

# “Personal Data as a Big Data Source for Urban Data Platforms”: Challenges and Opportunities

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Wednesday May 28<sup>th</sup> 2021



# Smart Cities Marketplace



## The “Citizen Control of Personal Data” Initiative



# Background

- The **MarketPlace** is an EU initiative to improve take-up of identified Best Practice in smart cities and communities.
- It is unique, as it was first EU sponsored activity to be cross-cutting. DG CONNECT as well as the DGs for Mobility and Energy.
- Best Practice sharing- much from the large Lighthouse Projects.
- Currently being re-launched and strengthened with amalgamation of other initiatives. Originally it was the European Innovation Partnership-Smart Cities and Communities.
- It is designed to bring Investors and Cities wishing to deploy best practice, together.
- Supply and Demand groups are formed and come together - e.g. smart lampposts.

# “Citizen Control of Personal Data” Initiative

## Action cluster

- Business Models & Finance
- Citizen Focus
- Integrated Infrastructures And Processes
- Integrated Planning, Policy And Regulations
- Sustainable Districts And Built Environment
- Sustainable Urban Mobility

The “Citizen Control of Personal Data” Initiative was launched in January 2021.

An “Initial Strategy and Roadmap“ was produced and two workshops have been held.

***“helping to build the conditions and relationships, whereby the citizen will be willing to share personal data with a city and with other actors in the data economy.”***

# Citizens rather than cities

1 We talk of smart cities, but what we are interested in is getting access to their smart citizens, to release increased quantities of personal data into the city and its data economy.

- So we are also working with organisations tackling “smart cities” from a regional/small town/rural perspective
- In such a way we have a structure emerging to interact with all EU citizens.

2. We needed to start somewhere.

- Looking at why urban data platforms are not being deployed is our starting point.

3. The Simple concept is- if we grow the personal data lake, it will help enhance the potential for urban data platforms, encouraging their roll out, whilst contributing to growing the local data economy.

4. We do not need in-depth knowledge of all aspects- just access to those specialists who can answer our questions and help us.

# Time scale - Shortened Road Map

- Generally in working with EU projects, there is a delay between development and deployment. People ask me what I am doing and normally I say don't expect to see it in the shops for another five years at least.
- But- a recent study on the governance of urban data platforms by one of our collaborating projects, **Digitranscope**, had an interesting observation to make. It drew attention to the fact that in "normal" circumstances, it may take several years before recommendations find their way into policy.
- But in "The Governance of Digitally-transformed Society", **Marina Micheli** (EU JRC) points out that they have to keep up with the progress being made within the Commission on developing the European Data Model.
- So an immediate challenge raised is that the usual effort in projects goes in steady steps- develop, test and then replicate and exploit.
- But with the current raft of projects funded to drive the data economy forward, we feel that the roadmap is being provided and that it should be possible to have hosts for the technology being developed we need to be having hosts for the emerging technologies already lined up and ready to be deployed, exploiting synergies between projects and realising ambitions of the host cities.
- To do this will require the existing identified obstacles, which we will cover, to be overcome.

# Fellow Travellers

- We would anticipate well over a 100 million euros worth of R & D being at our disposal from the projects engaged already to complement the effort of the DataVaults project. And the work itself is based on impressive foundations, with **KRAKEN** continuing the work of H2020 Actions CREDENTIAL and MyHealthMyData. **Auroral** leverages on the existing VICINITY platform etc.
- Others are being approached over the course of the next two years.
- The services covered within the “personal data enhanced” eco-system which we will be part of include: Data Collection, Data Security, Data Analytics, Data Sharing, Data Matchmaking, Data Storage, Data Governance, Data Management, Smart Contracts and other Added Value Services.
- We should also anticipate and plan for the expected support which will arrive from the next round of projects, including the Data Spaces planned for key sectors and the support for SMEs in the data economy and the drive to develop the required digital skills.

