

Co-organised by:



Policy Cloud
Cloud for Data-Driven Policy Management

Decido



intelcomp

9-10 December 2021

EVIDENCE BASED POLICYMAKING IN EUROPE 2021

USE CASES AND DIGITAL TOOLS
FOR IMPROVED DECISIONS



Data Driven Policy Cluster

Co-creating digital tools for better governance

Evidence based policy cases: from data to decision making

Evidence based policymaking in Europe Summit 2021 - Plenary session 9 December

Marieke Willems (Trust-IT, Policy Cloud)



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 plenary session

- **Welcome. The Data Driven Policy Cluster and the Evidence Based Policymaking Summit 2021** - Marieke Willems (Trust-IT, Policy Cloud)
- **Open research data for better policymaking** - Alan Paic (OECD)
- **EC policy helping local public administrations' use of digital twins for evidence-informed decision-making** - Andrea Halmos (DG CONNECT)
- **Involving citizens in citizen science, contributing to evidence-based policymaking** - Claudia Fabo Cartas (ECSA)
- **Decide Better. Digital European urban twins for data-supported policymaking** - Lieven Raes (Informatie Vlaanderen, DUET)
- **Evidence based policymaking & frontier innovation** - Michela Magas (Industry Commons & MTF Labs)
- **Panel discussion.** From data to decision making.

Evidence Based Policymaking in Europe Summit: 2021

**Join us:
9th December 10 am CET**

Day 1: From data to decision making



Andrea Halmos

Policy Officer in the 'Technologies for Smart Communities' Unit of DG CONNECT.



Alan Paic

Senior Policy Analyst in the Science and Technology Policy (STP) Division



Claudia Fabo Cartas

She works at ECSA as Project Officer for the EU-Citizen



Lieven Raes

Lieven is an internationally recognised Smart City expert at Information Flanders



Michela Magas

Advisor to the EU and G7 and the creator of the concept of the Industry Commons

The Data Driven Policy Cluster

- **5 H2020 research projects** using the European Cloud Infrastructure for Public Administrations
- Developing **policy prediction tools** to support data-driven decision making
- **Co-creative** development processes
- **19 pilots**, from health and climate change to mobility and radicalisation.
- Pilots **produce & reuse data**



Joint Roadmap & Evidence Based Policymaking Summit 2021 towards using European Cloud Infrastructure for Public Administrations.

The added value of Data Driven policymaking

- Support **more agile and responsive policymaking process**, which develops:
 - better evidence-based policies which adapt as new data comes to light
 - trusted, understood and contributed to by relevant stakeholders.
- Support the **policymaking cycle stages**:
 - agenda setting,
 - data collection,
 - analysis to understand the needs and the policymaking.
- **Facilitate the process with technical tools.**

Today we look at governance for the future. Using the European cloud infrastructure for public administrations.



Data Driven Policy Cluster
Co-creating digital tools for better governance

Evidence Based Policymaking 2021
Session: Evidence Based Policy Cases from data to decision making
Track 1 - Health & Social

Join us:
9th December 11:30 am CET

Paresa Markianidou
Technopolis Group, IntelComp

Armend Duzha
Maggioli S.p.A. PolicyCloud

Germana Gianquinto
GFT Italy, AI4PublicPolicy



Data Driven Policy Cluster
Co-creating digital tools for better governance

Evidence Based Policymaking 2021
Session: Evidence Based Policy Cases from data to decision making
Track 2 - Climate Change

Join us:
9th December 11:30 am CET

Phoebe Koundouri
Athens University of Economics and Business
IntelComp

Antonio Filograna
Engineering Ingegneria Informatica
DECIDO

Iliia Christantoni
University of Athens
DAEM



Data Driven Policy Cluster
Co-creating digital tools for better governance

Evidence Based Policymaking 2021
Session: Evidence Based Policy Cases from data to decision making
Track 3 - Mobility

Join us:
9th December 11:30 am CET

Jiri Bouchal
InnoConnect
DUET

Ana D. Georgieva
Sofia Municipality Innovative Sofia
PolicyCloud

Alessandro Amicone
GFT Italy
AI4PublicPolicy

From local to European policies. How do we contribute?

- Create **replicable solutions**
- Create **scalable tools**
- Solution enable **different cities that use the same tools** to exchange data models and scenario simulations to see if policy solutions can work at regional/European level
- Enable **data driven policymaking at any level in Public Administrations**, with the right selection of data and KPIs to monitor
- **Identification of a set of pathways, recommendations and lessons learnt** addressing Public Authorities through the transition towards the use of the European Cloud Infrastructure and the application of evidence and co-creation in the policy lifecycle.



Pilot on Forest fires in Kajaani, Finland:

Overall Policy objective:

Prevention and protection against forest fires; Procedures to mitigate damage to nature, infrastructure and life.

Pilot 2



Athens, Greece

Metropolitan area 3+ million inhabitants

In Athens, the DUET integrated Digital Twin will have the capacity to merge all of the city's digital sources to make them easily accessible and useful for policy exploration and experimentation.



Policies against radicalisation

Collecting and analysing data from social media and message boards in order to offer policy makers the data and tools required to address radicalisation effectively.



Energy Management
and Optimisation
Policies

Lisbon, Portugal

STI policy for health, in particular cancer research



Expected wider impacts



Political

- Sharing policymaking power with citizens means a cultural shift
- Communicating the "rationale" behind a decision
- Gender balance
- Define, develop & implement specific tools for policymaking lifecycle stages

Economical

- Unemployment
- The economical impact of environmental issues
- Cost of HPC infrastructure to run complex simulation models
- Cost & resources for obtaining, curating and cleaning data before the use in policy prediction tools.

Societal

- Improved mobility & transport
- Improved security
- Improved health & social wellbeing
- Intelligent policies for agri-food
- Improving urban environments
- Gender balance
- Address climate change & sustainable blue growth

Technological

- Foster use of standards
- Improved data interoperability
- Data availability & reusability
- Simulation model interaction
- Big volume of historical data to be processed for visualisation
- Data Cleaning

Multi-disciplinary and multi-sectoral teams explore the complexity of policymaking challenges. Including the challenges raised by big data uses and consideration of precautionary approaches to address such problems.

Our stakeholders



Policymakers

- Public authorities
- Regional policy makers
- EU policy makers



Research & academia

- Technology providers
- Service providers
- Businesses



Industry

- European cloud infrastructure providers
- Research centres & universities
- Citizen scientists, professional research community



Citizens

- Local action groups - grassroots organisations



Enablers

- Upcoming Data Spaces
- Legal Community
- ICT standardisation organisations (generic W3C, OGC), specific Telecom, ITS,...

The data-driven policy cluster develops policy prediction tools that enable public administrations to reuse common infrastructures and datasets for the development of better targeted and more effective evidence-based policies.

Co-creation

Why?

- Deliver policy and services
- Deliver social good
- Bring together stakeholders capabilities
- Unlock innovation & support entrepreneurship
- Measure and predict performance
- Build Data Literacy
- Co-creation of tools: To count with users (PAs and stakeholders -the research community, business and civil society-).
- Co-creation of policies: To allow stakeholders to inform policy-making processes
- Avoid Not Invented Here syndrome, and build a solution close to the real needs of policy makers

How?

- **Hackathons & Datathons**
- **Storytelling with data**
- **Gamification**
- **Community networking events**
- **Living labs**
- **Opening data to solve public sector challenges**

Who?

- Citizens
- Policymakers
- Students
- Entrepreneurs & start-ups
- Public sector experts
- Technology & data enthusiasts

The data-driven policy cluster engages its stakeholders in the co-creation of the tools, thereby enhancing trust & boosting the perceived legitimacy of authorities.





OPEN RESEARCH DATA FOR BETTER POLICY MAKING

Evidence-based policy making Europe, 9 December 2021

Alan Paic, Senior Policy Analyst, Science and Technology Policies, OECD



A challenge for STI policy

*The main driver for establishing the National Research Information System was a recognition that **S&I data is not of high quality**, there is **little reuse of data**, and **data is not shared or linked**. We are not able to answer **quite basic questions**, such as public investment in particular areas of research, the outputs generated by the system, collaboration statistics and outcome measures such as earnings and productivity of spin-off companies. This is **problematic for securing funding** from the Treasury and for gaining ongoing **support from the public**. The Ministry of Business, Innovation and Employment also recognised that research information was not scoring well against the government's stated information and **data management principles**.*



Data-driven response to the pandemic

- Research and other data used as input to policy making
 - Epidemiological data and studies (spread of pandemic)
 - Clinical data (lethality and other impacts on public health)
 - Mobility data (monitoring of lockdown measures)
 - Consumer behaviour
 - Response of economic agents
 - Sociological data on acceptability of measures
- Data-related issues in policy making
 - Quality and reliability (e.g. contested figures on lethality and spread)
 - Misuse of data and spread of fake news

The screenshot shows the top part of an OECD report. At the top left is the OECD logo with the text 'OECD TACKLING CORONAVIRUS (COVID-19) CONTRIBUTING TO A GLOBAL EFFORT'. Below this is the subtitle 'OECD Policy Responses to Coronavirus (COVID-19)' and the main title 'Why open science is critical to combatting COVID-19' with a date 'Updated 12 May 2020'. A hamburger menu icon is visible on the left. The main content area is titled 'Key messages' and contains three bullet points. At the bottom of the screenshot, a URL is partially visible: 'https://www.oecd.org/coronavirus/policy-responses/wh...-open-science-is-critical-to-combatting-covid-19-cd6ab2...'. A blue triangle is in the bottom right corner of the screenshot.

