuously updated with point cloud updates or building data from GeoDanmark. Historical data is stored in the database.

Terrain

The terrain is created as a TIN, based on a simplified version of the point cloud.

In the web client, the terrain is draped with spring orthophotos.

The production of terrain has been tested in the pilot phase.

The terrain is updated when a new point cloud is available.

Trees

Vegetation in the basic model consists of individual trees from GeoDanmark.

The visualization is done directly in the web client using a standard 3D model of a tree with the given height. The height (z-value) is calculated based on the elevation model. A summer and winter theme is created (with and without leaves).

Updates are made annually based on identified changes in GeoDanmark data.

3 development projects

Draping of oblique images

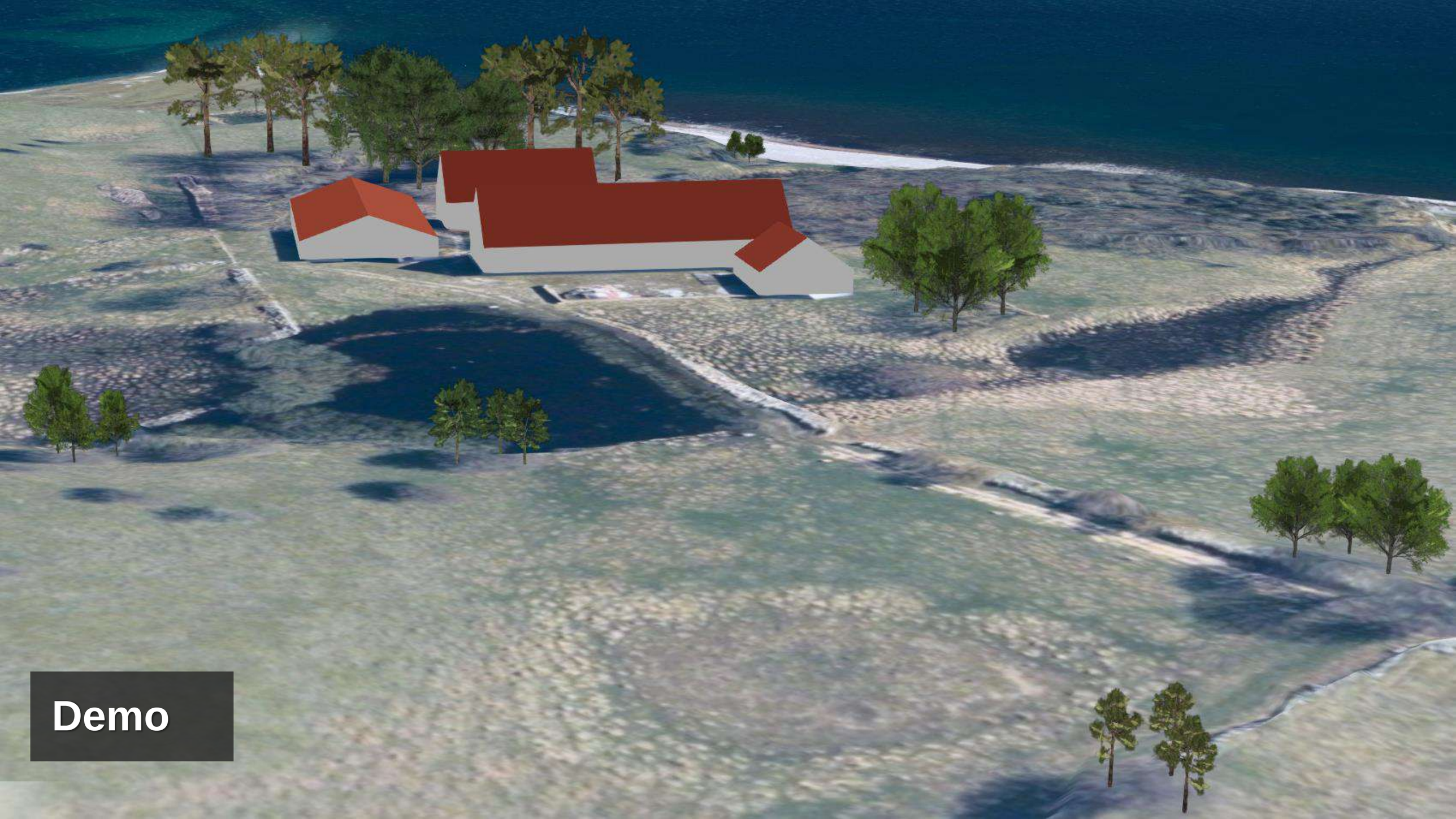
- On the fly draping
- Visualization

Hydrology

- Converting hydrological data to be used in 3D
- What happens during:
  - extreme rainfall scenarios
  - storm surge
  - floods
- Visualization

Forests

- Tree detection in Danish forests
- Classification of species
- Visualization


Demo

National Digital Twin:
https://dataforsyningen.dk/labs/2265

Klimadatastyrelsen

Digital Outdoor Living Lab

Welcome KL and Guests

1. Introduction to LDT Concept
2. EU, CitCom – DOLL LDT Motivation and Context
3. Vision, Goals and LDT Advantages
4. LDT for Municipalities
5. LDT for Data/Technology Providers – Integration and Enrichment
6. Application Examples
7. Next Steps

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Welcome KL and Guests

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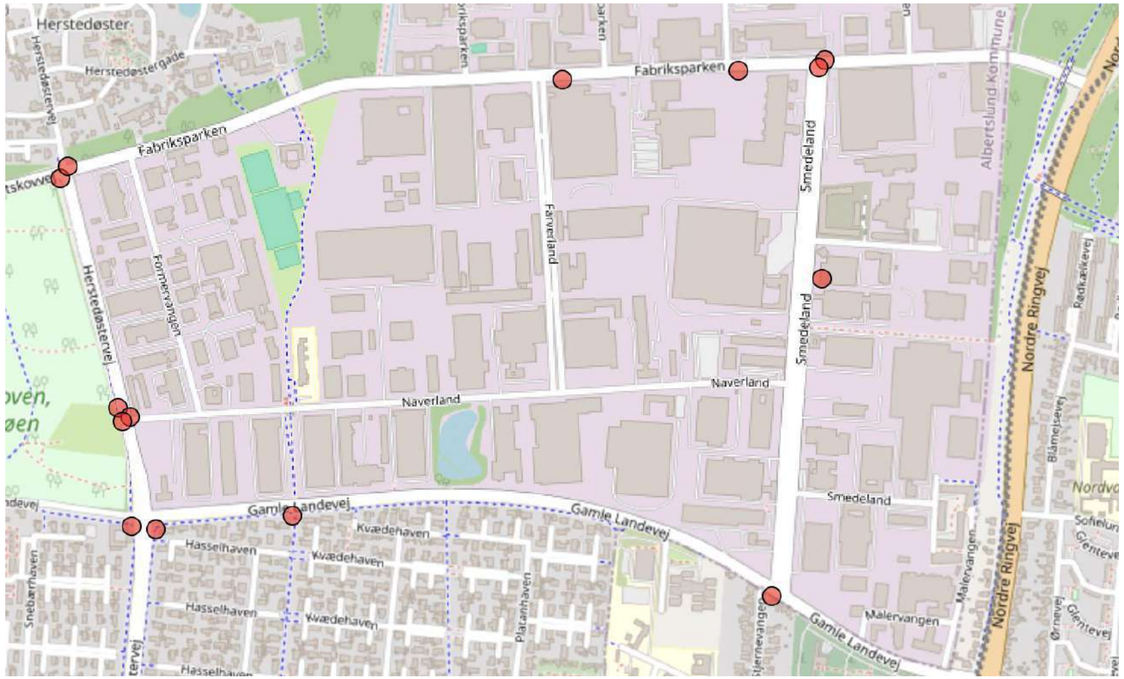

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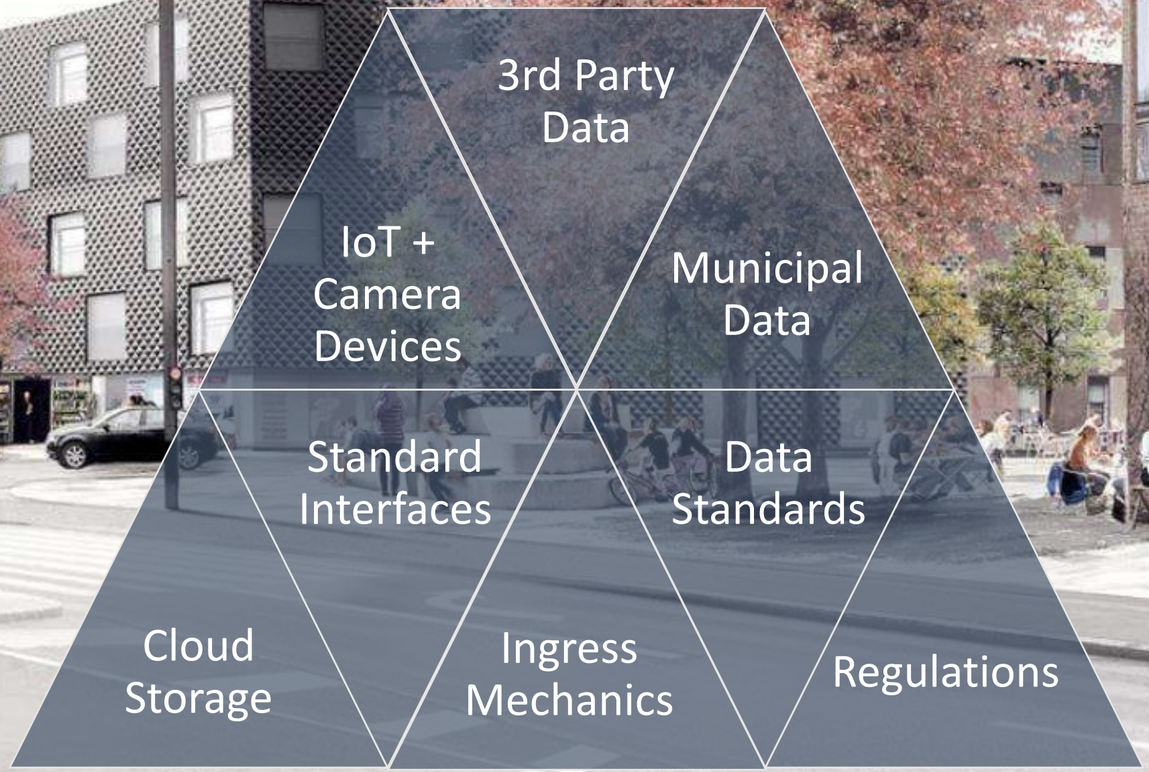
DOLL LDT – Conceptual Process and Model

LDT Base Layer
Common Infrastructure
The “Generic Motor”
Get, map/transform, Store and Expose data

DOLL LDT – Conceptual Process and Model

Data Layer
Unordered, heterogenous information
Vendor-specific interfaces
Varying Richness of Semantics

LDT Base Layer
Common Infrastructure
The “Generic Motor”
Get, map/transform, Store and Expose data



DOLL LDT – Conceptual Process and Model

Application Layer
"Doing things" with the combination of data
Apps, dashboards, AI and training data
One point of entry to a city data in a standard format

Data Layer
Unordered, heterogenous information
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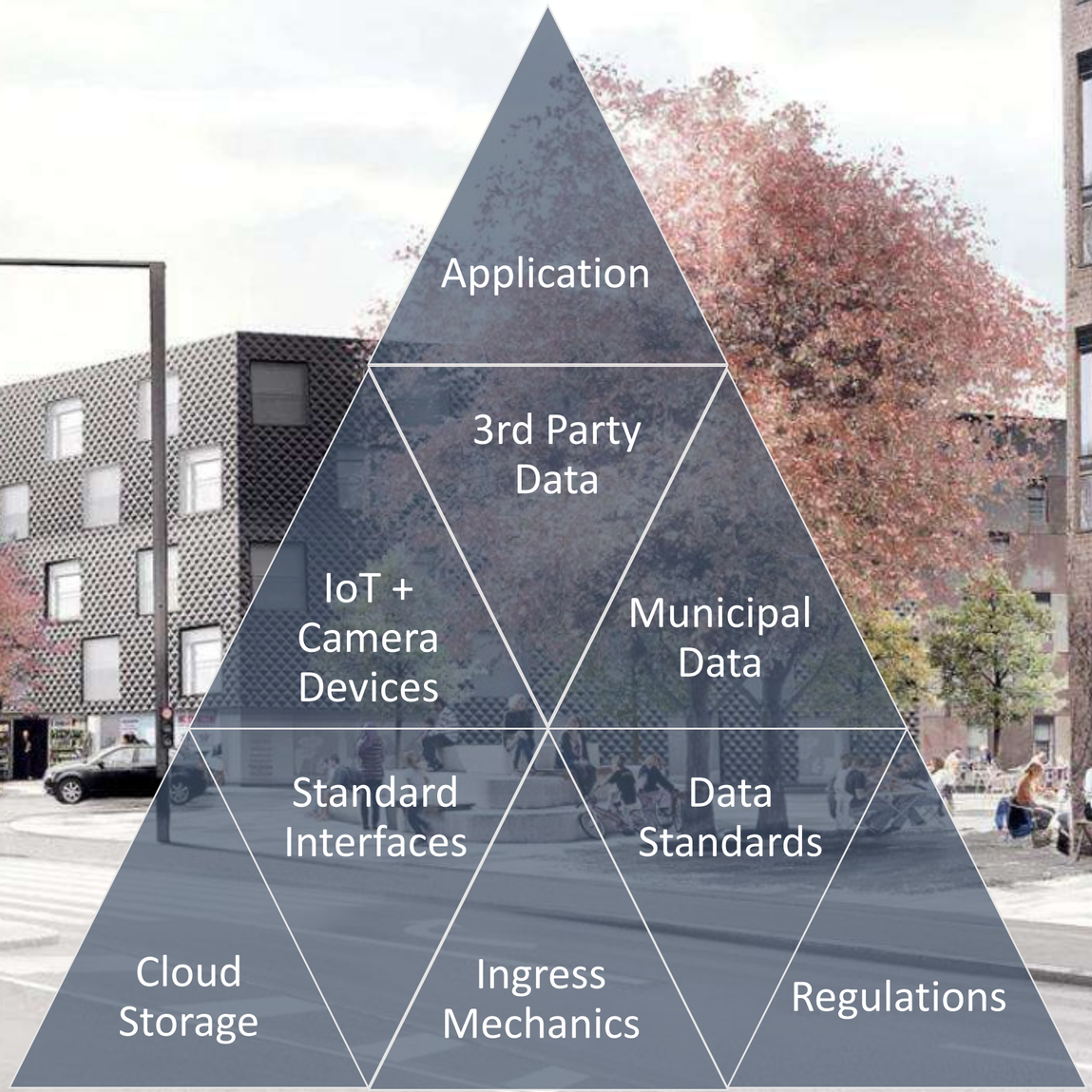

DOLL LDT – Real Process and Model

Application Layer
"Doing things" with the combination of data
Apps, dashboards, AI and training data
One point of entry to a city data in a standard format

LDT Base Layer
Common Infrastructure
The "Generic Motor"
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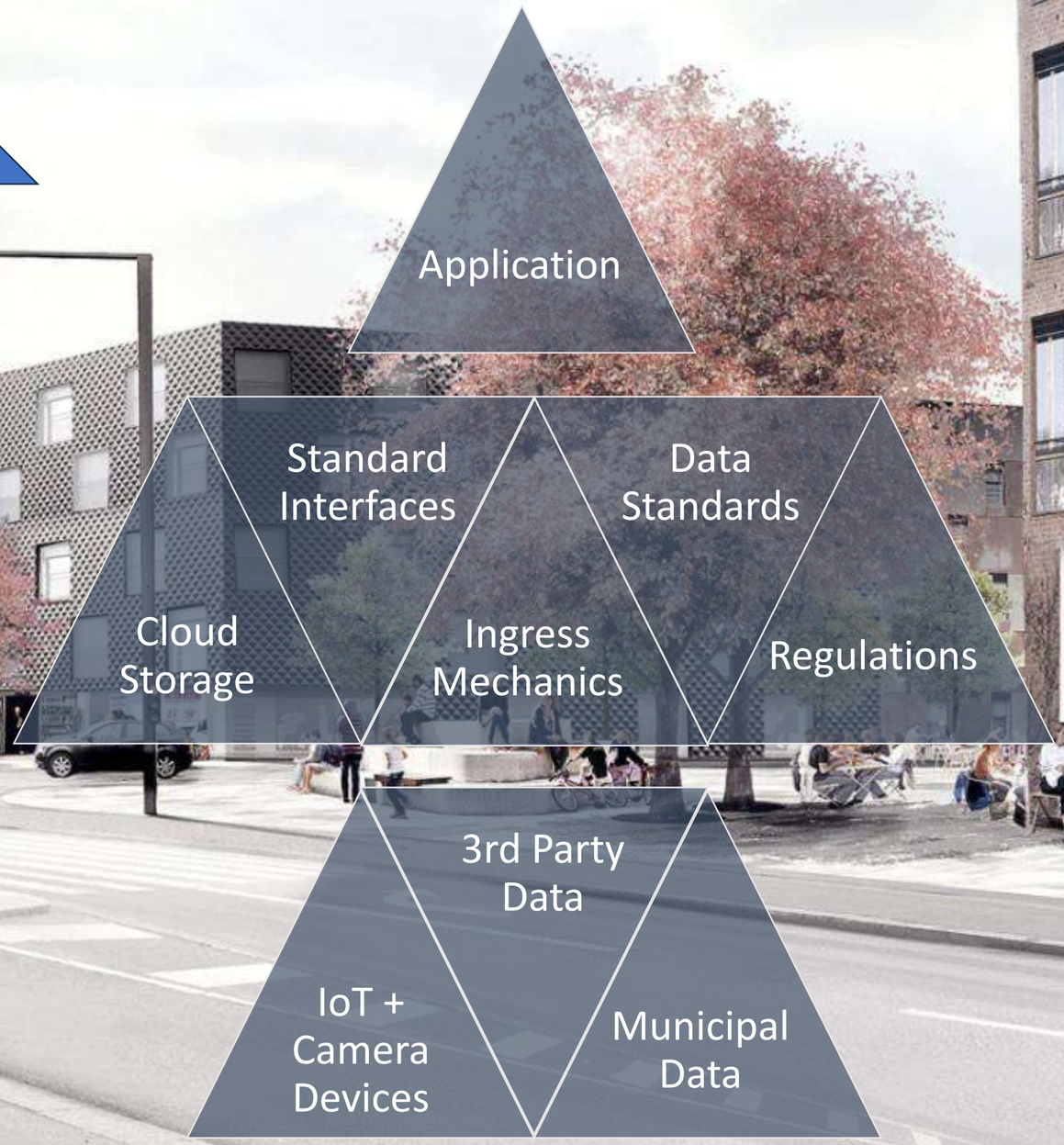
Data Layer
Unordered, heterogenous information
Vendor-specific interfaces
Varying Richness of Semantics

DEVELOPMENT PROCESS



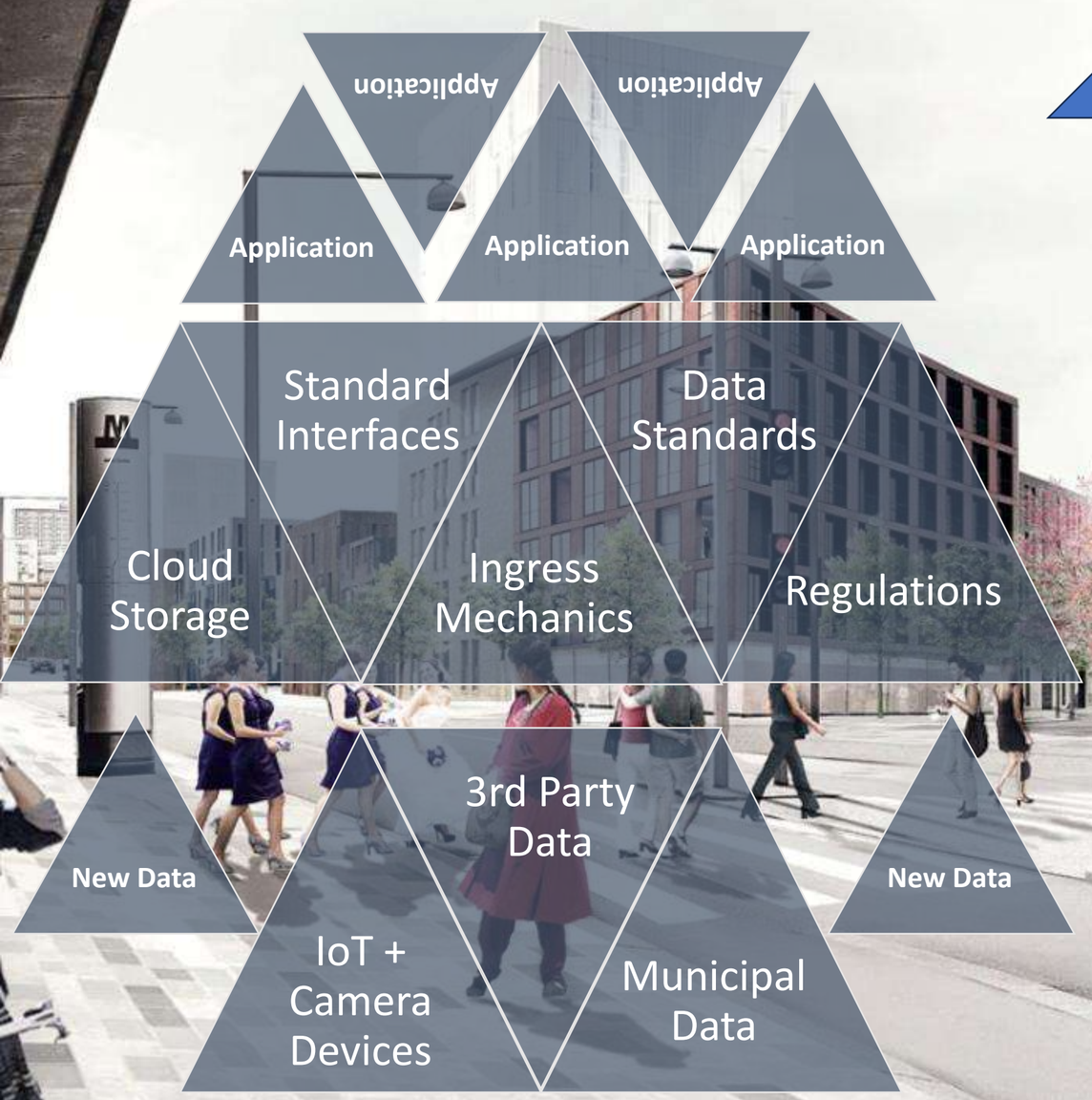
DOLL LDT – Real Process and Model

DEVELOPMENT PROCESS

The Core Infrastructure of the LDT is **Extensible, Reusable, Standardised, Community-Driven and Open Source**

- We can build many applications on the same data
- We can use the same application on various data

DOLL LDT – Real Process and Model



DEVELOPMENT PROCESS

The Core Infrastructure of the LDT is **Extensible, Reusable, Standardised, Community-Driven and Open Source**

- We can build many applications on the same data
- We can use the same application of various data
- New data can be added, mapped, transformed and be made ready to consume
- New ideas can quickly be tested, iterated upon and rolled-out.

DOLL LDT – Real Process and Model

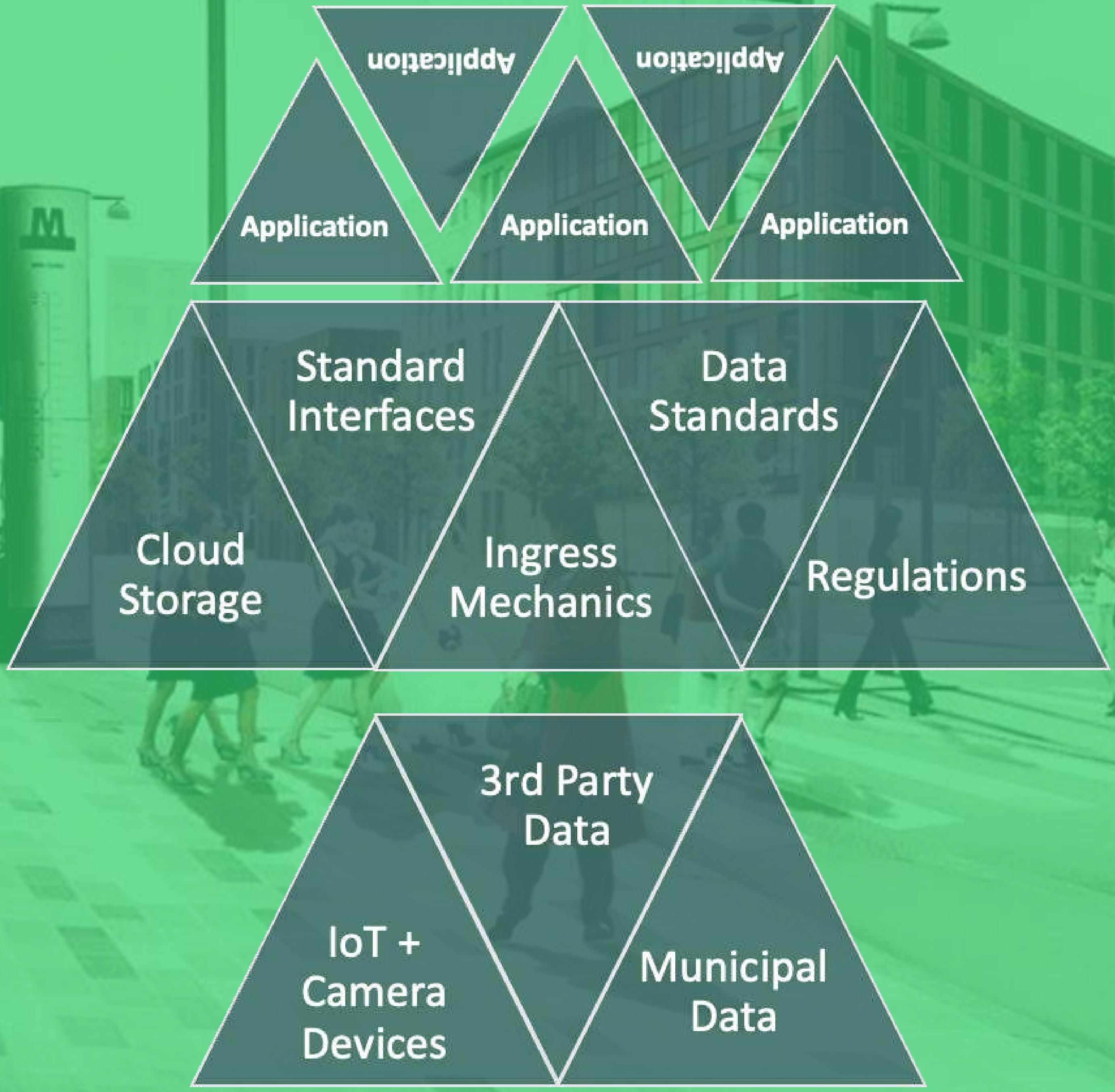
Compared to **traditional application development processes** on proprietary technologies.

- Addition of new data requires planning and technical intervention
- Adapting data to another application may be challenging
- Ability to share (processed) data requires cross-domain expertise (technical, legal, sales)
- Value of non-standardised data may be less in a data economy or even single transaction
- Scaling requires constant effort
- Maintenece load scales approx. linearly with number of apps, data sources.

DOLL LDT – Application Developer View

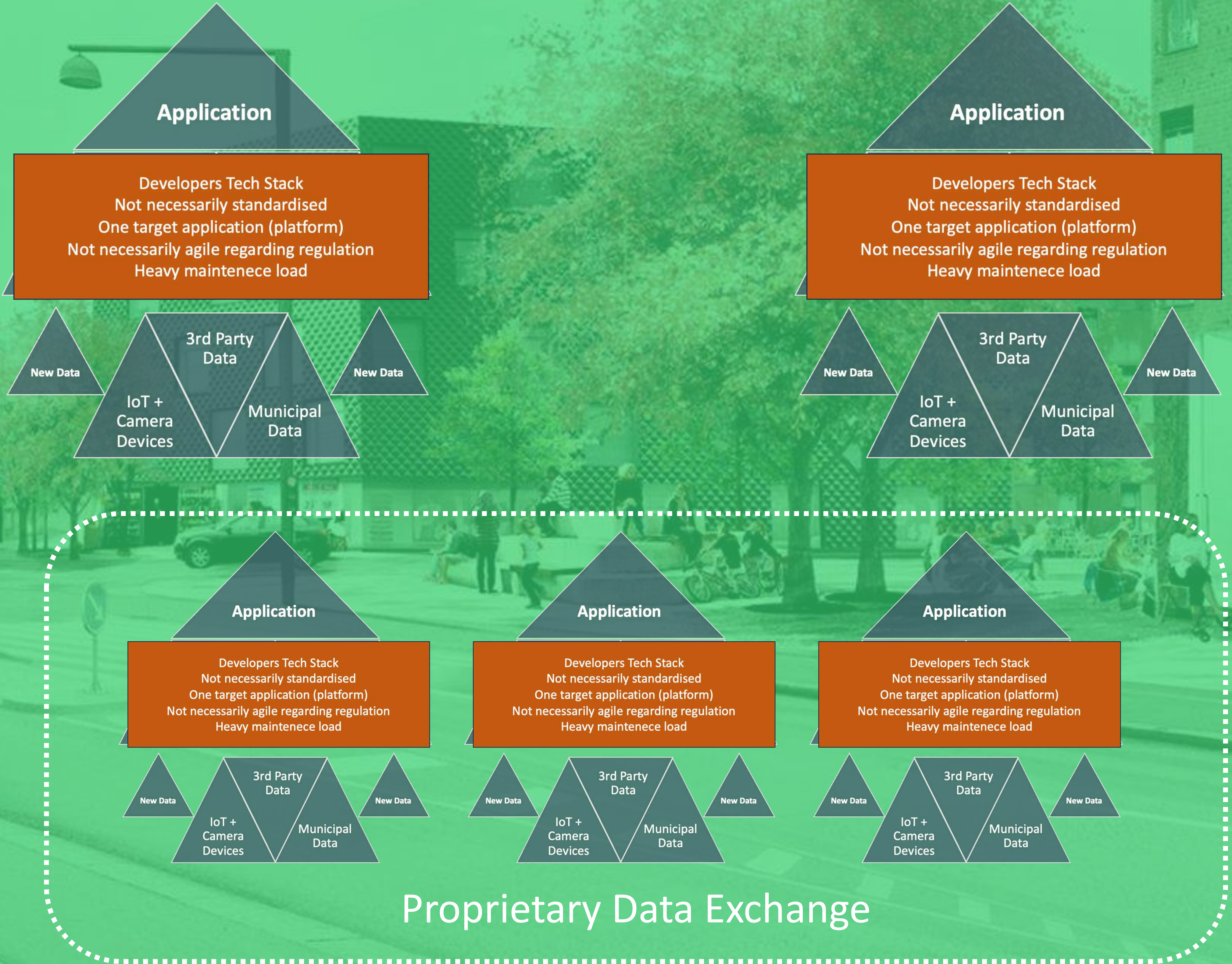
Scenario 1

SmartDataDevs launch 5 applications for Albertslund Municipality – 3 of them share a lot of data



Scenario 2

Not-So-SmartDataDevs launch 5 applications for Albertslund Municipality – 3 of them share a lot of data



Digital Outdoor Living Lab

Welcome KL and Guests

Vision, Goals and LDT Advantages

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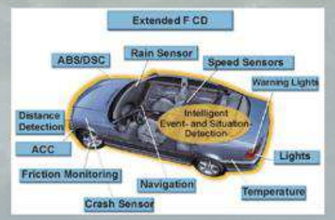
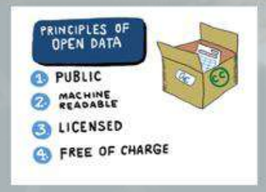
Local Digital Twin – Vision – Fully Context-Enriched City Data

DOLL Sensors
Mixed measurements
Proprietary formats
Poor Semantics
Varying integration potential
Varying update/reporting requency



Private Data
Floating-Car Data
Bus Data
V2X Data
Municipal Observations
Purchased data (scannings etc.)



Open Data
OSM – maps – road network, buildings etc.
Road Auth, Metro Inst.– snow, rain, road/air temp, motorway activity
GEUS, Miljøportalen – pollution, environment

KMD An NEC Company Data Context Platform

1 Transform
2 Link
3 Structure

In order to create value, data must have **CONTEXT**
Who is the provider? From which devices/tech? What is the data about? What is the unit of measure? When is it from? Where is it from? How does it relate to other data?

Vision - Conformity = Building Insights Across Data

Vehicle counts(type)
Instant speed
Evt. “Wrong direction”

+++
Average speed
Travel time
Wrong direction

+++
Origin-Destination
Corridor travel-time (environmental effect)
(AI) – per-vehicle travel time
(AI) – Hotspots (jams, accidents mm.)