# Some of the Recommendations from Rotterdam Erasmus University Study on Urban Data Platforms

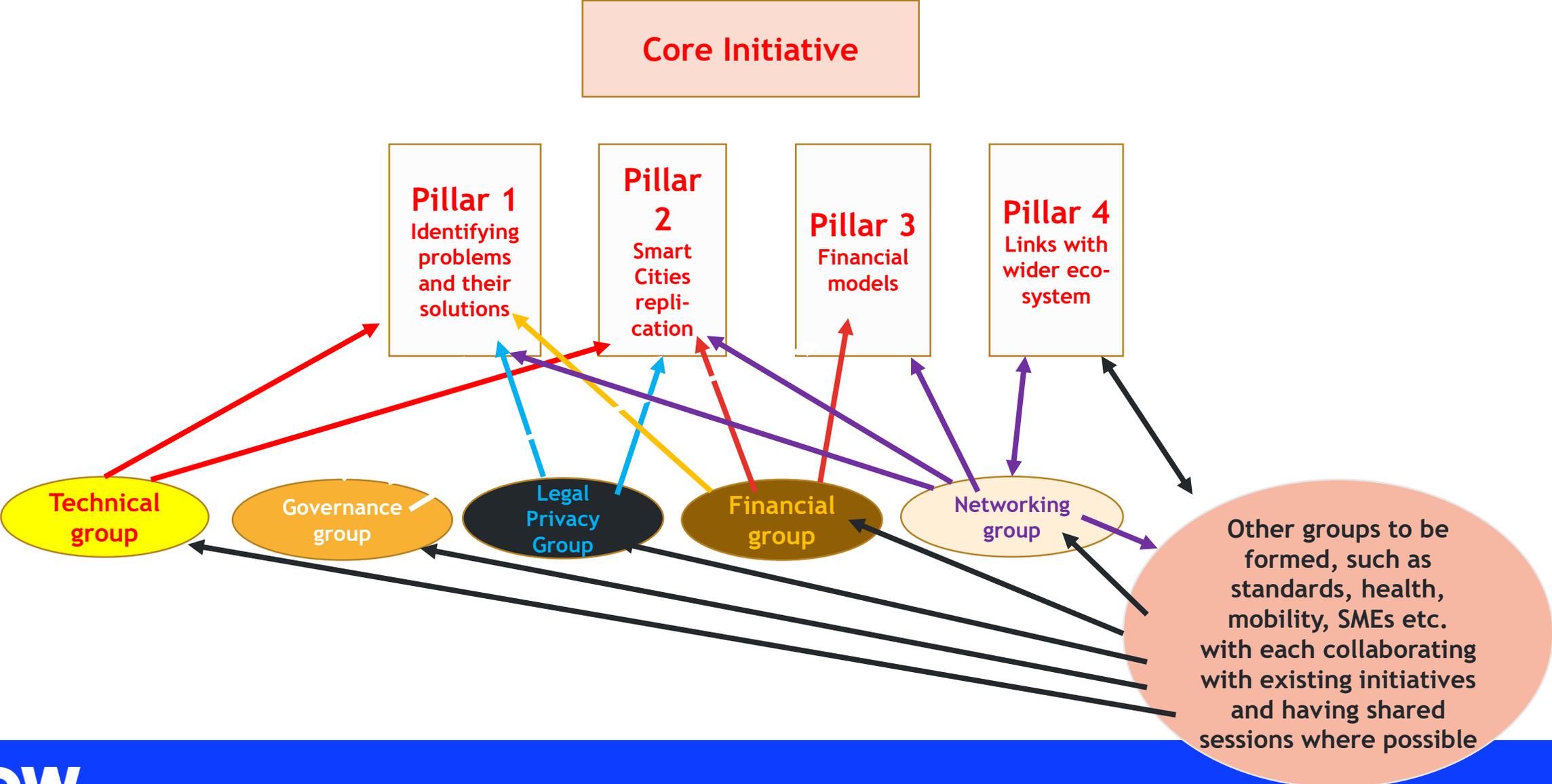
- “Methods and tools that will help **multiple cities** adopt. Assist in the setting up and operations of platforms for secure sharing of “closed data” (proprietary and/or personal data)”
- Develop very **practical use cases** and capture structured evidence-based case studies.
- Develop **practical roadmaps**.
- Capture/pilot **joint business cases** that will help multiple cities adopt
- Address the necessary technical, organisational, legal and commercial aspects of data-sharing, brokerage and trading whilst building on existing computing platforms.

# Citizen Control of Personal Data

The basis for the work in the first months can be described as covering four pillars.

1. What solutions are available for citizens to be able to share their data with smart cities and the wider data economy?
2. Which are the most suitable cities to become early adopters? How to replicate widely?
3. What are the current financial models, emerging models and financial support opportunities available?
4. How do we fit in with and network with other initiatives and projects, contributing to them whilst also gaining from this association? And how do we create the necessary eco-systems?

# Smart Cities MarketPlace: “Citizen Control of Personal Data” initiative



# Value and the EU Data Model context

- The size of the market has continually been stressed. As has been the current destination of the wealth created.
- The real task in hand is to divert some of this value more equitably, within a European Model promoting an equal and transparent share in this value.
- This redistribution will provide a boost to the deployment of urban data platforms which will give further impetus to utilising a citizen's personal data.
- The aim of the European Data Strategy is to create a genuine single market for data, where private and public entities can fully control the use of the data they generate and where both businesses and the public sector have easy access to a large pool of high quality data.
- In its narrower form, we will be providing a selection of technologies which will complement each other in enabling a citizen to securely share their personal data under their own control and earn from it if so desired.
- We will be contributing more of the highest value data to the already increasing pool available.