OECD Policy Responses to Coronavirus (COVID-19)
Why open science is critical to combatting COVID-19
Updated 12 May 2020

Key messages

- In global emergencies like the coronavirus (COVID-19) pandemic, open science policies can remove obstacles to the free flow of research data and ideas, and thus accelerate the pace of research critical to combating the disease.
- While global sharing and collaboration of research data has reached unprecedented levels, challenges remain. Trust in at least some of the data is relatively low, and outstanding issues include the lack of specific standards, co-ordination and interoperability, as well as data quality and interpretation.
- To strengthen the contribution of open science to the COVID-19 response, policy makers need to ensure adequate data governance models, interoperable standards, sustainable data sharing agreements involving public sector, private sector and civil society, incentives for researchers, sustainable infrastructures, human and institutional capabilities and mechanisms for access to data across borders.

<https://www.oecd.org/coronavirus/policy-responses/wh...-open-science-is-critical-to-combatting-covid-19-cd6ab2...>



International initiatives concerning enhanced access to data

OECD

instruments

- 1980/2013 Recommendation of the Council concerning Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data
- **2006 Recommendation concerning Access to Research Data from Public Funding**
- 2008 Recommendation for Enhanced Access and More Effective Use of Public Sector Information
- 2009 Recommendation of the Council on Human Biobanks and Genetic Research Databases
- 2014 Recommendation on Digital Government Strategies
- 2016 Recommendation of the Council on Health Data Governance

Other international

- European Commission's 2012/2018 Recommendation on access to and preservation of scientific information
- FAIR principles (**F**indability, **A**ccessibility, **I**nteroperability, **R**euse)
- International Open Data Charter
- Science clouds in Europe, Australia, U.S., Africa
- Research Data Alliance recommendations
- Amsterdam call for Open Science
- Open Innovation, Open Science, Open to the World (European Commission)
- Association of American Universities (AAU) and Association of Public and Land-grant Universities (APLU) guidelines



Latest developments

- 2020 Policy report *Enhanced Access to Publicly Funded Data for Science, Technology and Innovation*, Policy report, OECD Publishing, Paris, <https://doi.org/10.1787/947717bc-en>.
- 2021 revision of OECD Recommendation of the Council concerning Access to Research Data from Public Funding
- 2021 OECD Recommendation of the Council for Enhancing Access to and Sharing of Data



Recommendation for Access to Research Data from Public Funding (2021)

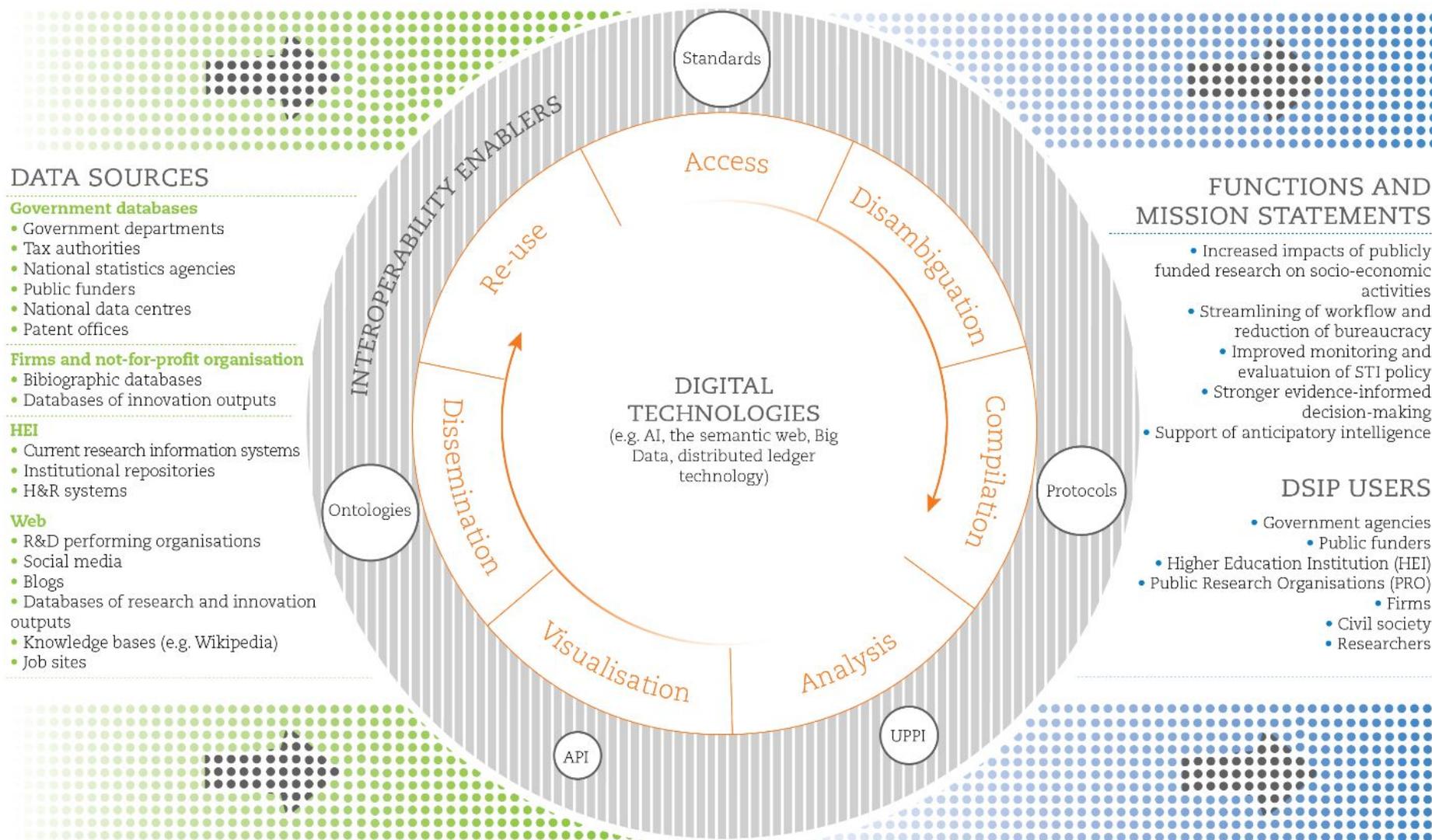


EXPANDED SCOPE COVERS RESEARCH DATA, METADATA, ALGORITHMS, WORKFLOWS, MODELS, AND SOFTWARE (INCLUDING CODE)

Full text available at <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0347>



