



# Data Driven Policy Cluster

Co-creating digital tools for better governance

# Evidence Based Policy Cases

## Track 3: Mobility

**Mobility policies, a new era for cities and citizens**

9 December 2021



Data Driven Policy Cluster is a group of 5 projects that have received funding from the European Union's Horizon 2020 research and innovation programme. Policy Cloud - GA #870675, Decido - GA #101004605, AI4PublicPolicy - GA #101004480, DUET - GA #870697, Intelcomp - GA #101004870.

# Agenda

- **Introduction. Mobility policies, a new era for cities and citizens** - Susie McAleer (21C Consultancy, DUET)
- **Pilsen Digital Twin City** - Jiri Bouchal, (InnoConnect, DUET)
- **Policy Cloud Urban policy making through analysis of crowdsourced data** - Ana Georgieva (Sofia Municipality, PolicyCloud)
- **The experience of the Pilots in mobility in AI4PP** - Alessandro Amicone (GFT Italy, AI4PublicPolicy)
- **Panel discussion on mobility policies, a new era for cities and citizens**

Co-organised by:



Policy Cloud  
Cloud for Data-Driven Policy Management

Decido



intelcomp

Save the date!

9-10 December 2021

# EVIDENCE BASED POLICYMAKING IN EUROPE 2021

USE CASES AND DIGITAL TOOLS  
FOR IMPROVED DECISIONS

# Evidence Based Policy Cases

## Track 3: Mobility

**Transport forms the backbone of all urban economies.** The ability to move freely, cost-effectively and easily is one of the most important drivers of economic and societal development.

Its **policies are interdisciplinary with a direct impact on urban development and the environment** so European cities require effective strategies to help overcome these challenges.

New technology like Digital twins and the resulting location based geographical information (GI) it produces is changing the nature, costs and impact of transport on a real-time basis. It is this **shift in speed, detail and synchronicity** that presents a suite of new opportunities for public sector policy makers. Hear from cities at the leading edge of smart mobility innovation.



# Evidence Based Policymaking 2021

Session: Evidence Based Policy Cases  
from data to decision making

Track 3 - Mobility

**Join us:  
9th December 12 pm CET**



**Jiri Bouchal**

IS-practice and CEO at InnoConnect  
DUET



**Ana D. Georgieva**

Digitalisation Innovation and Investments  
Sofia Municipality  
Innovative Sofia, PolicyCloud



**Alessandro Amicone**

Alessandro is a Project Manager at GFT Italy  
AI4PublicPolicy



# The Digital Twin of Pilsen

Helping city decision-making to become more effective and democratic

9 December 2021

Evidence Based Policymaking in Europe Summit 2021

# Pilsen Smart City is not only about its digital twin

## Smart City Pilsen

It's where we want to live

[View the Projects](#)

Mobility

Living

Economy

Environment

People

eGovernment



Mobilní aplikace FC Viktoria Plzeň



Karkulka PMDP



SIT Port, the port open to anyone.