5 Points

More Data = Better Insights*

AI requires Quality Data

Domain Knowledge is essential

Combining AI + IoT can allow for deeper insights with fewer devices

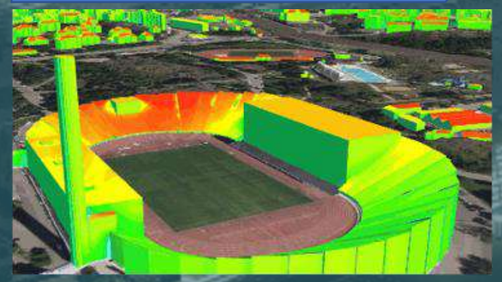
Well-known quantites can be modelled if data is missing (e.g. emissions from vehicle_type)

Local Digital Twin – Goal – One Point-of-Entry to Municipal Data

DATA INGRESS

AGGREGATED PARTNER DATA

CITIES, UTILITIES, OPEN DATA



Observeret Data Lag

Fast/Infrastruktur Data Lag

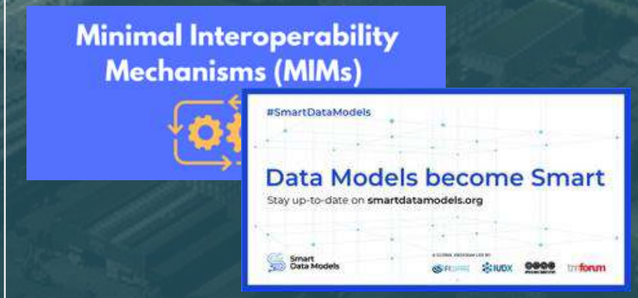
DOLL Data

Open Data / Dataspaces

3rd-party Data

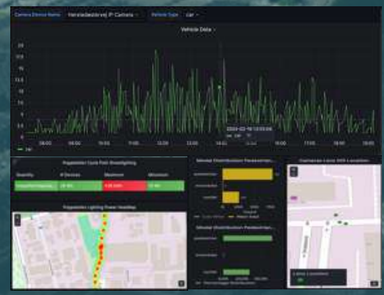
STANDARDS

EU Rules, Regulations + Architecture



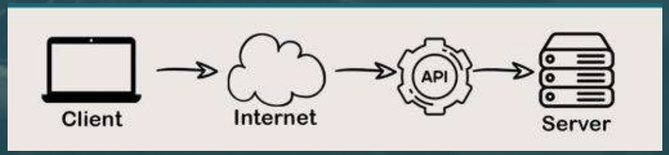
Data Standards, Best Practices

APPLICATION



Grafana Dashboard

Virtual Lab



DOLL API

Digital Outdoor Living Lab

Welcome KL and Guests

LDT for Municipalities

DOLL

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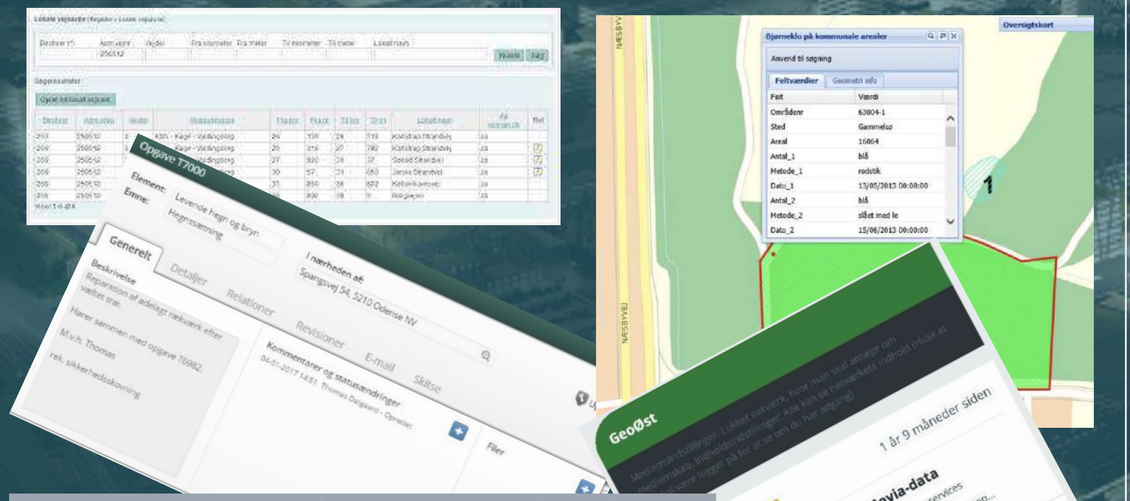
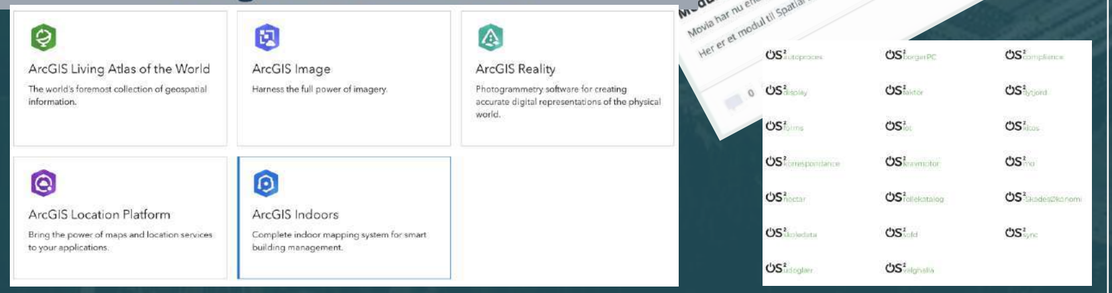
Local Digital Twin – Key Benefits for Municipalities

HOMOGENY ON THE APPLICATION LAYER



Et tag-selv-bord af apps, som du selv kan konfigurere efter behov



Danmarks største kommune gør klar til kæmpe cloud-aftale: Står klar med næsten 100 millioner kroner

Københavns Kommune er klar til at investere næsten 100 millioner kroner i ny cloud-aftale, som skal danne grundlag for 'fremtidens scenarier og forretningsbehov.'

8. februar 2024 kl. 10.56

#1 - Adgang til udviklings- og driftsplatform — Top initiativ

#5 - Udvikling af fælles AI-standardkomponenter — Top initiativ

2.2 Potentiale ved strategisk og styringsmæssigt fokus på it-effektivisering

Kommunerne har gennem de senere år fokuseret intensivt på at effektivisere applikation-it – og her primært med fokus på de store kommunale it-applikationer. Analysen viser, at der kun i begrænset omfang eksisterer et koordineret strategisk fokus på at effektivisere kommunernes basis-it. En observation, der understøttes af, at analysen har identificeret det relativt største effektiviseringspotentiale inden for basis-it.

Yderligere effektivisering af it i kommunerne forudsætter derfor et stærkere strategisk fokus på de faktorer, der skaber forudsætningerne for effektivisering af it.

Analysen peger overordnet set på fire løftestænger, der i overensstemmelse med god praksis kan medvirke til en mere effektiv anvendelse af it-ressourcerne i kommunerne:

- **Standardisering** som forudsætning for at kunne høste gevinster gennem genbrug og it-samarbejder. Det gælder såvel applikations-it (fx data og begreber) som basis-it (fx it-servicesystemer). Dermed bliver standardisering et middel til effektivisering og mere robuste løsninger. En øget standardisering vil endvidere forenkle og dermed nedbringe omkostningerne til den videre udvikling og implementering af nye kommunale monopolbrudssystemer eller fælleskommunale fagapplikationer.
- **Simplificering**, der sigter på et kommunalt it-landskab med færre it-applikationer og -komponenter som middel til effektivisering og til at opnå en god og omkostningseffektiv it-sikkerhed.
- **Genbrug**, som muliggør gevinster ved deling af it-applikationer, it-komponenter, it-serviceprocesser, viden og medarbejdere mellem kommuner som middel til effektivisering. Dette gælder især for mindre og mellemstore kommuner.
- **Transparens**, som skal skabe øget gennemsigtighed i it-omkostninger, den leverede it-ydelse og det faglige/forretningsvendte afkast af midler, der er investeret i it, med henblik på at skabe et bedre grundlag for styring af it-økonomi. Dette kan ske gennem styring af og opfølgning på igangsatte initiativer og effekten heraf samt i form af overvågning og prioritering af nuværende it-services.

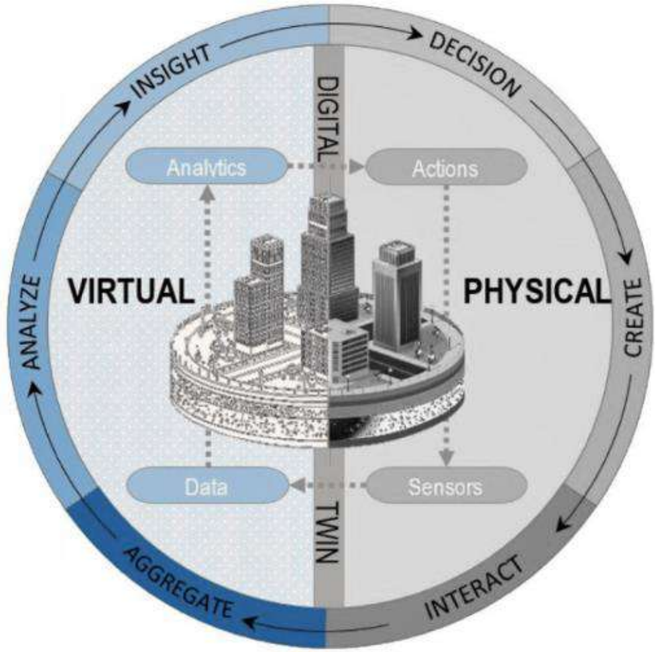
- **Standardisation** – Sharing and Commerce
- **Simplification** – Integrations + Semantics
- **Reuse** – Many:Many. Data:Apps
- **Transparency** – Open Standards
- **Effectivity** – Fast Deployment/Commissioning
- **Innovation** – Strong EU-Wide Community, Toolkits, Law Compliance, Use-Cases

https://fm.dk/media/17931/analyse_-af_-it-drift_-strategi_og_-indkoeb_i-kommunerne_a.pdf
https://www.computerworld.dk/art/286097/danmarks-stoerste-kommune-goer-klar-til-kaempe-cloud-aftale-staar-klar-med-naesten-100-millioner-kroner
https://www.kl.dk/media/uw5ibwem/dagordensbilag-til-39-moede-i-kommunernes-it-arkitekturraad-d-29-september-2021.pdf

Digital Outdoor Living Lab

Welcome KL and Guests

LDT for Technology Providers



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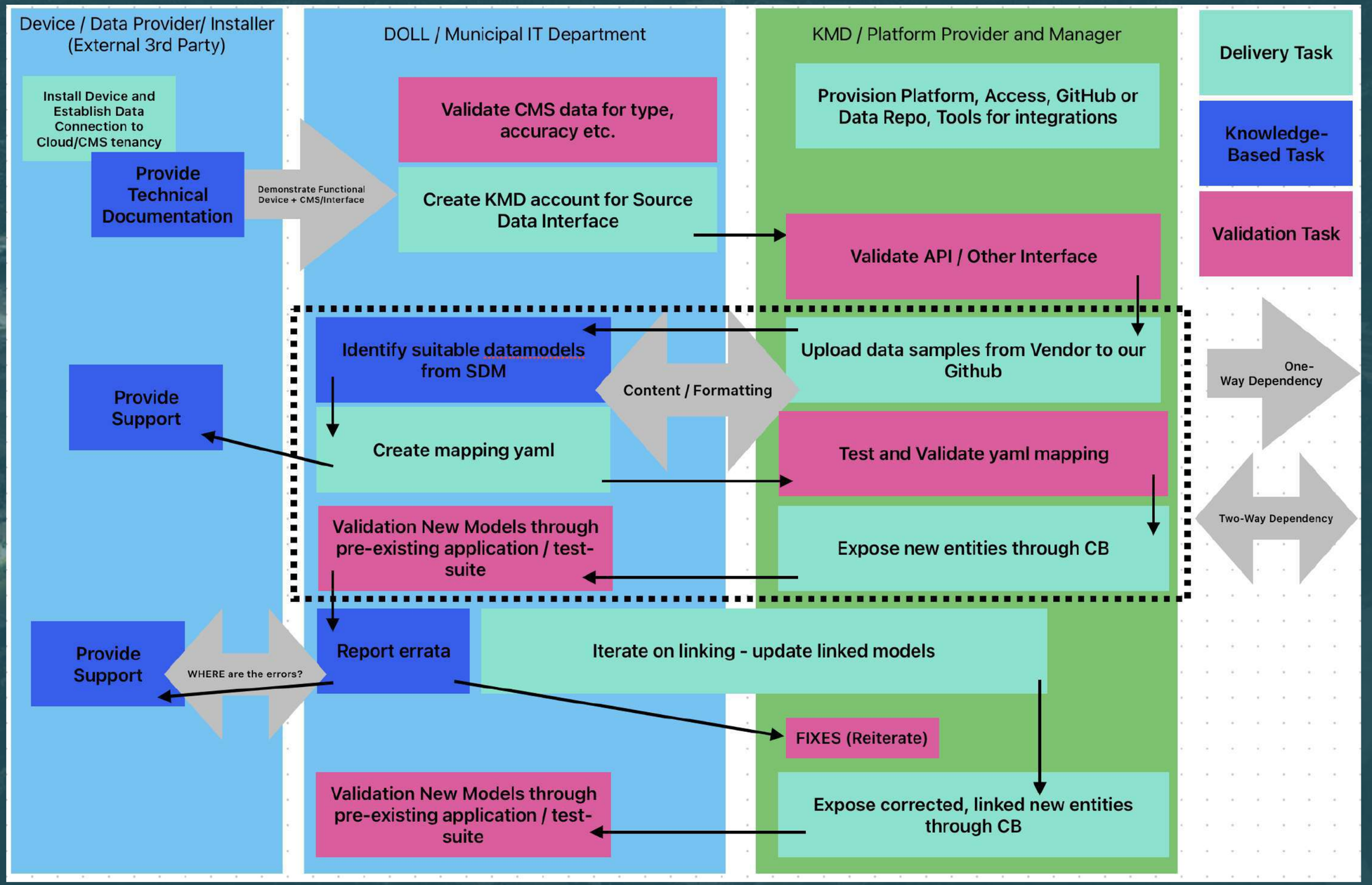
Integration Flow

- One-to-many Data-to-SDM
- Semi-Automated
- Combine metadata and measurements
- Validate formats
- Linking
- Enrichment

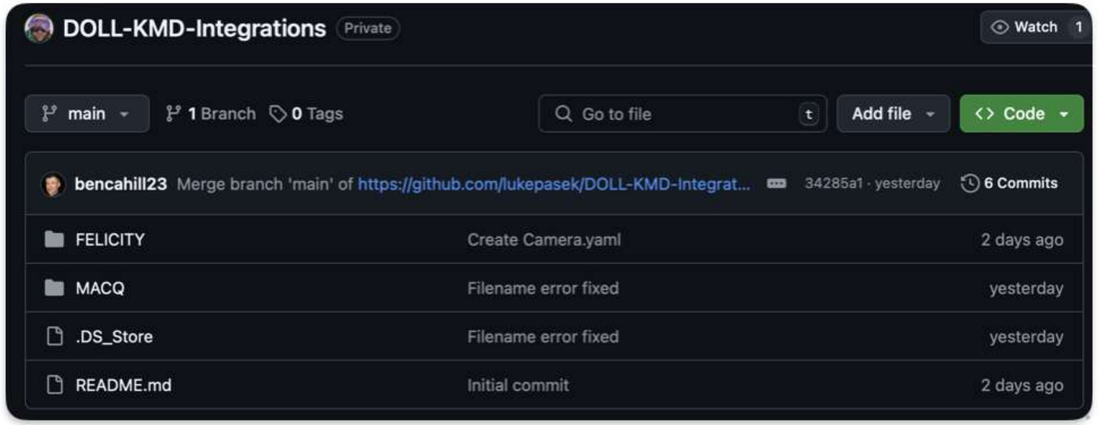
Key Challenges

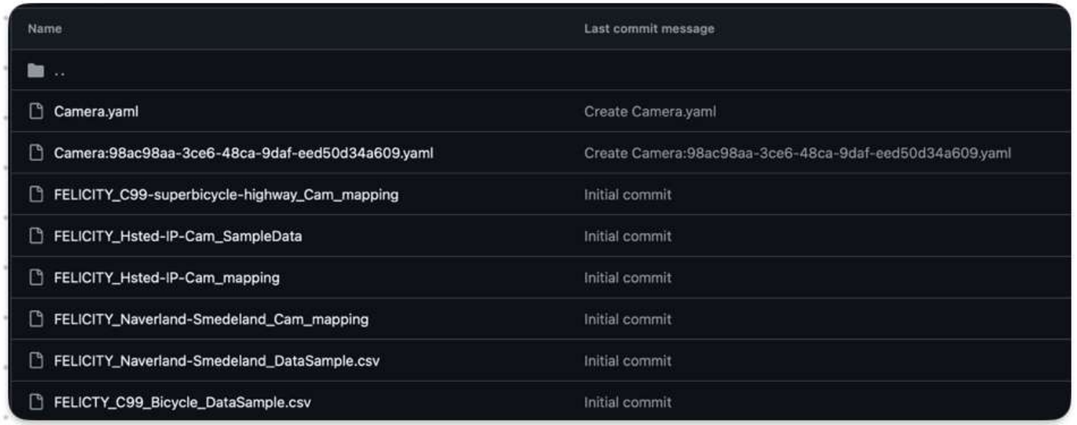
- Sematic Knowledge
- Quality of Interfaces
- Quality of Documentation



Per-Device Mapping Flow

- Provision inputs to Platform Provider
- Calculations and Basic Semantic Mapping
- Local/Domain Knowledge Lookups and Enrichment
  - = An SDM with a mix of static and dynamic attribute values





Provisioning of static metadata

```
Camera:98ac98aa-3ce6-48ca-9daf-eed50d34a609:
    rename_properties:
        timestamp: "dateObserved"
        streamId: "streamName"
        status: "on"
    add_properties:
        cameraName: "Herstedøstervej IP Camera"
        cameraType: ["FIXED"]
        cameraUsage: ["TRAFFIC"]
        dataProvider: "Felicity Smart Infrastructure"
        description: "Felicity HIVE Traffic Sensor"
        location:
            type : Point
            coordinates : [55.68126525582958,12.37002413576825]
        name: "Felicity HIVE"
        source: "https://www.felicityconnect.com/"
```

Conditional Mapping

```
ItemFlowObserved:
    map_property:
        averageSpeed : speedestimate
        dateObserved : timestamp

        IF itemType != person
            itemType : vehicle
            itemSubType (Vehicle.vehilceType) : parsedEvent.Class
        ELSE
            itemType = person

        intensity : countof

    add_properties:
        refDevice : Camera_urn
        source: "https://www.felicityconnect.com/"
```

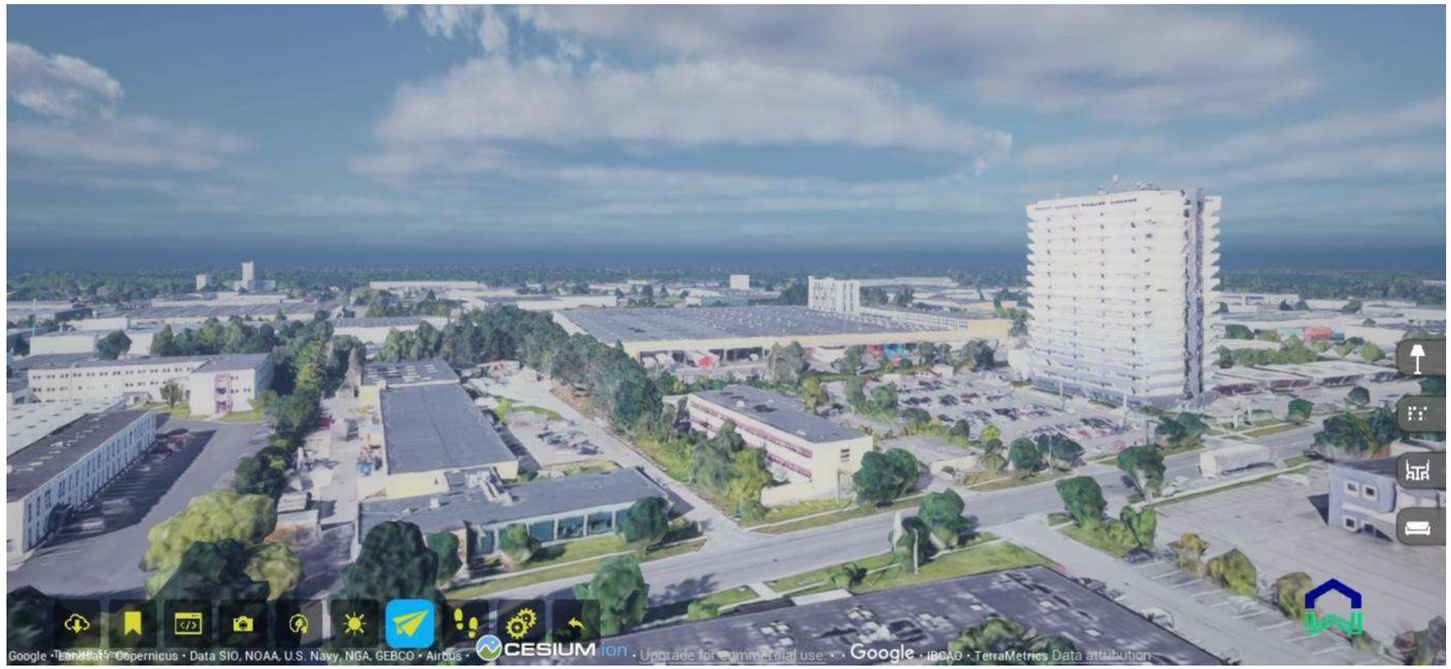
Value Mapping with Lookup Table

Device Name	Count_in/out	Heading value (0,360)
C99 superbicycle highway	IN	0
C99 superbicycle highway	OUT	180
Herstedøstervej IP Camera*	IN	180
Herstedøstervej IP Camera*	OUT	0
Naverland-Smedeland Line1**	IN	0
Naverland-Smedeland Line1	OUT	180 (illegal direction)
Naverland-Smedeland Line2 (only pedestrians)	IN	90
Naverland-Smedeland Line2 (only pedestrians)	OUT	270
Herstedøstervej USB Camera*** Herstedøstervej T-intersection	IN	0
Herstedøstervej USB Camera Herstedøstervej T-intersection	OUT	180
Herstedøstervej USB Camera Smedeland	IN	270
Herstedøstervej USB Camera Smedeland	OUT	90
Herstedøstervej USB Camera Bicycle Line	IN	0
Herstedøstervej USB Camera Bicycle Line	OUT	180

Digital Outdoor Living Lab

Welcome KL and Guests

Application Examples



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3-Year Application

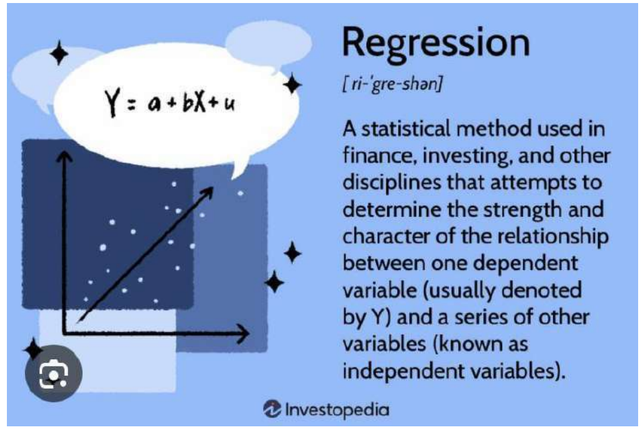
Predictive Maintenance for Any Changing Quantity

Basic Recipe for a Prediction

- **Business case!**
  - Saving Money/Time/Effort/Material
- **Dependent Variable** – Road Condition, Tree Canopy Size, Road Markings
  - The Thing We Want to Predict
- **Independent Variables** – Traffic Activity (counts, estimates), rainfall, sunlight hours, temperature
  - The Thing That Causes Changes in The Thing We Want to Predict
- **Predicitve AI Tools / Modules**
  - PCA – What are the most relevant independent variables?
  - Regression – To what degree are they related?
  - Prediction Visualisation – How this relationship continues (into the future)

- The **independent variable** is the cause. Its value is **independent** of other variables in your study.
- The **dependent variable** is the effect. Its value **depends** on changes in the independent variable.

- The main goal of Principal Component Analysis (PCA) is to reduce the dimensionality of a dataset while preserving the most important patterns or relationships between the variables without any prior knowledge of the target variables.



3-Year Application

Predictive Maintenance for Any Changing Quantity

Basic Recipe for a Prediction

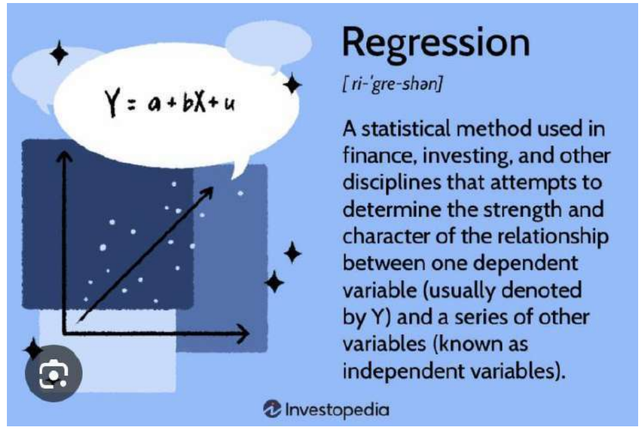
- **Business case!**
  - Saving Money/Time/Effort/Material

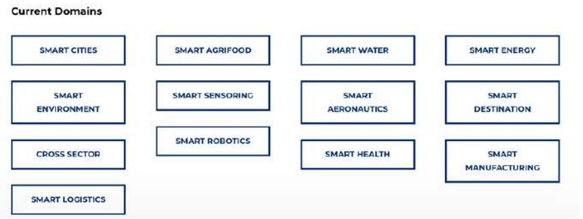
- **Dependent Variable –** Timeseries Smart Data Model
- **Independent Variables –** Timeseries Smart Data Models

- **Predicitve AI Tools / Modules**
  - FIWARE, CitCom Common Infrastructure and AI Toolkit
  - Open-Source AI Tools
  - NGSI – compliant tools – AWS, Azure. OS2

- The **independent variable** is the cause. Its value is **independent** of other variables in your study.
- The **dependent variable** is the effect. Its value **depends** on changes in the independent variable.

- The main goal of Principal Component Analysis (PCA) is to reduce the dimensionality of a dataset while preserving the most important patterns or relationships between the variables without any prior knowledge of the target variables.





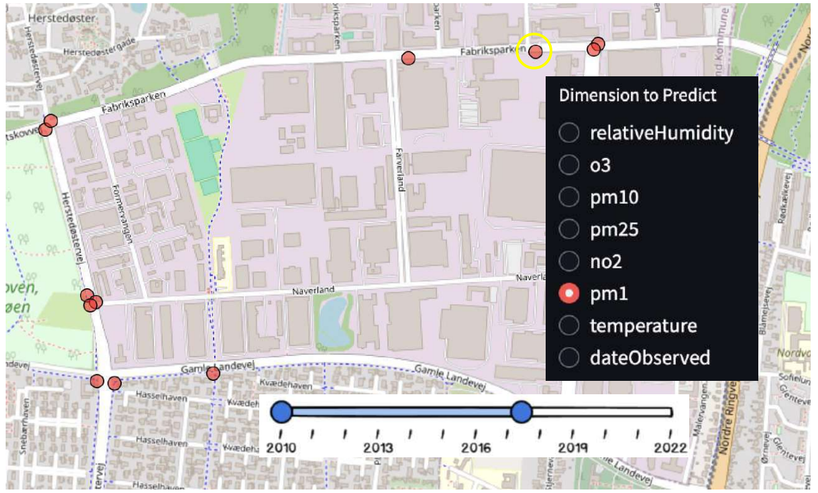
Smart Data Models

3-Year Application

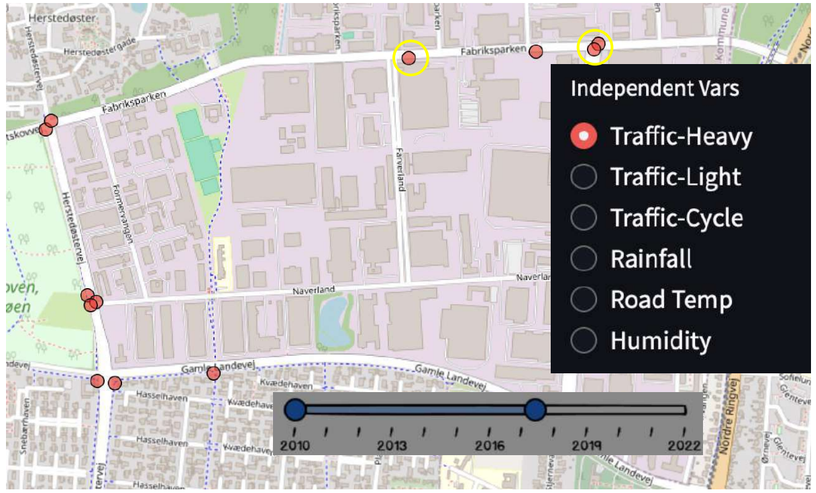
Predictive Maintenance for Any Changing Quantity

Basic Recipe for a Prediction

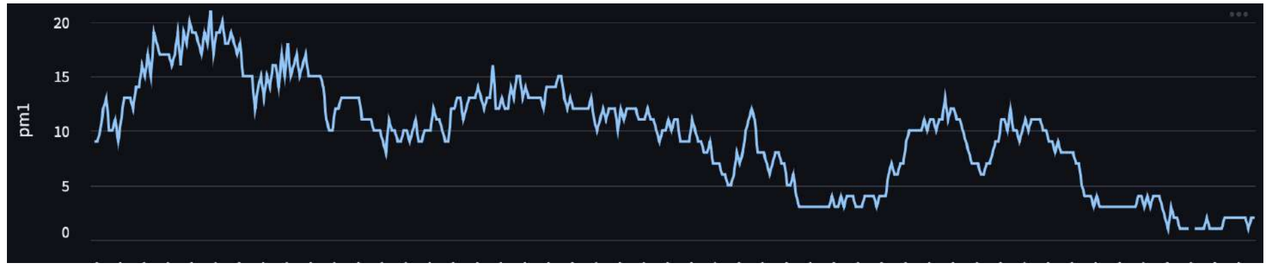
- Select ‘Thing to Predict’
  - Generic Map Selector
  - CB queried; attribute data returned
- Select ‘Dimension to Predict’
  - Drop-Down
  - CB queried; ts data returned
- Select Time Range
- Select ‘Independent Vars’
  - As Above or *
- Run Prediction
  - *(PCA – Select top 25%)
  - Regress to get 5-10% ts prediction
- Graph Prediction



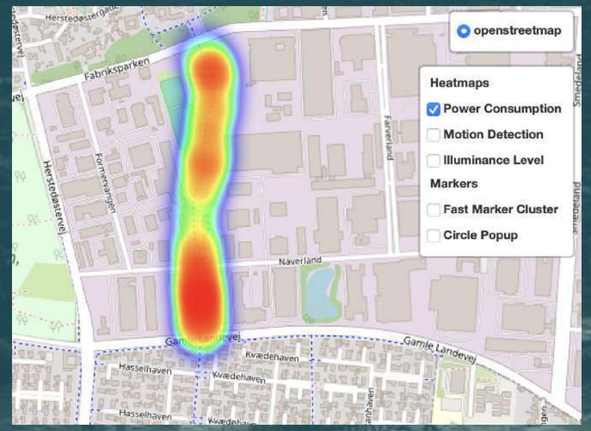
- Clicked on one or more points
- Clicked checkboxes of variable names



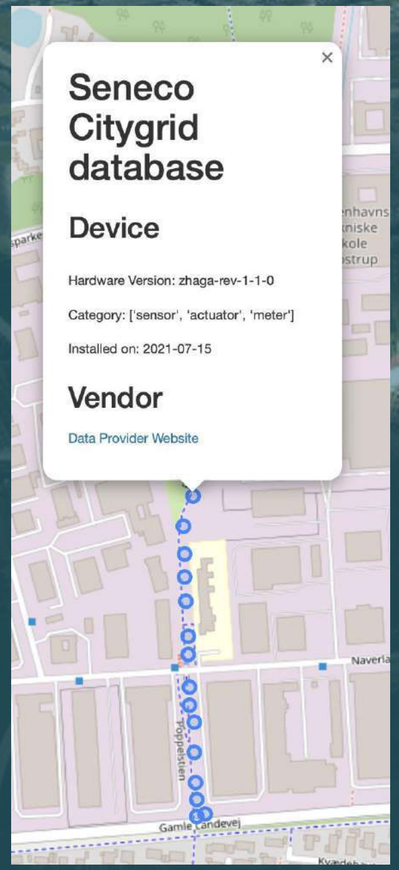
- Clicked on one or more points
- Clicked checkboxes of variable names
- Set time



DOLL Applications

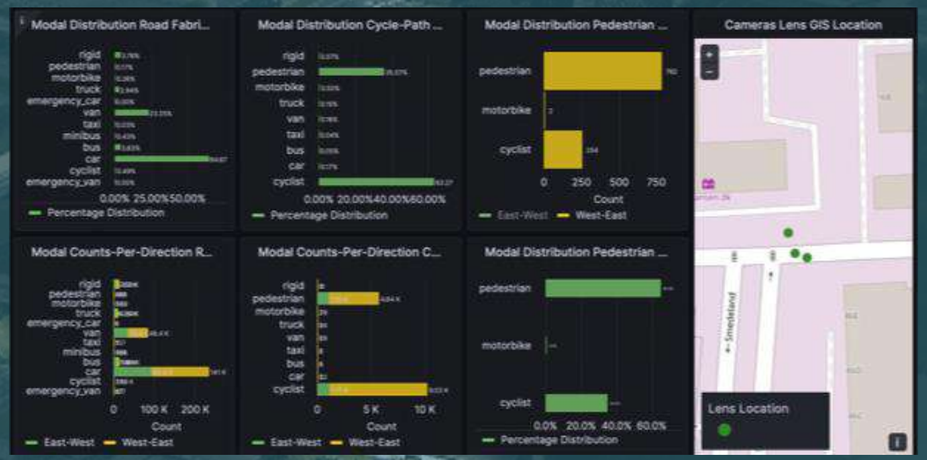



```
1. Atmospheric Pressure (atmosphericPressure):
   - The atmospheric pressure shows a gradual decreasing trend over the given time period, starting from around 1027.78 and ending at 1022.26.

2. Nitrogen Dioxide (no2):
   - The NO2 levels fluctuate throughout the time series, with notable spikes observed around 2024-03-08T04:28:00 to 2024-03-08T06:38:01, reaching values above 30.

3. Ozone (o3):
   - Ozone levels show variations, with higher values observed in the beginning and end of the time series. There is a period of low or zero values from 2024-03-08T04:28:00 to 2024-03-08
T09:58:01.

4. Particulate Matter (pm1, pm10, pm25, pm4):
   - The particulate matter measurements (PM1, PM10, PM2.5, PM4) exhibit fluctuations throughout the time series.
   - PM10 shows a significant spike around 2024-03-08T04:38:00, reaching a value of 605.66.
```



- Interactive map with datavis and metadata
- Chatbot interface (Claude)
- Grafana Dashboard

- Validator
- Entity Tabulator
- Auto-Mapping Attempts



Intelligent traffic systems

Road infrastructure

Environmental monitoring

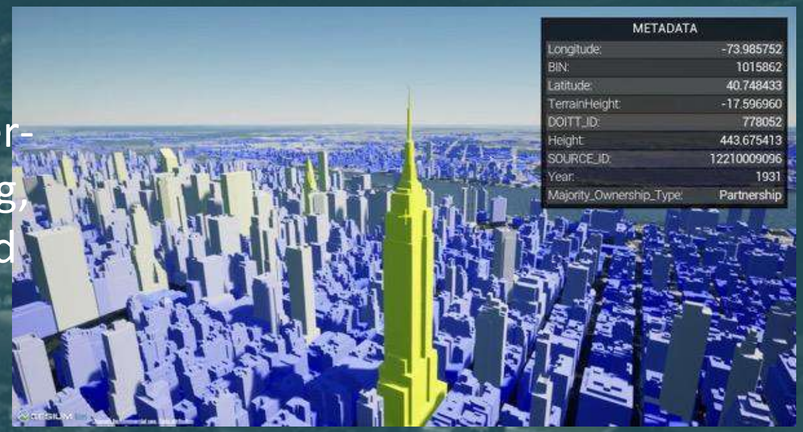
Intelligent outdoor lighting

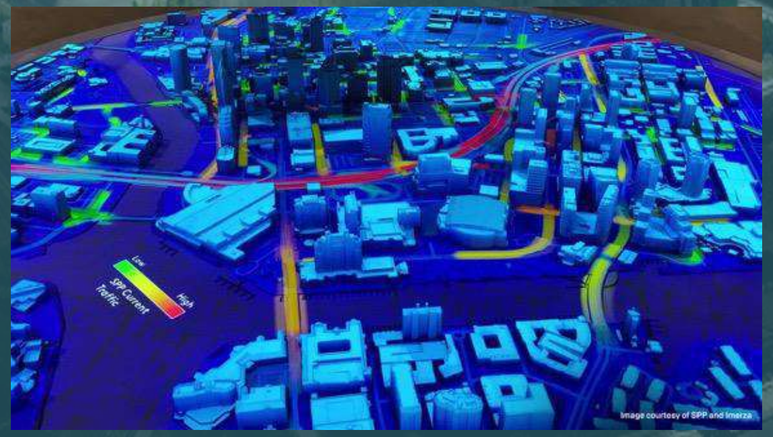
Smart buildings

Example Applications

Interactive visualisation of “invisible” quantities – air quality

Easy-to-navigate Data Browser, per-element (building, intersection, road segment)





From 2D to 3D Heatmaps – traffic intensity

Geometry, time-of-day, season, weather – advanced scenarios

Intelligent traffic systems

Road infrastructure

Environmental monitoring

Intelligent outdoor lighting

Smart buildings

Detailed Agenda Overview

Phase 0: How to Start Your Digitalisation Journey

29.10.2024 10:00

TIME	TOPIC	SPEAKER(S)
10:00 - 10:10	Welcome	**Søren Nørgaard Madsen** *(Local Government Denmark)* **Teddy Sibern** *(Head of DoLL)*
10:10 - 10:20	Introduction to Local Digital Twins	**Martin Brynskov** *(Founding Board Director and Standardisation Lead, OASC)*
10:20 - 11:00	Local Digital Twins and their Role in Achieving EU Green Deal Objectives	**Marianne Knudsen and Mathias Preisler Schødt** *(Head of section in Agency for Climate Data)* **Ben Cahill** *(We Build Denmark)*
11:00 - 11:15	Coffee break	
11:15 - 11:30	Assessing Your Digital Readiness with LORDIMAS	**Martin Brynskov** *(Founding Board Director and Standardisation Lead, OASC)*
11:30 - 12:00	Enabling Technologies: Open Data Platforms and Data Spaces	**Søren Lundsgaard Jørgensen** *(City of Aarhus)*
12:00 - 12:30	Developing Your Implementation Roadmap	**Ignacio Garcia Vega** *(Serendipity)*
12:30 - 13:30	Lunch / Networking Break	
13:30 - 14:00	Supporting Ecosystems and Collaborations	**Jesper Algren** *(Head of Innovation Aarhus | EDIH | EDIC | Citcom)* **Gabriela Ruseva** *(EuroCities | Living-in.Eu)*
14:00 - 14:30	Funding Opportunities for Local Communities	**Andreas Nykjær** *Danish Agency for Digital Government NCP for the Digital Europe Programme*
14:30 - 15:00	Q&A and Closing Remarks	

European Commission

The Journey

WHY

Discovery Phase

Unlocking the potential of digitalisation

Learn about Local Digital Twins' foundational concepts, their role in urban decision-making, and how they support the EU Green Deal's sustainability objectives through practical examples and case studies.