Digital Science and Innovation policy (DSIP) infrastructure

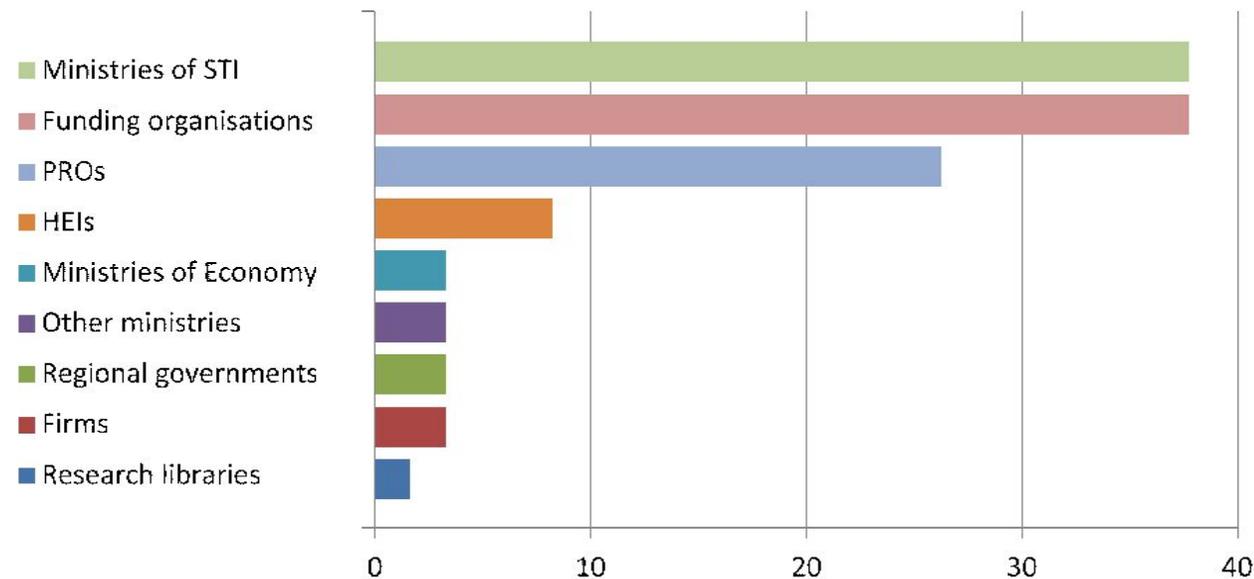




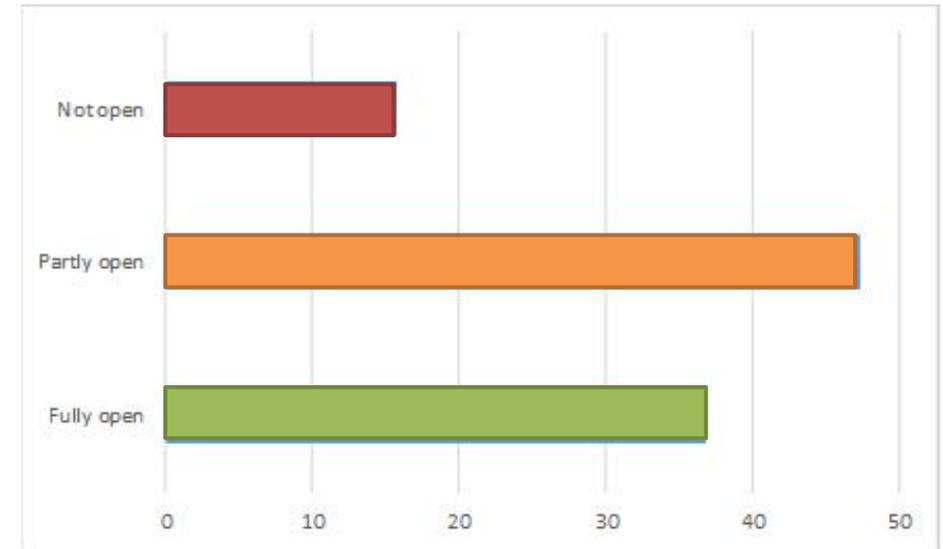
Results of DSIP survey

Operators of DSIP systems, %

Data covers 61 DSIP systems identified by the DSIP project team in 2017-2018.



Openness of surveyed DSIP systems (%)



Different sorts of DSIP systems surveyed:

1. Those that have grown out of databases of R&I funders
2. Those based on current research information management systems
3. Entirely new systems using advanced technologies to link data



Main rationales and challenges for DSIP

Provide insights at different points in the policy cycle

Streamline workflows

Reduce admin burden on researchers and research performing orgs

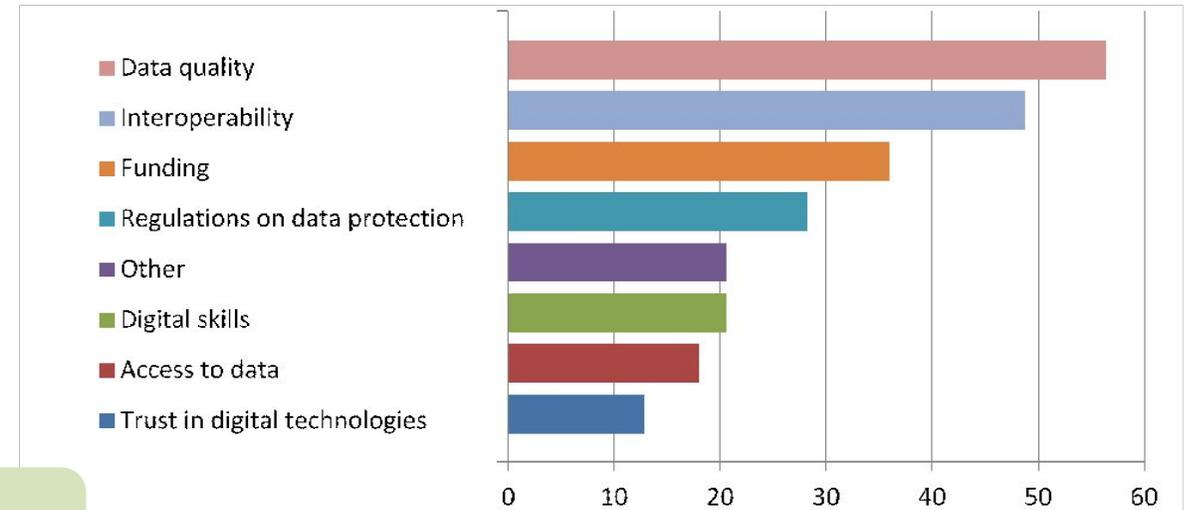
Act as unique, one-stop integrators, providing a real-time whole-of-system perspective

Support general information discovery

Lack of national coordination and strategy

Main challenges facing DSIP initiatives, %

Based on the responses of administrators of 39 DSIP systems in OECD member countries and partner economies.

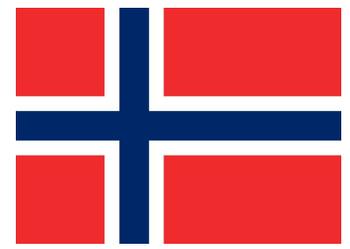


Technological backwardness

Competencies to use DSIP systems



Norway's DSIP system case study



Drivers:

- A strong legacy of comprehensive **administrative records** and strong **accountability** and **evaluation culture**
- A trust-based **societal consensus** - citizens and organisations perceive benefits of data use by public authorities
- Statistics Norway (SSB) role extends beyond descriptive statistics, assuming the role of a **macro and micro-data clearinghouse**
- CRISTIN, the Norwegian Current Research Information System provides a comprehensive list of publication outputs - an essential component of the research assessment system.
- Internal **data integration** and **interoperability** of databases - CRISTIN with project databases managed by the Research Council of Norway and other government agencies (e.g. through the usage of individual and organizational IDs)

Areas for improvement:

- Improve **skills** in digital technologies and **access to datasets** covering an international dimension of research or innovation activities (e.g. world citation data, research outputs created in other countries).
- Remaining **issues of fragmentation and scale**, notably due to a sectoral approach of STI policy could be addressed by **an inter-agency digital co-ordination working group**.
- Further develop **interoperability** through compatibility of **standards** and **identifiers** across **domestic actors and internationally**
- **Access to data about STI** generated in the system (administrative, statistical, commercial, etc.) to be assessed according to data types, purposes and actors, and communicated to potential users.
- Make or buy: consider **off the shelf solutions** for greater efficiency



Thank you for your attention

Further Reading

- [Making data for science as open as possible to address global challenges](#)
- [Recommendation of the OECD Council concerning Access to Research Data from Public Funding](#)
- [*Why open science is critical to combatting COVID-19*](#)
- [*Enhanced Access to Publicly Funded Data for Science, Technology and Innovation*](#)
- [OECD work on open science](#)

Contact

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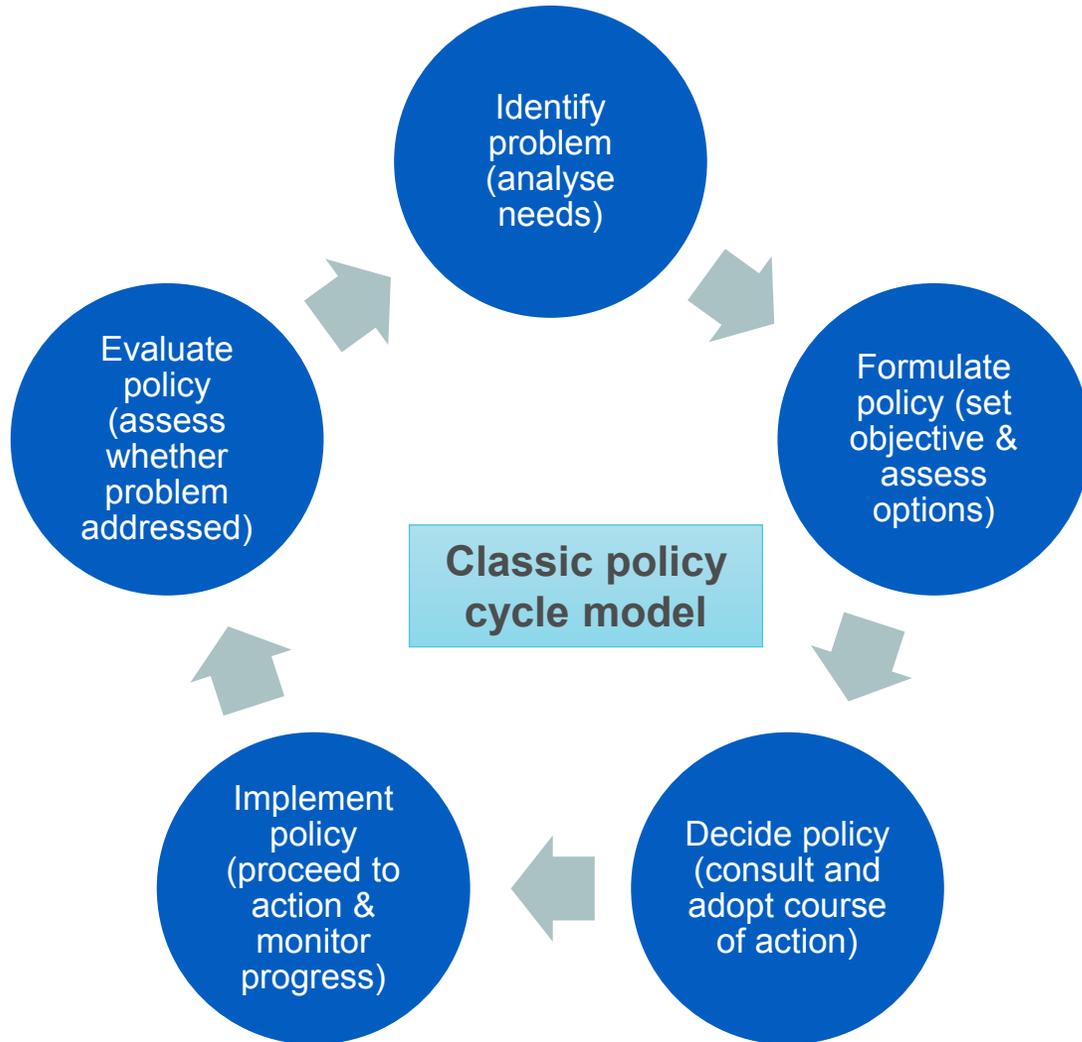