Web města Plzně



Vybavenost základních škol



Využití dronů pro integrovaný záchranný systém



Eduroam



Plzeň - analýza satelitních snímků



HYDROGEN HORIZON AUTOMOTIVE CHALLENGE - H2AC



Moje PMDP



Stadionové WiFi FC Viktoria Plzeň



Bezpečnost dětí - opoštění na ZŠ



TutaPlzeň



Elektronické vyřízení povolení pro předzahradku



Tichá linka



Naše firmy - jak vybrat další školu



Pilsen CUBE II



Dynamický dispečink



Open data



Vizuálizace intenzity dopravy



Kamery ve vozzech MHD



Síť internetu věcí



Pilsen To



Free WiFi



Bateriové trolejbusy



Centrum Robotiky



Úhrada jízdného bezkontaktní platební kartou



Elektronický Portál Občana EPO



Inteligentní zastávky



Klikací rozpočet města

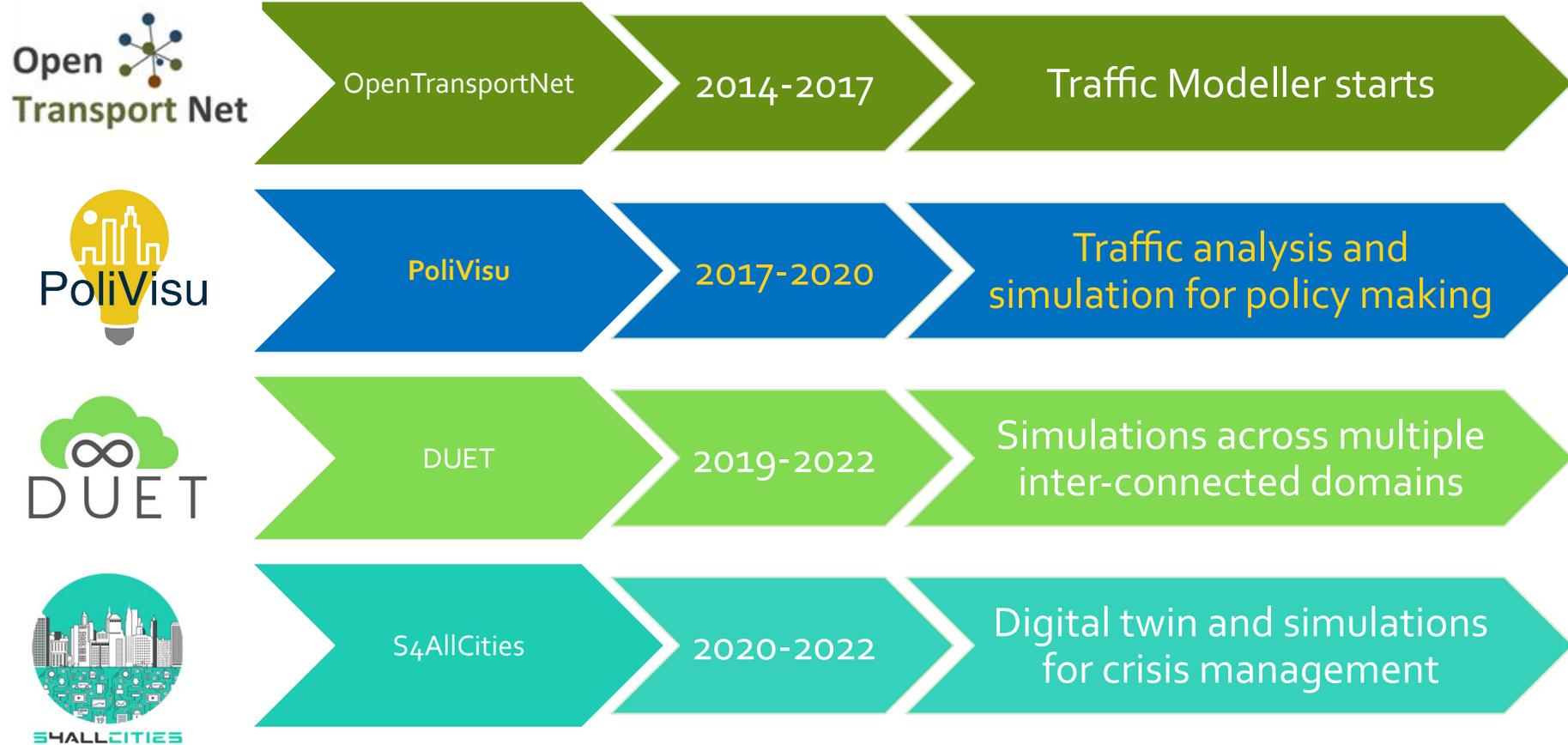


Aplikace Plzeň - občan



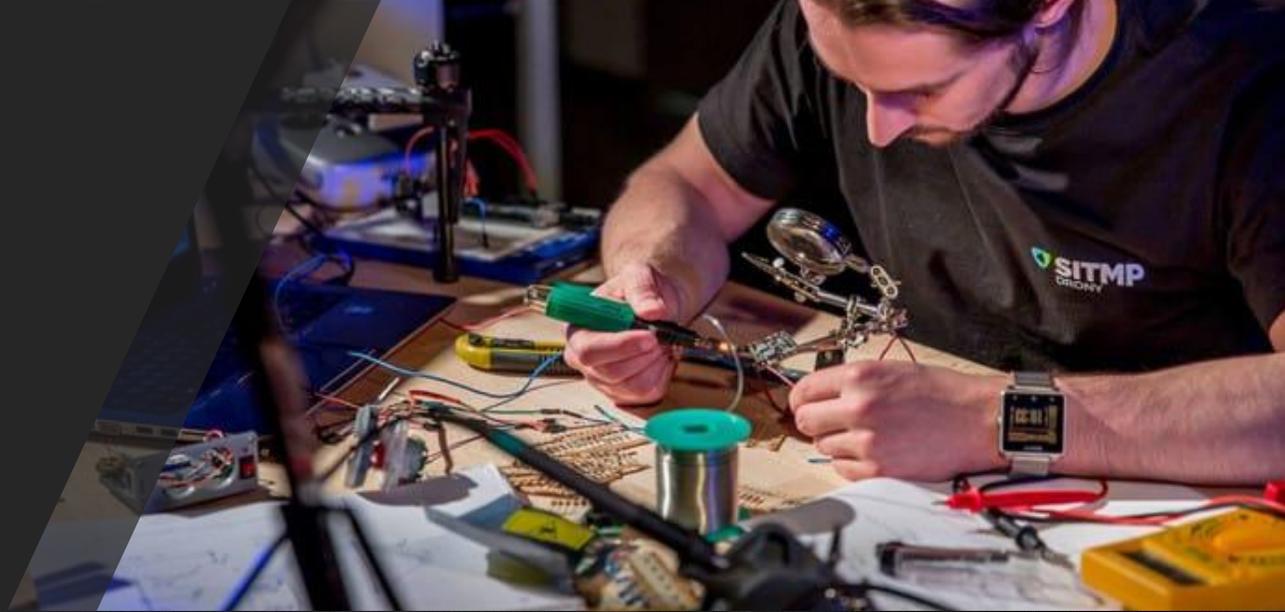
Pilsen karta

# Pilsen journey towards its digital twin



# Our strengths since beginning

- Political support
- Smart city as an agenda approved by the City Council
- Technically skilled personnel
- Advanced technical infrastructure managed by the city
- State-of-the art UAVs





# Data

## Mobility

- Traffic detectors
- Public transport (location, delay...)
- Traffic model
- Shared bikes
- Carsharing

## City-operated cameras

- Traffic management
- security
- Video analytics



## Telco data

## Air quality

## City GIS

## Digital Technical map

... and many more



# Data selection

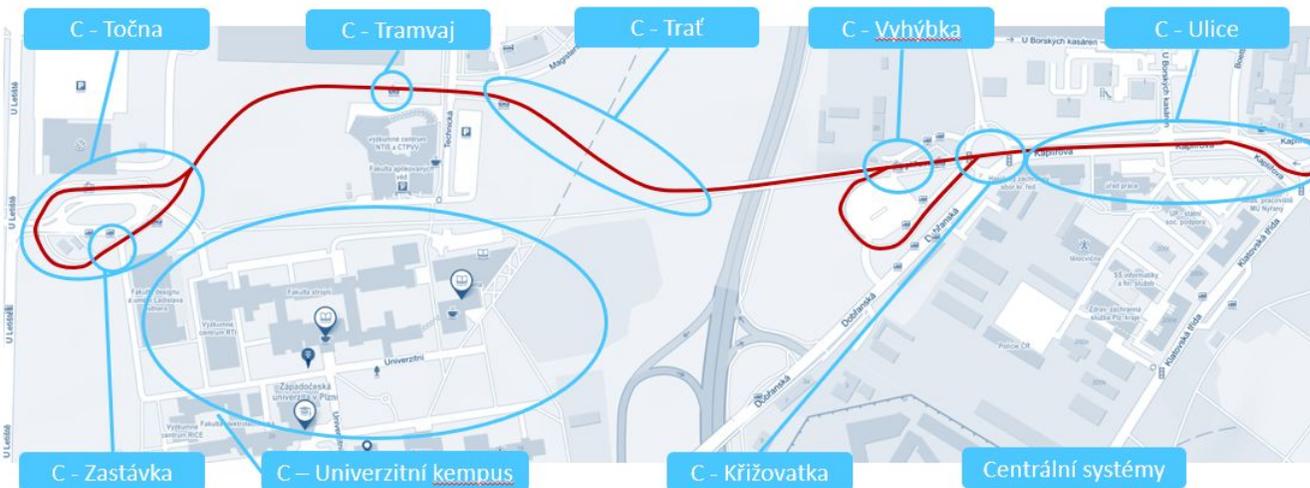
- Management of city data
  - New usage for existing data (e.g. video analytics, traffic detectors)
  - Further use as open data if possible
- Looking for useful data from external sources
  - Experimentation – learning by doing (telco data, FCD data)
  - CycloMedia experiment
    - panoramic photographs - photogrammetric 3D measurements
    - use the imagery for 3D modelling and texture mapping
    - AI to detect city property (traffic lights, signs, posts)
    - measuring road quality
    - Rescue system – detailed view and measurements in 3D