HOW

Planning Phase

Laying the foundation of your digital journey

Learn about LORDIMAS for assessing digital maturity and developing an implementation roadmap to advance digitalisation, including the role of open data platforms and procurement support.

SUPPORT

mpowerment Phase

owering your digital transformation

plore ecosystems and funding opportunities to accelerate your community's digital transformation through collaboration and financial support.

European Commission

ASSESSING YOUR DIGITAL READINESS WITH LORDIMAS

European Commission

Assessing Your Digital Readiness with Lordimas

Martin Bynskov

Founding Board Director and Standardisation Lead, OASC

European Commission

The LORDIMAS Tool

An interactive tool helping local and regional governments to understand where they are in their digital transformation journey

HOW WAS LORDIMAS CREATED

European Commission

European Committee of the Regions

ESPON Co-funded by the European Union Interreg

ERRIN European Regions Research and Innovation Network

OPEN & AGILE SMART CITIES & COMMUNITIES

EUROCITIES

European Network of Living Labs

CCRE CEMR Local & Regional Europe L'Europe locale & régionale

A collaborative process with many stakeholders engaged in its creation and its deployment.

WHERE DOES IT COME FROM?

2019

Creation of the Living-in-EU movement

2020

Initiation of the work on LORDI in the Monitoring & Measuring working group

2021

Creation of 29 indicators for local and regional authorities

2022

Work is starting on the LORDIMAS tool

Rooted in the discussions that are currently taking place within the Living-in.EU and topics with direct linkages with the Digital Europe Programme.

WHO DOES IT ADDRESS?

CITIES AND REGIONS IN EUROPE

A wide range of cities, municipalities and regions at different stages of their digital transformation journey.

European Commission

The Use Case for LORDIMAS

Functionalities

Evaluate: A tool to help you assess your digital maturity + monitor progress made towards digital transition.

Compare: An interactive dashboard to benchmark your city to other similar cities.

Share: A repository of good practices to showcase your initiatives and results and to draw inspiration from other cities.

Learn: Learn about emerging topics & receive policy advice.

Questions it Helps Answer

- Is my city above/below the EU median?
- How do I rank compared to other cities of similar size, urban/rural cities, cities in my country?
- Are there dimensions that my city over/under performs compared to the median?
- What are my city's progresses towards digital maturity?

Facilitates

- Review of achievements and plans for continuation of transformation effort
- Assessment of local enablers
- Identification of opportunities, areas for improvement and how the ecosystem could work together to achieve goals

6 Stages of Maturity

Digitally Nascent
Lacking Digital Transition

Digitally Reactive
Very Low Levels of Digital Transition

Digitally Emerging
Low Levels of Digital Transition

Digitally Purposeful
Moderate Levels of Digital Transition

Digitally Optimised
High Levels of Digital Transition

Digitally Native
Very High Levels of Digital Transition

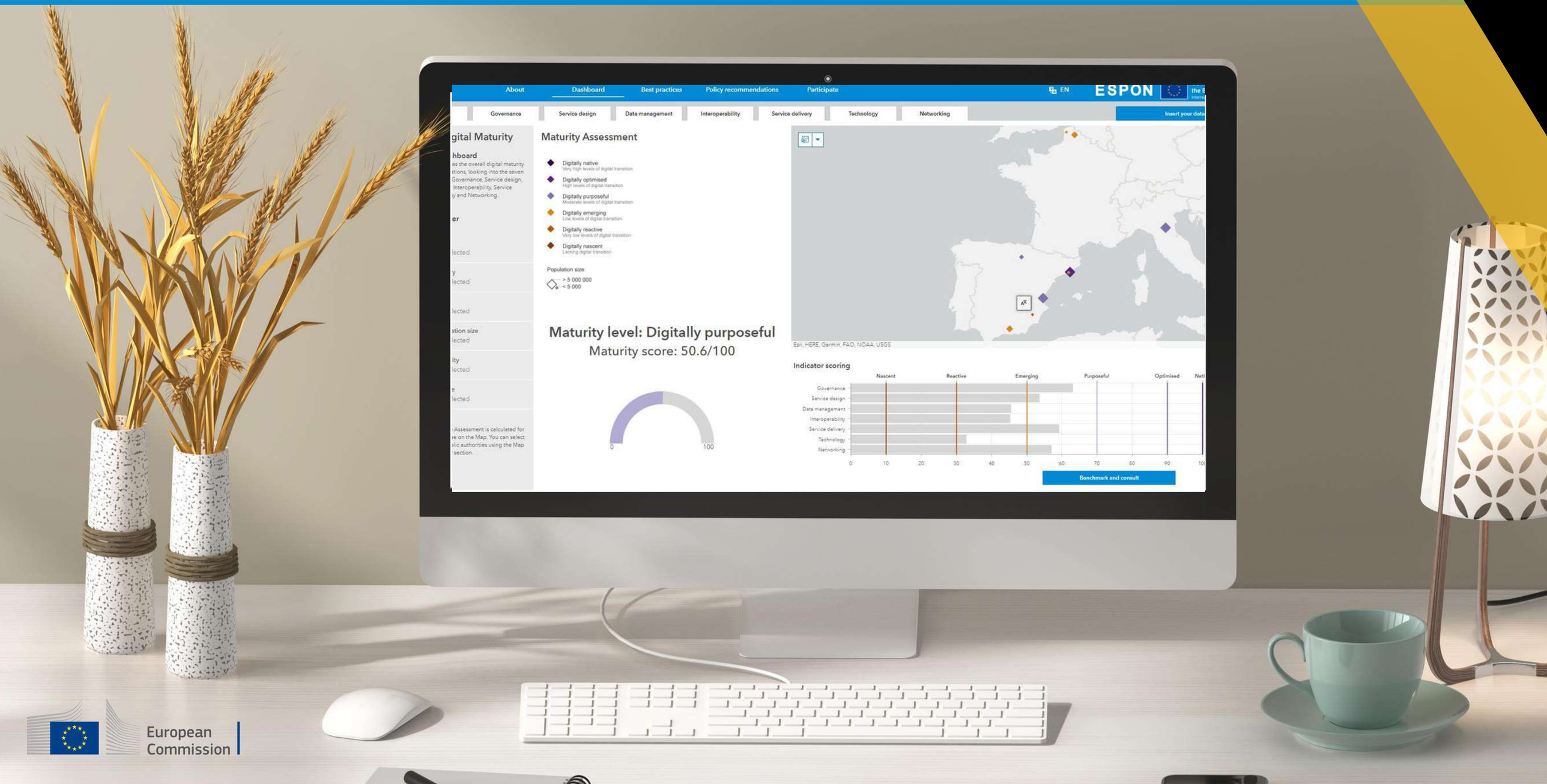
Dimensions of the tool

7 self-assessment dimensions

- **Technology**
- **Governance**
- **Networking**
- **Interoperability**
- **Service Design**
- **Service Delivery**
- **Data Management**

European Commission

How does LORDIMAS Work?



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Home | About | Dashboard | Best practices | Policy recommendations | Participate | EN | ESPON | Co-funded by the European Union Interreg

LORDIMAS
LIVING-IN.EU

Digital Maturity Assessment

Get policy advice, promote and learn from best practices

LORDIMAS is an interactive digital maturity assessment tool aimed at helping local, metropolitan and regional governments to understand where they are in their digital transition journey

Participate | Explore

Promoted by

European Commission | European Committee of the Regions | ERRIN | OPEN & AGILE SMART CITIES | European Network of Living Labs | EUROCITIES | CCRE CEMR L'Europe locale & régionale

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Home | About | Dashboard | Best practices | Policy recommendations | Participate | EN | ESPON | Co-funded by the European Union

All | Governance | Service design | Data management | Interoperability | Service delivery | Technology | Networking

Insert your best practice

[Draft example] Helsinki's innovation...

Forum Virium Helsinki (FVH) is the City of Helsinki innovation company. FVH co-creates...

[Draft example] Terrassa creates a m...

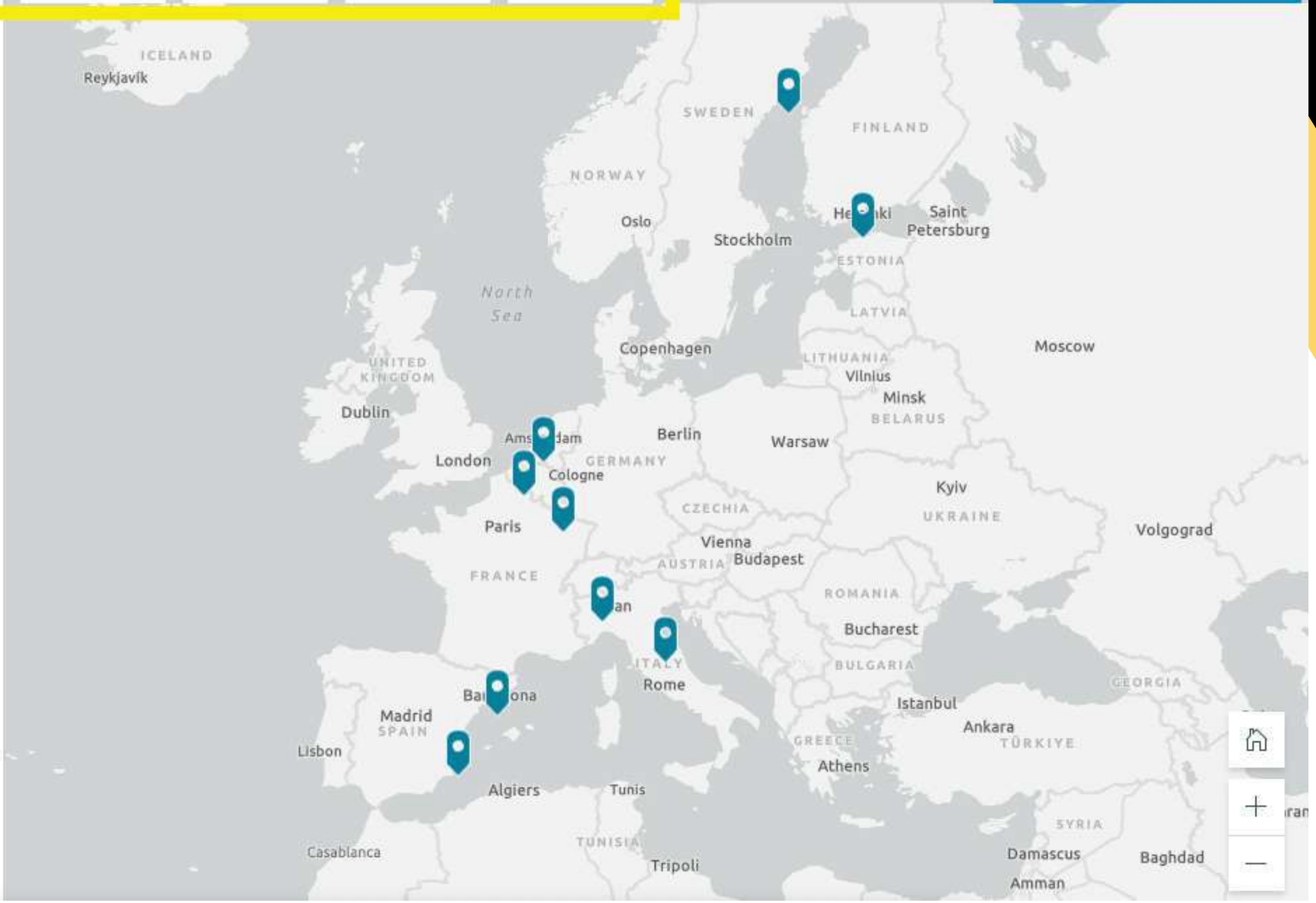
"Participa a Terrassa" (participa.terrassa.cat) is the online tool for citizen participation that...

[Draft example] Amsterdam informs ...

Private companies, research institutions and government organisations in Amsterdam mus...

[Draft example] Umeå integrates dat...

The Umeå urban data platform (UDP) integrates a wide number of data sources from both...



European Commission

Home | About | Dashboard | Best practices | Policy recommendations | Participate | EN | ESPON | Co-funded by the European Union Interreg

Overall | Governance | Service design | Data management | Interoperability | Service delivery | Technology | Networking | Insert your data

Analyse and visualise

Overall Digital Maturity

About this dashboard

This module assesses the overall digital maturity of public administrations, looking into the seven LORDIMAS topics: Governance, Service design, Data Management, Interoperability, Service delivery, Technology and Networking.

Search and filter

Filter by country
Finland

Filter by type
No category selected

The Digital Maturity Assessment is calculated for the selection you see on the Map. You can select one or multiple public authorities using the Map or Search and Filter section.

Maturity Assessment

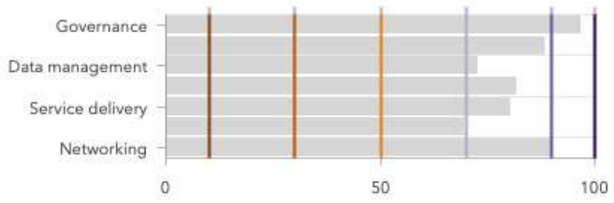
- Digitally native — Very high levels of digital transition
- Digitally optimised — High levels of digital transition
- Digitally purposeful — Moderate levels of digital transition
- Digitally emerging — Low levels of digital transition
- Digitally reactive — Very low levels of digital transition
- Digitally nascent — Lacking digital transition

Population size

Maturity level: Digitally optimised

Maturity score: 82.5/100

Indicator scoring



Analyse and visualise

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Search and filter

No category selected

Filter by country
France

Filter by type
No category selected

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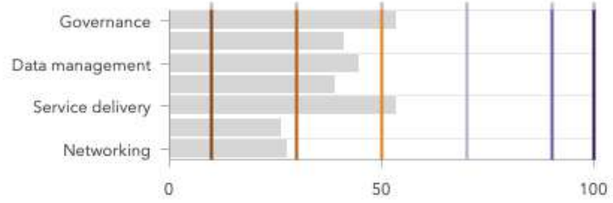
Indicator scoring



Benchmark | Policy recommendations | Best practices

European Commission

You can access LORDIMAS at:

lordimas.espon.eu

If you want to contribute to shape the future development of the tool you can join the Monitoring & Measuring Working Group of Living-in.EU:

living-in.eu

Call to Action – How to Get Started

- Go to the platform, click on participate and download the offline form.
- Identify your list of key city stakeholders you would like to invite for the assessment. Share the questionnaire with the stakeholders.
- Organise a workshop to discuss the questionnaire and collect information on all dimensions.
- Complete the assessment online, compare yourself to other cities, consult good practices and recommendations
- Summarise and discuss digital maturity assessment results jointly with the stakeholders, share learnings on strengths and weaknesses

European Commission

ENABLING TECHNOLOGIES: OPEN DATA PLATFORMS, AND DATA SPACES

European Commission

Enabling Technologies: Open Data Platforms, and Data Spaces

Martin Bynskov
Founding Board Director and Standardisation Lead, OASC

European Commission

Open and Shareable Data

- Open data is data that **anyone can access, use and share.**

- Shareable data is data that is of value to people other than the organisation that gathered it, but whose use is restricted to certain organisations and roles within those organisations and for particular purposes.

- Most cities and communities are already providing useful open data to citizens and businesses

- The exploitation of shareable data is the next big step

European Commission

Open Data Platforms

Cities and communities have been providing increasing amounts of useful data to the citizen for many years for some of the following reasons:

- Accountability
- Saving on staff time
- Service to the citizen
- Mandates from central government

Some cities/communities are enabling other agencies to provide relevant open data on their platform for the convenience of the citizen

European Commission

The Role of Shareable Data

All these city systems generate data and require good data to work well

They all interact with each other at many levels

They therefore need to share data to help manage those interactions

Need to set up local data sharing ecosystems

Minimal Interoperability

How standards (MIMs) can help cities and communities of any size make the best of digital investments

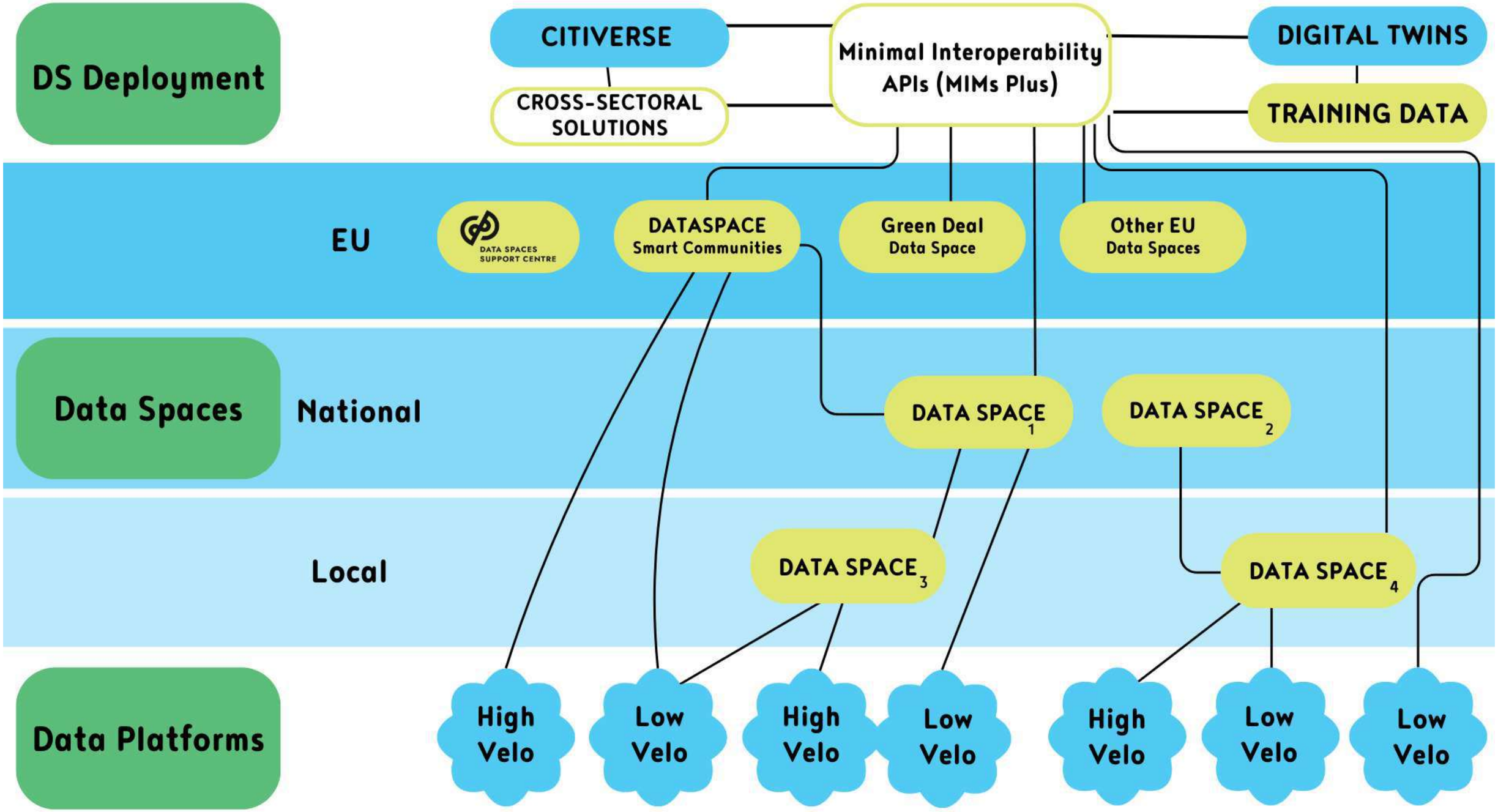
Martin Brynskov
@brynskov

Standards de jure

standards de facto

World	ISO – IEC – ITU (UN)
EU	CEN – CENELEC – ETSI
Country	NSBs (DIN, NEN, UNE etc.)
Other	Open source etc.

World	ITU Y.4505 (Y.MIM)
EU	CEN/TC 465 SSCC needs CEN/JTC 25 Data Spaces
Country	CoC involvement
Other	Partnerships


DS Deployment
CITIVERSE
CROSS-SECTORAL SOLUTIONS
Minimal Interoperability APIs (MIMs Plus)
DIGITAL TWINS
TRAINING DATA
EU
DATA SPACES SUPPORT CENTRE
DATASPACE Smart Communities
Green Deal Data Space
Other EU Data Spaces
Data Spaces
National
DATA SPACE 1
DATA SPACE 2
Local
DATA SPACE 3
DATA SPACE 4
Data Platforms
High Velo
Low Velo
High Velo
Low Velo
High Velo
Low Velo
Low Velo

National guides

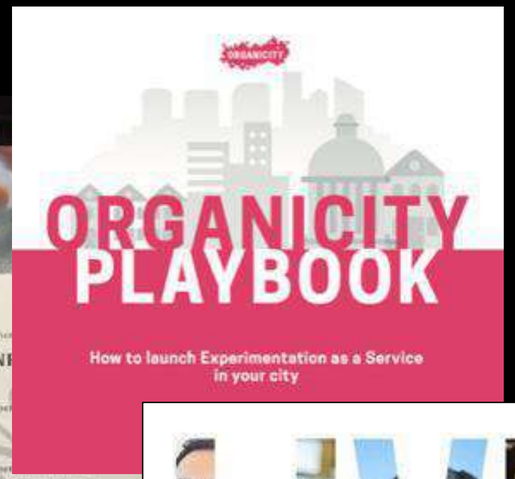
- Denmark → DS/KL
- Sweden → RefARK/SKR
- Netherl. → NEN/VNG
- Flanders → VLOCA/DF
- Japan → Society 5.0
- USA → GCTC

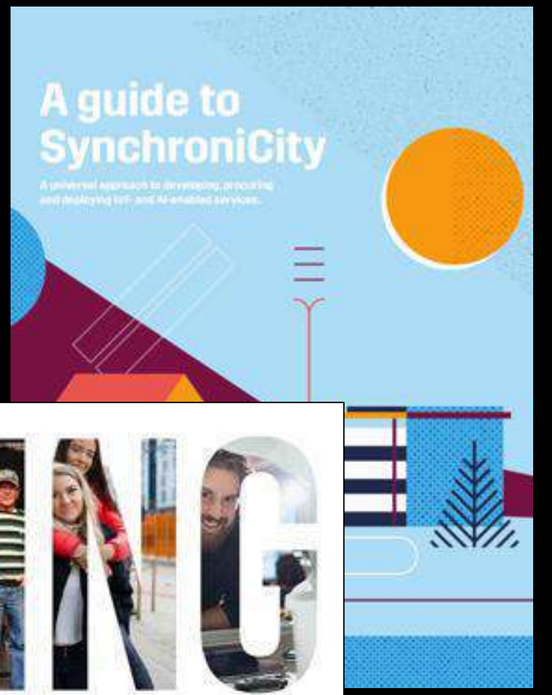
EU/Global

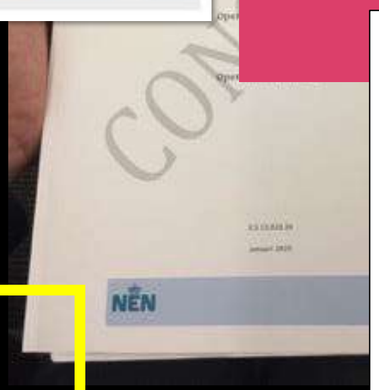
- Living-in.EU → MIMs Plus
- UN SDGs → Y.MIM / Y.4505

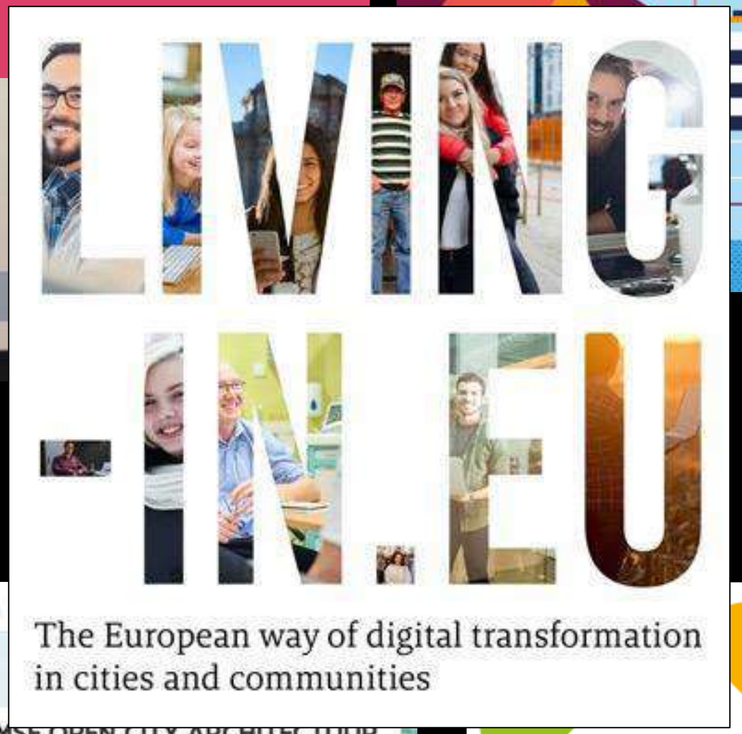
Commercial

- National
- Global region
- Global / hyperscalers









Guide for sustainable, digital transformation

1 Focus on data

2
Build with interfaces

3
Secure a minimum of interoperability

4
Keep an open mind when choosing technology

5
Prioritise partnerships and ecosystems

6
Take maturity and complexity into consideration

7
Start small, think big

Available for free in English (and Danish)

https://webshop.ds.dk/en-gb/subjects/standard/ds-inf-1762021

United 4 Smart Sustainable Cities

Redefining smart city platforms: Setting the stage for Minimal Interoperability Mechanisms

A U4SSC deliverable on city platforms

Convention on Biological Diversity

ECLAC

Food and Agriculture Organization of the United Nations

ITU

UNDP

United Nations Economic Commission for Africa

UNECE

UNESCO

UN environment programme

UNEP FINANCE INITIATIVE

United Nations Framework Convention on Climate Change

UN HABITAT FOR A BETTER URBAN FUTURE

UNIDO

UN 4 PARTNERSHIPS

UNITED NATIONS UNIVERSITY UNU-EGOV Operating Unit on Policy-Driven Electronic Governance

UN WOMEN

WORLD METEOROLOGICAL ORGANIZATION

https://u4ssc.itu.int/city-platforms/

Seizo Onoe (right), Director of the Telecommunication Standardization Bureau (TSB) at the International Telecommunication Union (ITU), and Martin Brynskov (left), OASC Standardisation Lead and Founding Board Director, at the signing ceremony in New Delhi, India

Roland van der Heijden, OASC Council of Cities Coordinator, and Programme Manager Digital City at Municipality of Rotterdam, says:

“As the city of Rotterdam we strive for a fair, transparent and equal digital transformation for all. That means that we need special attention for topics such as digital inclusiveness, respect for privacy and public values, and standardisation of techniques to create a prosperous future for everyone. Trust and interoperability are key ingredients for such a future. By doing this together we can create trust, and with the help of organisations like OASC and ITU we can work on all the aspects of interoperability that are needed to support this digital transformation.”

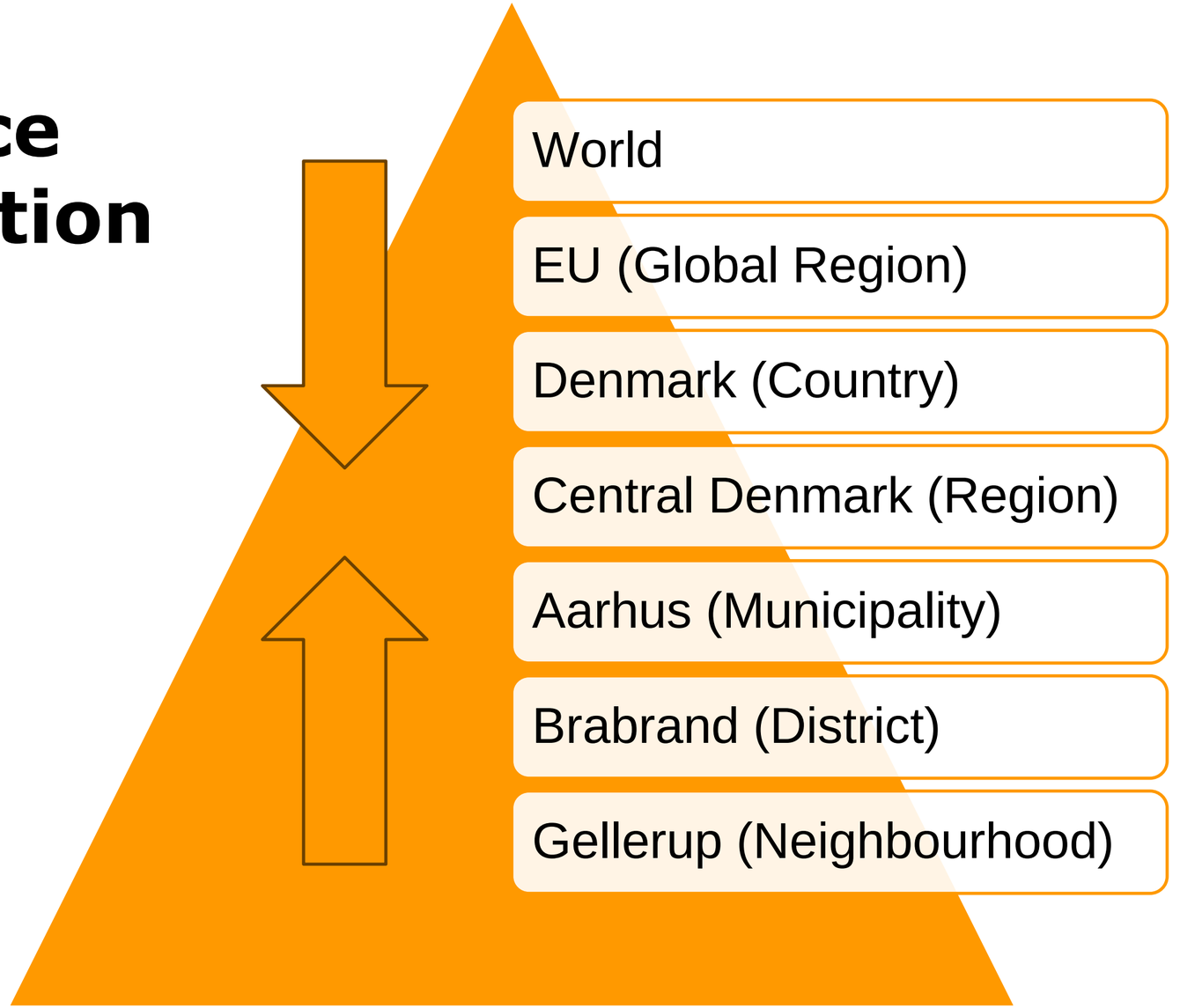
ITU-T Recommendation Y.4505:

Minimal interoperability mechanisms (MIMs) for smart and sustainable cities and communities

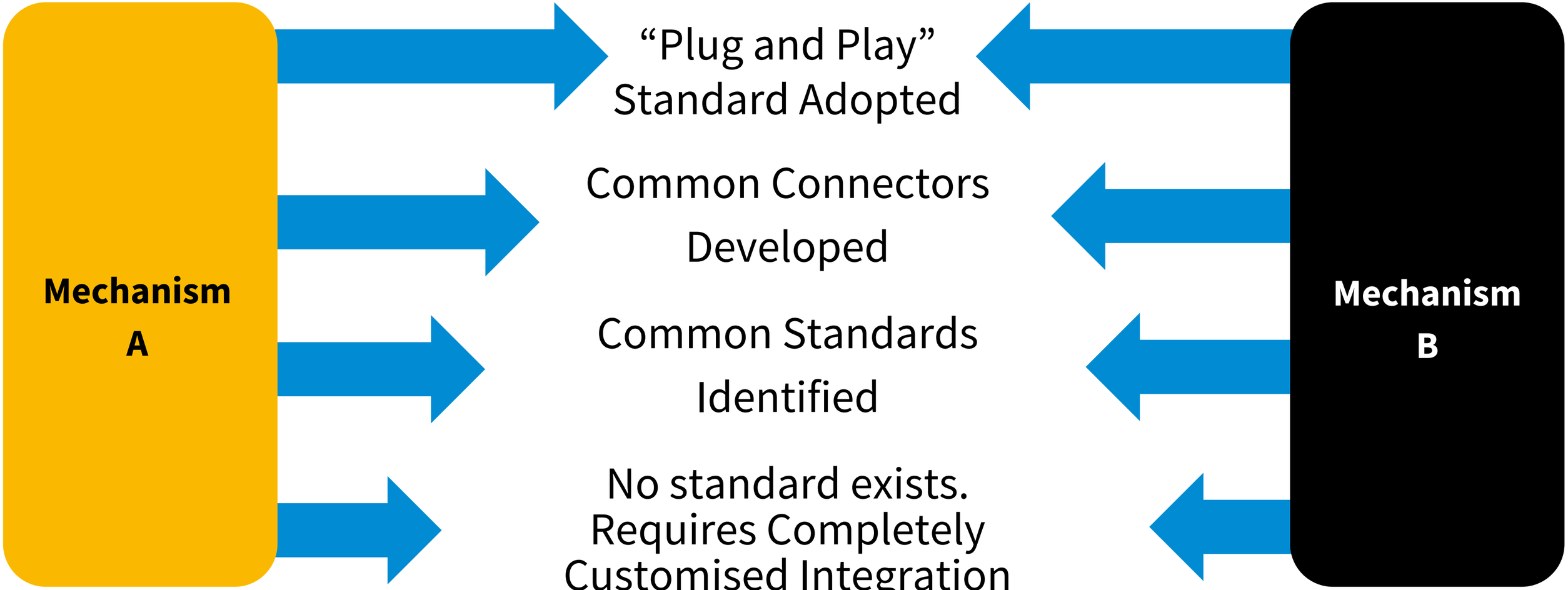
How to develop tools that enable cities and communities to put in place "good enough" mechanisms that will get them started in gaining value from potential smart solutions and that address differing types of legacy infrastructure and standards ecosystem