EC policy helping local public administrations' use of digital twins for evidence-informed decision-making

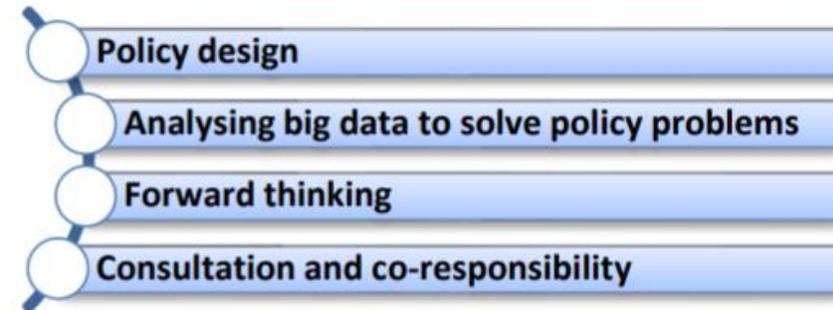
Evidence Based Policymaking in Europe Summit 2021

Andrea Halmos, DG CONNECT, Unit C3 Technologies for smart communities

9 December 2021

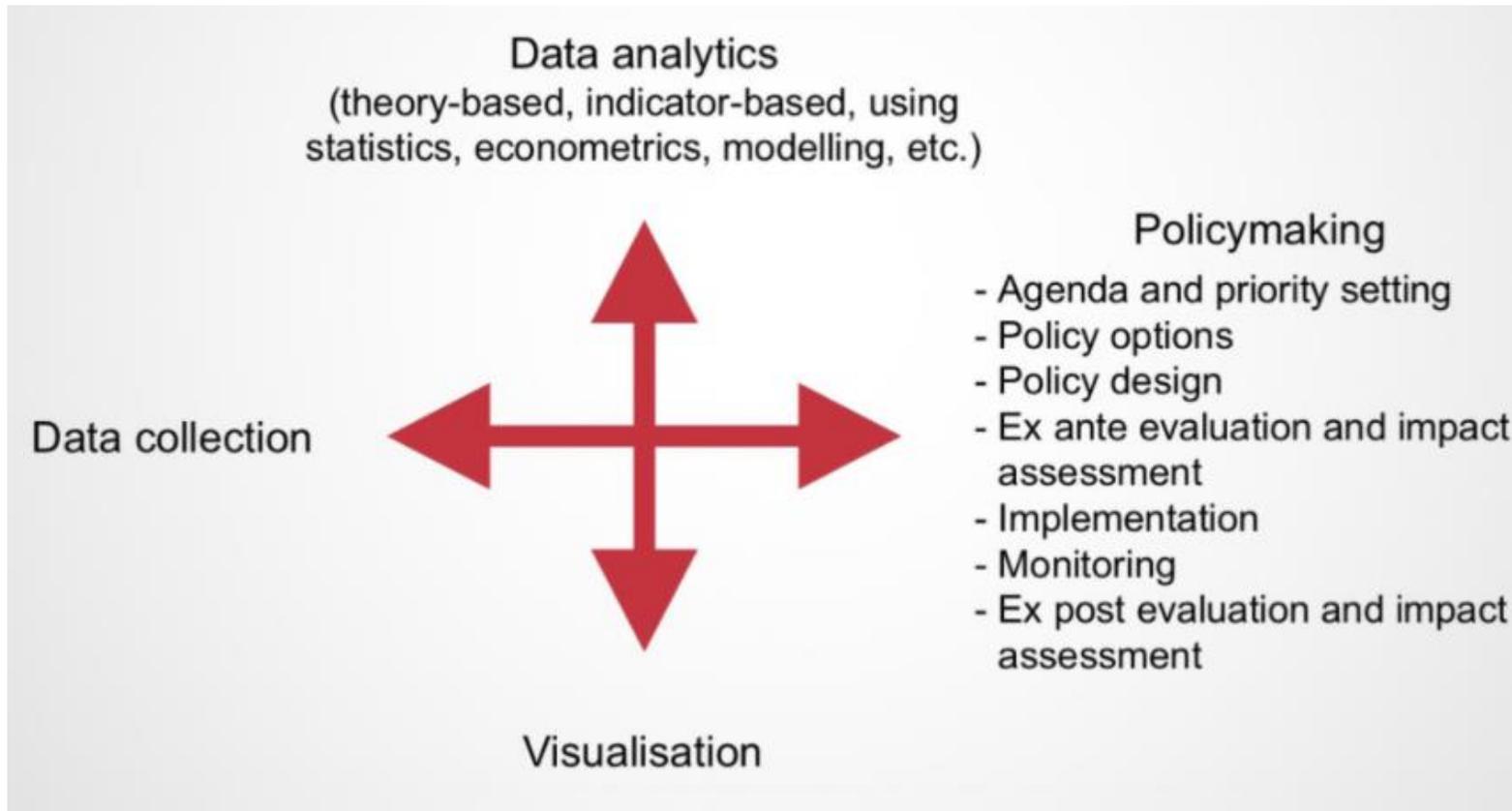


Qualities of good policy-making



(Big) data will improve all steps in the process and improve the quality of policy-making

Trends and observations in 2016



‘Smart cities and local policymakers are well ahead of national and international policymakers, for several reasons:

- *public-private collaboration and citizen engagement are easier to organise*
- *sensor networks can be installed quickly at the city level*
- *local policymakers can clearly communicate the advantages of big data approaches (dashboards)’*

Examples of local digital twins in the EU in 2021



European Commission



Port of Rotterdam



3D copy of Antwerp



Helsinki



Athens, Berlin, Flanders, Sofia



Madrid, The Hague, Budapest, Lyon, Oslo and Porto



Flanders, Athens, Pilsen

+ Amsterdam, Angers, Gothenburg, Hamburg, Herrenberg, Kongsberg, Munich, Rennes, Stockholm...



Local Digital Twins can save USD 280 billion in city planning, development and operating plans

(Source: ABI Research)

Local Digital Twins can:

- Reduce operating costs by 35%
- Boost productivity by 20%
- Cut emissions by 50-100%

(Source: CityZenith)

- Operational decisions (short-term) - reactive

Public safety and crowd dynamics , traffic management, public transport and pedestrian management, facilities management, etc.