# Data use example: Cooperative Intelligent Transport Systems pilot



Foto: Škoda Transportation

- Digital Twin of a street
- Autonomous tram
- Dynamic traffic management
- Rescue vehicles priority
- Anticollision C2X system
- Crash call C2X



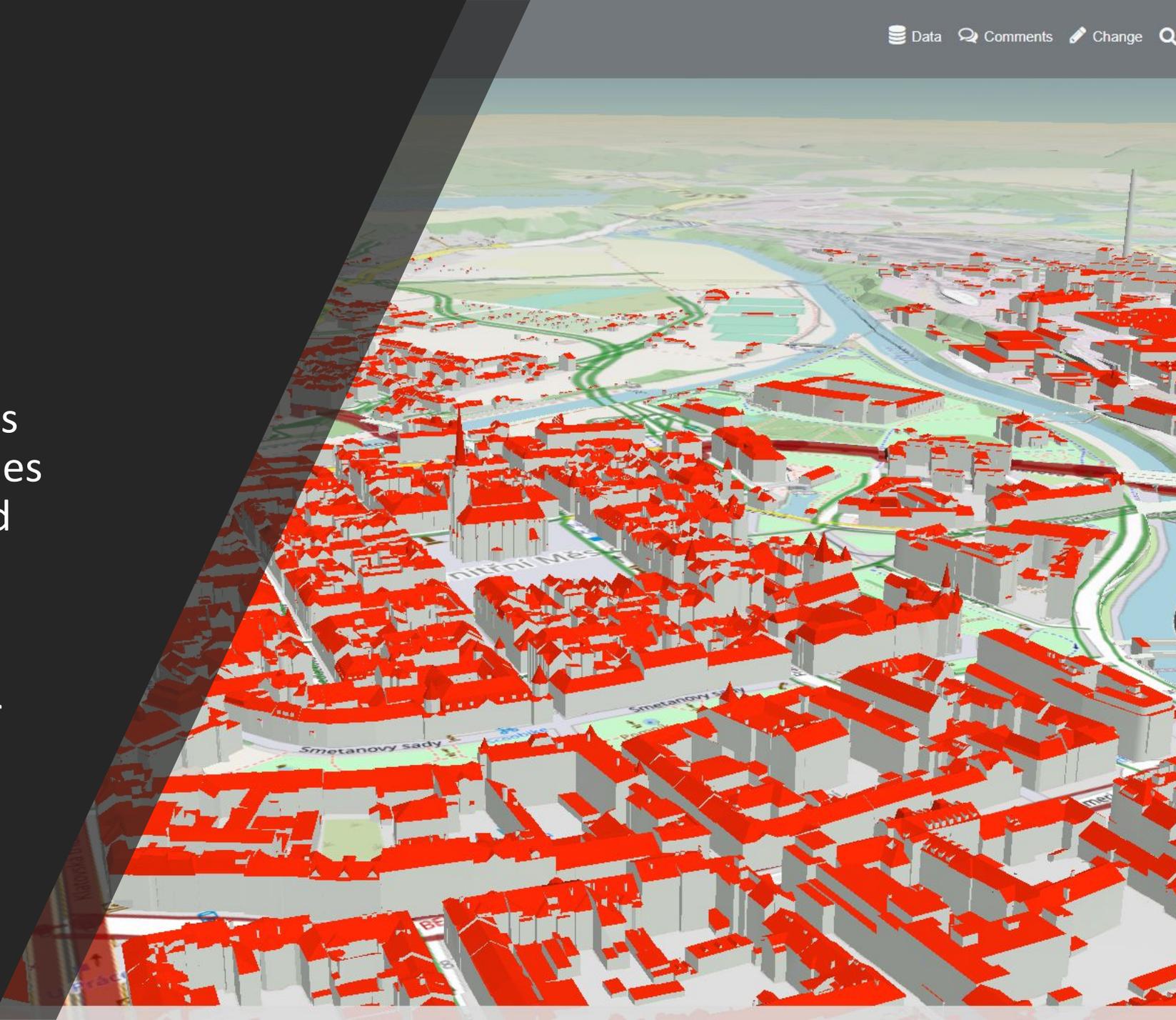
# Policy making challenges

## City managers

- concerned about data interpretation results and its impact on their work routines
- Skills needed to analyse and interpret data

## Policy makers

- Explain benefits to get their support





## How are the data going to help?

- Analyse current situation
- Set strategies, milestones and measurable goals (KPIs)



### DUET (and previous projects)

- provides a hands-on experience with new technologies
- Reveals opportunities to apply the technology further and in other domains
  - > S4ALLCities – crisis management
  - > VR in grammar schools recently