Approved July 2024

Levels of governance and operation



Degrees of Interoperability



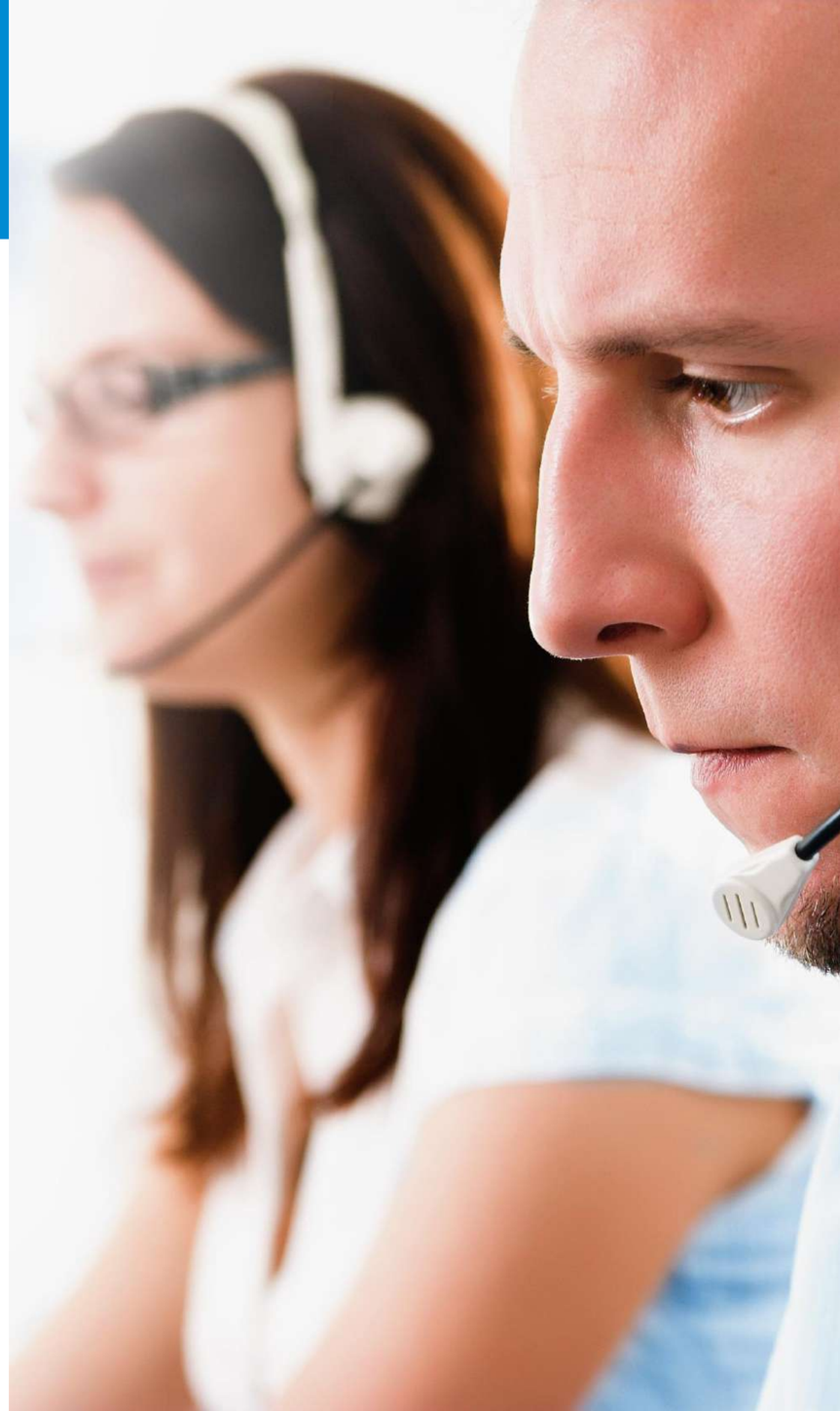
Procurement and Minimal Interoperable Mechanisms

•When procuring solutions, it is difficult to be too prescriptive as this may eliminate new, creative or cost-effective solutions

•However, it is important to ensure sufficient consistency with standardised approaches to ensure that interoperability can be maintained

•The MIMs provide specifications that support minimal but good enough interoperability and thus enable more innovative and cost-effective offerings from vendor

We are developing a set of self-assessment and technical tools to help you check that your implementation conforms to the MIMs, and that products and services offered by vendors comply with the MIMs requirements



European Commission

For more information:

See the MIMs Plus documentation on the Living-in.eu website

Be aware that MIMs version 7.0 is about to be published on the Living-in.EU website

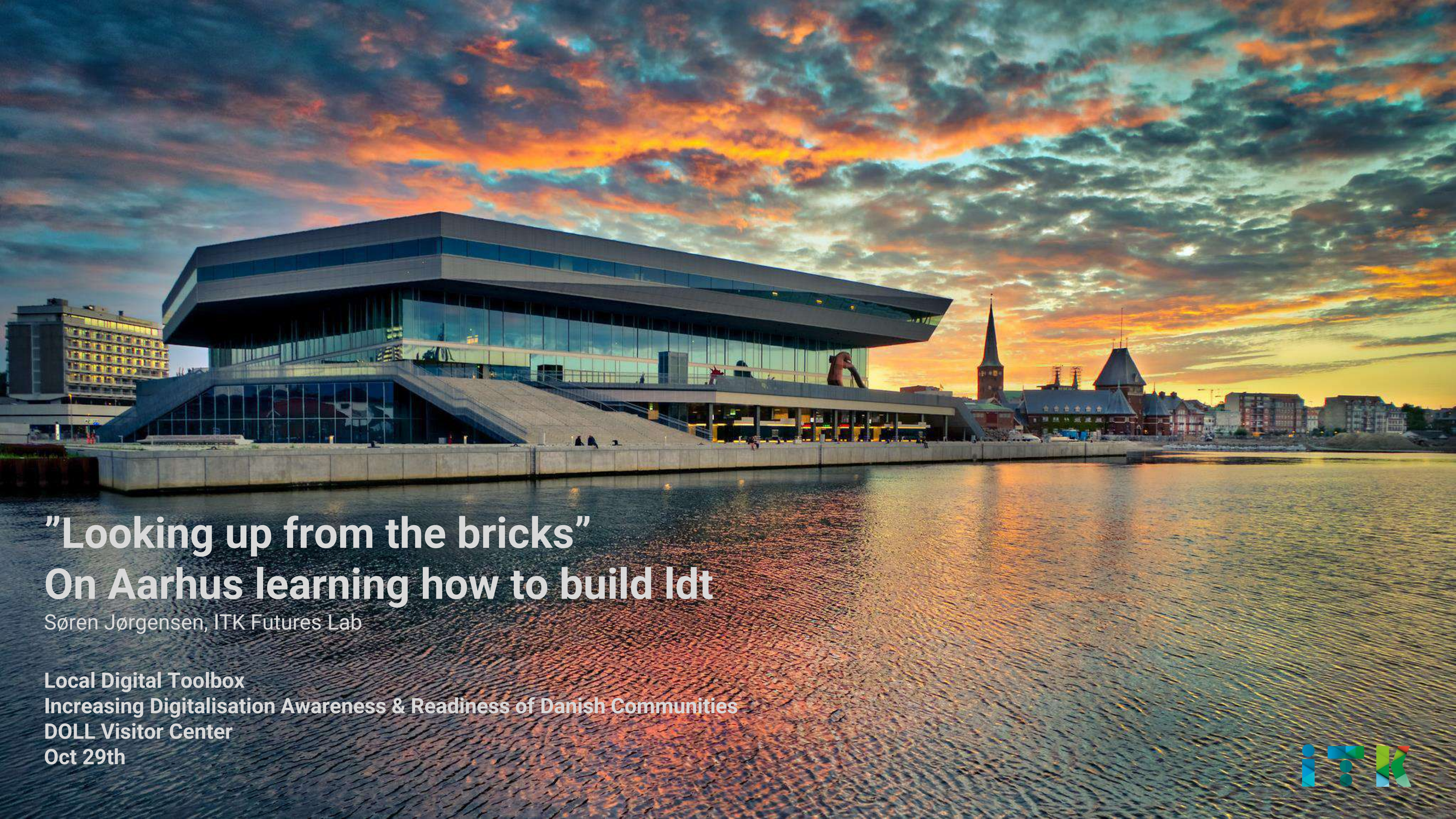
European Commission

Enabling Technologies: Open Data Platforms, and Data Spaces

Søren Lundsgaard Jørgensen

City of Aarhus

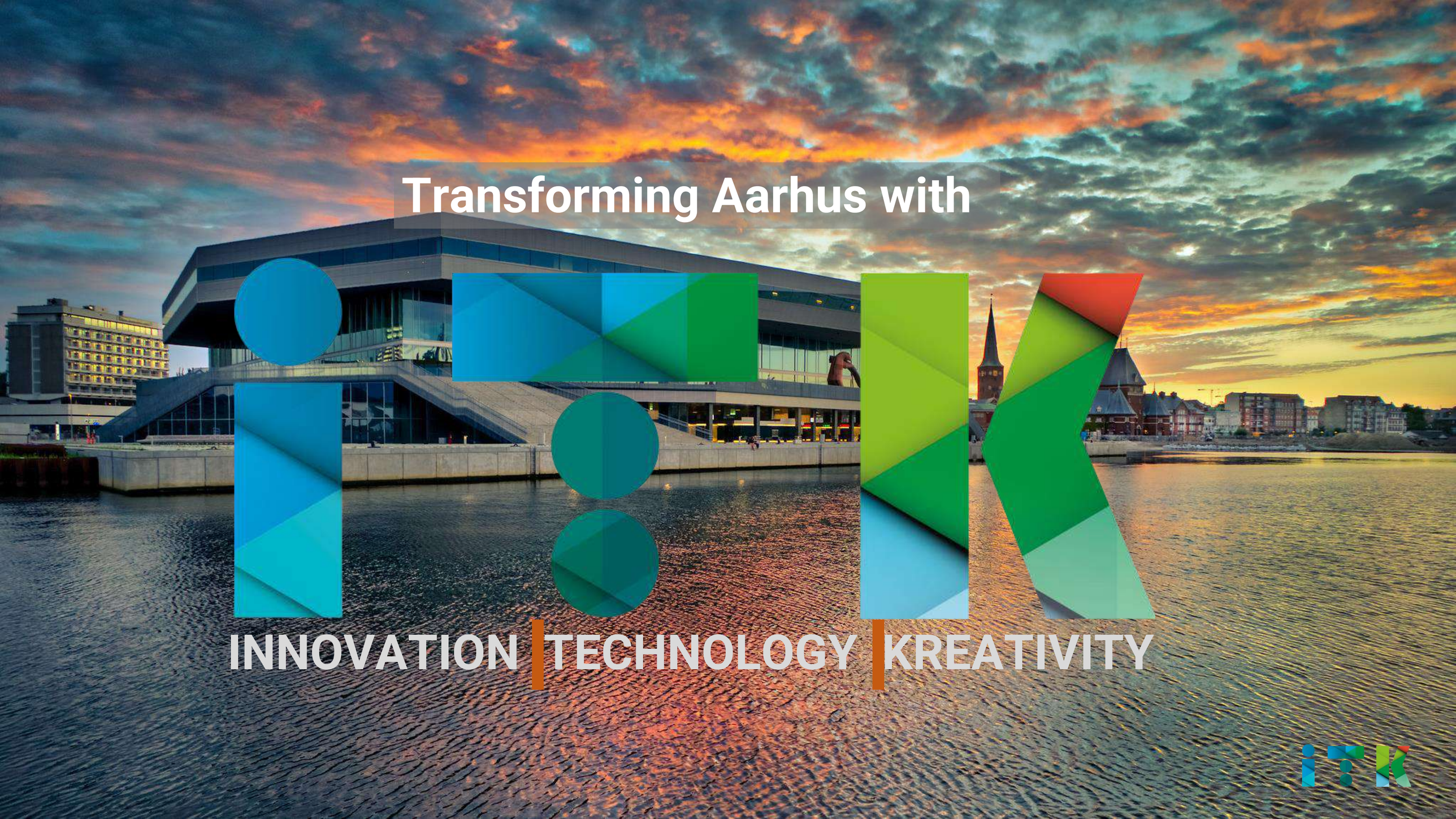
European Commission



”Looking up from the bricks”
On Aarhus learning how to build ldt

Søren Jørgensen, ITK Futures Lab

Local Digital Toolbox
Increasing Digitalisation Awareness & Readiness of Danish Communities
DOLL Visitor Center
Oct 29th


Transforming Aarhus with
INNOVATION | TECHNOLOGY | KREATIVITY

gtm GOVTECH MIDTJYLLAND

GATE 21

#f2d2

ITK

Come On In WE'RE OPEN

SOURCE OS2 offentligt digitaliseringsfællesskab

DATA OPEN DATA DK

INNOVATION

LIVING-IN.EU

JOIN BOOST SUSTAIN

Declaration on joining forces to boost sustainable digital transformation in cities and communities in the EU

CitCom.AI Testing AI in Smart Cities and Communities

TECHCIRCLE THE EUROPEAN DIGITAL INNOVATION HUB OF CENTRAL DENMARK

OPEN & AGILE SMART CITIES & COMMUNITIES

The European Commission's INTELLIGENT CITIES CHALLENGE

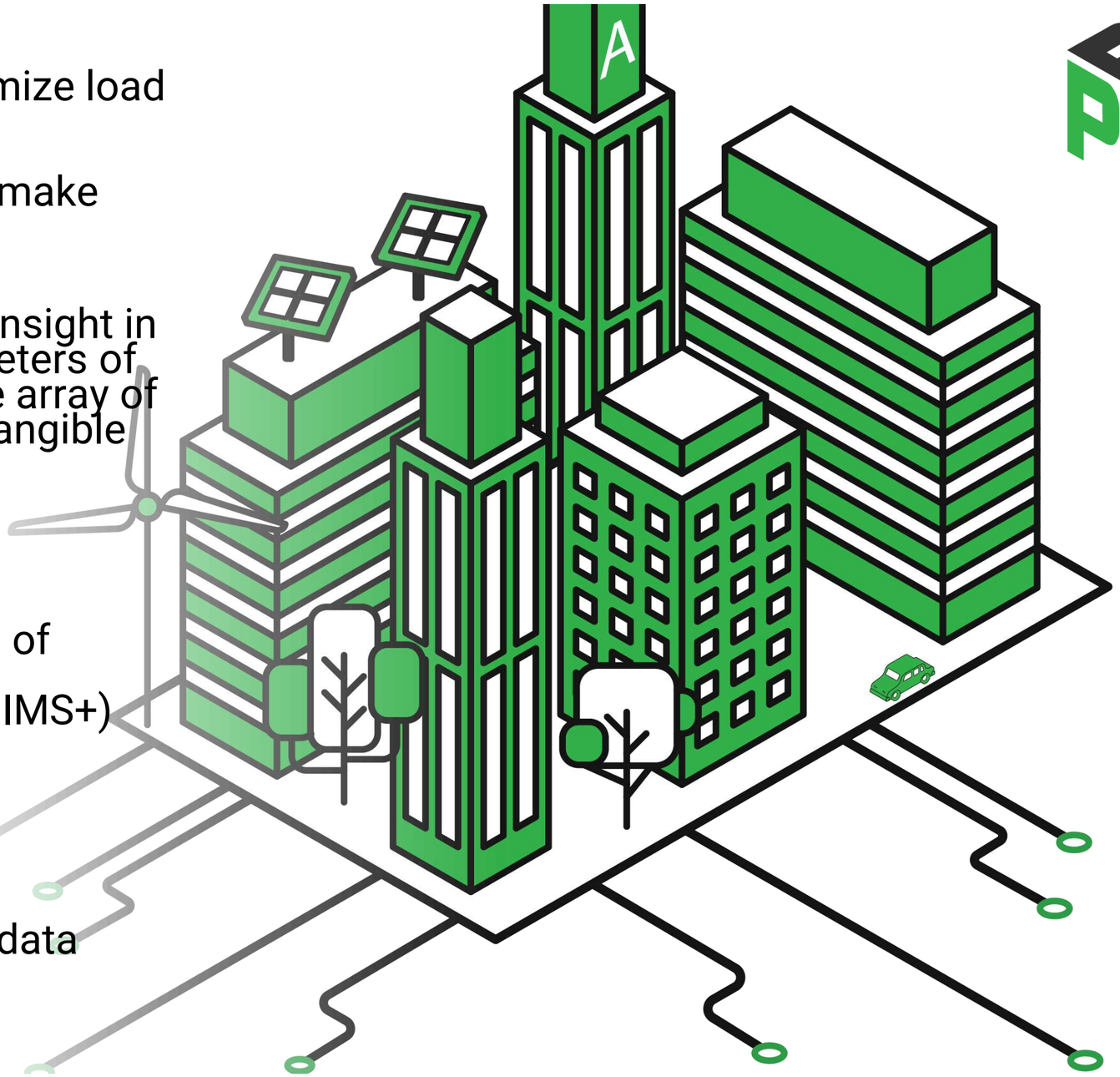
CLIMATE-NEUTRAL & SMART CITIES


OpenCities Planner (Bentley Systems)
A strategy to further develop the current 3D citymodel
START
GROUPS & LAYERS
2D

What are we doing?

Building an ‘intelligent’ PED to optimize load management in urban districts by advancing energy datamodels to incorporate new data sources and make use ML/AI to enable flexibility

Connecting to a LDT to broaden i) insight in interdependencies between parameters of energy usage and ii) engage a wide array of stakeholders in the district with a tangible digital tool



What are we learning?

- Organisational pov: deployment of standardized modules and interoperability mechanisms (MIMS+)
- Technical pov: cross-sectorial datamodelling in ‘grey boxes’
- Governance pov: value of open data

URBREATH

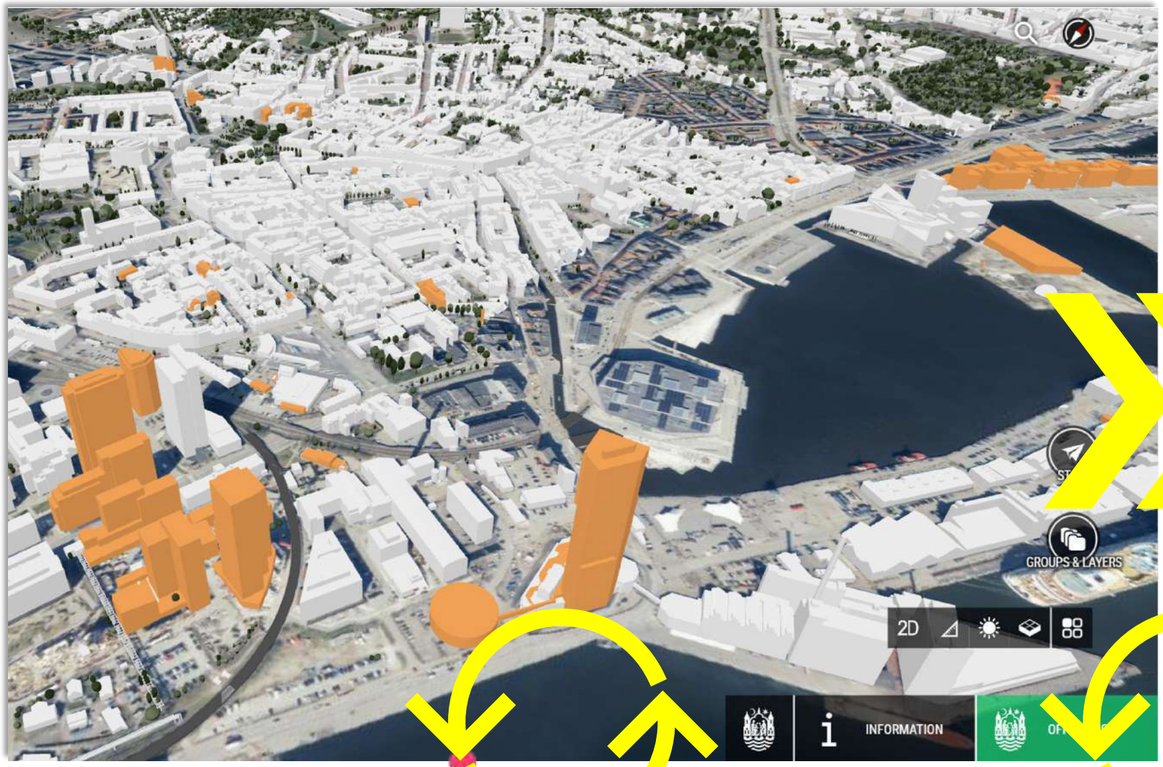
What are we doing?

Building a digital ldt tool(box) to support NBS design and deployment in climate resilient and inclusive cities

In creating a peaceful inner city, digital ldt tools are developed to support decision making in designing and monitoring at different scales starting at Vesterbro Torv

What are we learning?

- Organisational pov: describing needs for capacities that goes across ‘silos’
- Technical pov: combined modelling weather, greenery, waterflow, traffic, air, noise, …, …, and ‘livability’
- Governance pov: supporting political decision making with databased insight



To deliver a service

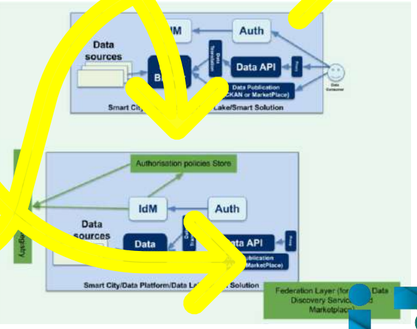
ORGANICITY

BIZED

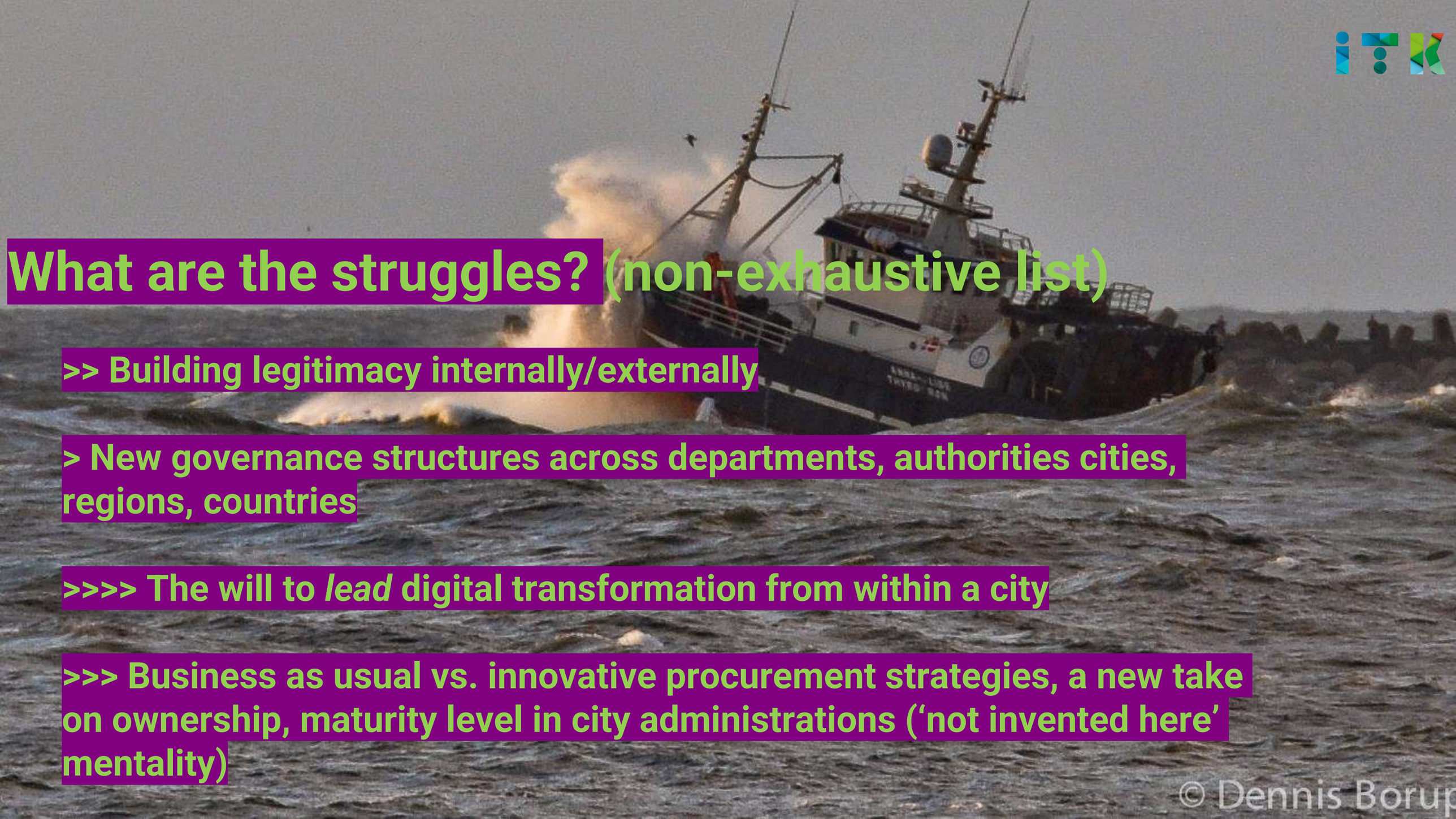
UPBREATH

CEN/TC 465

european data space for smart communities



To develop a service



What are the struggles? (non-exhaustive list)

>> Building legitimacy internally/externally

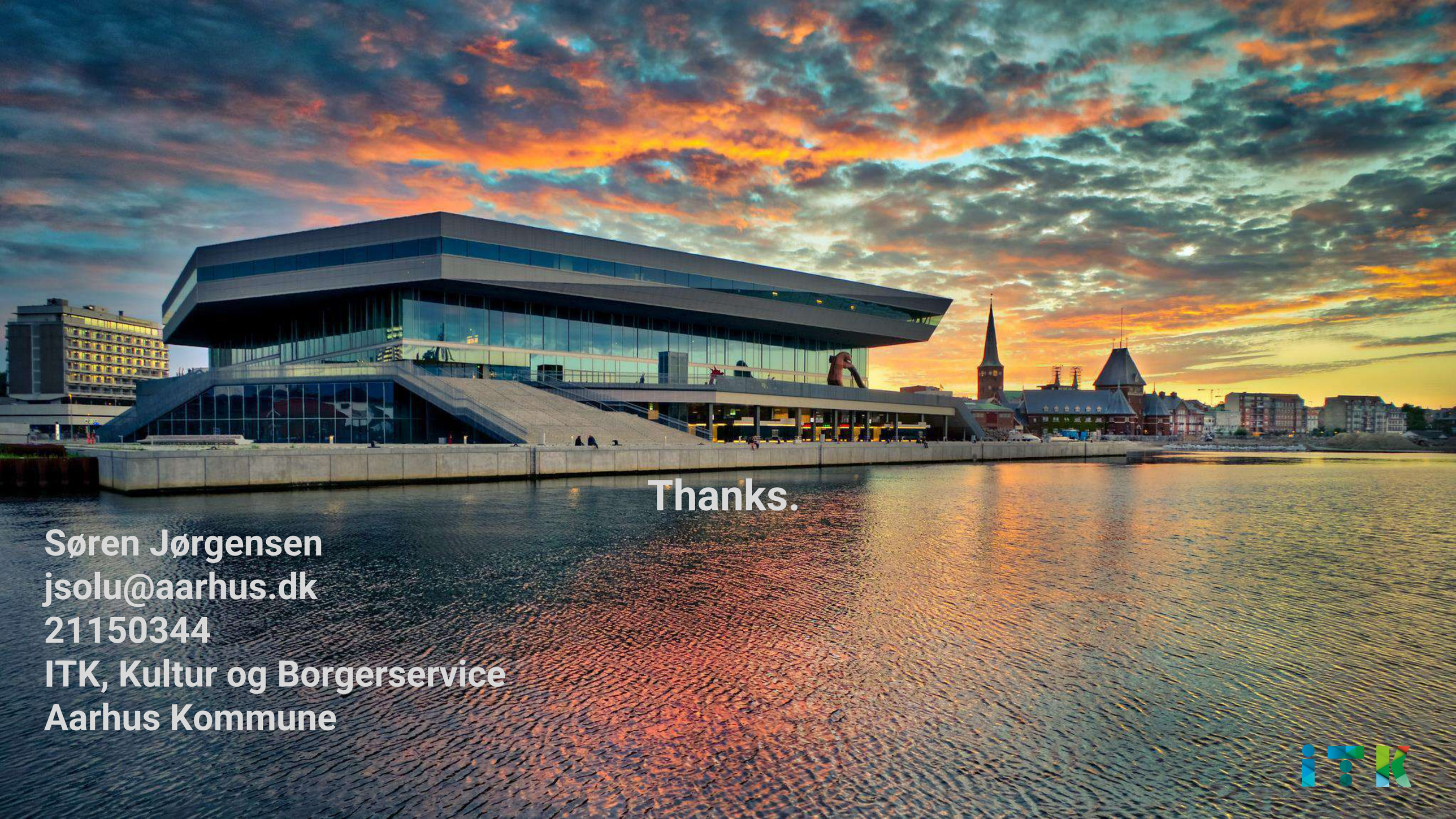
> New governance structures across departments, authorities cities, regions, countries

>>>> The will to *lead* digital transformation from within a city

>>> Business as usual vs. innovative procurement strategies, a new take on ownership, maturity level in city administrations (‘not invented here’ mentality)


Accepting degrees of ‘cluelessness’
Staying with the troubles
Partnering and testing


To overcome by
looking up from the bricks



Thanks.

Søren Jørgensen
jsolu@aarhus.dk
21150344
ITK, Kultur og Borgerservice
Aarhus Kommune

In Summary

An open architecture is needed to enable the use and sharing of many different types of data coming from many different agencies

The architecture needs to support the MIMs, which set minimal requirements for applications to make it easier to enable good-enough interoperability between them

The MIMs support the procurement of solutions that allow innovative offerings from vendors while supporting effective interoperability and avoiding vendor lock-in

DEVELOPING YOUR IMPLEMENTATION ROADMAP

European Commission

Ignacio Garcia Vega

Chief Innovation Officer - Serendipity

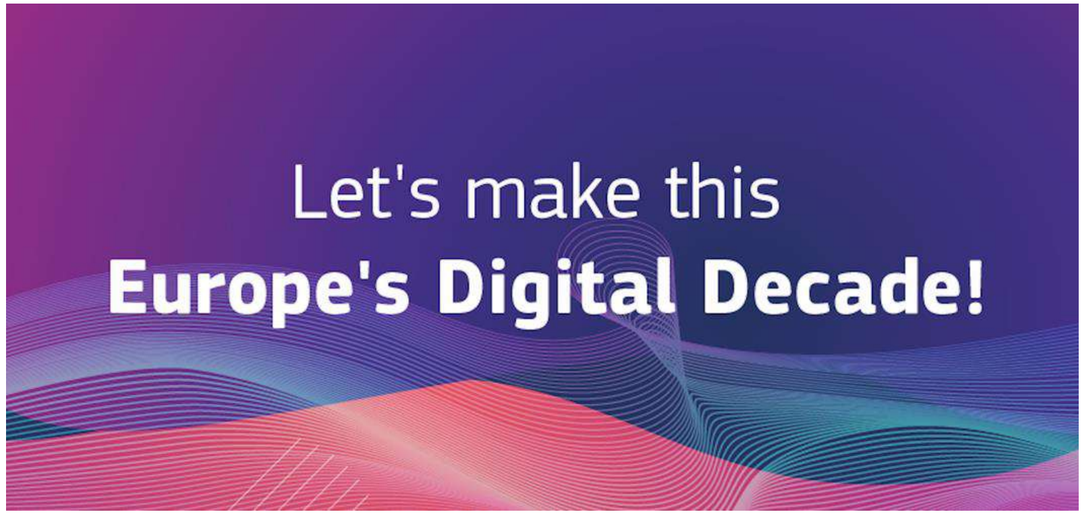
Ignacio Garcia Vega is a seasoned Senior Innovation and Research Consultant and Project Manager with extensive experience in driving cutting-edge advancements across AI, Big Data, IoT & Edge Computing, Urban Mobility, Cybersecurity, Wireless Communications (WiFi, 5G), and Smart City solutions.

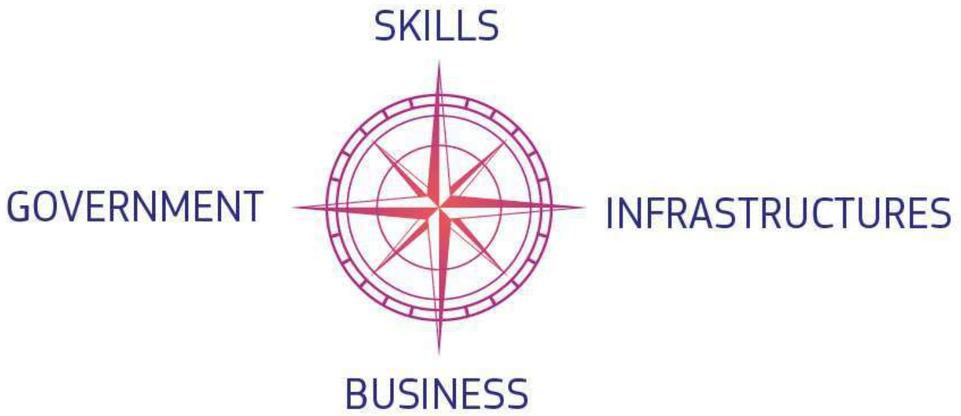
With a background in Telecommunication Engineering, specializing in industrial organization and business management, he focuses his career on ICT-related R&D&I projects. Ignacio's expertise lies in steering innovation strategies and managing large-scale, international projects, including those centered on Smart Cities and IoT solutions.

His career is marked by a deep passion for technology, innovation, and entrepreneurship, helping SMEs and large enterprises increase their participation in EU projects. As a mentor, independent EU project evaluator, and technical dissemination expert, Ignacio remains committed to fostering growth, strategy, and technological evolution.