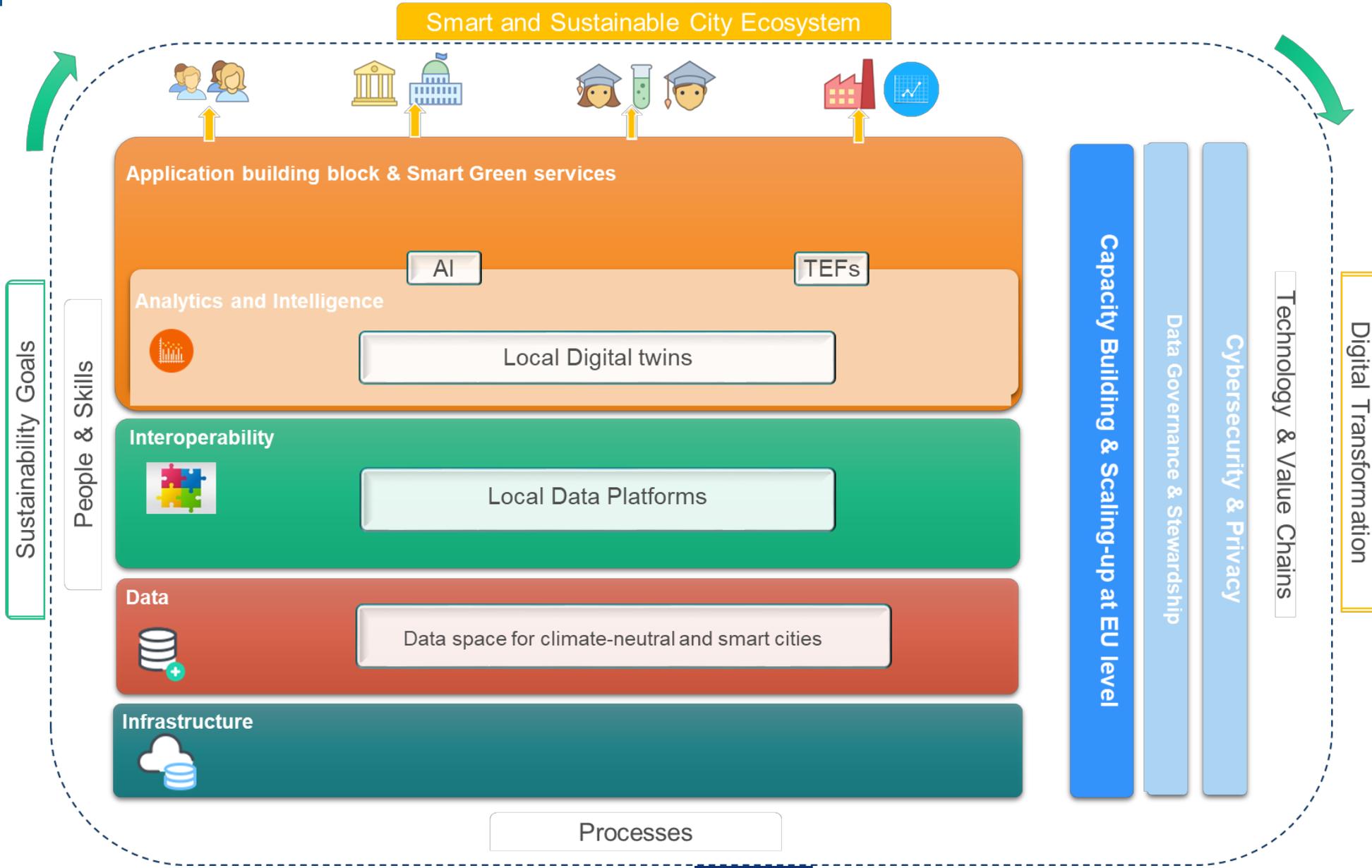
- Strategic (long-term) decisions - predictive

Urban planning and development, asset and infrastructure management, environmental and climate monitoring & planning, energy usage and solar deployment, etc.

Digital twins of the city are virtual replicas of urban environments, connected to both static and dynamic data sources that allow modelling multidimensional urban processes and perform simulations to improve decision-making.



- Many initiatives, pilot projects, innovative solutions but often confined to a specific **vertical domain** of the city (e.g. energy management or mobility)
- **Solutions often stay fragmented**, which limits the possibility to scale, accelerate take-up and deliver better outcomes & create a viable smart city market in Europe
- Despite advances in data capture and management, **cities do not fully benefit from data**; e.g. only 12% of city data is used for policy making*
- **Capacity building and digital skills** in the public sector





LIVING-IN.EU

The European way of digital transformation
in cities and communities

*Over 100 signatures so far...
From Mayors, Regional and national Ministers*

<https://www.living-in.eu/>



Rationale

- Access to public, but sensitive data (for analytics/AI) – Data Governance Act
- Access and reuse of private data with public interest (B2G data sharing) – Data Act
- European cities need to ensure citizens' digital rights (personal data management)
- Smart cities strive for portable and affordable, innovative cross-sector services (city-to-city & cross-border)

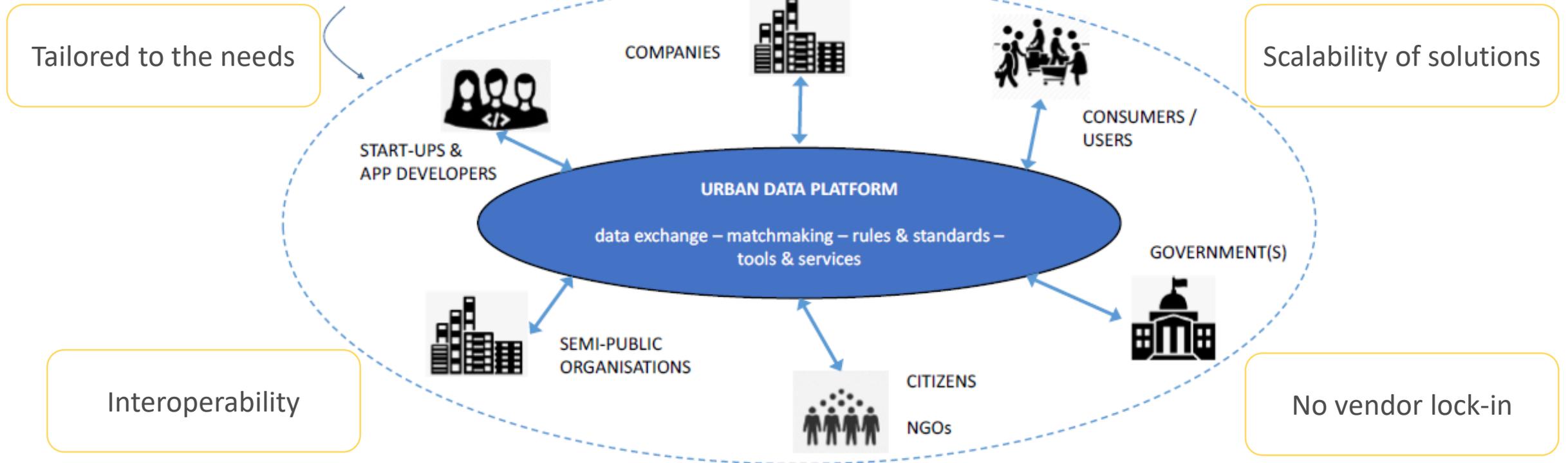


Rollout of common European data spaces

in crucial economic sectors and domains of public interest, looking at data governance and practical arrangements.

Data space: interoperable and secure environment, where currently fragmented and dispersed data can be shared among those, who become part of this data space based upon voluntary agreements and under certain conditions

City Ecosystem of Data Providers,
Data Users and (services) Innovators



A **Local Digital Platform** is the “operating system” on which digital services can be provided to smart cities and communities, integrating data flows within and across city systems by exploiting modern technologies, such as sensors, cloud services, mobile devices, analytics, etc.



Sub-groups:

- Financial – *DEP, RRF, ERDF (Local Digital Twins)*
- Technical – *Fair AI MIM (MIM5) and Analytics MIM (MIM9)...*
- Legal – *Interpreting the Proposal for the Artificial Intelligence Act*
- Education and capacity building – *Good practice cases (Iconic project on Digital Twins, Urban AI Observatory & DT4REGIONS) & collection of training material on AI and digital twins for cities*
- Measuring and monitoring - *LORDI*

JOIN, BOOST, SUSTAIN

Living-in.EU
The European way of digital transformation in cities and communities



DT4REGIONS
Digital Transformation for Regions
European Platform for Regions to enable AI and Big Data collective solutions



Cities launch 'observatory' for ethical AI

30 June 2021
by Sarah Wray

Barcelona, London and Amsterdam are leading the Global Observatory on Urban AI project to help cities deploy artificial intelligence effectively and ethically.

Laia Bonet, Barcelona's Deputy Mayor for the 2030 Agenda, the Digital Transition and International Relations, said it's important for cities to take a leading role.

"AI systems are riskier for public institutions than for private companies because we have an absolute duty to ensure equal opportunity," she told *Cities Today*.

The initiative is part of the **Cities Coalition for Digital Rights**, which was founded in 2018 by New York, Amsterdam and Barcelona, and now has over 50 members.



Data



Data space for climate-neutral and smart cities

- Developing data governance scheme
- Blueprint of data space (governance)
- Priority data sets aligned with blueprint standards and principles
- Roadmap
- Validation of the blueprint on at least two of the European Green Deal action areas

Application building block & Smart Green services

AI

TEFs

Analytics and Intelligence



Local Digital twins

Procure a European toolbox for Local Digital Twins that all European cities could use when developing their digital twins

Interoperability



Local Data Platforms

Help prepare the procurement and deployment of the interoperable local platforms



LIVING-IN.EU

The European way of digital transformation in cities and communities

Thank you!

The European Citizen Science Association, ECSA

Involving citizens in citizen science - contributing to evidence-based policymaking

Claudia Fabó Cartas | Project Officer for EU-Citizen.Science

Evidence-Based Policymaking in Europe Summit 2021

09.12.2021

ECSA at a glance

ECSA is a **non-profit organisation**, established in 2014, located at the Museum für Naturkunde, **Berlin** that advocates for public participation in science.

ECSA wants science to be more socially robust, inclusive and democratic.

ECSA has over **200 members** from all over Europe, as well as in Africa, Asia, Australia, North and South America.

Our members represent all sectors of society and our mission is to mainstream citizen science in our network of **citizens, politicians and policy-makers, scientists and SMEs**, and beyond.

What is citizen science?