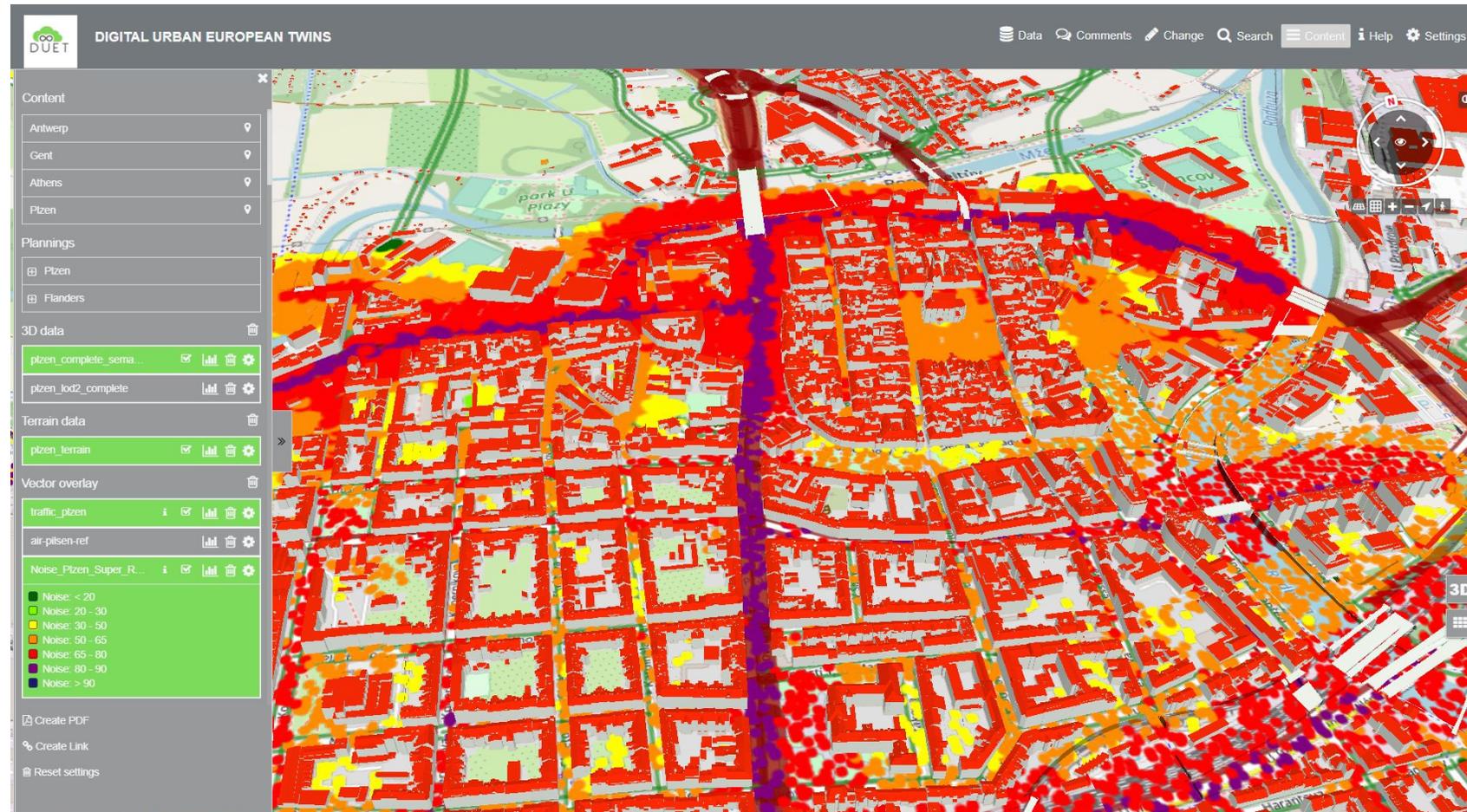
## DUET's main added value for the city

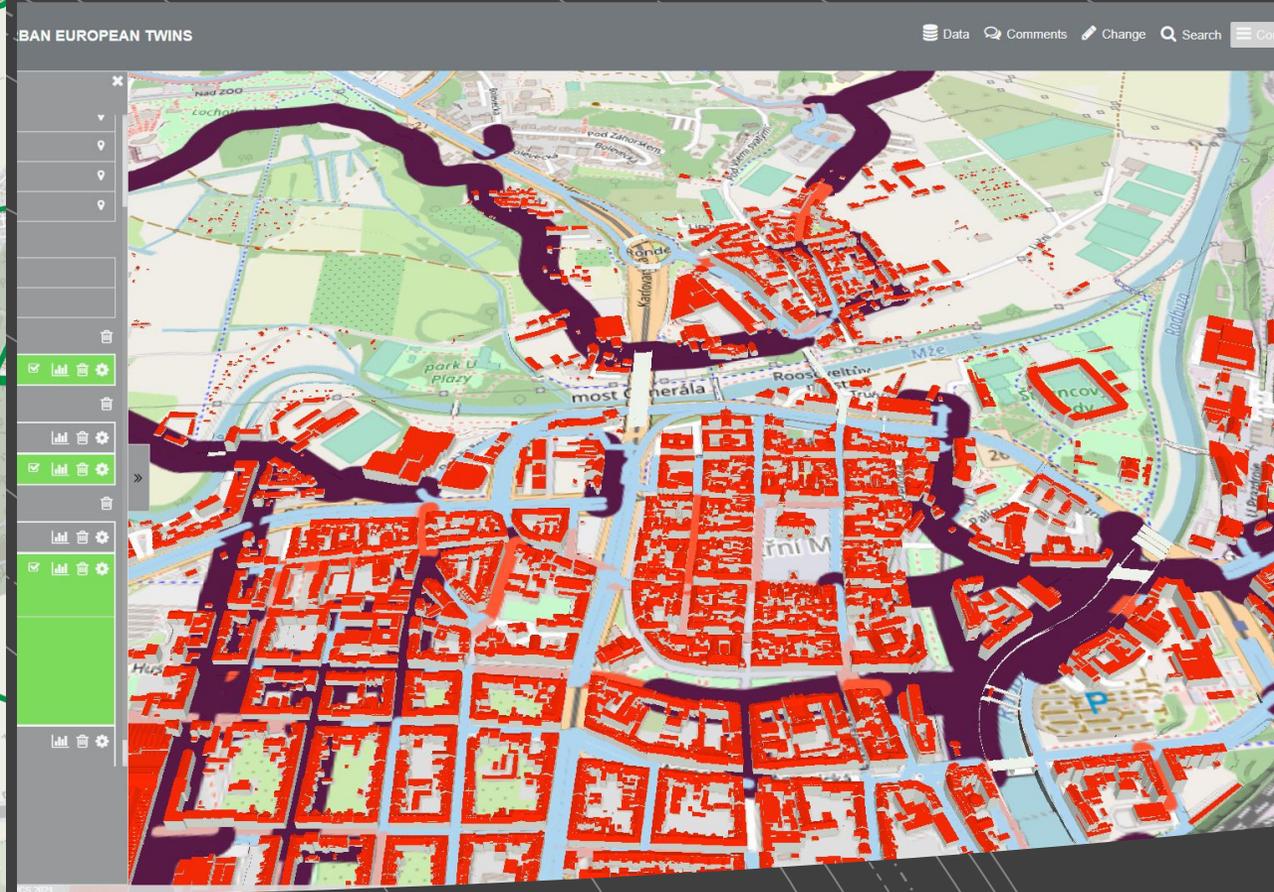
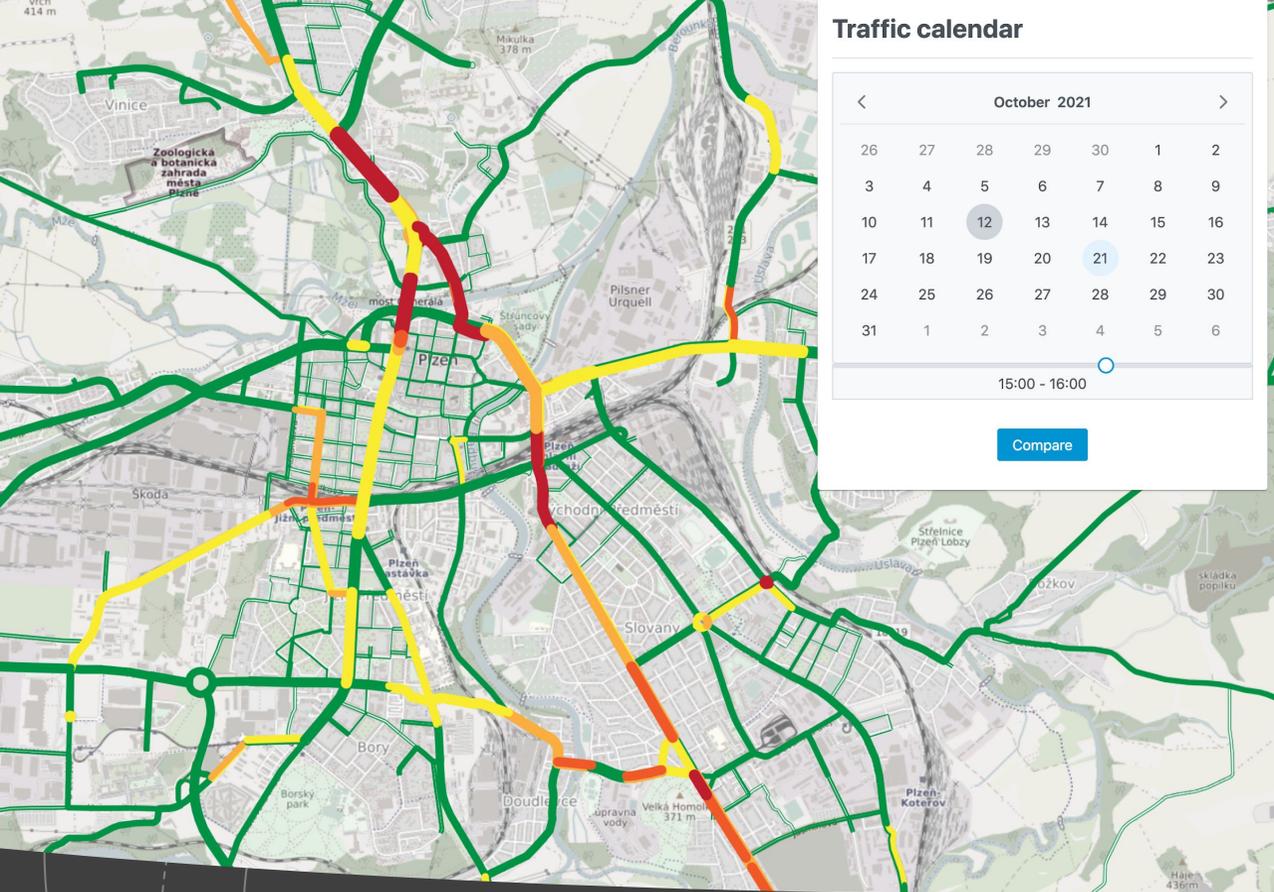
- **interaction of simulation models** in different domains

Traffic

Air quality