European Commission

The importance of implementing digitalisation roadmaps





European Commission

[National roadmaps]

What Digital Transformation Concepts Need to be in Place

- Adaptability
- APIs
- Authentication federation tool
- Automatic Storage Management
- Backup Solution
- Bandwidth
- Business Continuity Plan
- Cameras/Image Sensors
- Capacity
- Cloud
- Cloud Compute
- Cloud Storage
- Compute
- Compute Cleanup
- Compute Policies & Procedures
- Compute Provisioning
- Computing Adv. Technologies
- Data Governance
- Data Governance Framework
- Data Governance Tool
- Data Retention and Backup
- Data Strategy
- Disaster Recovery
- Containers
- Cybersecurity Policy
- Cyerbsecurity Strategy
- Data
- Data Analysis
- Data Analysis Tools
- Data Backup & Retention Tools
- Data Centralisation
- Data Collection & Management
- Edge Computing
- Effectiveness
- Fiber Optic
- General Data Protection Regulation (GDPR)
- ICT Infrastructure
- Infrastructure Security
- IoT
- IoT Devices
- IoT Sensor
- IT Infrastructure
- Key Performance Indicator (KPI)
- Local Digital Platform
- Local Digital Twin
- Low Latency
- Monitoring
- Network
- Network Adaptability
- Network Capacity
- Network Capacity & Effectiveness
- Network Connectivity
- Network Coverage
- Network Redundancy
- Network Reliability
- On-Premises Compute
- Open Source Software
- Open Standards
- Plan, Monitor & Test
- Privacy Compliance
- Privacy-Enhancing Tech (PETs)
- Private Subnet
- Public Wi-Fi
- Real-time Data Collection
- Redundancy
- Reliability
- Scalability
- Security
- Security Advanced Measures
- Security Patch
- Security Segmentation
- Serverless Computing
- Smart City Office
- Storage
- Storage Cleanup
- Storage Provisioning
- System / Application
- SWOT Analysis
- Trade-off
- Virtual Machines (VMs)
- Virtualisation
- Vulnerability Assessments
- 5G Readiness

European Commission

How to Develop Your Digitalisation Roadmap

Digital Maturity Assesment

Strategy Assessment

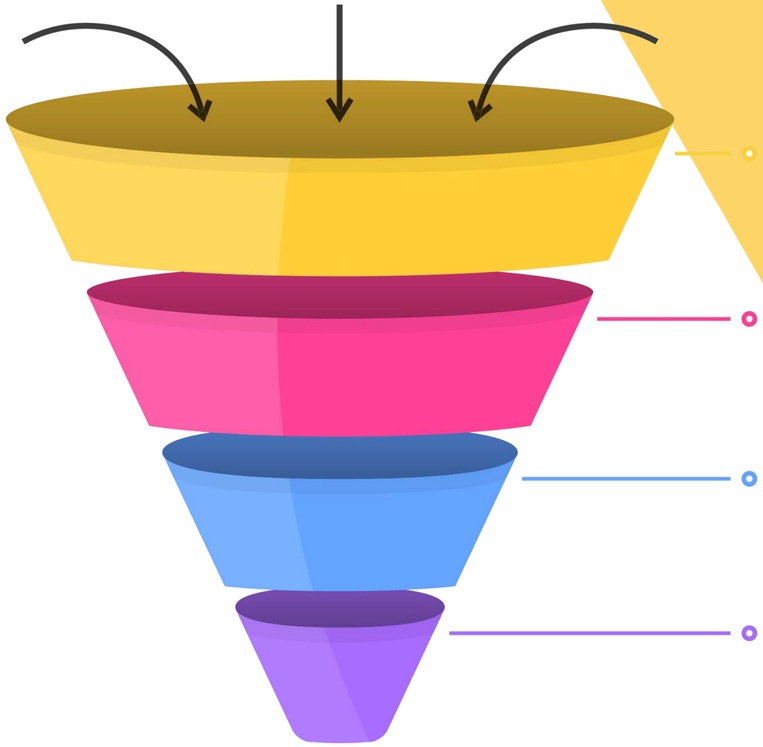
IT Infrastructure Assessment

Procurement Assesment

Strategy and decision making

IT/Data/Architecture

Thematic experts in function of priorities



Customised digital transformation roadmap with key milestones and priorities to invest in

European Commission

Get Support through the Online Procurement Helpdesk

EU Initiative

- **Accelerating digital maturity** of less digitally ready EU cities and regions.
- **Foster digital strategies**, local digital twins and other digital solutions across rural and urban areas.
- **Fully funded** by the European Commission (***Not direct funding** available for the actual **implementation** of the solutions).
- **150 EU cities** will receive support services*

**The service will be transferred to the EDIC to scale-up to every city in the EU*

Benefits for Cities & Communities

- **Advisory services*** to develop, review and prepare the implementation of a digital strategy.
- **Customised digitalisation roadmap** for your city.
- **Expert guidance** and alignment with **EU standards and principles**
- Identification of **procurement needs** and access to **procurement guidelines and templates.**

** Support equivalent to 100+ days of consultancy services.*

Required Actions

- **Multidisciplinary team available**: Chief Innovation, Digital Officers, ICT managers, IT architects, IT procurement and Infrastructure providers.
- **Focus dedication**: 2-4 days to fulfill the assessments.

European Commission

Journey for Participating Cities

KICK OFF ACTIVITIES

1:1 sessions between cities and the *CGAs, or to a common Info Session

*LORDIMAS

Get to know your overall digital maturity

STRATEGY ASSESSMENT

Assess in more detail your overall digital vision and strategy

IT INFRASTRUCTURE ASSESSMENT

Evaluate the technical maturity of the IT infrastructure

DIGITALISATION ROADMAP

Get your digital transformation roadmap tailored to your city/community needs

PROCUREMENT SUPPORT

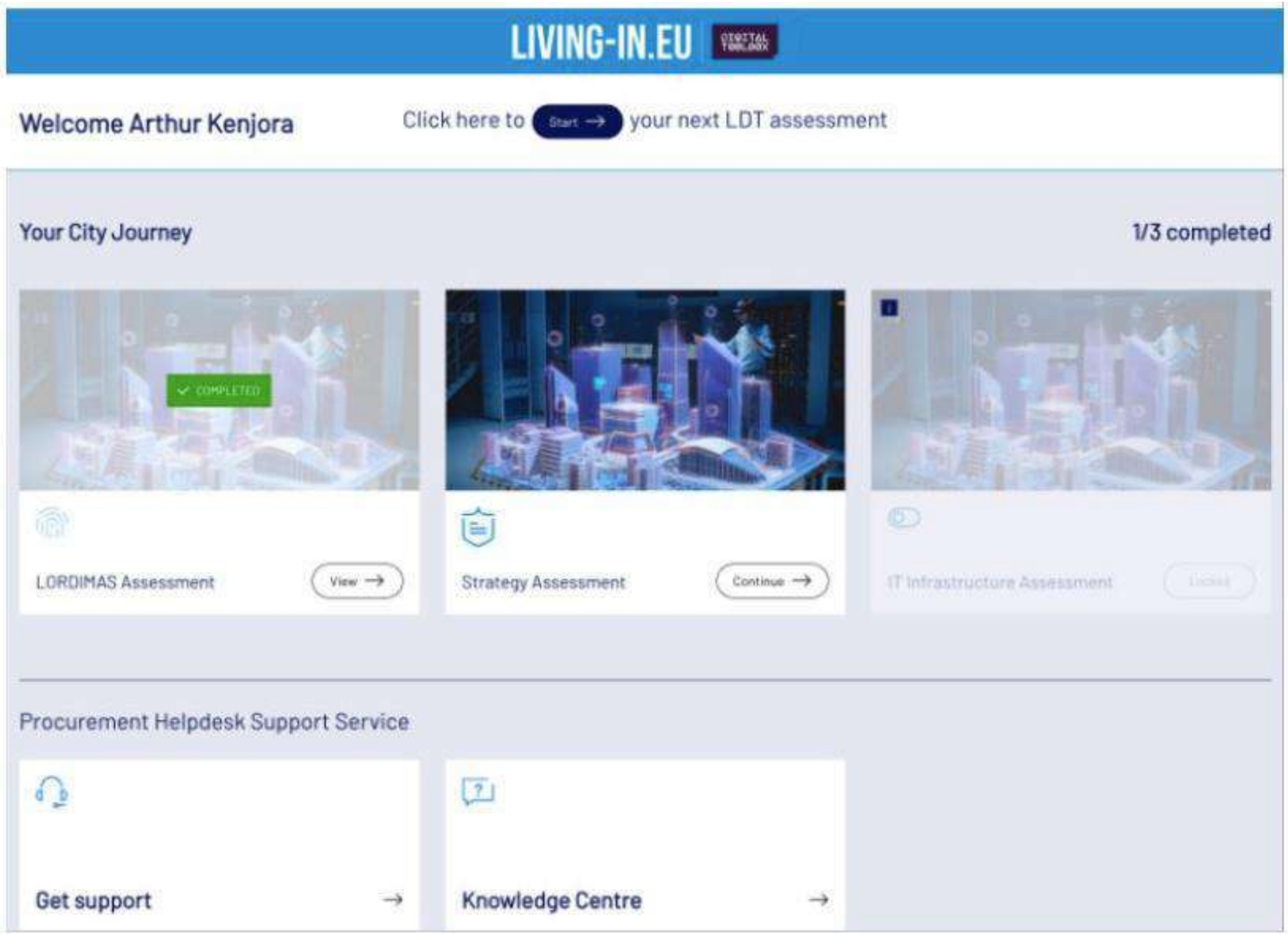
Receive support to identify procurement needs and templates

The helpdesk is live and you can express your interest in participating starting today!

European Commission

*CGAs (City Guiding Agents)
*Local and Regional Digital Maturity Assessment

Procurement Helpdesk Live



European Commission

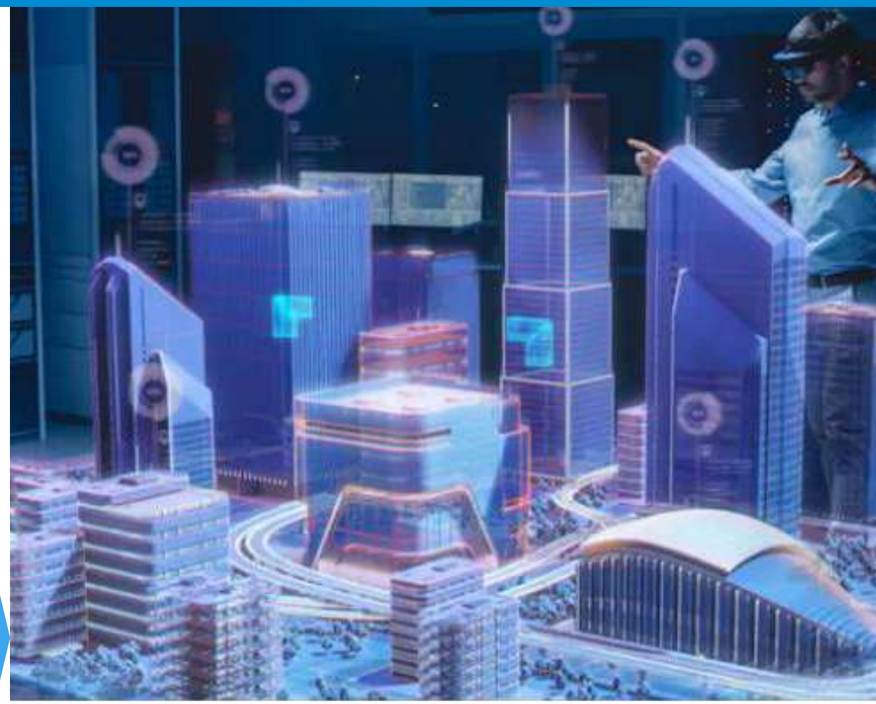
Strategy Assessment

Business & Strategic Vision

- Identify community’s goals for implementing a Local Digital Platform (LDP), and later a Local Digital Twin (LDT)
- Identify sectors that the community wants to invest in and that may benefit from the implementation of a LDP or LDT

Value

- Allows for a more focused roadmap, taking into consideration the community’s strategic priorities that should be fostered by advancements in its digital infrastructure
- Provides valuable insights for the European Commission on the key strategic priorities within the EU communities, which can be leveraged to inform targeted policy making, in the future



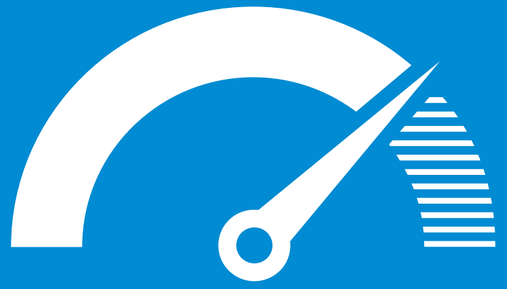
The main goal of this Assessment is to **understand a community' strategic priorities on digitalisation** as well as the key investment areas in terms of services and sectors.

European Commission

IT Infrastructure Assessment

Evaluate IT infrastructure to better infer about technical maturity, through core infrastructure capabilities that enable the development of a Local Digital platform (and an LDT).

DIGITAL PLATFORM



Aims to characterise the current maturity level of digital platforms/ verticals and their interoperability. It will also contribute to a better understanding of which data process mechanisms are in place and how data collection is handled

INFRASTRUCTURE

Aims to understand the infrastructure that the city/ community has in place, namely the physical and technological backbone that could support (or is already supporting) the operation of Smart City solutions, as well as the self-assessed maturity levels in core IT infrastructure capabilities

VALUE

Tailored roadmap initiatives fundamental to the development of a Local Digital Platform and later a Local Digital Twin, according to the maturity of capabilities found at this stage.

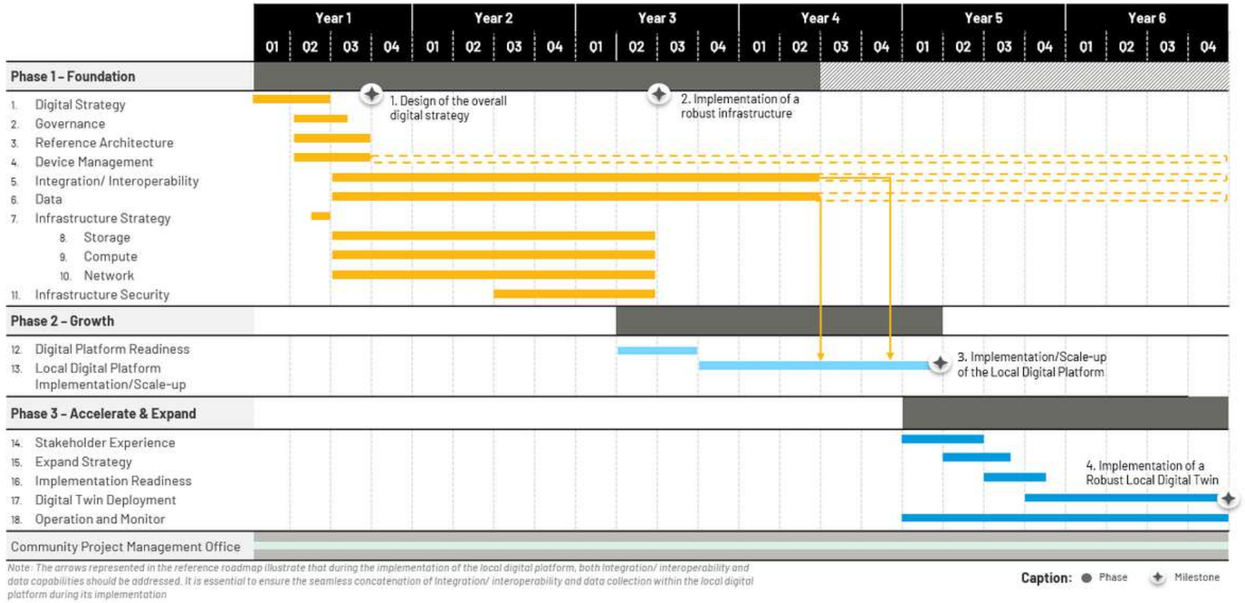
European Commission

Digitalisation Roadmap

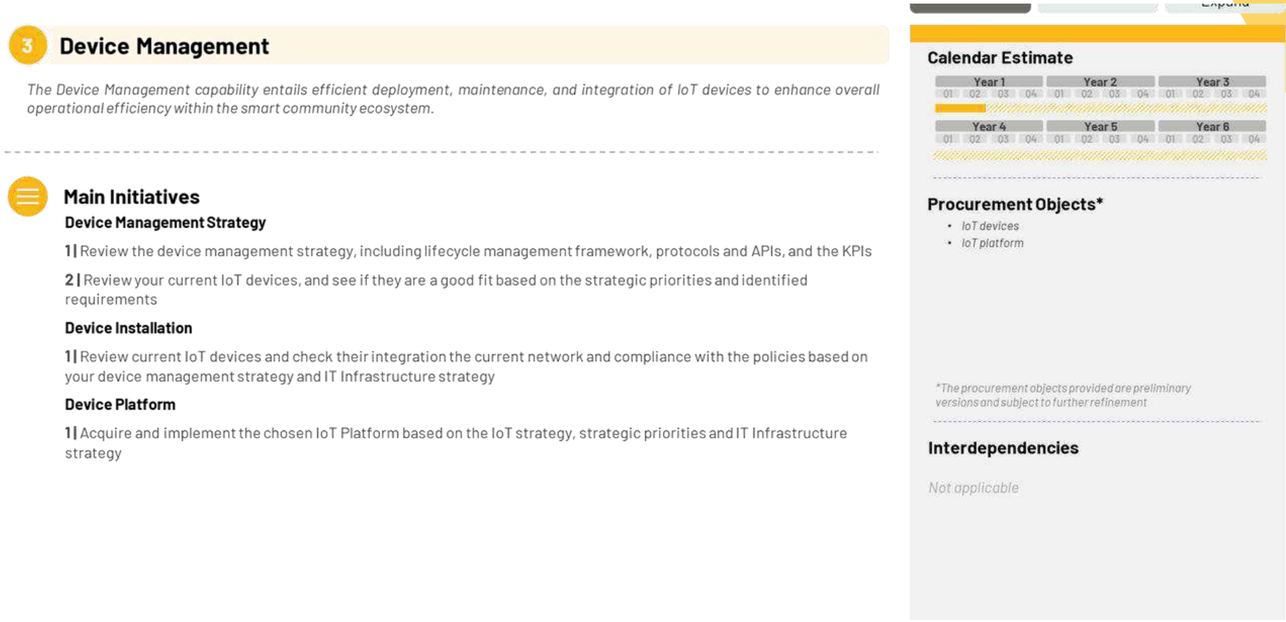
Each community will get its own reference digitalisation roadmap, based on their current maturity scores.

This roadmap will present the key enablers and capabilities that the community needs to work on towards the development of a Local Digital Platform (LDP), and later a Local Digital Twin (LDT) For that, a set of initiatives and a reference timeline will be proposed

Overview of capabilities and enablers and correspondent reference timeline



List of initiatives for each capability and/or enabler



European Commission

Procurement Support

Identification of objects of procurement

After assessing your digital maturity levels and receiving the digital transformation roadmap, your city will receive guidance to identify the objects of procurement needed to implement the digitalisation roadmap.

Access to procurement templates and guidelines

Your city will have access to the procurement templates & guidelines that will be published in the Online Procurement Helpdesk for Smart Communities by February 2025.
Your city will be invited to participate in a Procurement Workshop to give feedback on the material that is being prepared.

Dedicated procurement support through the Online Helpdesk

Dedicated support through the Online Helpdesk will help you understand your procurement needs based on the digitalization roadmap, identify the objects of procurement, navigate the procurement guidelines, and use the templates.

Unique Added Value of Completing the Journey

Digitalisation Strategy from a Foundational Point of View

- Helps communities review their digitalisation strategy towards 2030 goals.
- Builds the strategy from a higher level, not just a project level.
- Identifies gaps not considered due to vertical focus.

Digitalisation Roadmap

- Helps identify gaps in the strategy and facilitates procurement.
- Brings the overall strategy to decision-making bodies. Makes them aware of gaps, needs, and investment required.
- Provides insights on EU standards and regulations compliance.

External Assistance

- Provides an expert team to work with communities on their strategy.
- Accompanies them to reassure the strategy.
- Offers another point of view to evaluate current gaps and investment priorities.
- Added value from experts at Capgemini, Deloitte, Intellera, Technopolis, and Digital Vlaandere

Citiverse EDIC (European Digital Infrastructure Consortium)

WHO

Signatory Member States: Spain, Slovenia, Estonia, Latvia, Croatia, Portugal, France, Czech Republic , Luxembourg, Belgium, Slovakia, Italy.

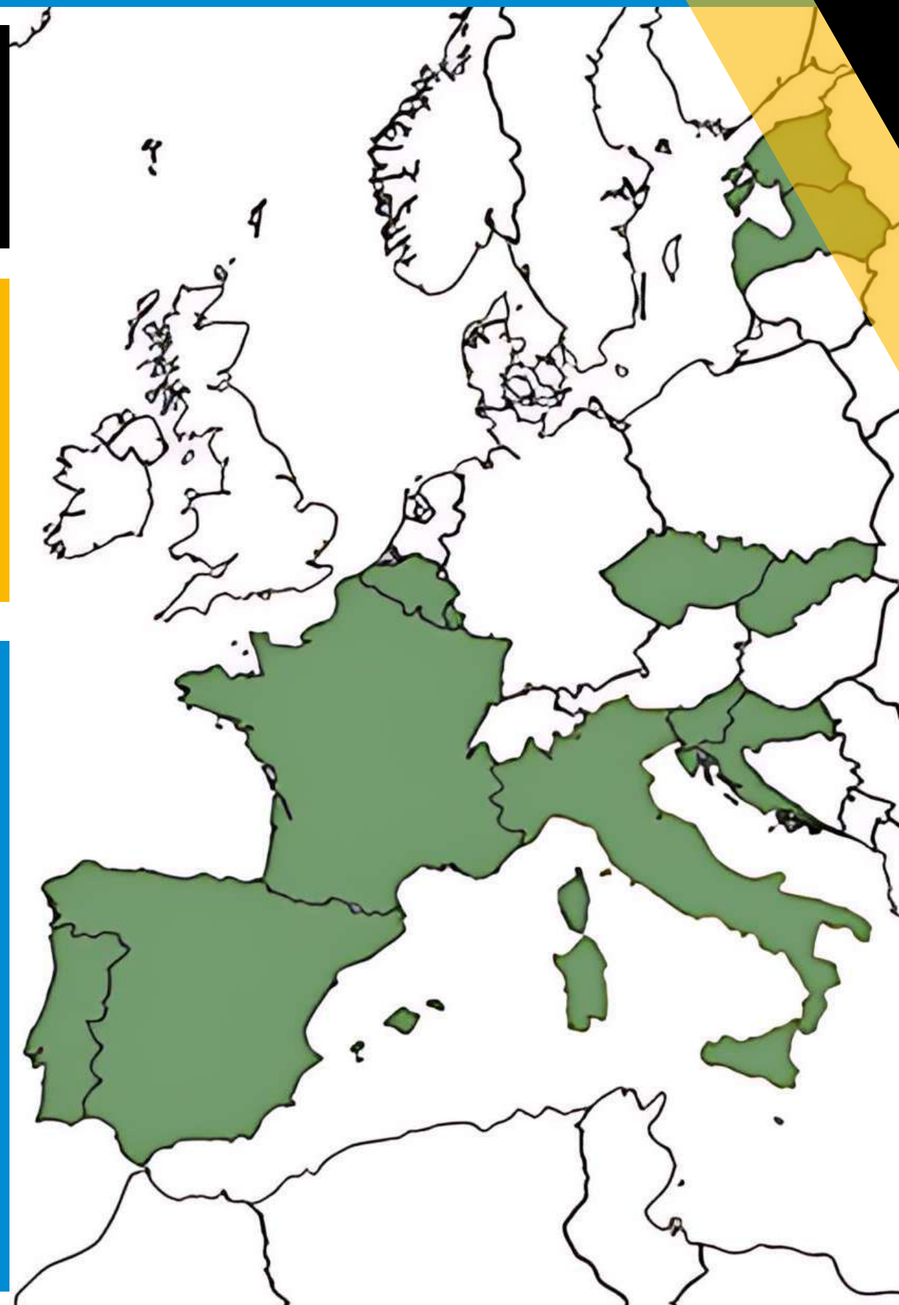
WHAT

Common tools: EU LDT toolbox, Data and services interoperability, Reuse of components & best practices.

Joint tenders: Economies of scale, Open standards, Certification.

WHY

- To create a common & sustainable European infrastructure.
- To go beyond research.
- To avoid repetitions.
- To deploy large-scale innovative projects and technologies.
- To provide recommendations for future R&D&I in SCC.
- To create a solid EU ecosystem on SCC.



European Commission

Citiverse EDIC (European Digital Infrastructure Consortium)

EU LDT TOOLBOX
Powered by DG CNECT

EU LDT Toolbox: An advanced set of tools to enable digital twins benefits on EU cities.

3 simple steps to enable the benefits of a Digital Twin to support your decision-making and planning processes effectively.

Being implemented and will start the Pilot Program with 6 Euroepan cities in January 2026

European Commission

Detailed Agenda Overview

Phase 0: How to Start Your Digitalisation Journey

29.10.2024 10:00

TIME	TOPIC	SPEAKER(S)
10:00 - 10:10	Welcome	**Søren Nørgaard Madsen** *(Local Government Denmark)* **Teddy Sibern** *(Head of DoLL)*
10:10 - 10:20	Introduction to Local Digital Twins	**Martin Brynsko** *(Co-Founder and Boardmember of OASC)*
10:20 - 11:00	Local Digital Twins and their Role in Achieving EU Green Deal Objectives	**Marianne Knudsen and Mathias Preisler Schødt** *(Head of section in Agency for Climate Data)* **Ben Cahill** *(We Build Denmark)*
11:00 - 11:15	Coffee break	
11:15 - 11:30	Assessing Your Digital Readiness with LORDIMAS	**Martin Brynskov** *(Co-Founder and Boardmember of OASC)*
11:30 - 12:00	Enabling Technologies: Open Data Platforms and Data Spaces	**Søren Lundsgaard Jørgensen** *(City of Aarhus)*
12:00 - 12:30	Developing Your Implementation Roadmap	**Ignacio Garcia Vega** *(Serendipity)*
12:30 - 13:30	Lunch / Networking Break	
13:30 - 14:00	Supporting Ecosystems and Collaborations	**Jesper Algren** *(Head of Innovation Aarhus | EDIH | EDIC | Citcom)* **Gabriela Ruseva** *(EuroCities | Living-in.Eu)*
14:00 - 14:30	Funding Opportunities for Local Communities	**Andreas Nykjær** *Danish Agency for Digital Government NCP for the Digital Europe Programme*
14:30 - 15:00	Q&A and Closing Remarks	

European Commission

The Journey

Discovery Phase

Unlocking the potential of digitalisation

Learn about Local Digital Twins' foundational concepts, their role in urban decision-making, and how they support the EU Green Deal's sustainability objectives through practical examples and case studies.

Planning Phase

Laying the foundation of your digital journey

Learn about LORDIMAS for assessing digital maturity and developing an implementation roadmap to advance digitalisation, including the role of open data platforms and procurement support.

Empowerment Phase

Empowering your digital transformation

Explore ecosystems and funding opportunities to accelerate your community's digital transformation through collaboration and financial support.

European Commission

SUPPORTING ECOSYSTEMS & COLLABORATIONS

European Commission

SUPPORTING ECOSYSTEMS & COLLABORATIONS

Jesper Algren

Head of Innovation of

Aarhus | EDIH | EDIC | Citcom

Gabriela Ruseva

EuroCities | Living-in.EU

European Commission

ITK
Innovation – Technology - Kreativity

Increasing Digitalisation Awareness and Readiness of Danish Communities - Supporting Ecosystems and Collaborations

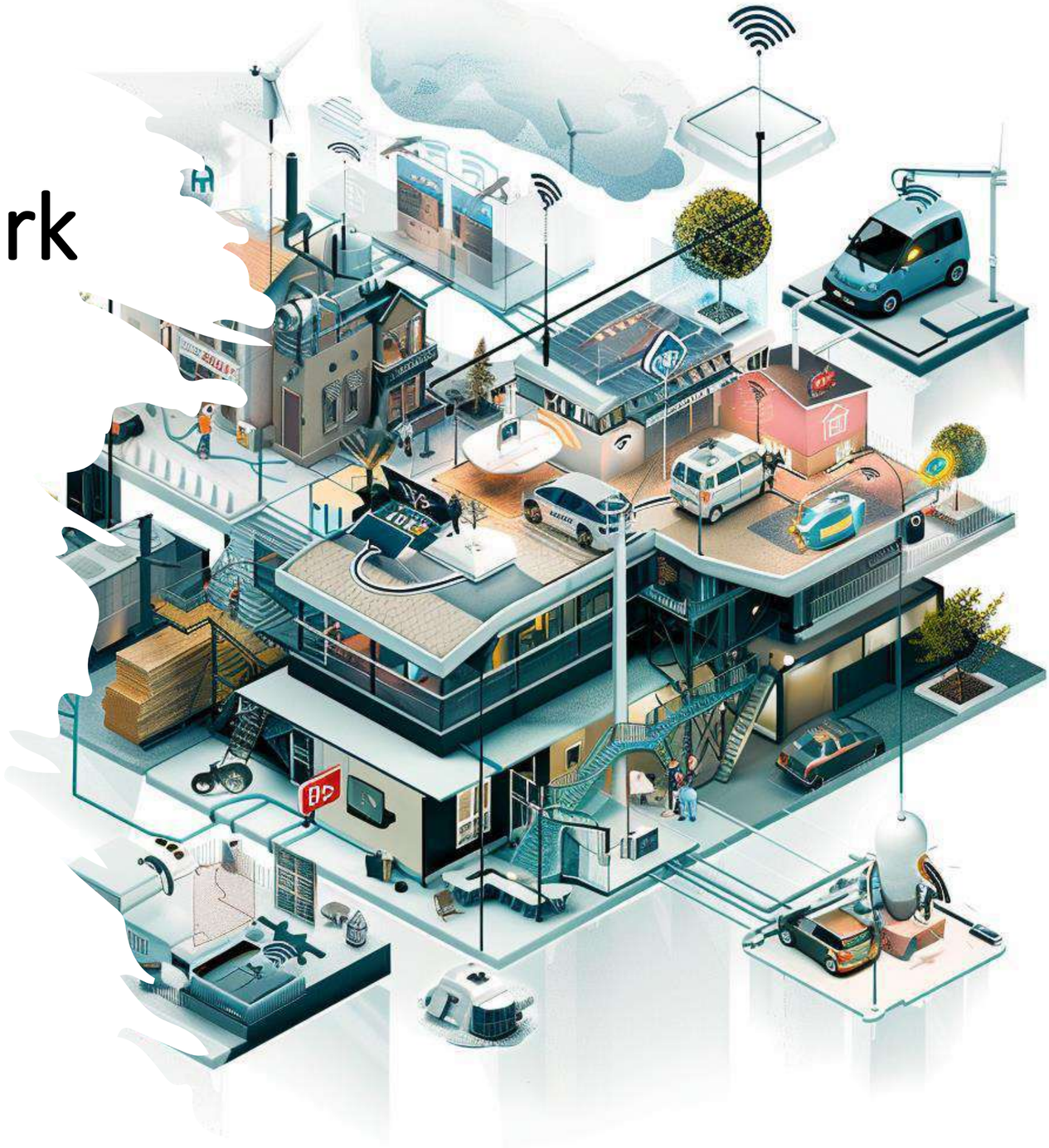
- SOURCE
- DATA
- INNOVATION

It’s all about

- Technology and integrations
- Data collection and analysis
- Sustainability & mobility
- Digital infrastructure
- The involvement of citizens
- Economic growth
- Openness and sharing
- **Quality of life for our citizens**

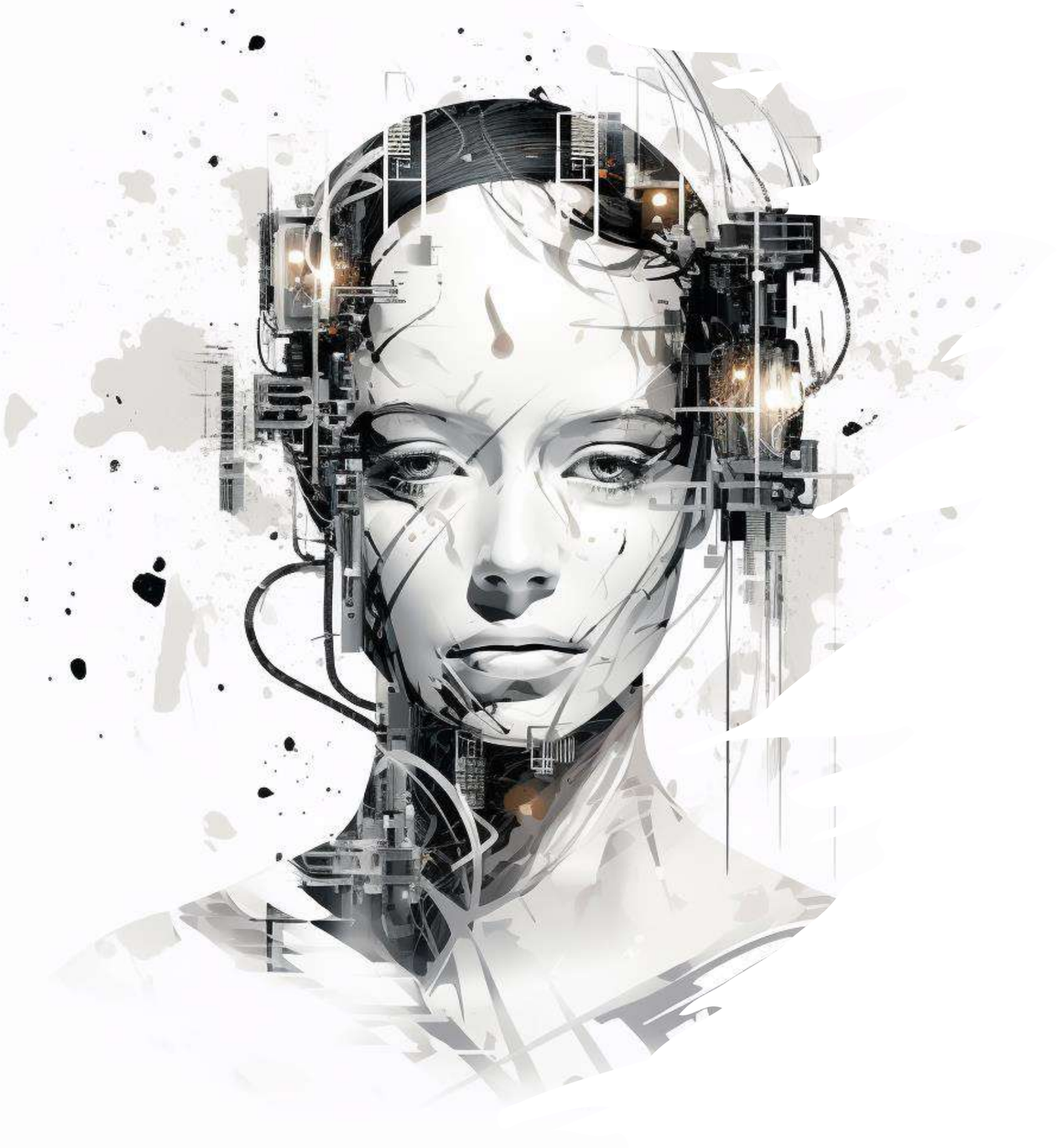
GTM =
GovTech Central Denmark

- We are strategically anchored
- We are a working community for the municipalities + Central Region
- Our goal is to uncover, acquire and implement new technology
- We develop and operate common platforms
- We create synergy and growth in partnerships with companies and knowledge institutions