Citizen science is any activity that involves the public in scientific research and thus has the potential to bring together science, policy makers, and society as a whole in an impactful way. Through citizen science, all people can participate in many stages of the scientific process, from the design of the research question, to data collection and volunteer mapping, data interpretation and analysis, and to publication and dissemination of results.

Citizen science is also an approach of scientific work that may be used as a part of a broader scientific activity.

Typologies



Crowdsourcing

Citizens as sensors



Distributed Intelligence

Citizens as basic interpreters



Participatory Science

Participation in data
definition and data
collection



Extreme Citizen Science

Collaborative science -
problem definition, data
collection and analysis

ECSA participation in Horizon 2020 projects



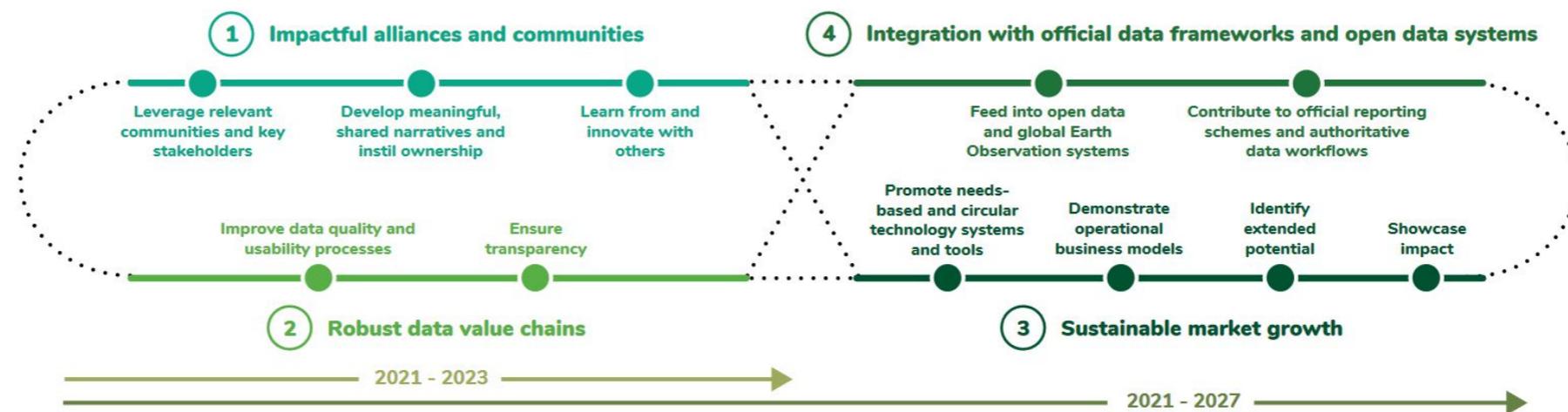
15 projects ECSCA is involved in have received funding from the European Union's Horizon 2020 research and innovation programme



Project results



WeObserve (2017-2021): *Roadmap for the uptake of the Citizen Observatories' knowledge base*



Four citizen observatory projects joined forces under WeObserve: LandSense, GROW Observatory, Ground Truth 2.0 and Scent.

LandSense (2016-2020) built a Citizen Observatory for Land Use and Land Cover monitoring, by **connecting citizens with Earth Observation data to transform current approaches to environmental decision-making.**

Source: WeObserve consortium. (2021). Roadmap for the uptake of the Citizen Observatories' knowledge base. Zenodo. <https://doi.org/10.5281/zenodo.4646774>



WeObserve and LandSense have received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 776740 and no. 689812 respectively.

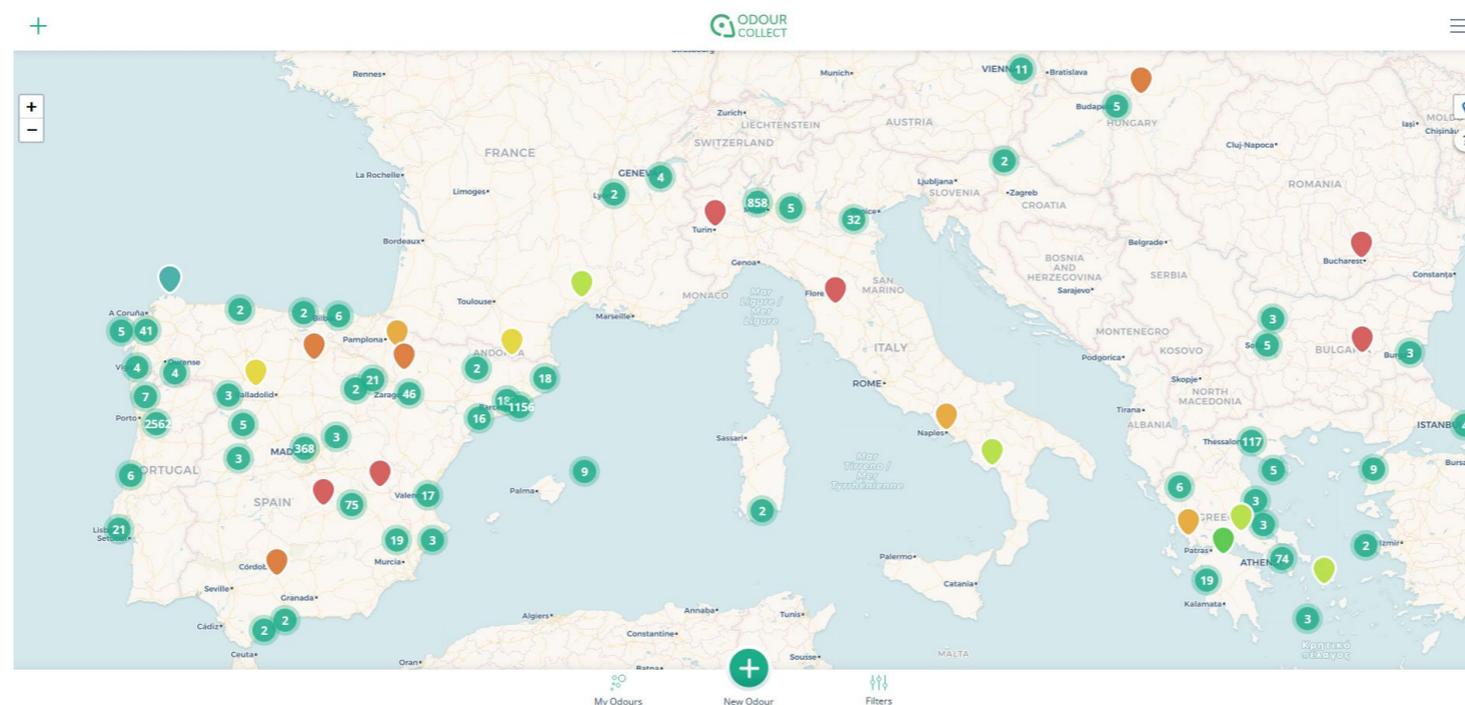


Project results



D-NOSES, Distributed Network for Odour Sensing, Empowerment and Sustainability (2018-2021)

- 10 pilot cases to tackle odour pollution at the local level
- Citizens crowdsourced odour observations (data)
- Data (sets) useful for environmental authorities and odour emitting activities, provides evidence and data showing geolocalized odour perception in real time
- Facilitate decision-making and increase trust from the community



Sources: Arias, R., Perucca Iannitelli, C., Roniotes, A., Salas Seoane, N., Burbano, J., Hernandez, M., Capelli, L., Uribe, J.(2021). Green Paper on Odour Pollution. D-NOSES, H2020-SwafS-23-2017-789315, <https://dnoses.eu/>, <https://odourcollect.eu/> and D-NOSES final conference.



D-NOSES has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 789315.



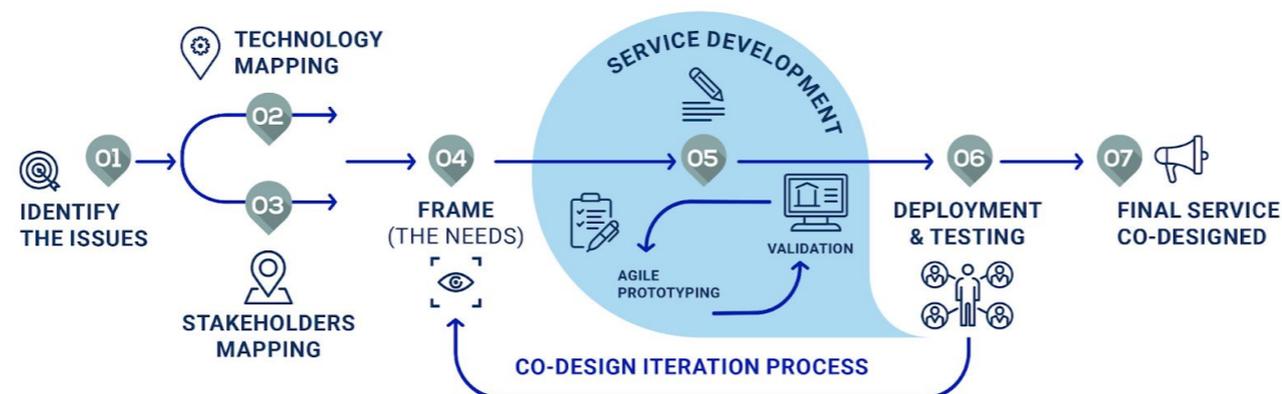
Project results



Cos4Cloud, Co-designed citizen observatories for the EOS-Cloud (2019-2023)

- Developing eleven technological services to improve citizen observatories by helping them to increase the quantity and the quality of citizen science data
- Field of environmental and biodiversity monitoring
- Freely available in the European Open Science Cloud (once ready)
- Interoperability is essential

THE CO-DESIGNED PHASES WILL FOLLOW THE SCHEME SHOWN BELOW



ECSA policy briefs

EU-Citizen.Science high-level policy event “Citizen Science for Policy across Europe”

Sources: <https://cos4cloud-eosc.eu/>, <https://ecsa.citizen-science.net/documents/>, <https://eu-citizen.science/>.