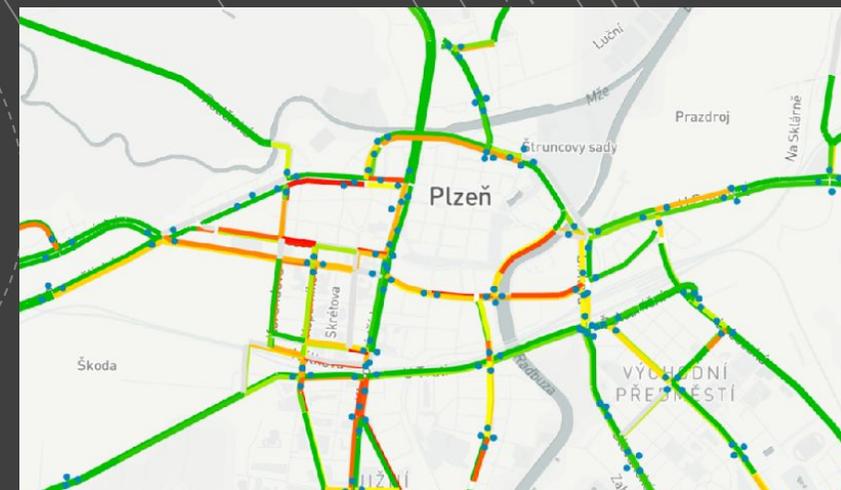
Noise





# Traffic Visualisations

- 2D view & 3D view, delta visualization in the DT
- Sensor data, floating car data (historical and real-time) with GLayer
- Future traffic simulation with Traffic Modeller