Potentials

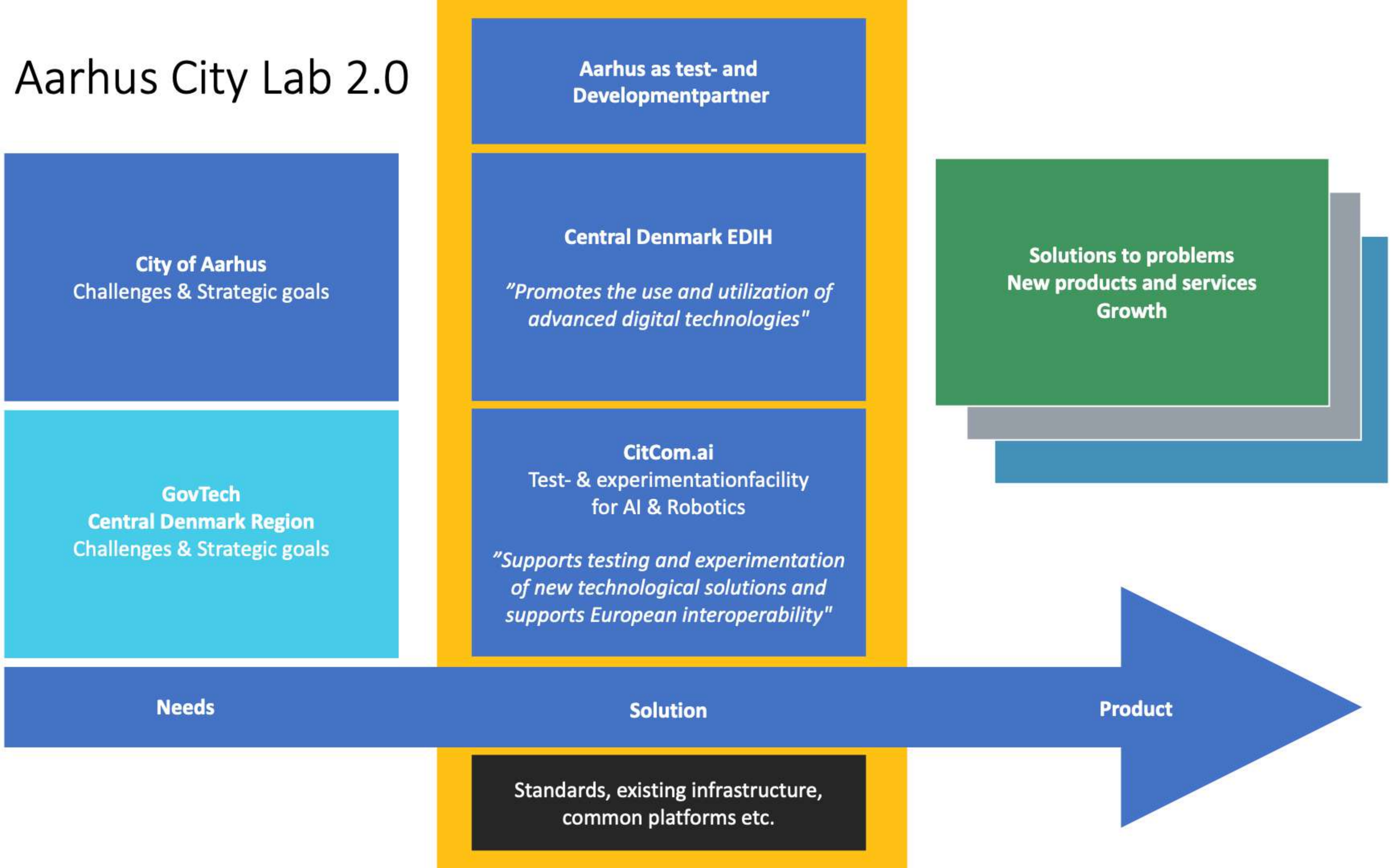
- Efficient waste management
- Building maintenance
- Transport and logistics
- Monitoring and security
- Green areas and parks
- Medical assistance
- Education and information
- Disaster management
- Social interaction



Examples

- Fleet Optimizer
- SmartMail
- Assessment of building applications
- Optimizing the use of public buildings
- Graphic production
- Citizen involvement – e.g. CreaVisions
- Local language models
- CAIIA – Conversational AI

Aarhus City Lab 2.0



EU COLLABORATION

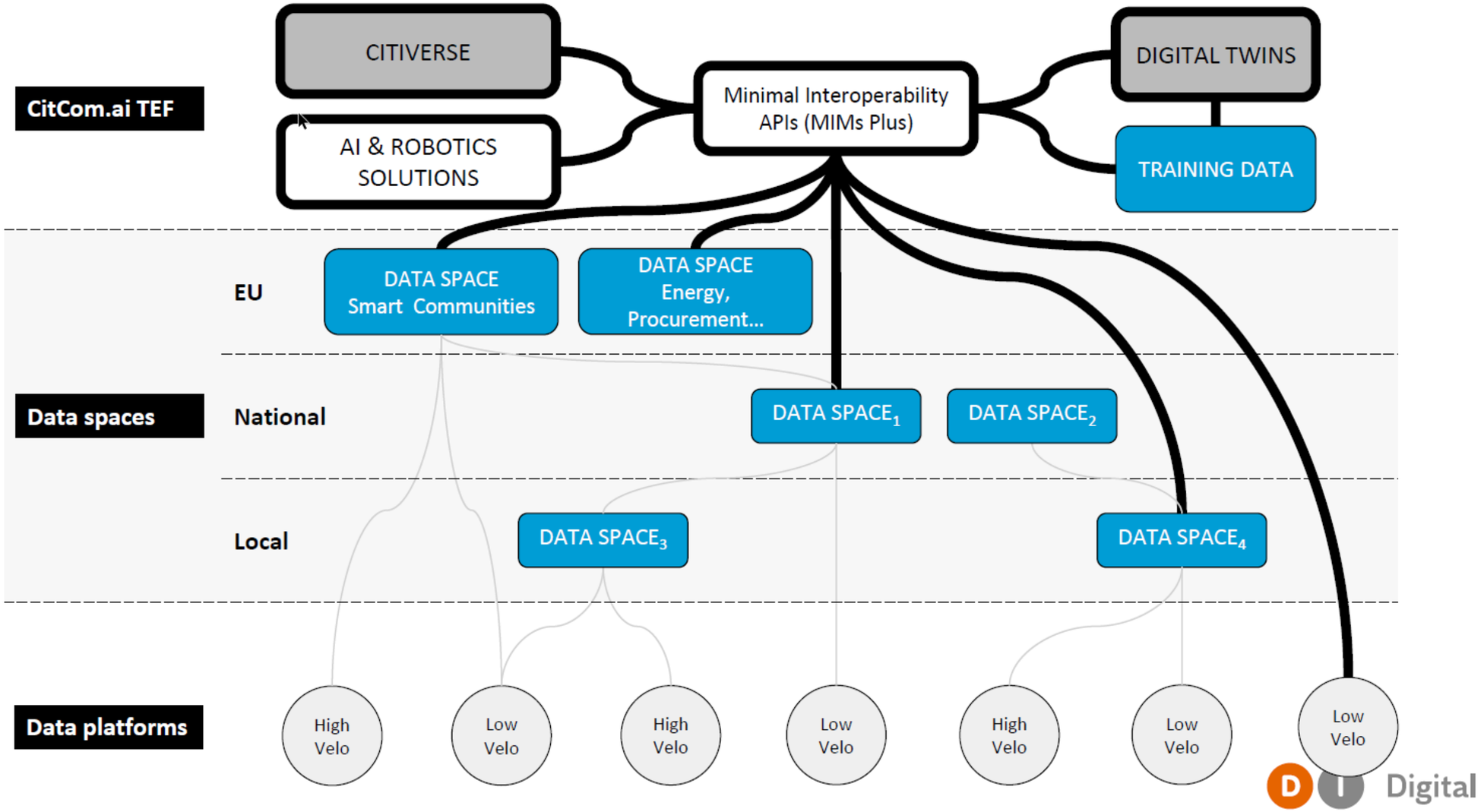
OPEN & AGILE SMART CITIES

LIVING-IN.EU

JOIN, BOOST, SUSTAIN

100 Intelligent Cities Challenge

Digital Europe
The Red Thread



Digital

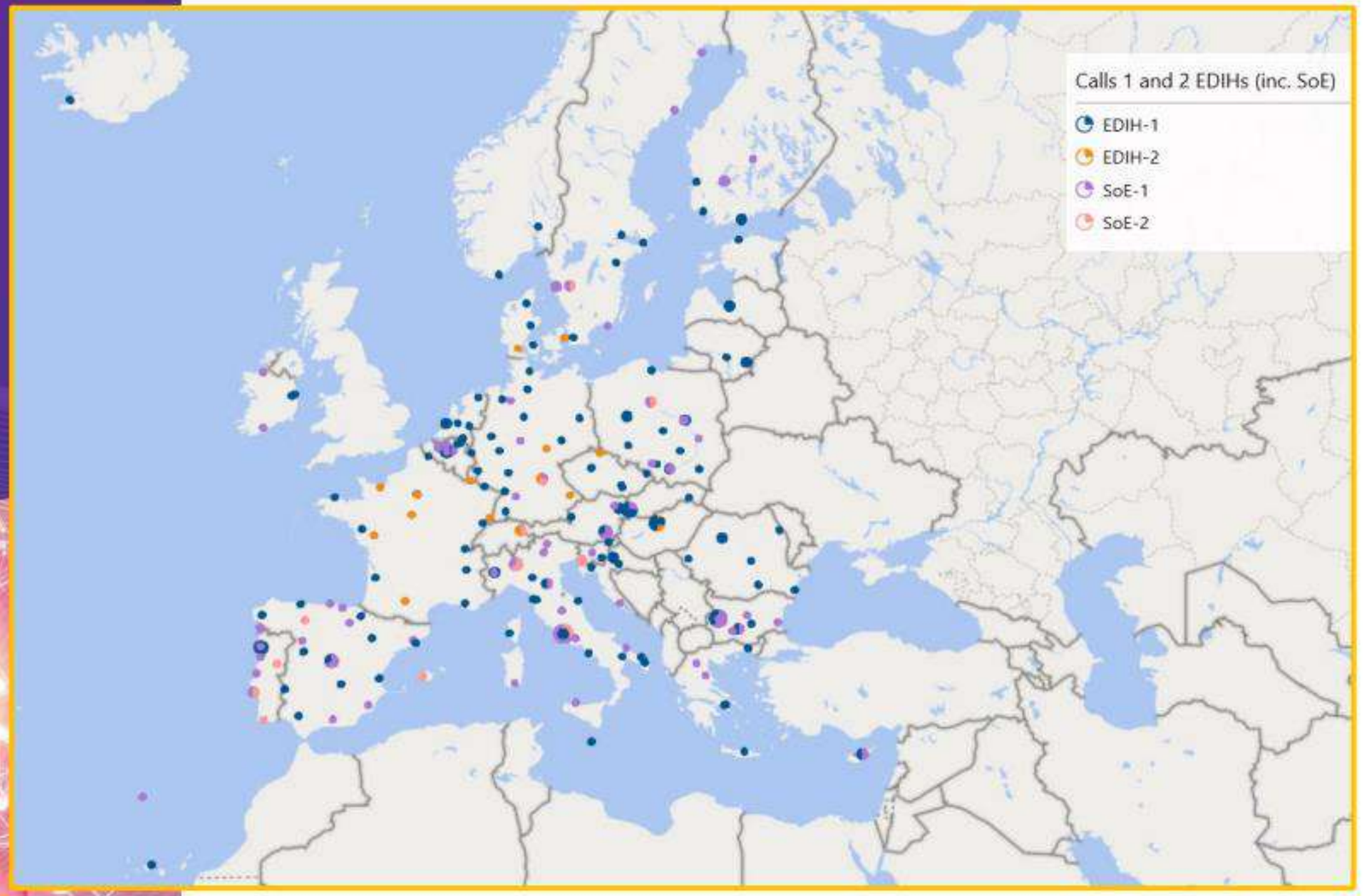
Strong foundation

Get Smart City into play:

TECHCIRCLE

CitCom AI

A European EDIH landscape



- 151 EDIHs funded by DIGITAL
- 98 Seal of Excellence EDIHs
- EU27, Norway, Iceland, Liechtenstein

https://ec.europa.eu/edih

European Commission


Test before invest
Skills and training
Digital Innovation Hub
Support to find investment
Innovation ecosystem & networking

CitCom AI

TEF-Health
Testing and Experimentation Facility
for Health AI and Robotics

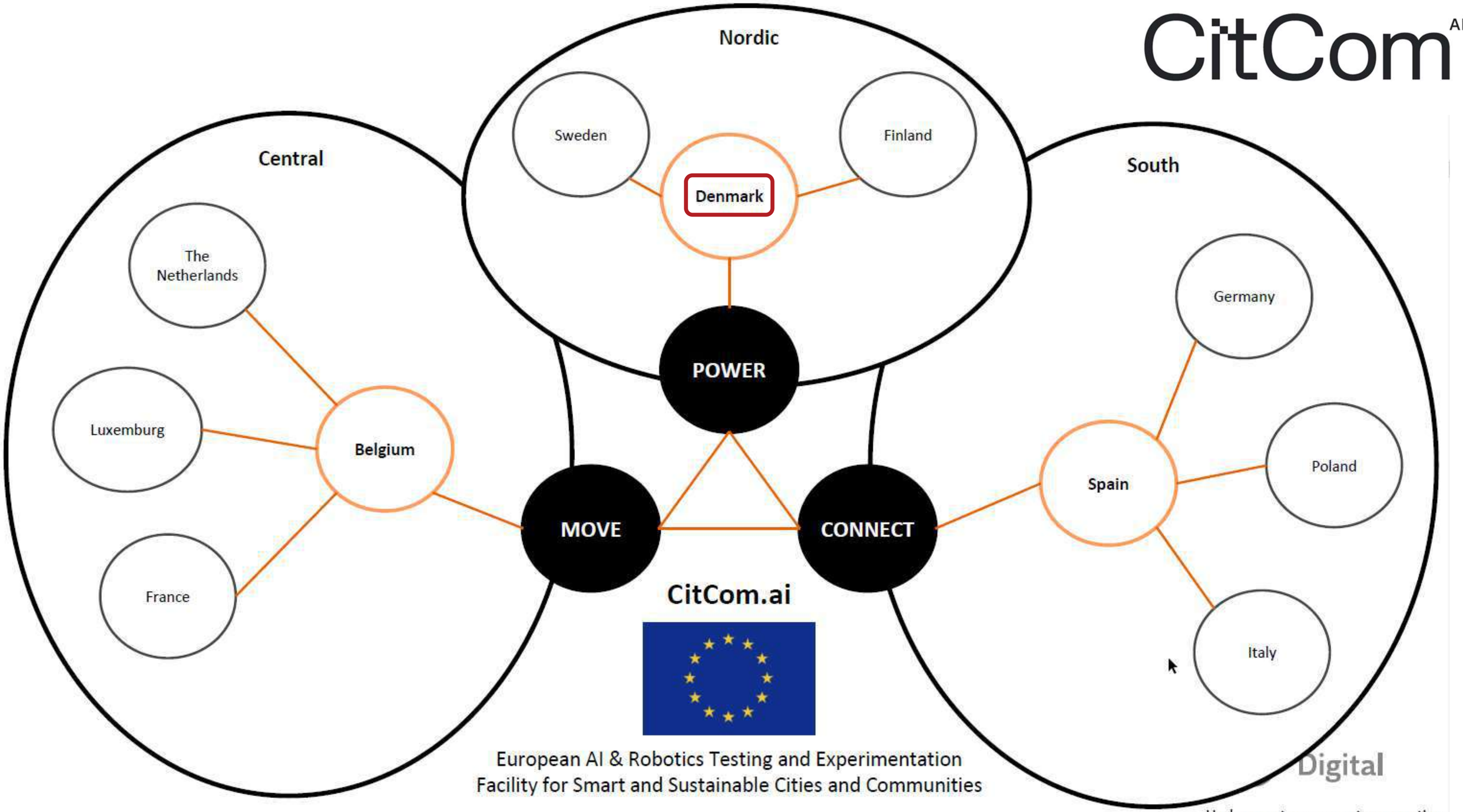
TEF

BRINGING RESPONSIBLE AI
TO EUROPE AND THE WORLD

AI matters

TEF agrifood

CitCom.AI



CitCom.ai

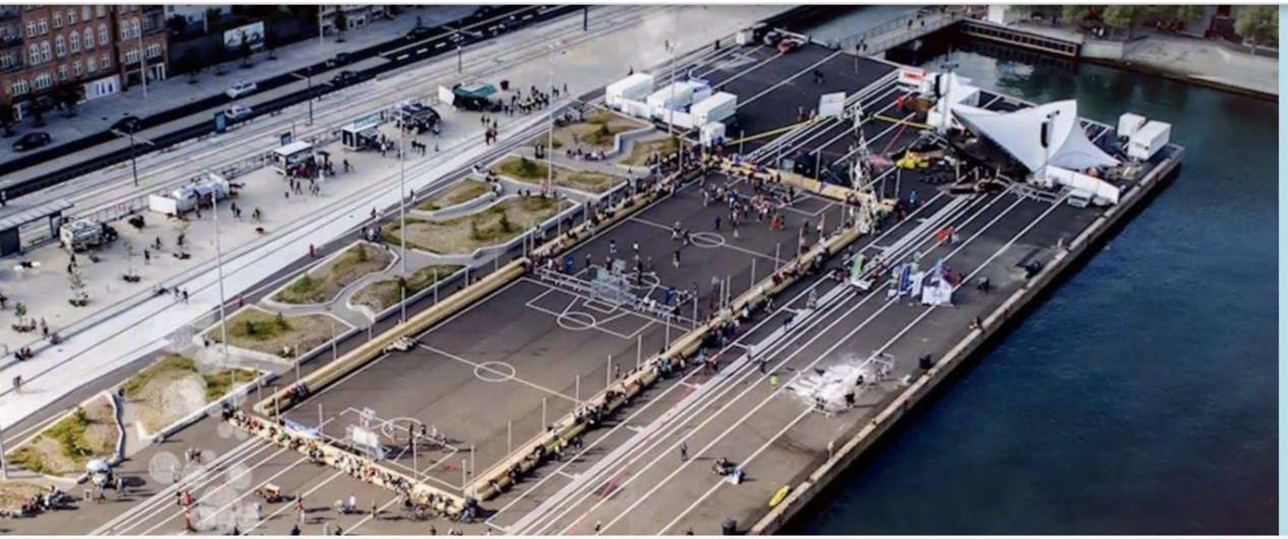
European AI & Robotics Testing and Experimentation Facility for Smart and Sustainable Cities and Communities

Digital

Under grant agreement preparation

CitCom AI

Testing AI in Smart Cities and Communities



Aarhus City Lab

Aarhus Kommunes digitale legeplads og udstillingsvindue for Smart City-løsninger

Samarbejd med os

- → Virksomheder
- → Studerende
- → Afdelinger i Aarhus Kommune

Testfaciliteter

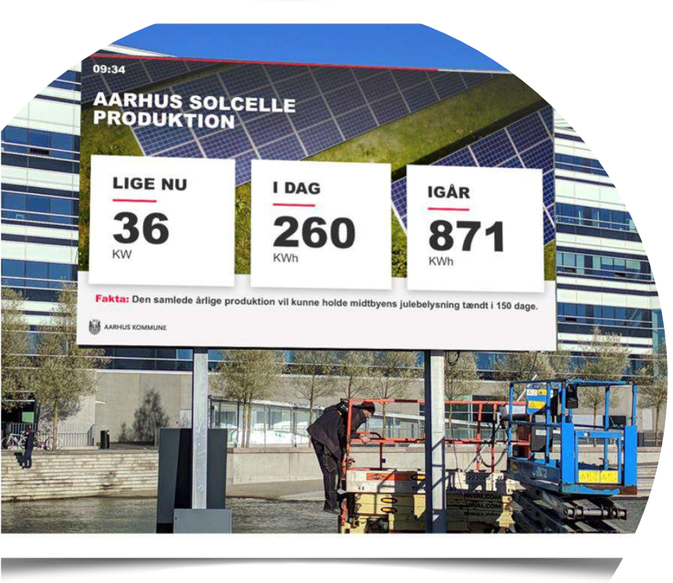
- → TAPAS
- → LoRaWan
- → Testområdet 'Aarhus CityLab'

Aarhus City Lab

- → Aktuelt
- → TechCircle (EDIH)
- → CitCom.ai (TEF)

Smart City - Smart Aarhus

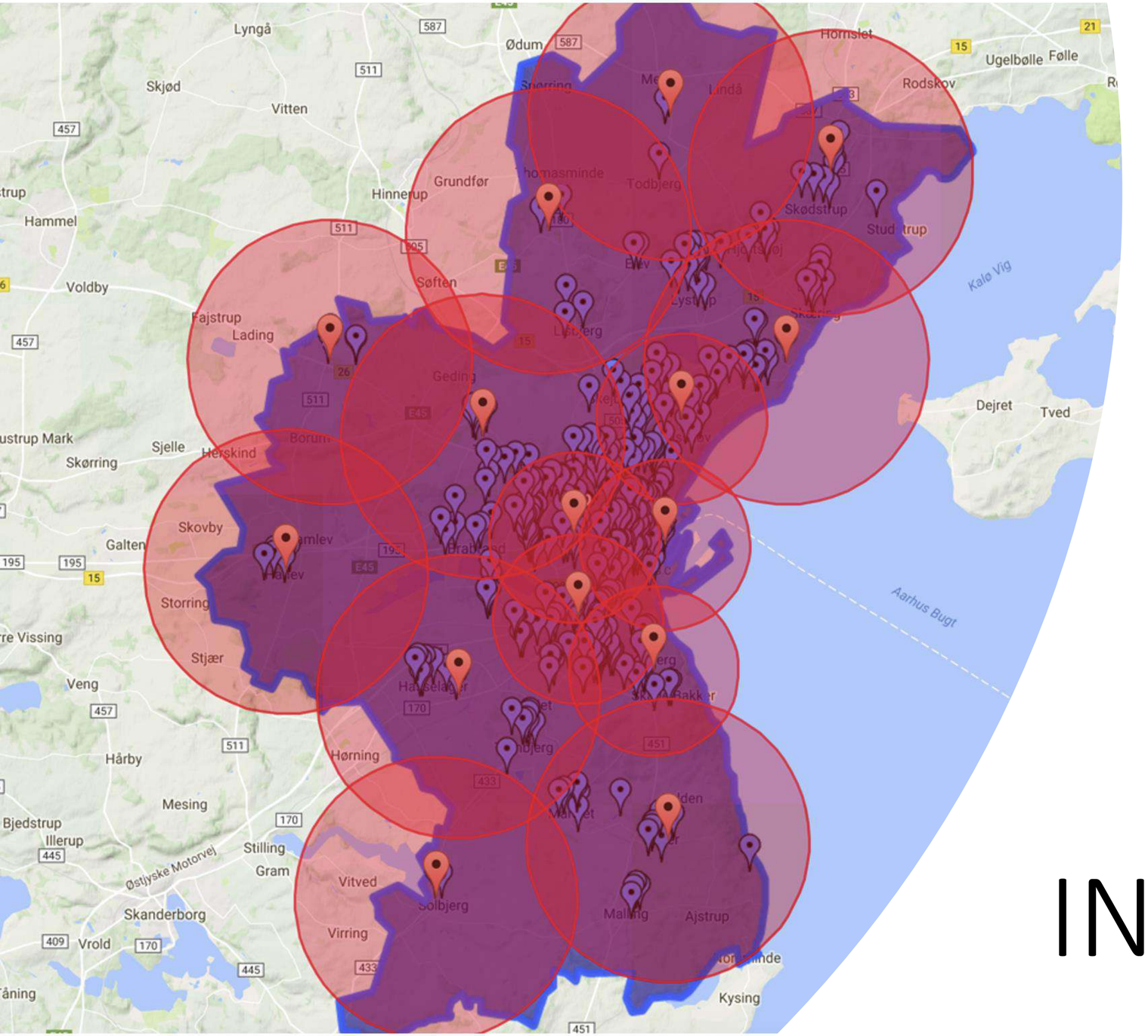
- → Smart Aarhus



Aarhus City Lab

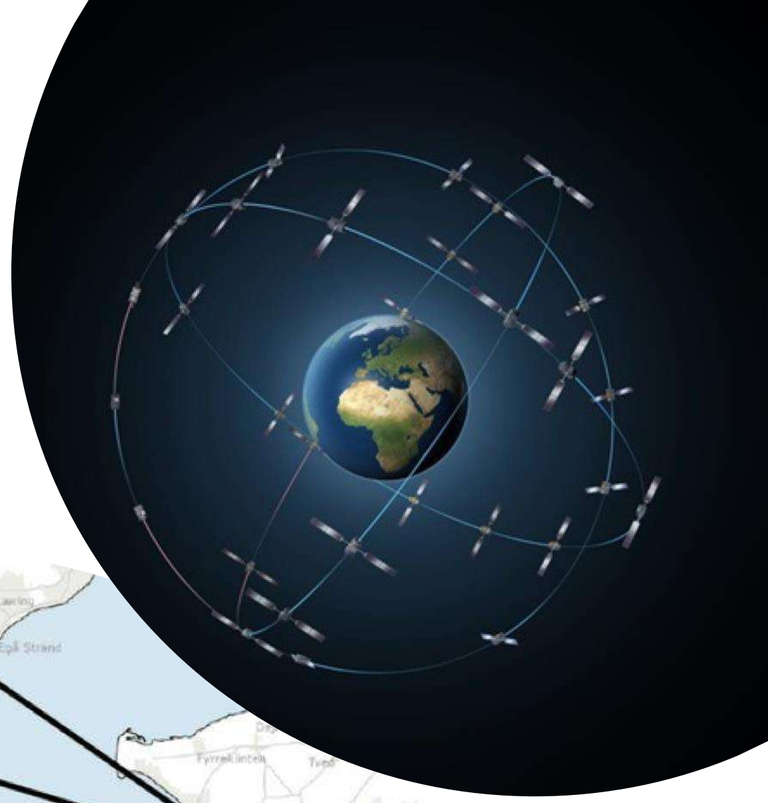
- Test facility and showroom for innovative smart city solutions
- A tool and forum for dialogue between citizens, businesses and the city
- Single-point-of-entry that facilitates contact with companies across the municipality
- Test and development partner for companies
- Home of TechCircle and CitCom.ai

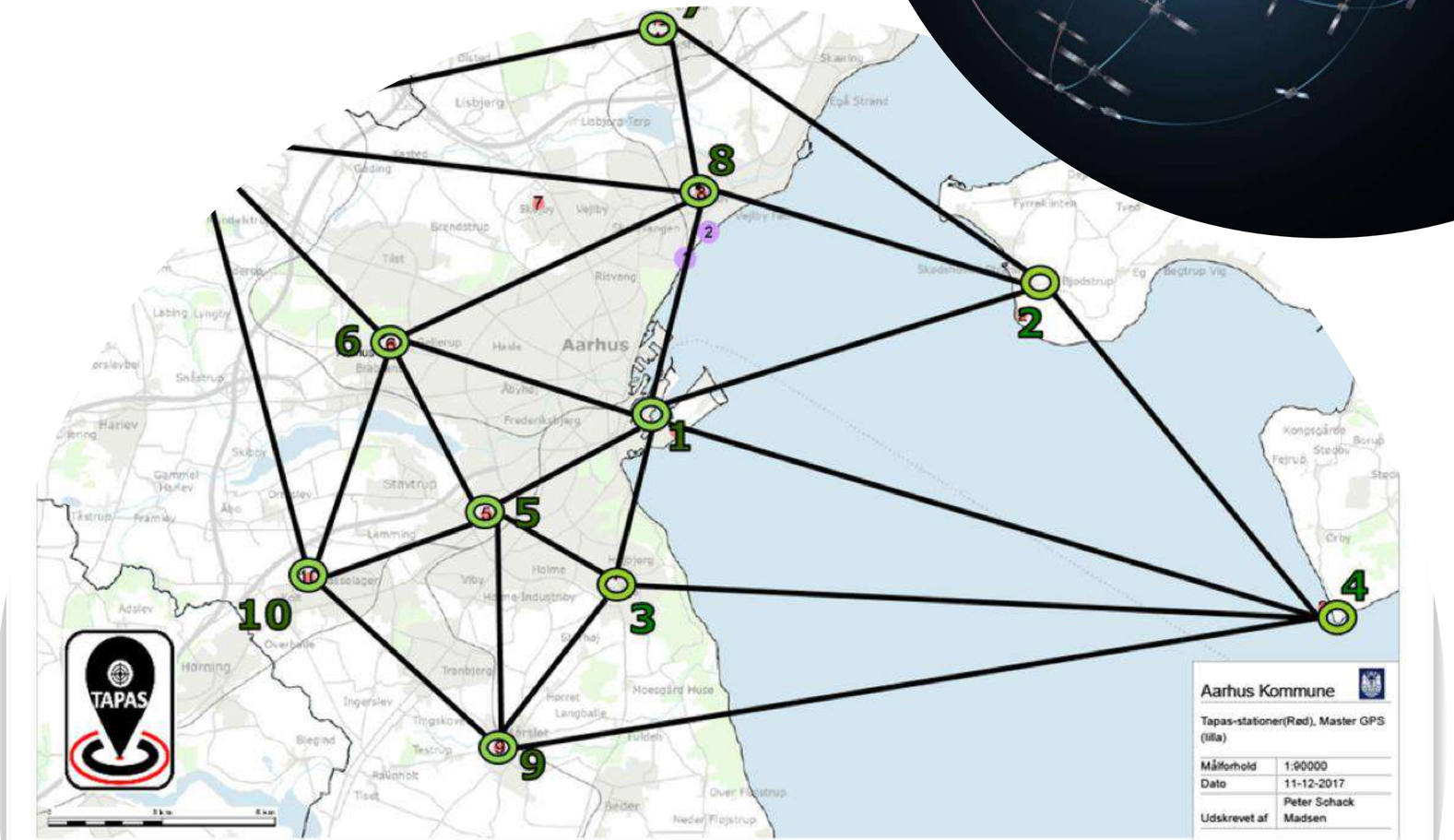

IOT CONNECTIVITY
SMART LIGHTNING
SOIL SENSING
WASTE LEVEL
CROWD MONITORING
OUTDOOR CLIMATE
WATER INFO



INFRASTRUKTUR

TAPAS & “5G”




8
2
6
Aarhus
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3
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TAPAS
Aarhus Kommune
Tapas-stationer(Rød), Master GPS (lilla)
Målforhold 1:90000
Dato 11-12-2017
Udskrevet af Peter Schack Madsen

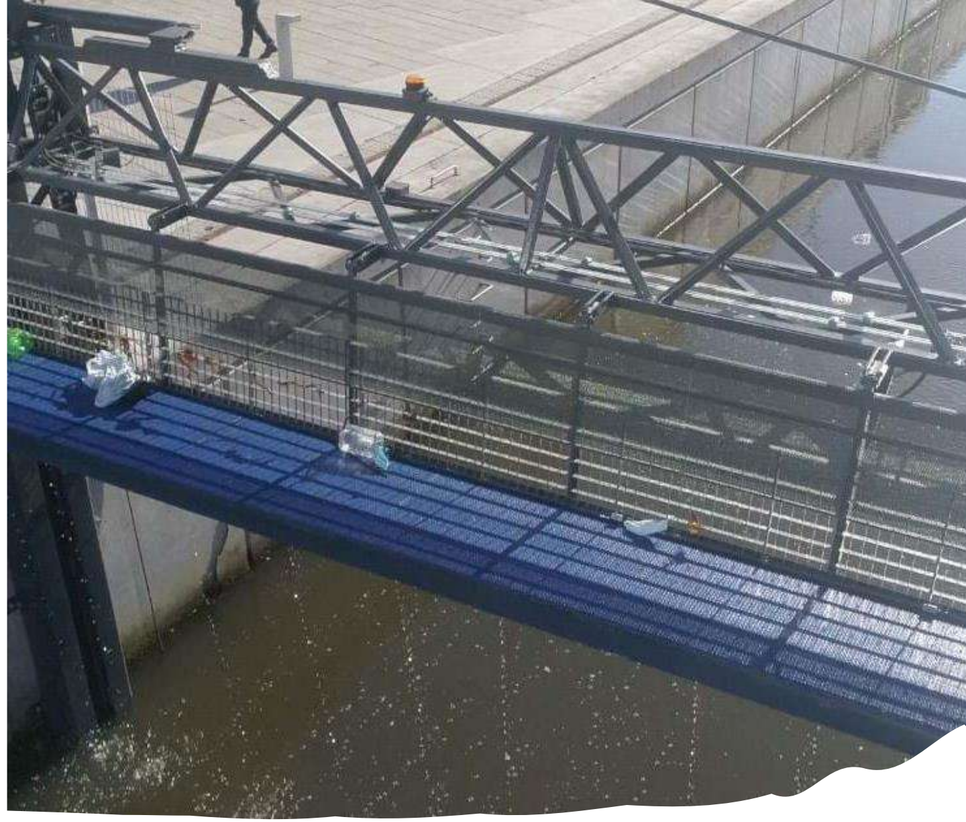
SMART AARHUS

03-30-21 | WORLD CHANGING IDEAS

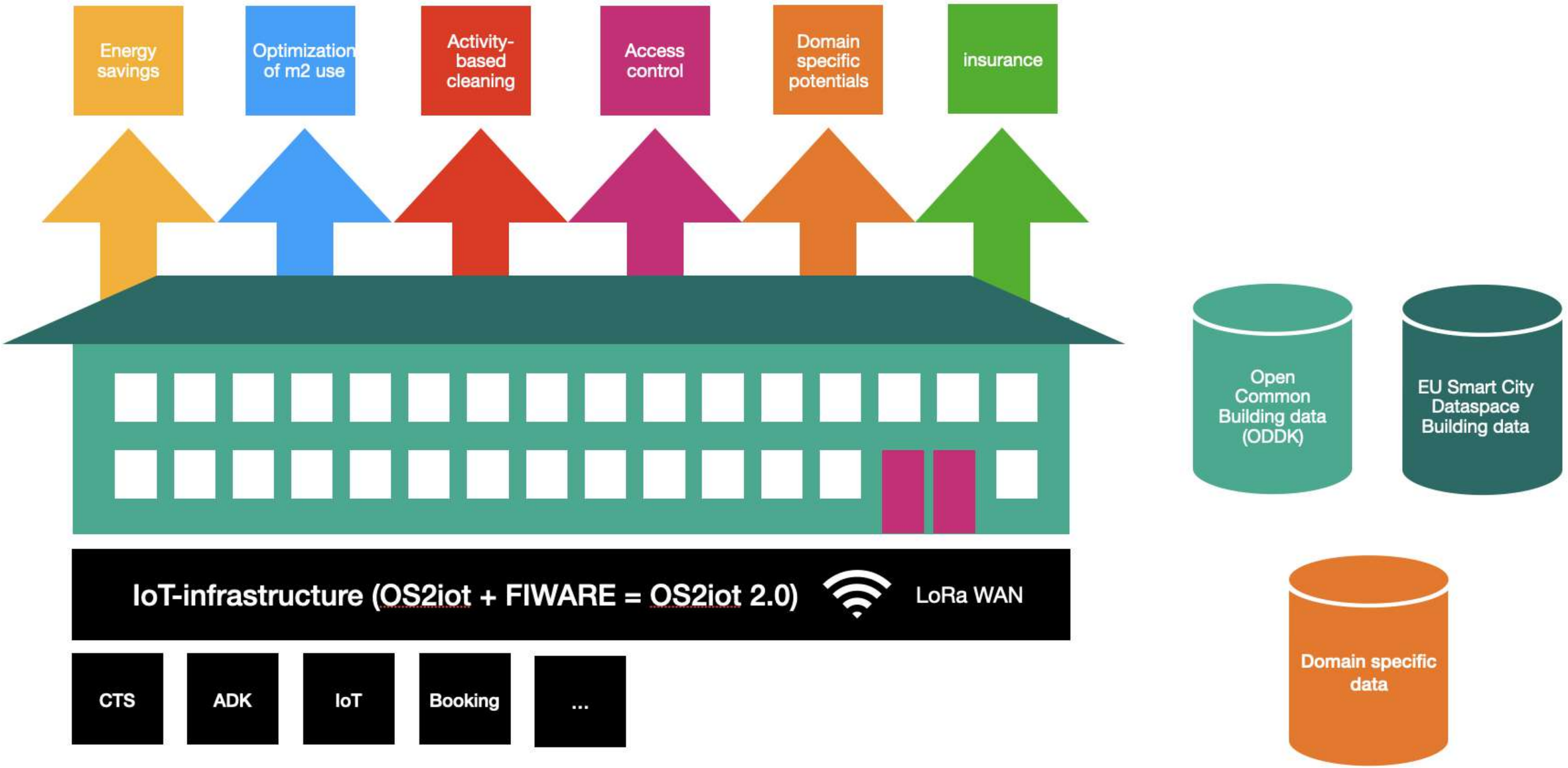
These drones look for trash in waterways—and then send sailing drones to clean it up

Together, flying drones and sailing drones are helping to clear rivers of plastic waste and oil spills.