Cos4Cloud and EU-Citizen.Science have received funding from the European Union’s Horizon 2020 Research and Innovation Programme under Grant Agreement no. 863463 and no. 824580 respectively.

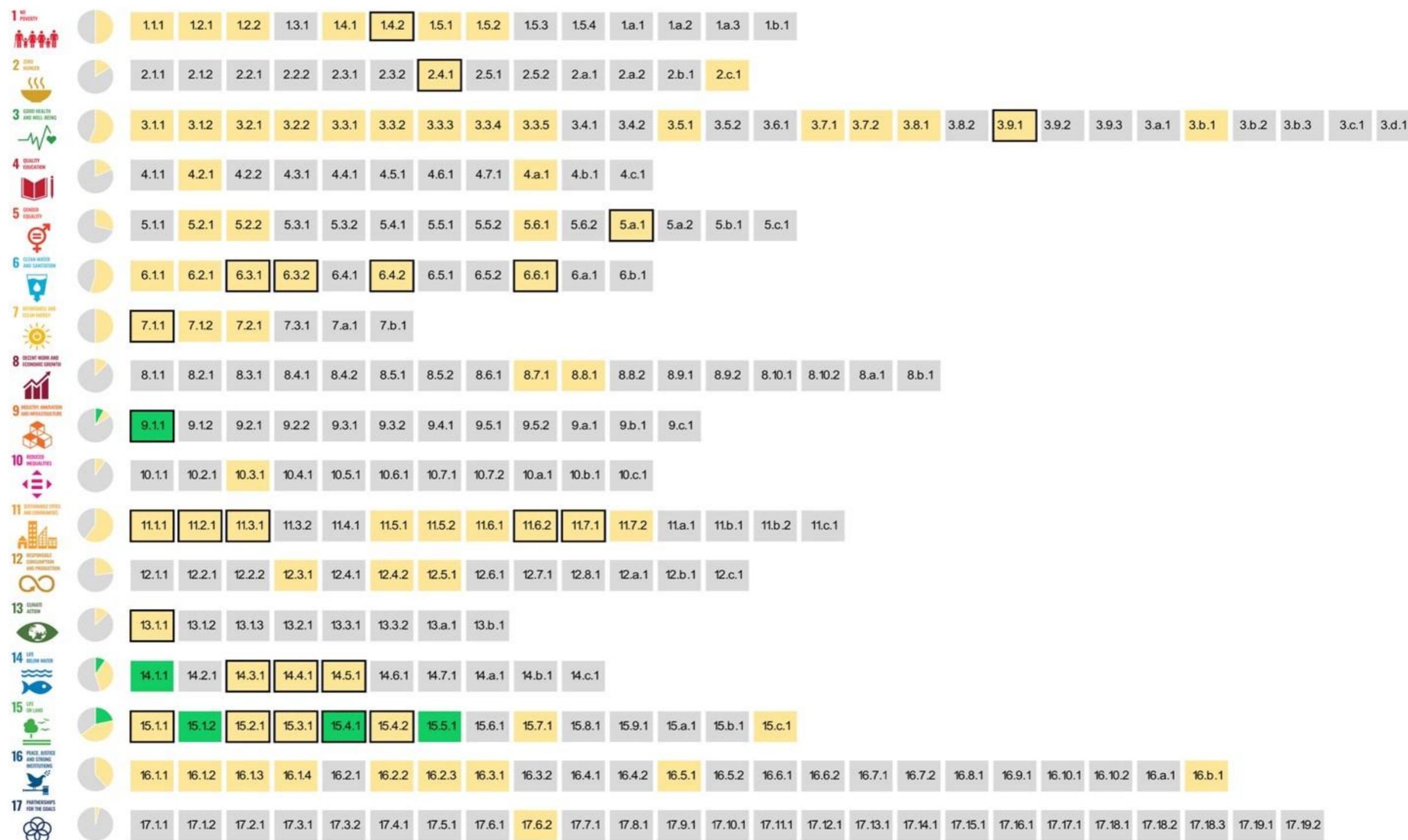


Citizen science generated data as a source of information for policy-making

- Use of outputs from citizen science (data and knowledge) for the implementation and monitoring of regulation
- Citizen scientists as data collectors, although citizens can have a bigger role beyond data-gathering, namely agenda-setting and the review of policies

“Citizen science activities offer an under-used, cost-efficient additional source of knowledge and feedback in the monitoring of the environment and the implementation of environment policies. This includes non-traditional data sources, analytical capacities, opportunities for engaging with citizens and possibilities for knowledge exchange (learning). With the environmental ambitions under the Green Deal, public authorities will be even more driven to tap into citizen science initiatives, communities and outputs, to expand their knowledge base in key areas such as biodiversity, pollution, circular economy, climate change and sustainable food.”

The SDG indicators where citizen science projects are “already contributing” (in green), “could contribute” (in yellow) or where there is “no alignment” (in grey).



Source: Fraisl, D., Campbell, J., See, L. *et al.* Mapping citizen science contributions to the UN sustainable development goals. *Sustain Sci* 15, 1735–1751 (2020). <https://doi.org/10.1007/s11625-020-00833-7>

CS SDG Declaration

“Our world – our goals: Citizen Science for the Sustainable Development Goals”

Recommendations

1. Harness the benefits of citizen science for the SDGs

- Through citizen science, citizens must be supported and encouraged to generate new scientific knowledge to support the SDGs, in collaboration with policy-makers, academia, research institutions, research funding agencies, researchers, citizens and civil society organisations and according to recognised and tested standards.
- Academia, universities and research institutes must be supported to restructure and open up to give space and opportunity for citizen involvement. Citizen science needs organisational forms to provide the approach with a route and framework and at the same time guarantee for quality.
- Policy makers and research funders should provide strategic and financial support to citizen science networks, capacity-building activities and initiatives, as well as to changes in research organisations, whilst also supporting the active engagement of EU citizens in implementing the SDGs.

2. Strengthen citizen science and its connections with other communities

3. Strengthen future citizen science systems

Source: D2.1 Conference Declaration - CS-SDG project (January 2021). Zenodo.
<https://doi.org/10.5281/zenodo.4472729>



CS-SDG has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 101000014.



eu-citizen.science

EU-Citizen.Science

The Platform for Sharing, Initiating, and Learning Citizen Science in Europe

- Platform built during the EU-Citizen.Science project (2019-2021)
- ECSA will take over its management and development from January 2022
- Platform built by and for the community - as a place to share knowledge, tools, training and resources for citizen science
- EU-Citizen.Science bundles information on citizen science bringing together the results and outcomes of many citizen science projects

eu-citizen.science Search Blog Events Moocs Forum Final Event About

en Login Signup

Welcome to the platform for sharing citizen science projects, resources, tools, training and much more

Projects Resources Training Organisations Platforms Users Our Gold Star Selection

Search...

Join the community and participate



about the platform

EU-Citizen.Science is an online platform for sharing knowledge, tools, training and resources for citizen science – by the community, for the community.

The vision for the platform is to serve as a Knowledge Hub and to become the European reference point for citizen science in aid of its mainstreaming.

Learn more in the about page and the FAQ!

- **200+ Projects**
- **170+ Resources**
- **160+ Organisation profiles**
- **20 training modules**
- an **Events** calendar and a **Blog**
- Platform & Community **Forums**
- **7 Platform profiles**, API features
- **1600+ registered users** as of Dec 2021



EU-Citizen.Science has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 824580.

Thank you!

Contact

Claudia Fabó Cartas, Claudia.FaboCartas@mfn.berlin

<https://ecsa.citizen-science.net/>



Data Driven Policy Cluster

Co-creating digital tools for better governance

Decide better.

DIGITAL URBAN EUROPEAN TWINS

Data-supported policymaking

Lieven Raes, Digitaal Vlaanderen
Consortium coordinator, DUET and COMPAIR EU H2020 projects



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.



Envision a world
where cities
understand the
real-world impact of
change before making
crucial policy
decisions...