# Expected impact Benefits for society

- Improving the current situation (e.g. in mobility)
- Nourishing innovation & startups support
- Engaging students and data enthusiasts
- Support informed and data-driven policy making towards sustainable city,

-> **HAPPY CITIZENS**

-> **BETTER QUALITY OF LIFE  
IN PILSEN**





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DUET has received funding from the EU Horizon 2020 research and innovation programme under grant agreement No. 870697



# POLICY CLOUD

## Sofia's Pilot Use Case:

Urban Policy Making Through  
Analysis of Crowdsourced Data

Ana D. Georgieva

Innovative Sofia, Sofia Municipality



# Policy Cloud

- The European Cloud for data-driven policy management will provide integrated reusable models and analytical tools, turning raw data into valuable and actionable knowledge towards efficient policy making.



**Duration: 36 months**

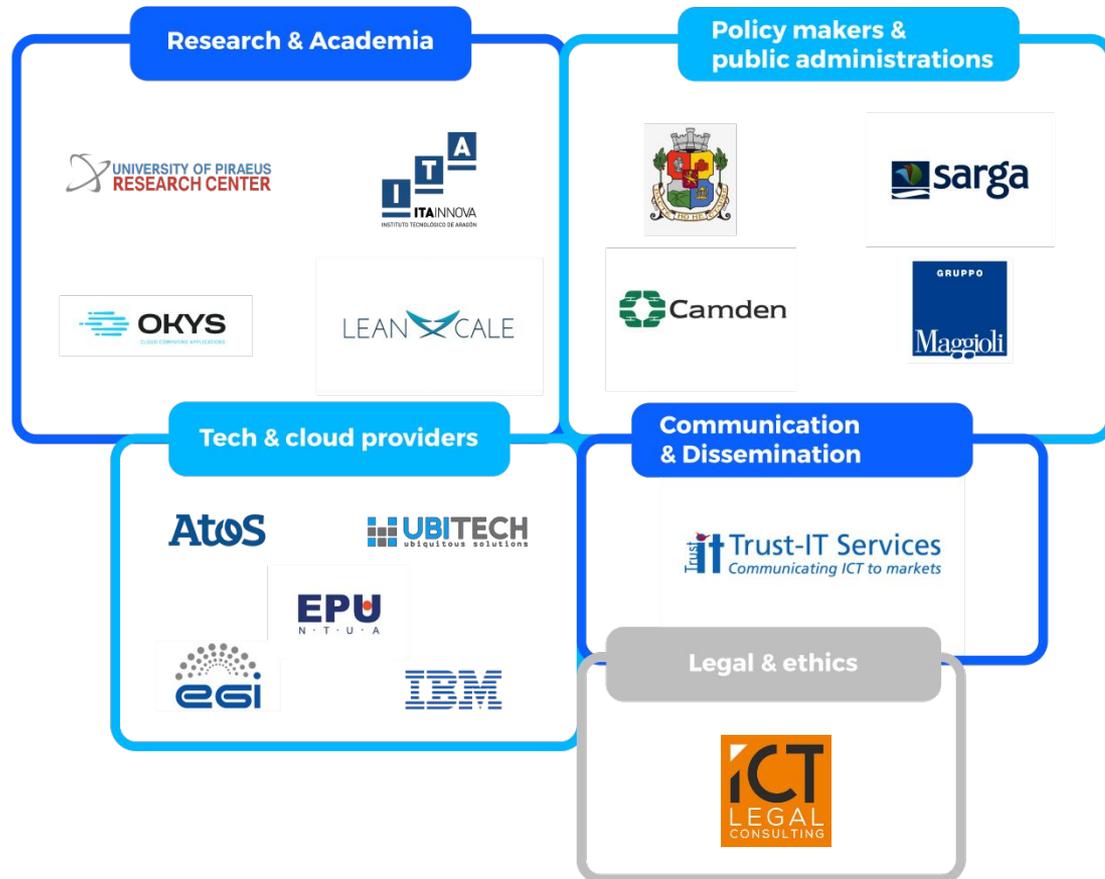
(Jan 2020 - Dec 2022)



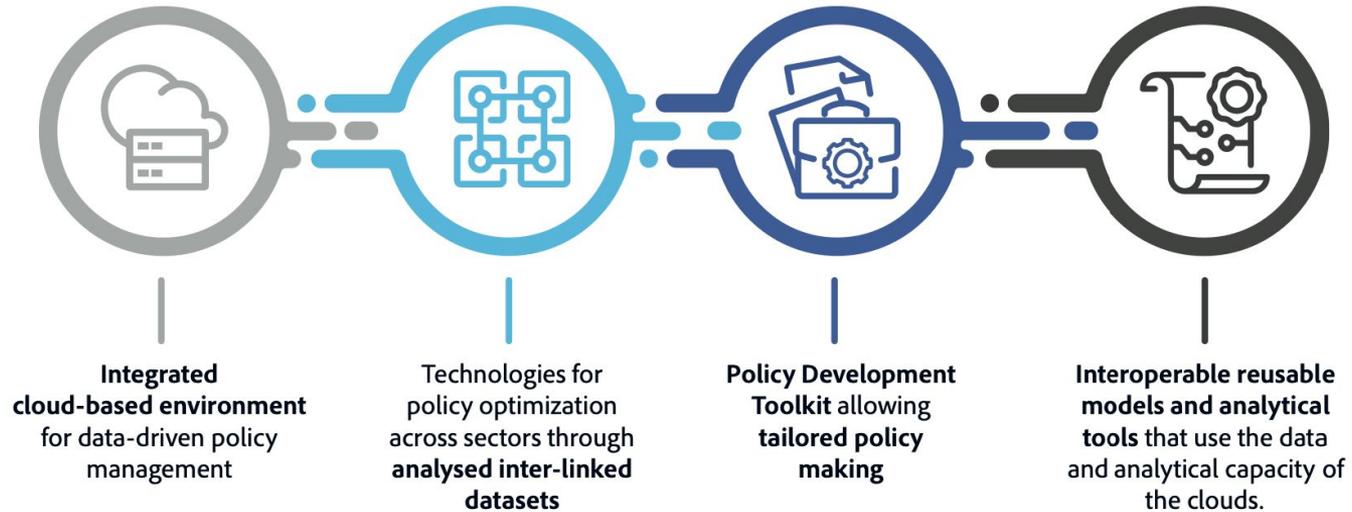
**Partners: 15**



# Policy Cloud Consortium

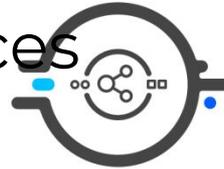


# Policy Cloud will deliver:



# Policy Cloud Services

- 6 Services
- An integrated cloud-based service environment for data-driven policy management