FAST COMPANY

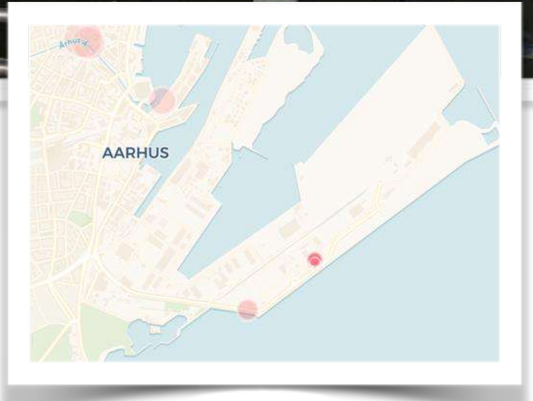


SEA PROTECTOR ONE


Energy savings
Optimization of m2 use
Activity-based cleaning
Access control
Domain specific potentials
insurance
Open Common Building data (ODDK)
EU Smart City Dataspace Building data
IoT-infrastructure (OS2iot + FIWARE = OS2iot 2.0)
LoRa WAN
CTS
ADK
IoT
Booking
...
Domain specific data


TrygFonden
Når jeg hænger her kan jeg redde liv
respektforvand.dk


TrygFonden


AARHUS


Oceanvej
Østhavnsvej

Monitoring of temperature on bike lanes

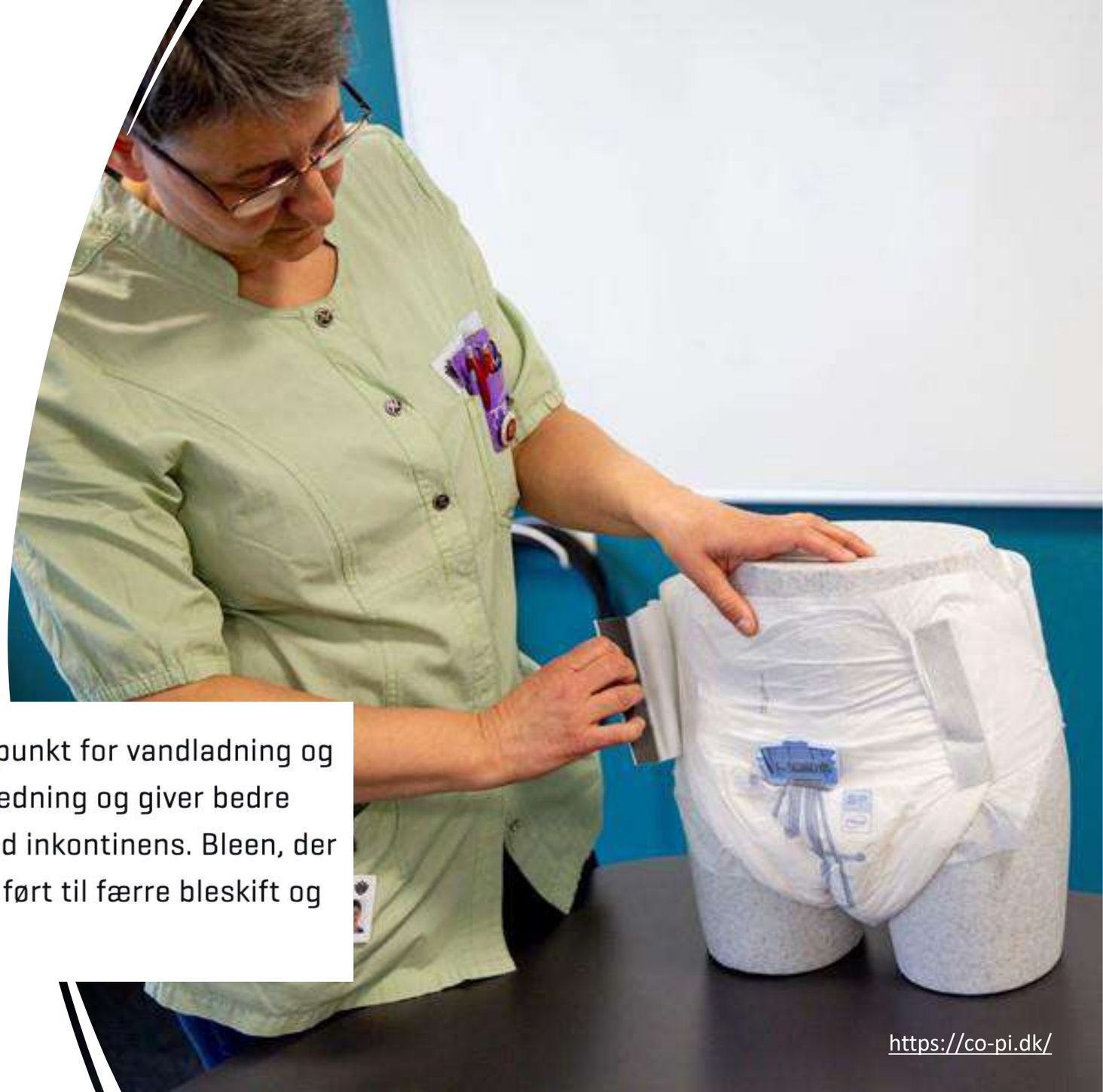
mmunen skal skære
igt i snerydningen:
sikkerheden udfordres

MADSEN
28. ma 2018 kl. 19:55

1/1

ter kassen. Derfor skal Aarhus Byråd tage stilling til et spare-vinterregulativ.

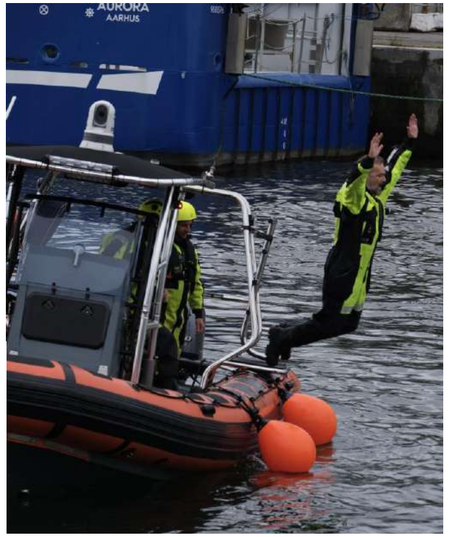
Sensor diper



En ble med en chip, der registrerer tidspunkt for vandladning og vandladningsmængde, sikrer bedre udredning og giver bedre livskvalitet og værdighed til borgere med inkontinens. Bleen, der er indført i Hjørring Kommune, har bl.a. ført til færre bleskift og lækager.

https://co-pi.dk/

”I know what you did last summer…….”



VILDE ROBOTTER

Q&A's

Jesper Algren

ITK
City of Aarhus

ajekr@aarhus.dk
+45 2168 0856


LIVING-IN.EU

Living-in.EU

Who has joined?

188 representatives of a public administration at local, regional, national or European level, have signed the Declaration.

5 Danish representatives have signed!

Viborg Kommune

Ringkøbing-Skjern Kommune

City of Aarhus

Odder Kommune

Randers Kommune

European Commission

FUNDING OPPORTUNITIES FOR LOCAL COMMUNITIES

European Commission

Andreas Nykjær

Danish Agency for Digital Government
NCP for the Digital Europe Programme

National Contact Point (NCP) for the Digital Europe Programme

We can help you understand Digital Europe and find funding opportunities in the programme.

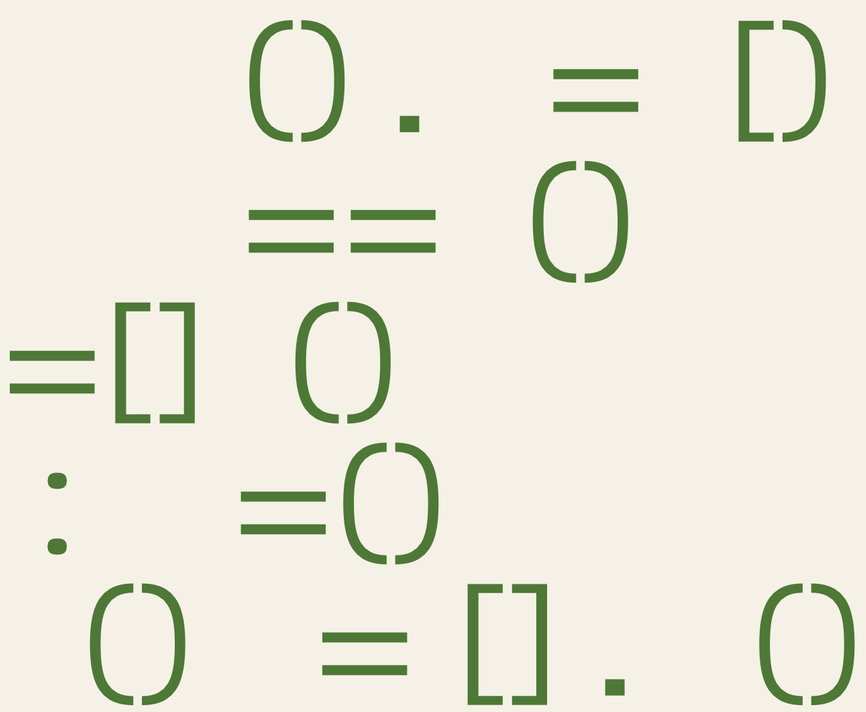
We negotiate the content of Digital Europe on behalf of Denmark.

We are responsible for a number of national initiatives concerning Digital Europe, data spaces, LDTs and more.

European Commission

Agenda

- Short introduction to the Digital Europe Programme (DEP)
- Funding opportunities for Local Digital Twins in DEP
- Danish national fund to co-fund Digital Europe projects
- How our agency can help you with Digital Europe
- Danish Data Space Forum: Kick off on November 14, 2024



The Digital Europe Programme

Brief introduction to Digital Europe

Digital Europe is the EU’s programme for digital transition and deployment of new digital technologies in Europe.

Budget

7,5 billion EUR (56 mia. DKK) in 2021-2027.

The twin transition

Greater use of data and digital technologies shall contribute to Europe’s green transition, for example Local Digital Twins and data spaces.

EU competitiveness

Digital investments are necessary to enable Europe to compete with the US, China and other regions in the global technological race.

Deployment of digital technologies in Europe

Broad deployment of new digital technologies for the benefit of citizens, companies and society in general. Digital Europe is all about deployment.

Brief introduction to Digital Europe

Digital Europe funds pan-European projects within a broad range of topics and themes.
The programme has multi-annual work programmes.

High Performance Computing

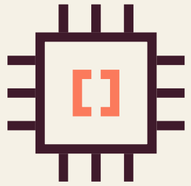
Establishing a strong ecosystem of supercomputers in Europe for the training of AI models etc.

Artificial Intelligence

Development and deployment of AI-based solutions without compromising fundamental rights.

Data & cloud

Establishing and deploying European cloud solutions, LDTs and sector-specific data spaces.



Semiconductors / microchips

Reducing Europe's dependence on semiconductors from other regions of the world.

Cybersecurity

Strengthening Europe's ability to withstand cyber threats to public bodies, companies, critical infrastructure etc.

Advanced digital skills

Education and upskilling in advanced digital skills.

Brief introduction to Digital Europe

Call for proposal

Digital Europe operates with calls where the EU makes funds available for European actors to realise projects with a specific purpose in mind – very top down.

Competition

The best applicants win a call. It varies how many projects are funded within the same call. In Digital Europe it is often only one project.

Funding rate of 50 percent

Digital Europe typically funds 50 percent of a project – and sometimes 75 percent for SMEs. Applicants need to co-finance the rest or find external funding.

Pan-European partnerships

Actors apply for calls in pan-European partnerships (consortia). Typically the partners have to be from at least three different Member States.

What is the process to apply for EU funding?

1

Understanding the work programmes is your best starting point for finding the right calls for proposals and beginning to look for partners.

2

Seek support from your NCP when drafting your proposal and submit it before the deadline on the Funding and Tenders portal.

3

Once a call closes, submitted **proposals will be evaluated by independent experts** to select proposals that will receive funding.

4

Grant agreements are prepared for the selected projects in collaboration with the beneficiaries.

5

Once the Grant Agreement is signed, the project implementation can start and the grant is paid according to the Grant Agreement’s conditions.

Digital Europe: funding instruments

- **SIMPLE**: Simple Grants (SIMPLE) are a flexible type of action used by a large variety of topics and can cover most activities. The consortium will mostly use personnel costs to implement action tasks, activities with third parties (subcontracting, financial support, purchase) are possible but should be limited. Funding rate is 50%.

- **SME Support**: SME Support Actions (SME) are a type of action primarily consisting of activities directly aiming to support SMEs involved in building up and the deployment of the digital capacities. This type of action can also be used if SMEs need to be in the consortium and make investments to access the digital capacities. Funding rate is 50%, except for SMEs where a rate of 75% applies.

- **Coordination and Support activities (CSA):** 100% funding (network with your colleagues on key policy issues)

- **FSTP**: Cascade funding, also known as Financial Support for Third Parties (FSTP), is a Commission mechanism to distribute public funding in order to assist beneficiaries, such as start-ups, scale-ups, SME and/or mid-caps, in the uptake or development of digital innovation.

Digital Europe: eligibility criteria

Article 18 of the Regulation (EU) 2021/694 establishing the Digital Europe Programme:

The following legal entities shall be eligible to participate in the Programme:

- legal entities established in:
  - a Member State or an overseas country or territory linked to a Member State;
  - a third country associated to the Programme […];
  - any other legal entity created under Union law and any international organisation of European interest.
  - legal entities established in a third country which is not associated to the Programme shall be eligible to participate in specific actions where their participation is necessary to achieve the objectives of the Programme.
- Natural persons shall not be eligible to participate in the Programme.
- Most calls require consortia to submit project proposals.

Example of a call

2.2.1.2 Data Space for Tourism

Objective

The objective is to develop a trusted and secure common European data space for tourism, which will provide the ecosystem with access to information, with an impact on productivity, greening and

Scope

Develop and deploy the data space and its infrastructure on the basis of the blueprint elaborated under the preparatory action of the previous WP. Further engage the ecosystem's community and ensure the interconnection with European, national and local initiatives, in both urban and rural settings, as well as with other sectoral data spaces.

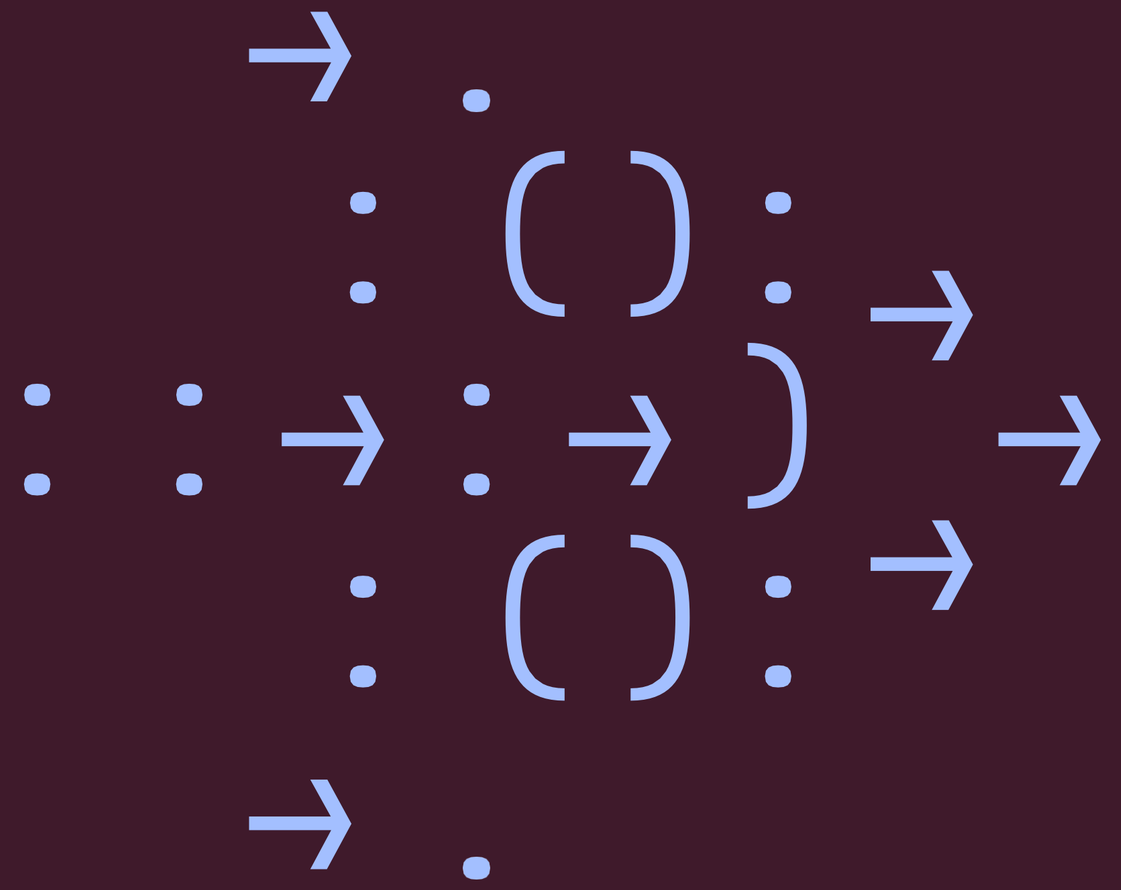
Develop pilot use cases for different data types and fields of activities related to tourism, for example

Deliverables

- Infrastructure for the Tourism Data Space.
- Connections between relevant local and national data ecosystems and initiatives at EU level.
- Establish connections with other sectoral data spaces.
- Guidance/training documents to involve stakeholders in sharing data.
- Exploitation of available data for better interconnection, exchange of information and re-use.
- Once the data space is operational, regular updates on usage data and troubleshooting.

Type of action	Simple grant
Indicative budget	EUR 8 million
Indicative call planning	Second set of calls
Indicative duration of the action	36 months
Implementation	Executive Agency HaDEA
Type of beneficiaries	Public and private entities such as (but not limited to) public administrations and/or governmental bodies, economic actors/SMEs, relevant associations, alliances and NGOs, academia/universities/research organisations, etc.).

Funding opportunities in Digital Europe for LDTs



DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

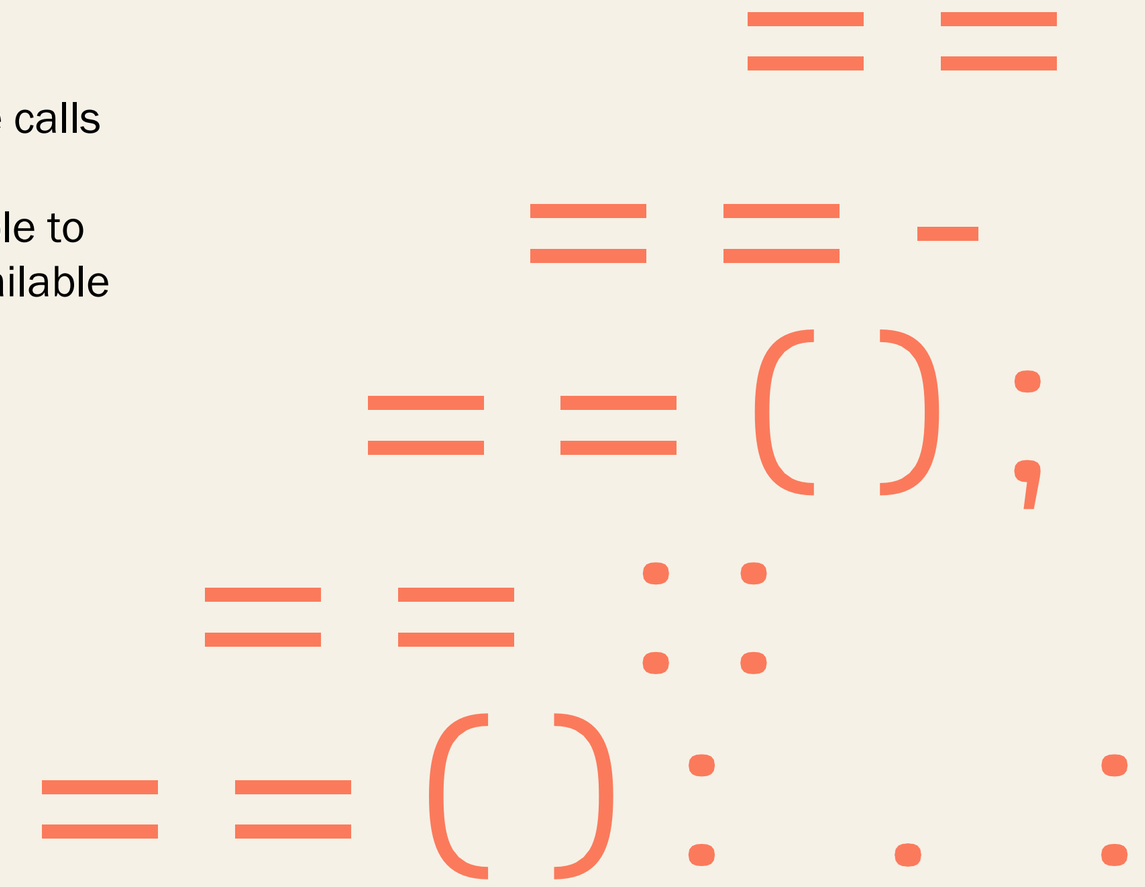
Towards networked Local Digital Twins in the EU

DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN	
Opening of the call	July 4 2024
Application deadline	November 21 2024
Evaluation	December 2024 – January 2025
Evaluation results	March 2025 – April 2025
Grant agreement signature	August 2025
EU budget (mio. EUR)	20
Type of EU grant	Grants for Financial Support
Funding rate	50 percent
Project duration	36 months*

DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

- At least 85 percent of the EU budget will be used on cascade calls
- Only one consortium can win this call, however you will be able to apply for the cascade calls that the consortium will make available

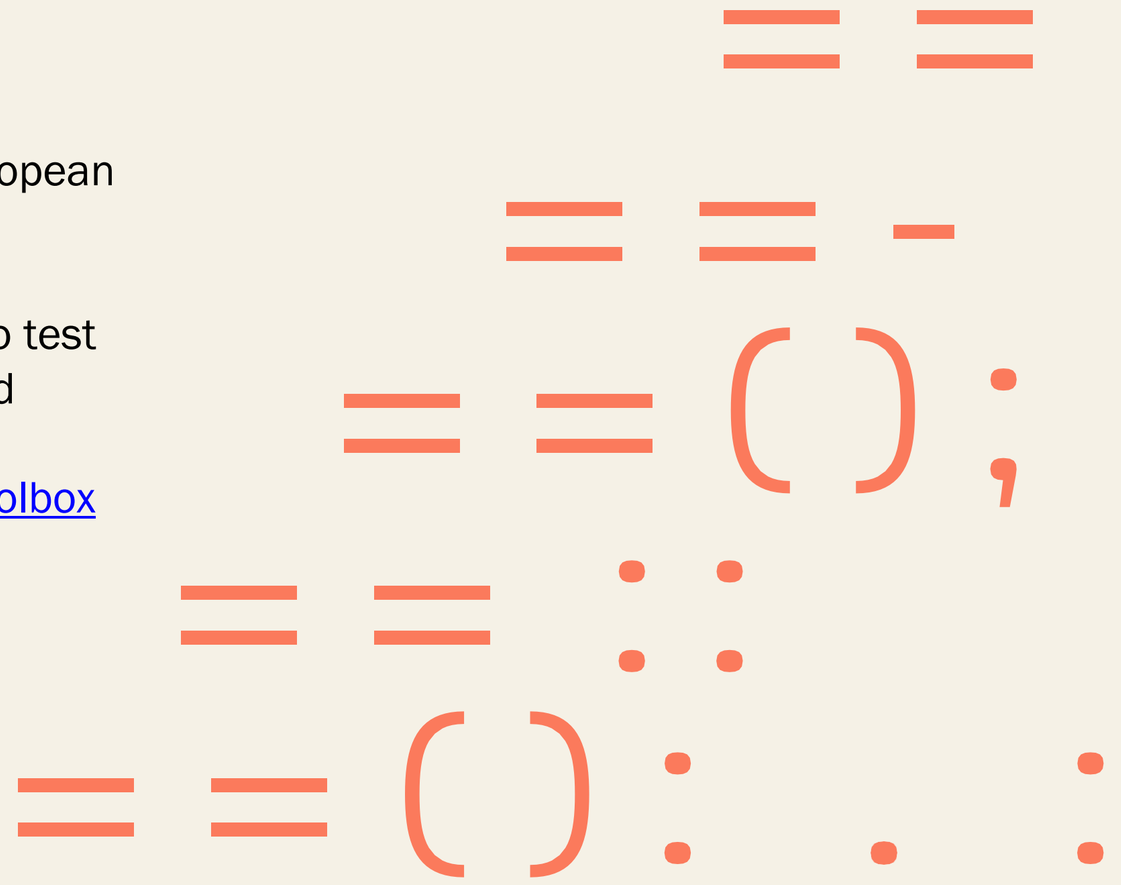


DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

The aims of the project:

- Development and deployment of a mature and connected European network of LDTs
- Development of LDTs which enable cities and municipalities to test new infrastructure virtually before deployment in the real world
- Consolidating existing EU initiatives on LDTs, including LDT Toolbox and Data Space for Smart Communities

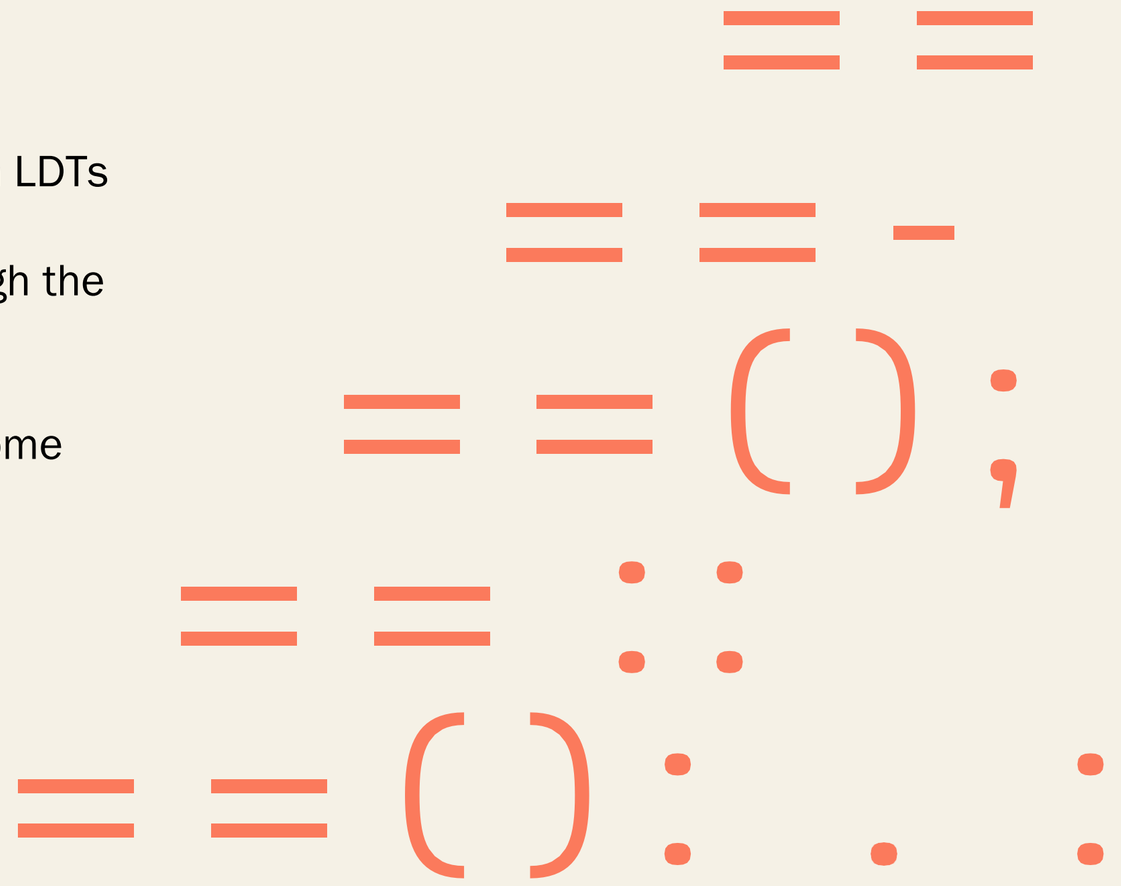


DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

Work strand 1 of 3:

- Development of a ”federation” of cloud-based and data driven LDTs
- If possible the LDTs should be integrated across the EU through the tool Simpl
- Less advanced cities and communities should be able to become connected to the European ecosystem of LDTs

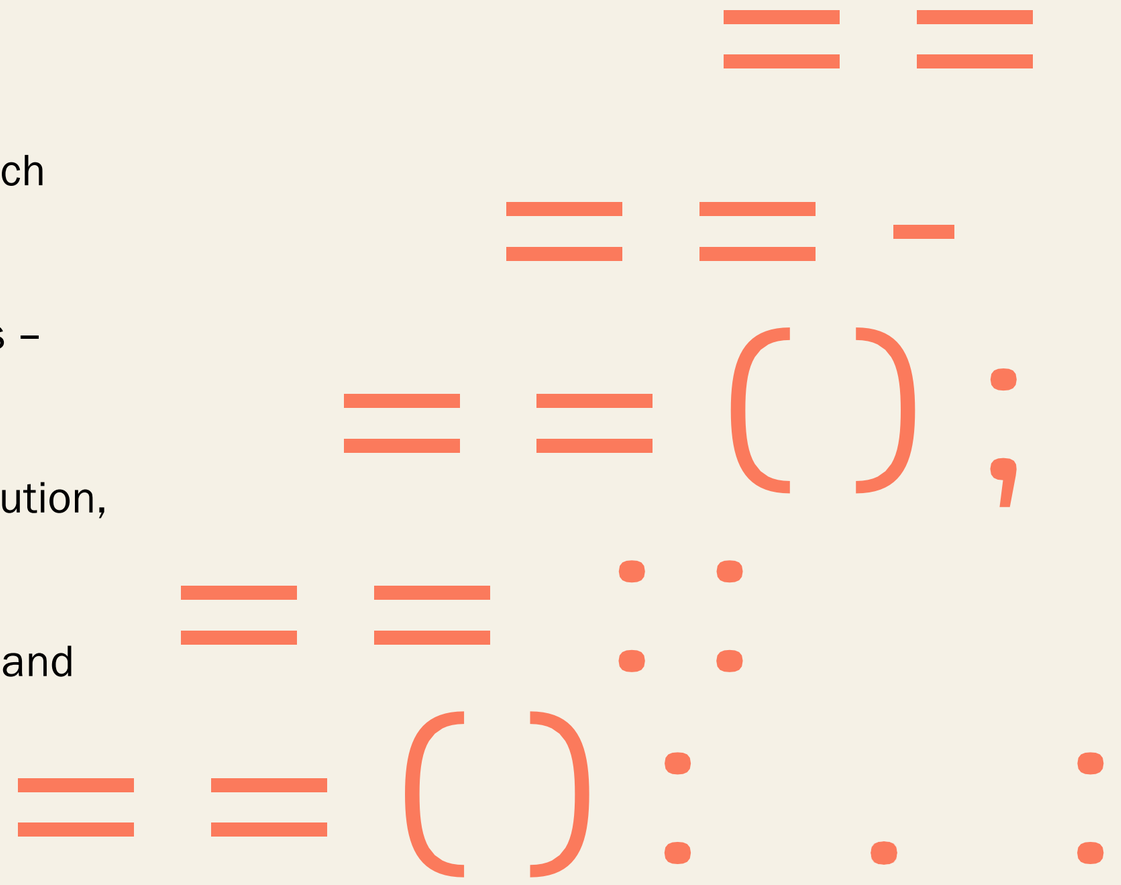


DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

Work strand 2 of 3:

- Development of open source-based pilot projects for LDTs which offer solutions within important sectors for cities
- These pilot projects will likely be funded through cascade calls – which you could apply for!
- Development of LDTs concerning energy consumption, air pollution, water consumption, mobility etc.
- LDTs should improve the efficiency and sustainability of cities and communities and create economic value