# Revenues

- The question can be posed “If we succeed in our contribution to developing a European Data model, and manage to provide the conditions where the value of data is shared equally amongst all the actors, what is the value of this for citizens, cities, service providers, SMEs in the Data Economy, research organisations, analysts etc?”
- Analysis of the new European Model data and value flows in the coming months is key.
- Recognition that there may be revenue for a city, will increase the likelihood of the take-up of urban data platforms, creating further activity in a virtuous cycle.
- And we help provide something as valuable in a rural community for the local data economy as for a mega-city.

# Problems of measuring the value of data.

There are numerous studies covering the value of data from a variety of perspectives.

These range from what a citizen would be prepared to accept for their own personal data to what value it is to a marketing agency.

A UK Government study took a typical approach looking specifically at one type of data- in this case geo-spatial data.

- In order to estimate the potential impact, the approach used was to Identify use cases- a range of known use cases were identified- mobility, energy, planning, etc.
- Given the wide range of use cases an attempt was made to ensure that the set of case studies covered the widest possible range of sectors and focussed on areas that stakeholders perceived the most incremental value.
- Then the potential impact was estimated: For each of the use cases, the potential impact on Gross Value Added in a given sector of the economy was estimated.

# The Difficulties of Data Valuation

- Each author on the topic is grappling in their own way with the implications of data as a new economic asset, and yet there appears to be little consensus on how best to measure its value.
- One thing they can agree on is that measuring the value of data - and making a case for investing in data - is very difficult.
- “Attempts to put a price tag on data have failed thus far, since analogies with either tangible (oil) or intangible assets (patents, intellectual property) break at the point where the mapping between features and assigned value becomes less clear. And perhaps this is normal since rules that apply to old commodities possibly don’t even apply to this new kind of resource.”

*From Open Data Watch compiled “Value of Data Inventory”*

# Safe-DEED Project Report

The project has been invited to present at the next workshop and is working on this topic, recently publishing a “Report on the context aware and context-unaware valuation”

It is an extensive review of the literature on the topic of **data valuation methods**. It starts from a tentative definition of data value around several key areas: contexts, data quality, privacy, aggregation and reporting.

It also discusses the properties that make data difficult to assess and brings valuable examples from data valuation applied to personal data.

It focusses on the central notion of data quality.

The report concludes with a discussion on the challenges of aggregating these aspects under a composite measure, and how reporting through certification or **impact-based narratives can be a feasible alternative**.

# What is proposed?

- In relation to reporting the value of data, and with respect to the efficacy of impact-based approaches to data valuation, the success of these approaches consists in the fact that they are **able to tell compelling stories based on data and connect them to clear outcomes and contexts.**
- This is also echoed by the **Data Narratives** approach, which acknowledges that “the value of big data is not data, but the narrative that it generates and supports.”
- Returning to the Roadmap towards a Data Economy enriched with an abundance of personal data, and with new sources of funding for investment being potentially available, how can we overcome the knowledge gap between the cities and what is becoming available for their use?
- Regarding the deployment of urban data platforms, a problem faced is that “the cities do not recognise that they need one”.
- The next Initiative workshop will bring together people from a wide range of disciplines and cities to start to plan out how we can tell **the story of data in a city.**

# Projects with a wide array of application areas and a wide range of values

We are assembling a wide alliance of projects and existing initiatives. Each can contribute to the narrative- to telling the story of the value of data in a city

Each of which having their complimentary technologies and each of which will benefit from the release of personal data, which will further enhance existing data-ecosystems, either location-based or thematic and thus stimulating SMEs and others within the data economy.

The potential for pilots and demonstrations to merge is clear, as synergies are strong and the early activity identified as having the potential to instigate a catalyst effect already cover:

- City based demonstrations in mobility, economic development, sports and leisure, culture etc.
- Demonstration of utilising personal data within the energy and health sectors, as well as within wider trans-national eco-systems of education and health....
- Focussing on use by SMEs and targeted at specific economic sectors such as agriculture, travel and tourism, energy, mobility

# Conclusion

- If we succeed in removing the identified obstacles to the sharing and re-use of personal data, then the benefits can similarly be shared by all those acting in the Data economy, including citizens providing their data.
- We will have a better idea of “where will the money come from?”
- It will be a cumulative effort as the advantages of contributing this additional valuable data to the various parts of the eco-systems will bring about better policies, better services, a better functioning market and an equitable share in the value created.
- Progress will have been made in helping to create the European Model and a set of focal points created for further entrenchment of this model.
- **There is great complexity involved as a government cannot order it, the market does not have a simple product to sell and the networks and eco-systems required to support it are wide and varied.**

# Contact and Date for Diary



<https://smart-cities-marketplace.ec.europa.eu/action-clusters-and-initiatives/initiatives/citizens-control-personal-data>

<https://www.datavaults.eu/material/liaisons-relevant-links/citizen-control-of-personal-data-initiative-citizen-focus-action-cluster/>

Third Workshop, Smart Cities MarketPlace, “Citizen Control of Personal Data” Initiative: **Thursday July 8th. 10.00-11.30 CET**

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Thank you!



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