### Policy development toolkit

Automated tools enabling data manipulation, modelling, and visualisation



### Data marketplace

Repository of exploitable data and knowledge for policy making scenarios



### Cloud capabilities

Adaptable cloud gateways and APIs to obtain data from heterogeneous sources



### Reusable models & analytical tools

Technologies enabling opinion mining, and sentiment, social dynamics, and behavioral data analysis



### Policies management framework

Decision tool enabling the integration of data collection, modelling and simulation technologies



### Ethics framework

Documented approach ensuring the provision of privacy and security for sensitive data



# Expected impacts

**01**  
Enlarging the  
evidence-base for  
effective policy making

**02**  
Facilitating  
interoperability,  
reusability, and  
scalability

**03**  
Realizing a  
social-centric approach  
considering legal and  
security aspects

**04**  
Promoting data-driven  
innovation, public  
administration and  
public sector innovation

**05**  
Boosting  
the data-driven  
economy



# Pilot Cases covering different societal challenges



## URBAN POLICY MAKING

Facilitating urban policy making and monitoring through the analysis of crowdsourced data.

**BULGARIA**  
**SOFIA MUNICIPALITY**



## INTELLIGENT POLICIES FOR THE FOOD VALUE CHAIN

Implementing environmental policies to boost the growth and development of the agri-food industry.

**SPAIN**  
**ARAGON REGION**



## OPEN DATA POLICIES FOR CITIZENS

Predicting unemployment and associated risks to guide social services policy planning.

**UK**  
**CAMDEN, LONDON**



## POLICIES AGAINST RADICALISATION

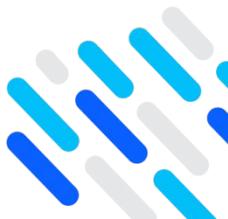
Collecting and analysing social media data to enable policy makers to address radicalisation effectively.

**ITALY**  
**LOMBARDY REGION**



# Sofia's Pilot Use Case:

Urban Policy Making Through  
Analysis of Crowdsourced Data



# Scope

- Through its involvement in PolicyCloud, Sofia Municipality will address **urban policy** as a **critical success factor** in improving the overall urban environment of the city.
- Policy design will be adapted through assessment and validation of policies and initiatives, based on big data analysis related to:
  - a) road infrastructure
  - b) environment and air quality
  - c) waste collection and waste disposal
  - d) transport and parking
  - e) cleanliness of public spaces
  - f) violation of public order, and others, of importance to citizens

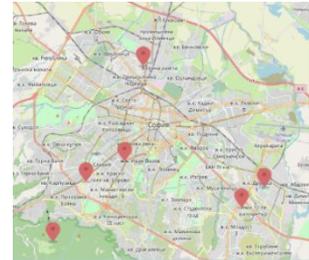


# Data

In designing policy, we will combine the data from both existing sources and from new open data sets that become available. The existing data sources are:

- **Sofia Municipality's Citizens' Contact Centre (CallSofia)**
  - operational since 2014
  - facilitating direct communication from citizens, industry and institutions wanting to signal non-urgent deviations from normal practice within the urban environment
- **Sofia Municipality's air quality measurement stations**

Analysing the data by category, type, territory and time will enable municipal and district administrations to identify problems, issues, and behaviour trends



# Data

- All scenarios will use data from CallSofia, with **SC b)** Environment and air quality also using data from Sofia Municipality's air quality measurement stations
- Scenarios a), c), d), e), f) utilize data with similar attributes, variables and KPIs and will have similar end-to-end structure
  - **SC b)** would add an additional type and source of data, and can include cross analysis of data sources
- Analysing the data by category, type, territory and time will enable municipal and district administrations to identify problems, issues, and behaviour trends



# Scenario 1: Road Infrastructure

- **Road infrastructure** (with adjacent urban environment) is among the key and most budget consuming elements affecting citizens' everyday life.
- Sofia Municipality will be able to carry out a **detailed analysis** of the territorial distribution of the signals by categories / types areas districts, major transport roads, etc.



## Scenario 2: Air Quality and Environment

- **Air quality**, as part of the overall focus on environment and quality of life in Sofia, is also among the key urban topics affecting citizens' everyday life
- Sofia Municipality will be able to carry out a **detailed analysis** based on CallSofia signals and data from Sofia Municipality's air quality measurement stations



## Scenarios 1&2: Expected Results

- The results of the analysis will allow the municipal and district administrations to:
  - identify the problems in the road infrastructure and adjacent urban environment, and air quality
  - adopt or modify adequate policy making decisions on budget planning and effective use of budget and public resources, and for the long-term improvement of air quality
  - facilitate better control, monitoring and prevention
  - identify tendencies
  - validate existing policies and investigate if there is a need to update/modify them or create new one based on the retrieved information

# Urban Policy Making – an Ongoing Co-Creation Process





Policy Cloud  
Cloud for Data-Driven Policy Management

THANK YOU FOR  
YOUR  
ATTENTION!

GET IN

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PolicyCloud has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 870675.