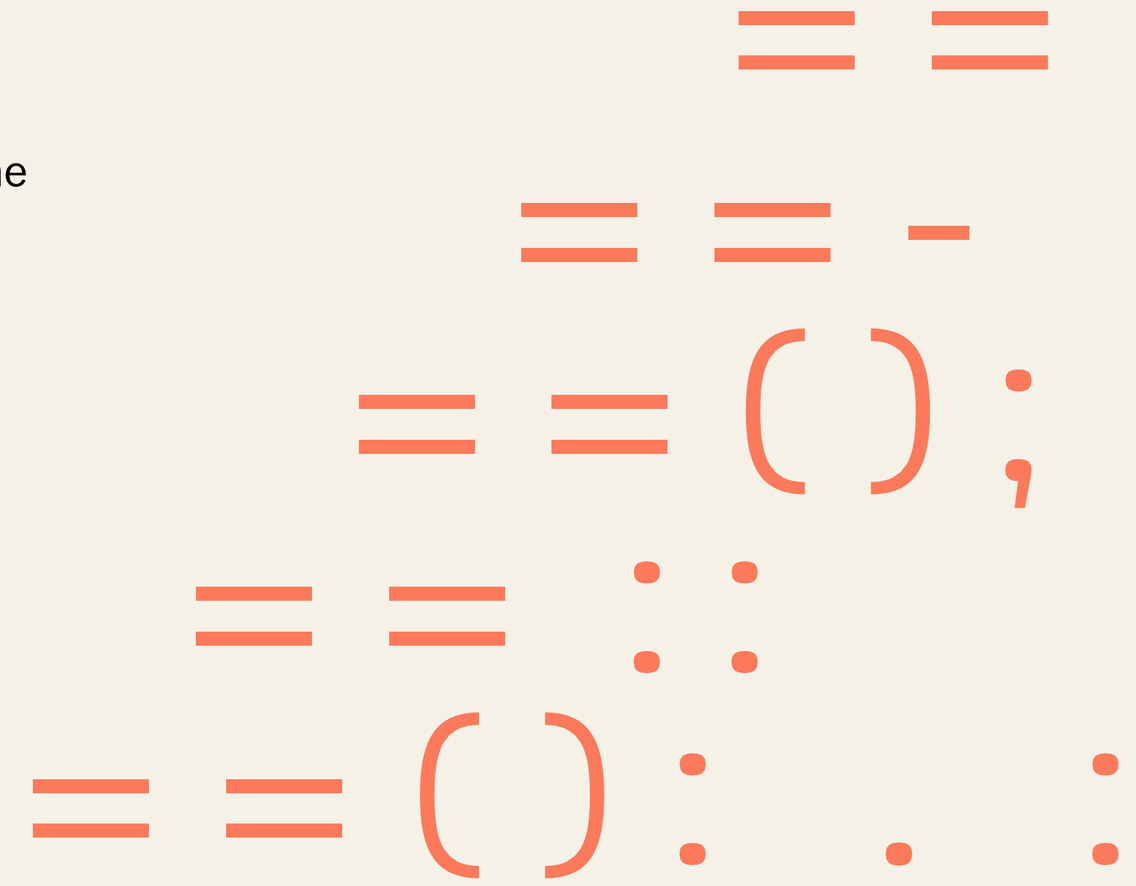


DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

Work strand 3 of 3:

- Furthering the development of the LDT Toolbox to enhance the development of LDTs in Europe

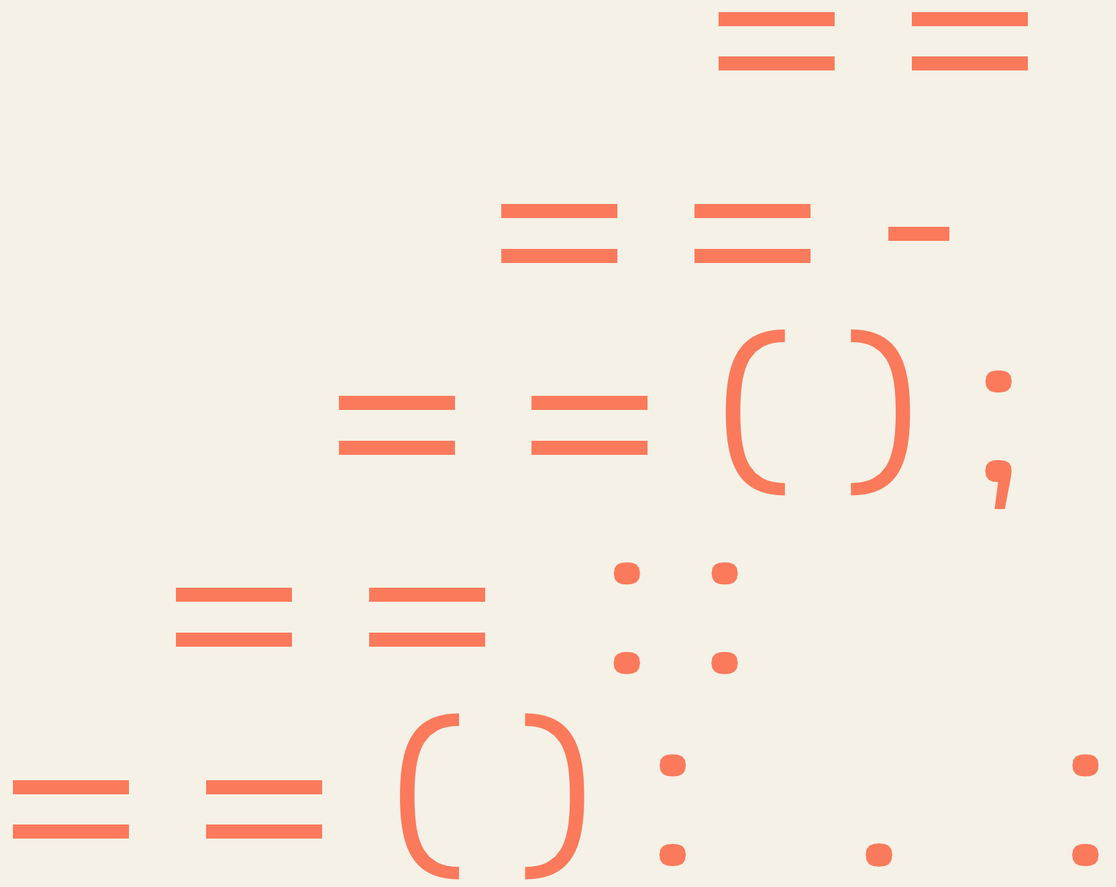


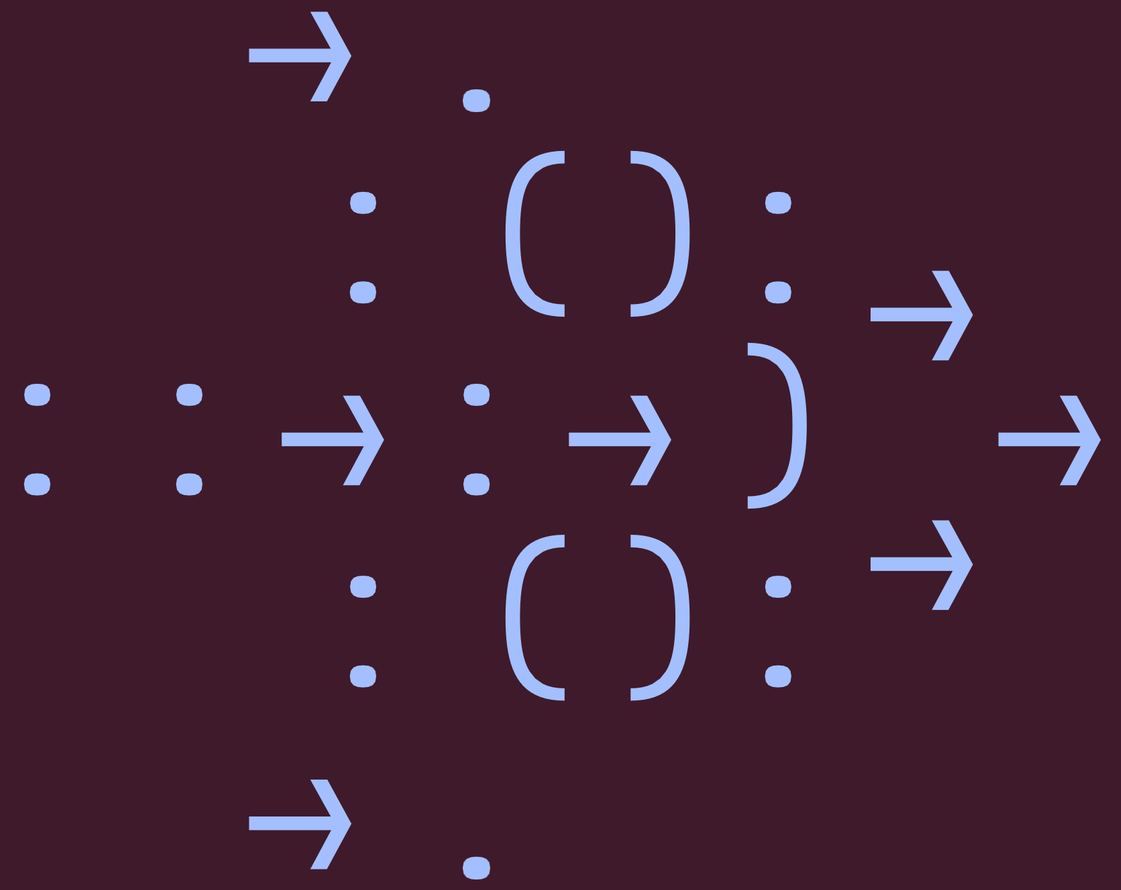
DIGITAL-2024-CLOUD-DATA-AI-07-DIGITALTWIN

Towards networked Local Digital Twins in the EU

Who can apply for the cascade calls?

- Public authorities
- Private companies; technology developers
- Research institutions





DS4SSCC-DEP

Call for Pilots within the European data space for smart communities (submission round 3)

DS4SSCC-DEP

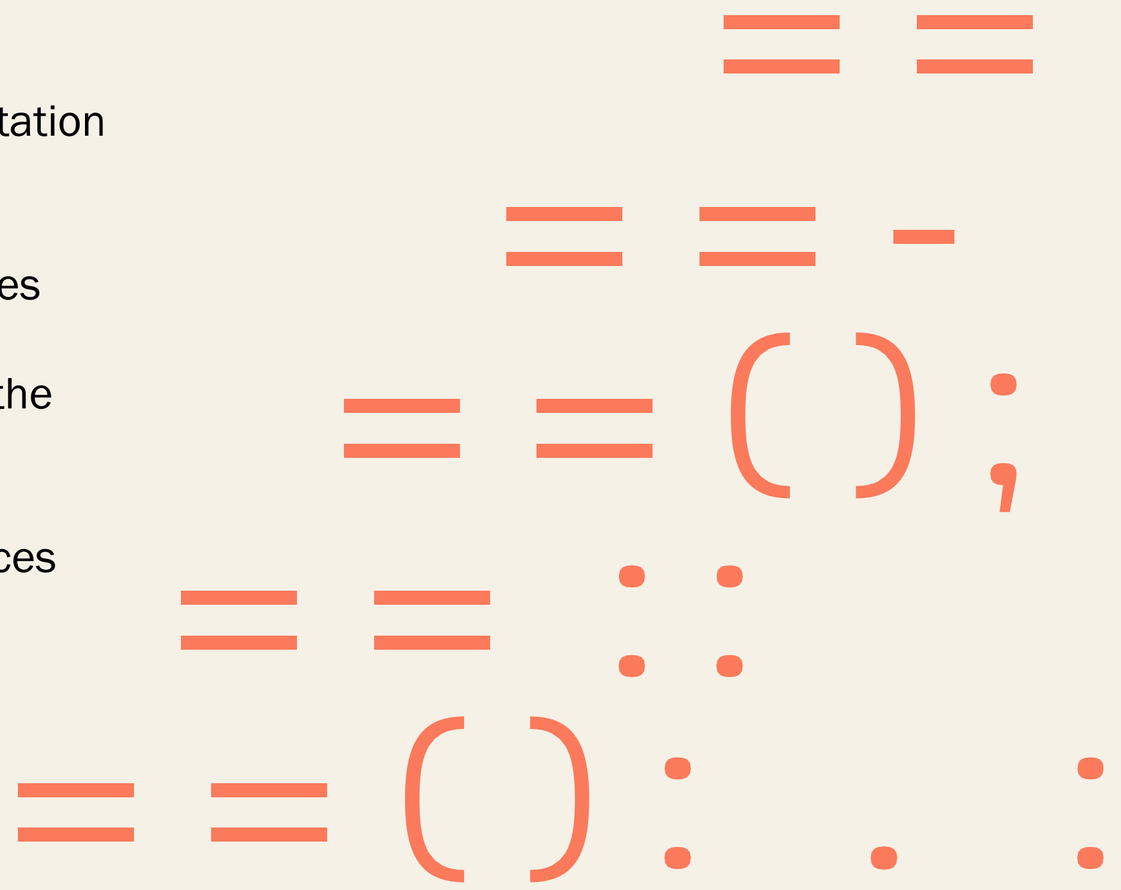
Call for Pilots within the European data space for smart communities (submission round 3)

Call for Pilots within the European data space for smart communities (submission round 3)	
Opening of the call	December 2024
Application deadline	February 2025
Evaluation	March 2025
Evaluation results	April 2025
Number of selected pilot projects	4 (might be adjusted)
EU budget (mio. EUR)	1,5 max per pilot project
Type of EU grant	Simple grant
Funding rate	50 percent
Project duration	12-16 months

DS4SSCC-DEP

Call for Pilots within the European data space for smart communities (submission round 3)

- Cascade funding for pilot projects that advance the implementation of data spaces
- Refining the governance and technical blueprint for data spaces
- Better data sharing for cities and communities contributes to the development of LDTs
- A pilot project should revolve around areas such as data-services related to weather and climate; management of energy flows; mobility planning; zero pollution actions etc.



Denmark’s digitilisation strategy 2024-2027

Denmark’s national digitilisation strategy

In February 2024 the Danish government published a new digitilisation strategy for 2024-2027.

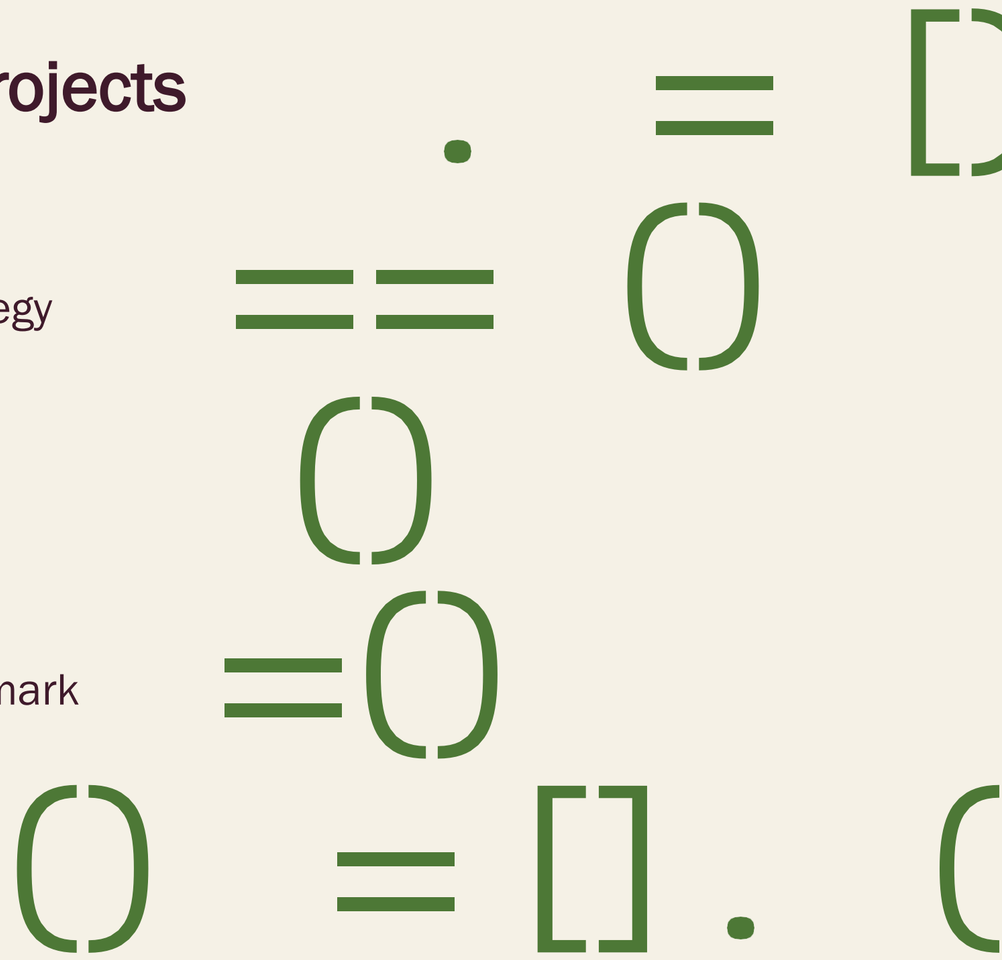
> *Vi skal sikre dansk deltagelse i EU’s digitale programmer, så vi kan hjemtage EU-midler til projekter med dansk deltagelse. Det kommer danske borgere, virksomheder og forskningsinstitutioner til gode.*

A focused effort on strengthening Denmark’s active participation in the Digital Europe Programme by establishing a national fund for co-funding, enabling more Danish actors to participate in the programme.

The establishment of a Danish Gaia-X Hub to coordinate between Danish actors concerning the development of a European data economy and European data spaces.

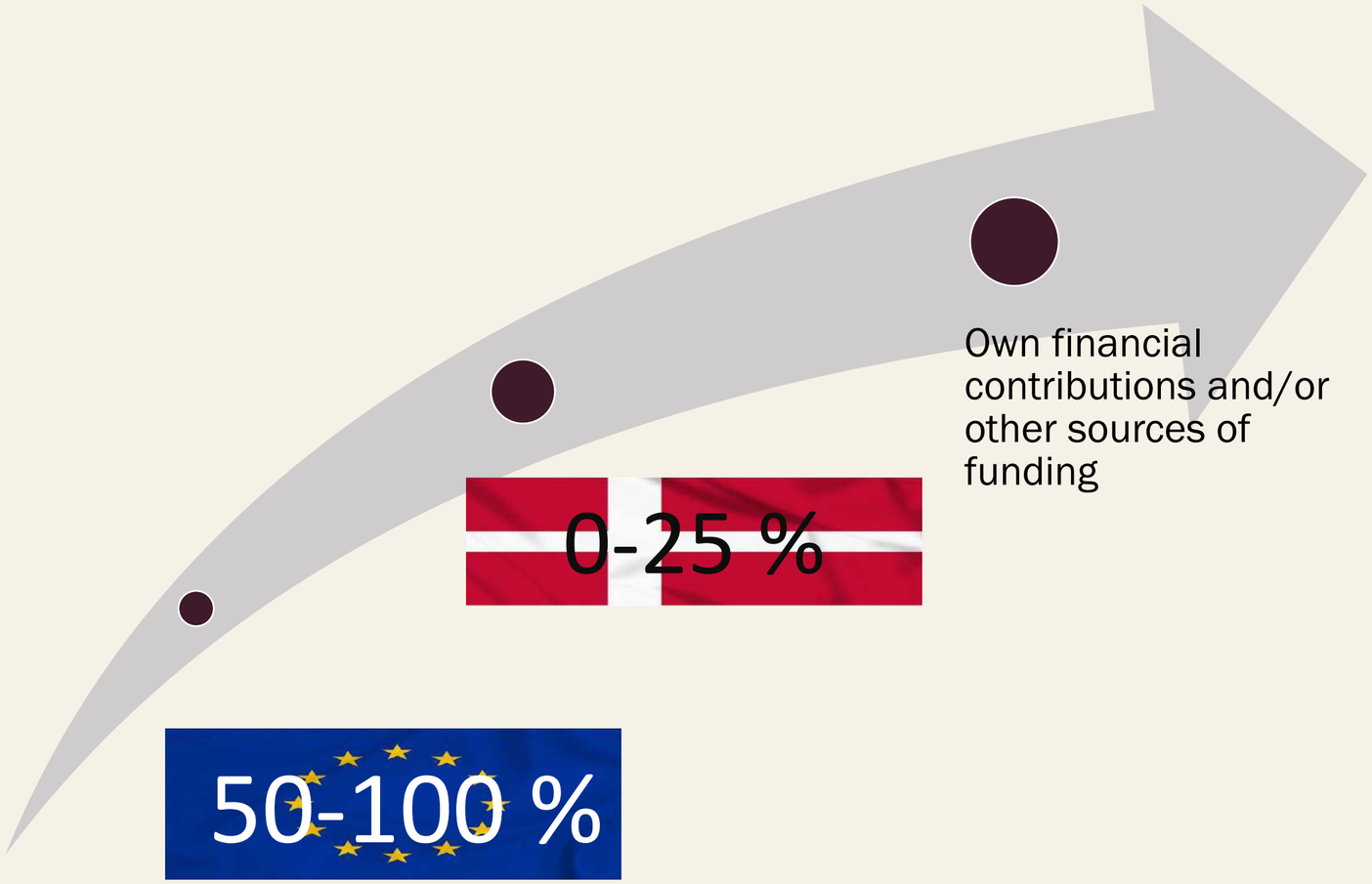
Danish national fund to co-fund Digital Europe projects

- Established in April 2024 as part of a national digitilisation strategy
- Total budget of DKK 30 million (EUR 4 million) in 2024-2025
- Purpose is to enable more Danish actors to participate in Digital Europe projects to the benefit of the digital development in Denmark and Europe
- Everybody can apply, but co-funding for strategically important DEP topics are prioritised first to ensure impact



Agency for Digital Government

The Danish national fund can co-fund Danish participants in Digital Europe projects with up to 25 percent of their project expenditures.



Agency for Digital Government

Den danske proces

- Simpel og følger EU's proces
- Minimale krav til ansøgning

Krav til ansøger

1) Du skal have dansk CVR-nummer

2) Du skal have til hensigt at ansøge en projektindkaldelse i Digital Europe

3) Du skal ansøge som din egen organisation

Prioritised calls in 2024

We prioritise specific calls.

Priorities are made based on input from national stakeholders as well as the strategic priorities of the Danish government.

Data spaces

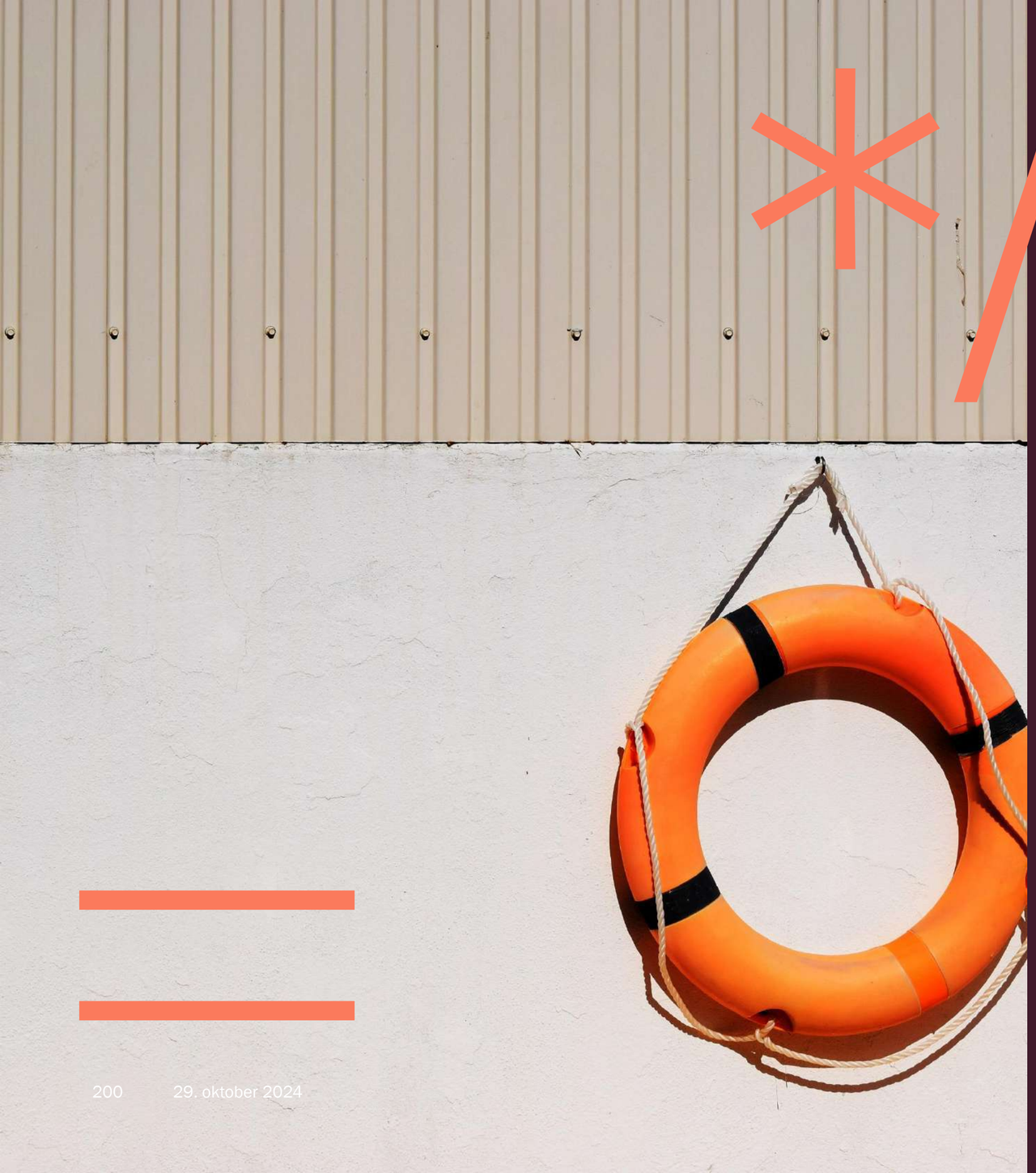
1. Energy Data Space
2. European Green Deal Data Space
3. Common European mobility data space

Cybersecurity

4. Development and Deployment of Advanced Key Technologies
5. AI in support of Quantum-Enhanced Metabolic Magnetic Resonance Imaging Systems

AI

6. Making available a high performing open-source European foundation model for fine-tuning
7. Alliance for Language Technologies (SG)



How to get help with Digital Europe

Our agency can help you with Digital Europe

Agency for Digital Government (Digitaliseringsstyrelsen) is NCP for the programme and can help you with:

- Understanding Digital Europe and finding the right calls
- Finding the right partners - matchmaking
- Clarifying concrete questions and possibly ask the Commission for clarification
- Providing co-funding through our national fund – up to 25 percent

If you would like to follow the development of Digital Europe, you are welcome to become a member of our reference group – it is no big commitment.

Read more about our national fund on our website.

- Digital Europe-programmet (digst.dk)

Kontakt

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Dansk Data Space Forum

DATA SPACES SUPPORT CENTRE

Simpl

INTERNATIONAL DATA SPACES ASSOCIATION

Common European Data spaces

gaia-x

Dansk Data Space Forum
DIGST

Officiel Gaia-X hub koordinator
DIGST

Value proposition

- Videndeling, netværk og link til EU-udviklingen
- Medvirke til udvikling af danske data spaces
- Fremme kendskab til og anvendelsen af data spaces

Thank you!

Any questions?

EU Digital Funding Opportunities

Each programme contributes uniquely to the digital transformation of public administrations, supporting EU objectives of sustainable growth, competitiveness, and cohesion.

Digital Europe Programme (DEP) supports the development of digital infrastructure/skills, focusing on public admin efficiency + accessibility.

Horizon Europe funds research and innovation projects to advance digital technologies and public services.

Interreg promotes regional cooperation to enhance digital connectivity and innovation in public services.

Technical Support Instrument (TSI) offers tailored technical support for designing/ implementing digital reforms in public admin.

Connecting Europe Facility (CEF) improves digital networks and infrastructure, enhancing public administration services and connectivity.

The European Union (EU) supports the digital transformation of public administrations through various funding programmes. Here's an overview of how the funding works, who funds what, and who the stakeholders are for key programmes:

More info:

European Commission

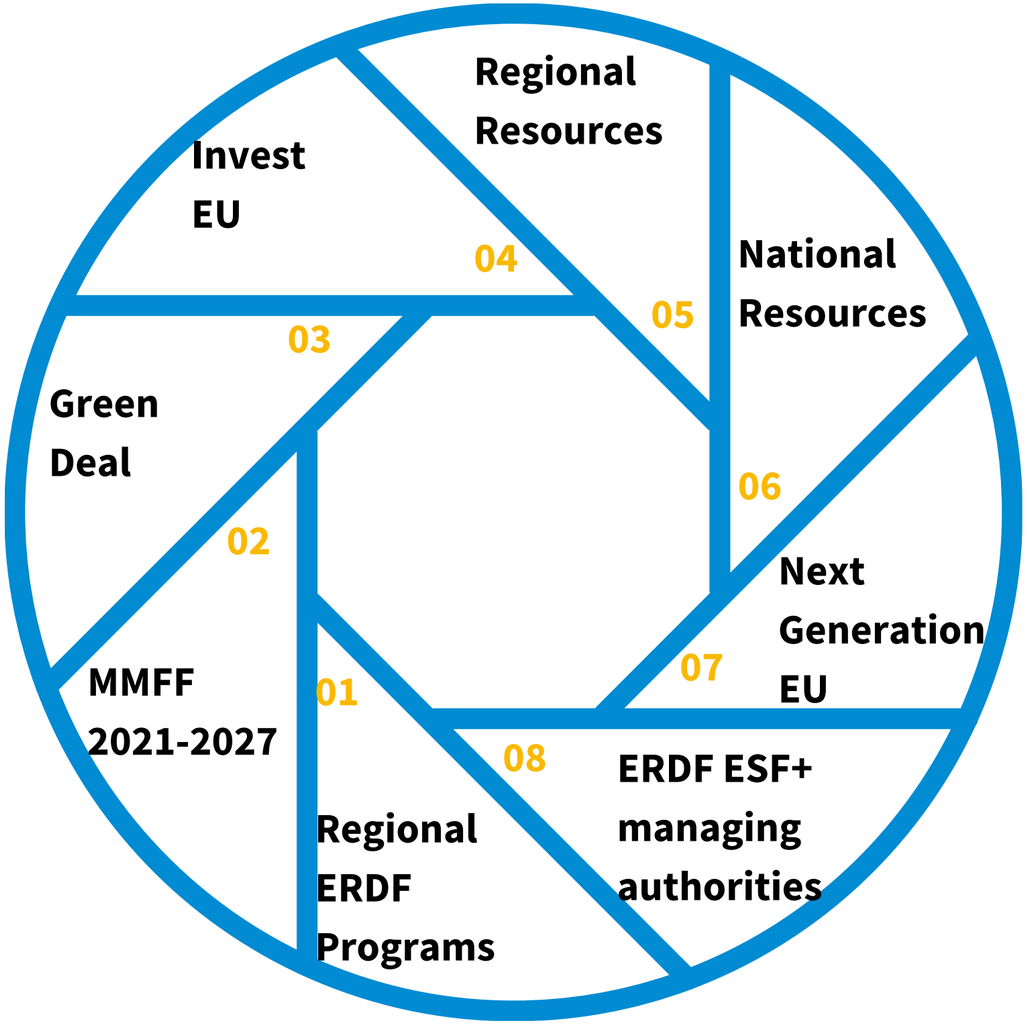
Upcoming Funding Opportunities

TOPIC OPPORTUNITY	DATES	AVAILABLE FUNDING
HORIZON: Rethinking Urban Spaces Towards Climate Neutrality	**Open 17.9.24 | Close 11.2.25**	45 MEuro funding – Projects must include pilot demonstrations in at least **3 cities**, including both urban and suburban areas.
HORIZON: Zero-Pollution Cities	**Open 17.9.24 | Close 11.2.25**	20 MEuro funding - Projects must include pilot demonstrations in at least 2 cities
HORIZON: Mobility Management Plans and Behavioral Change	**Open 17.9.24 | Close 11.2.25**	5 MEuro funding - Co design activities with stakeholders and citizens
HORIZON: Integrated Peri-Urban Areas in the Transition Towards Climate Neutrality	**Open 17.9.24 | Close 11.2.25**	28 MEuro funding - Pilot demonstrations in at least 3 peri-urban areas.
Cascade funding: European data space for smart communities	**Open 1.06.24 | Close 28.02.25**	Three Open Calls during the period. It funds pilot projects up to 3M €w with 50% cofund to advance the development and implementation of data spaces.
Cascade funding: Other funding opportunities	**Several dates**	Citcom.AI, Communicity, etc. Funding available for pilots to leverage AI and other emerging technologies in addressing the needs of cities and communities

The **EU funding calls** provide a significant opportunity to transform **urban spaces** towards **climate neutrality**. These initiatives not only support technological and policy innovation but also promote collaboration among diverse stakeholders to achieve lasting environmental impacts.

Unlocking Tomorrow: Funding the Smart Cities

There are ample funding opportunities to make long-term investment into digital infrastructure and sustainability transformation. Craft a strategic funding plan that seamlessly integrates European, national, and regional resources to enhance every facet of your city's transformation



European Commission

European Commission

Call to Action: Reminder

1. Prepare your strategy to implement Local Digital Twins

2. Join the Living-in.EU movement

3. Evaluate your digital maturity with LORDIMAS

4. Discover the MIMs Plus to start building your Open Data Architecture Framework

5. Apply to the EU Mission Cities: Twin Cities Programme

6. Express your interest to participate to the Online Procurement Helpdesk

REGISTER FOR THE NEXT TRAINING SESSION!

DISCOVER
Online Training 1
Early January 2025

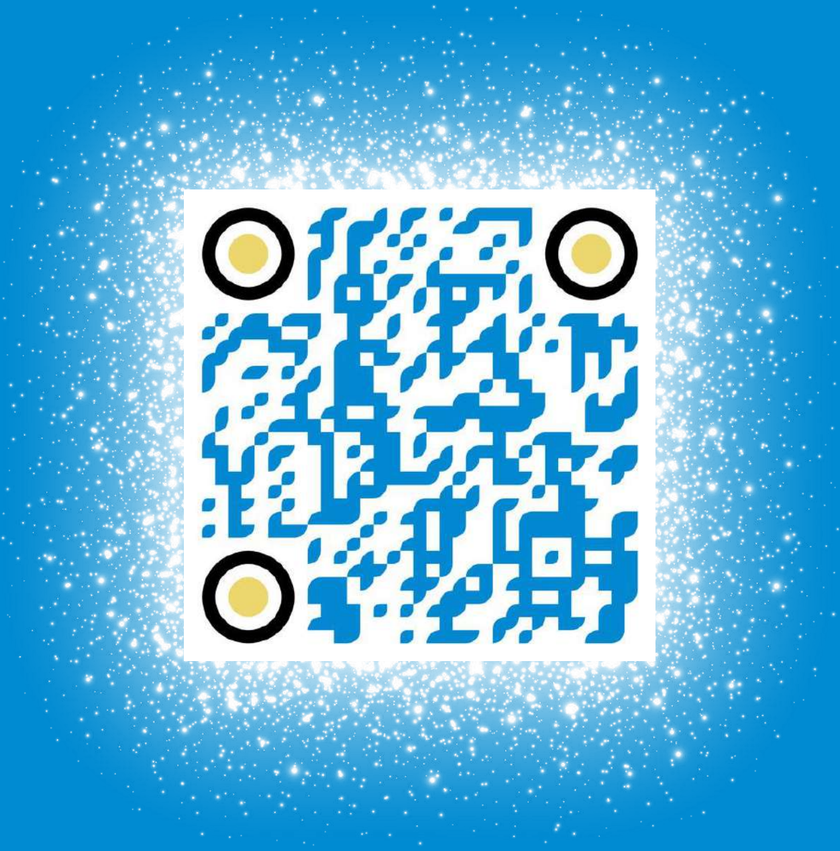
European Commission

Innovation is the engine of growth. It provides solutions to the pressing challenges we face – from climate change to digitalisation – and helps us build a sustainable future for all.

-Ursula von der Leyen

European Commission

We appreciate your feedback!



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European Commission

INCREASING DIGITALISATION AWARENESS & READINESS OF DANISH COMMUNITIES

in collaboration with

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TAK!

European Commission

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