[www.policycloud.eu](http://www.policycloud.eu)



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# Data Driven Policy Cluster

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## AI4PP project mobility pilot: lessons learned

Alessandro Amicone  
Senior Project Manager  
GFT Italia srl



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# Effective Policies for Holistic Mobility and Accessibility

The Pilot is currently developed in Nicosia, Cyprus

*Partners involved:*

Nicosia Municipality

Vilabs

Novoville



# Drivers and Motivation: Citizen's point of view

Nicosia Municipality is willing to develop a **Holistic Mobility and Accessibility Platform** in order to offer to CITIZENS:

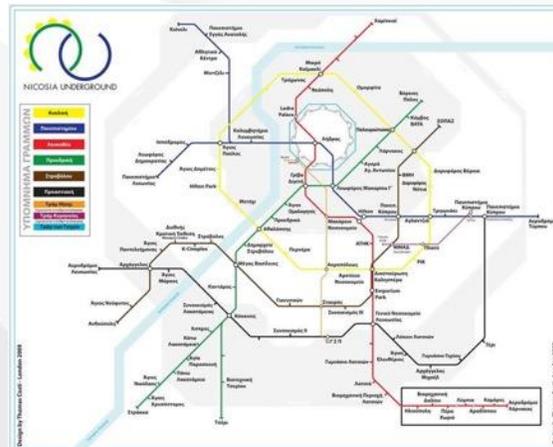
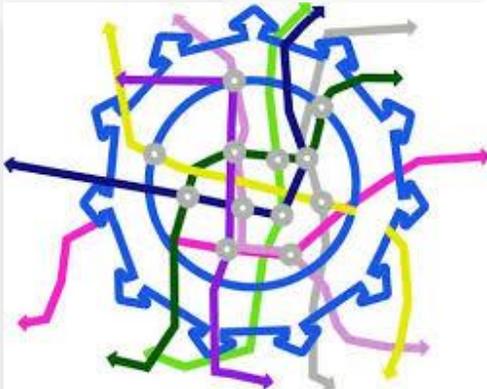
1. Different **Transport Options** to Citizens
2. Assisting Citizens in **optimizing personal mobility** in-line with their needs



# Drivers and Motivation: Municipality's point of view

The targeted **Holistic Mobility and Accessibility Platform** aims to offer to NICOSIA MUNICIPALITY:

1. Optimizing **transport management** within the city
2. Optimizing **Costs and Sustainability**



# Holistic Mobility and Accessibility Platform

The Holistic Mobility and Accessibility Platform is targeting:

- The Nicosia Small Buses Network
- Parking Places around Nicosia
- Bicycles (renting companies and electric charging systems)
- E-Cars (charging stations)

The objective is to seek and enhance public policies to enable citizens **to access all the different transport modalities in a unified way – by APP or by (Transport) Card and allow the Municipality to manage and run a sustainable pool of services**

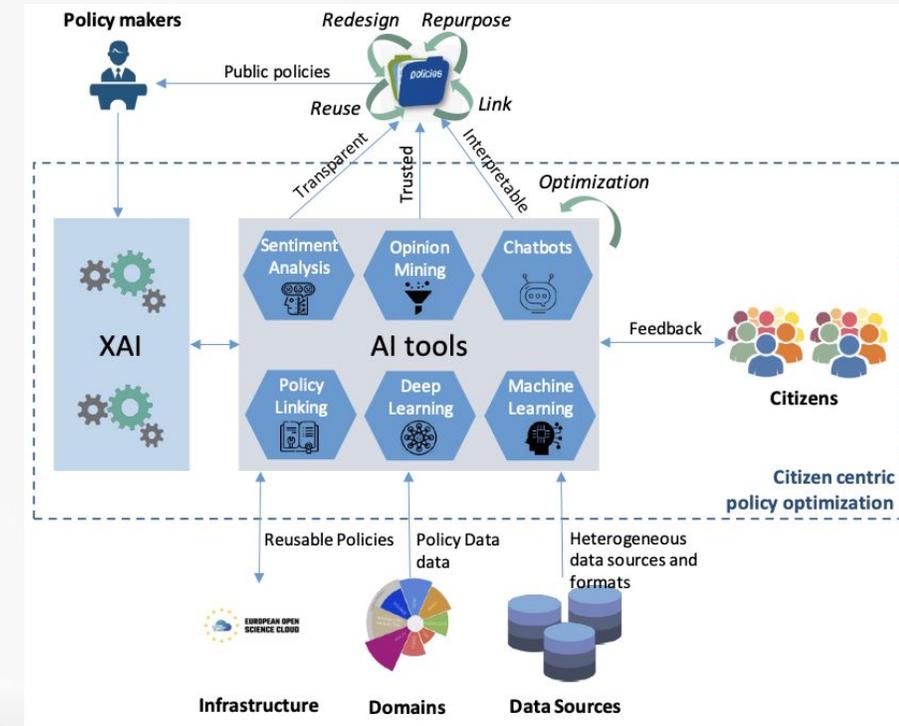


# Holistic Mobility and Accessibility Platform: enabling technologies

The Platform is based on a wealth of **data** regarding the usage of the listed urban mobility services and which can serve as a basis for the extraction of evidence-based policies for holistic mobility and accessibility (from IT systems of Minibuses, Parking, Bicycles and Scooters)

Data building the library of the pilot implemented by AI algorithms - **AI tools and Opinion Mining Tools (XAI)**

Thanks to the AI4PublicPolicy, the platform will be enhanced with a **customized instance of the project's Virtualized Policy Management Environment (VPME)** to enable the Municipality to extract data and start building evidence-based policies



# The pilot key targets

To identify and enhance public policies targeted to:

- Increase citizens' satisfaction to use public transport
- Improve transportation sustainability (i.e. reduced CO2 emissions, increased attention to the environment)
- Reduce transport operational costs for the Municipality

This experience will pave the way towards a **new era of Mobility Policies** for cities and citizens.



# Panel Discussion

## Mobility policies, a new era for cities & citizens.

- What is the current situation of evidence-based policymaking in your field? And why is it important?
- What are the challenges that you have identified, in the mobility field, when working towards data-driven policymaking?
- Why is the work you are doing/planning in your local pilot important for Europe?
- What is your recommendation to policymakers for evidence-based policymaking? What are the requirements you have identified for policymakers to be able to support data-driven policymaking?



**Jiri Bouchal**

IS-practice and CEO at InnoConnect  
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