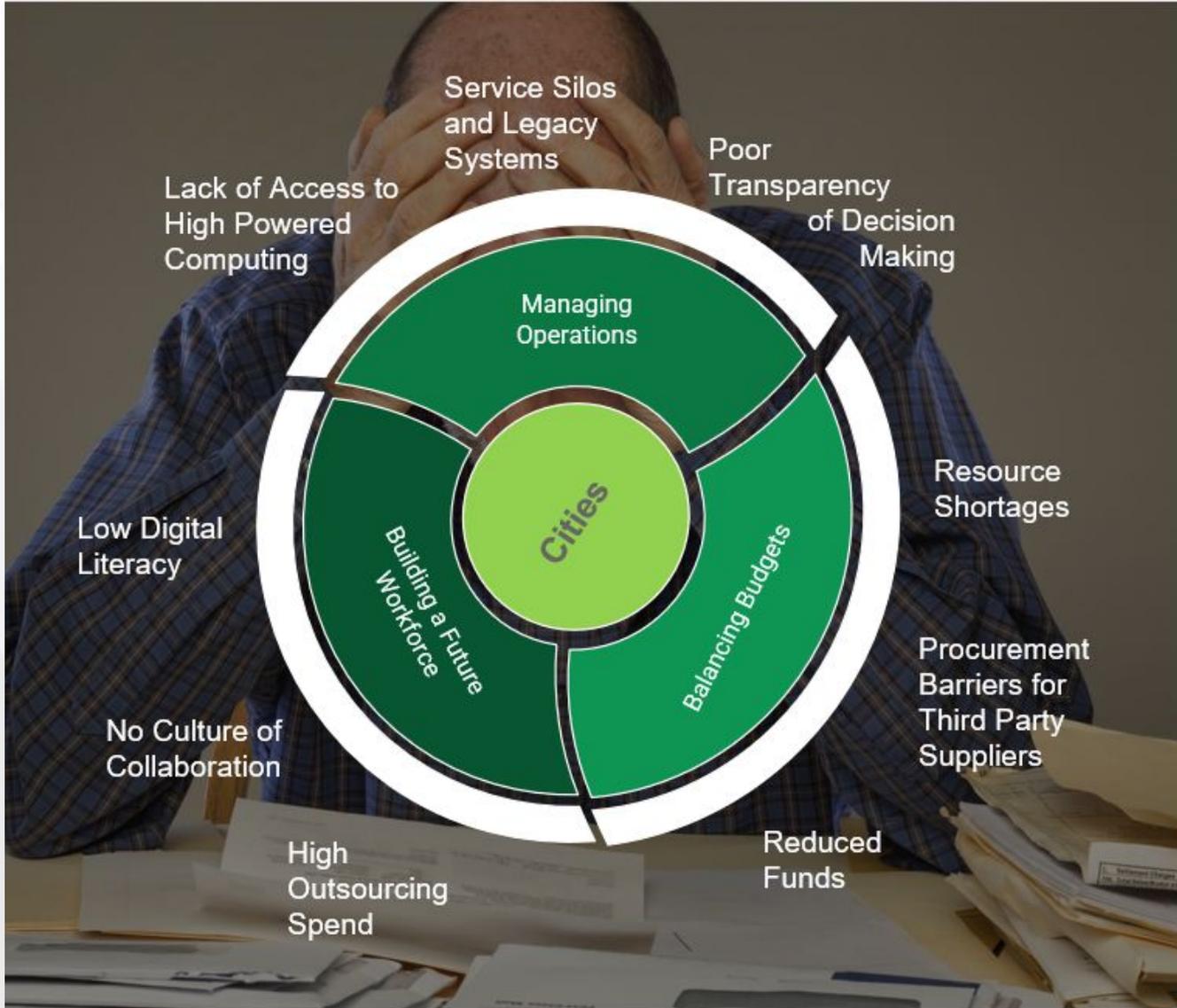


Cities everywhere
are becoming
increasingly digital...



Convergence of IoT and Cloud Computing creates new possibilities for governance and service delivery using city data





But a continuous cycle of operational challenges leaves Government behind...



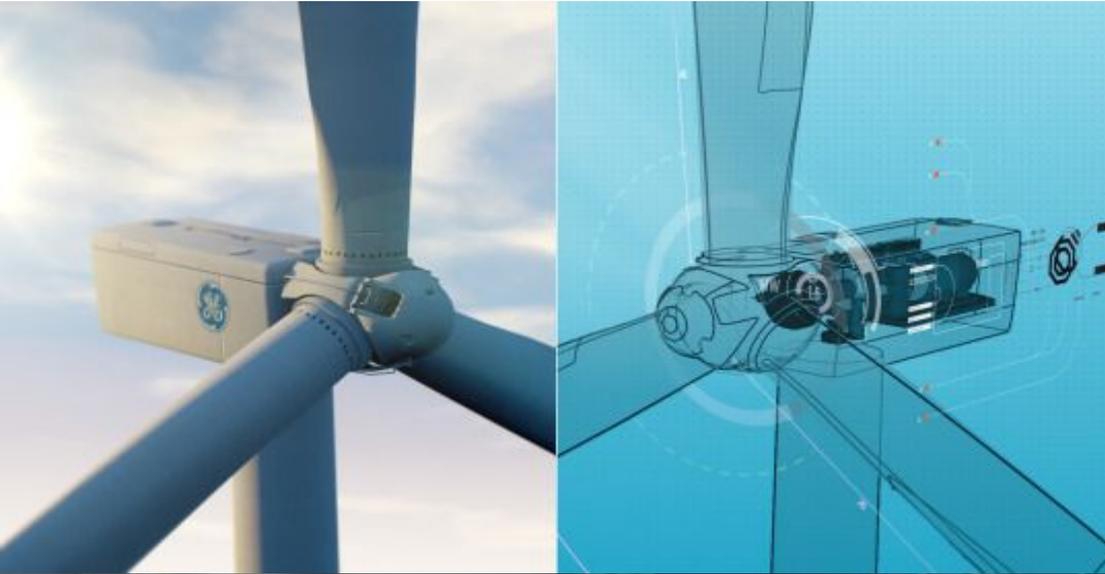


Digital Twins can disrupt the status quo...

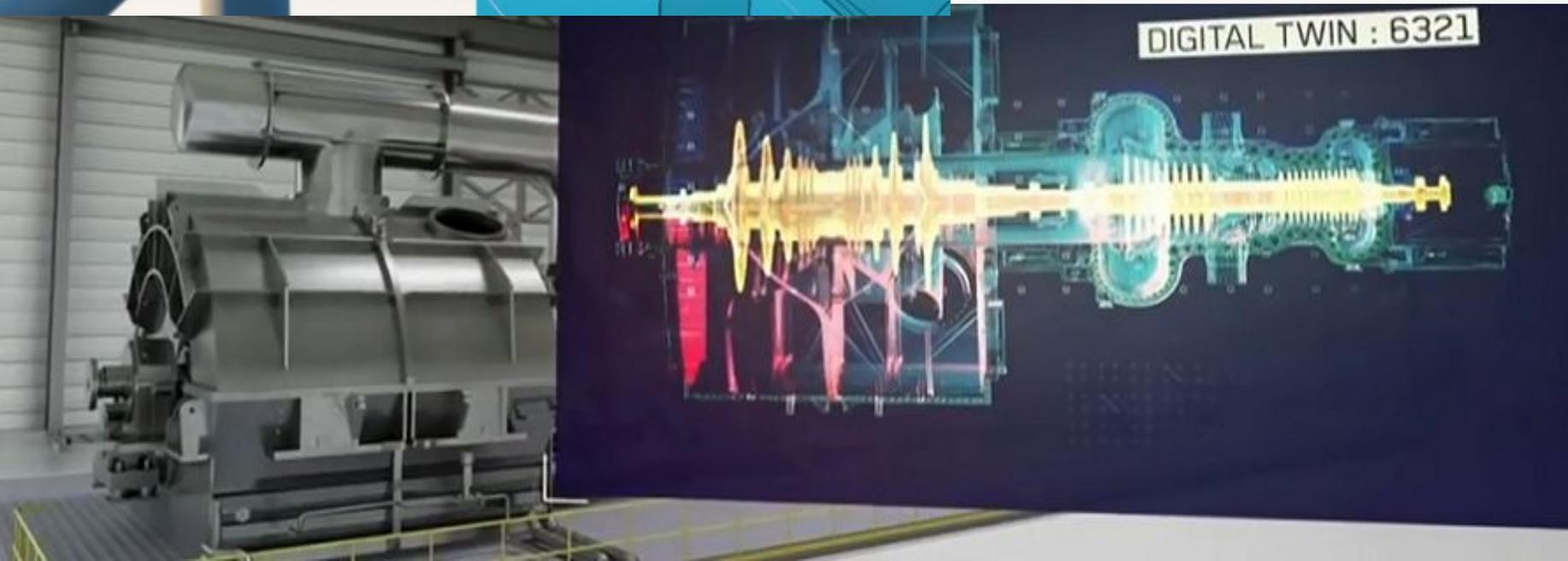
A digital twin is a digital replica or representation of a system, process or place which mimics its real-world behaviour.

It's a real-time updated collection of data, models and algorithms allowing for better real-time analysis of assets.



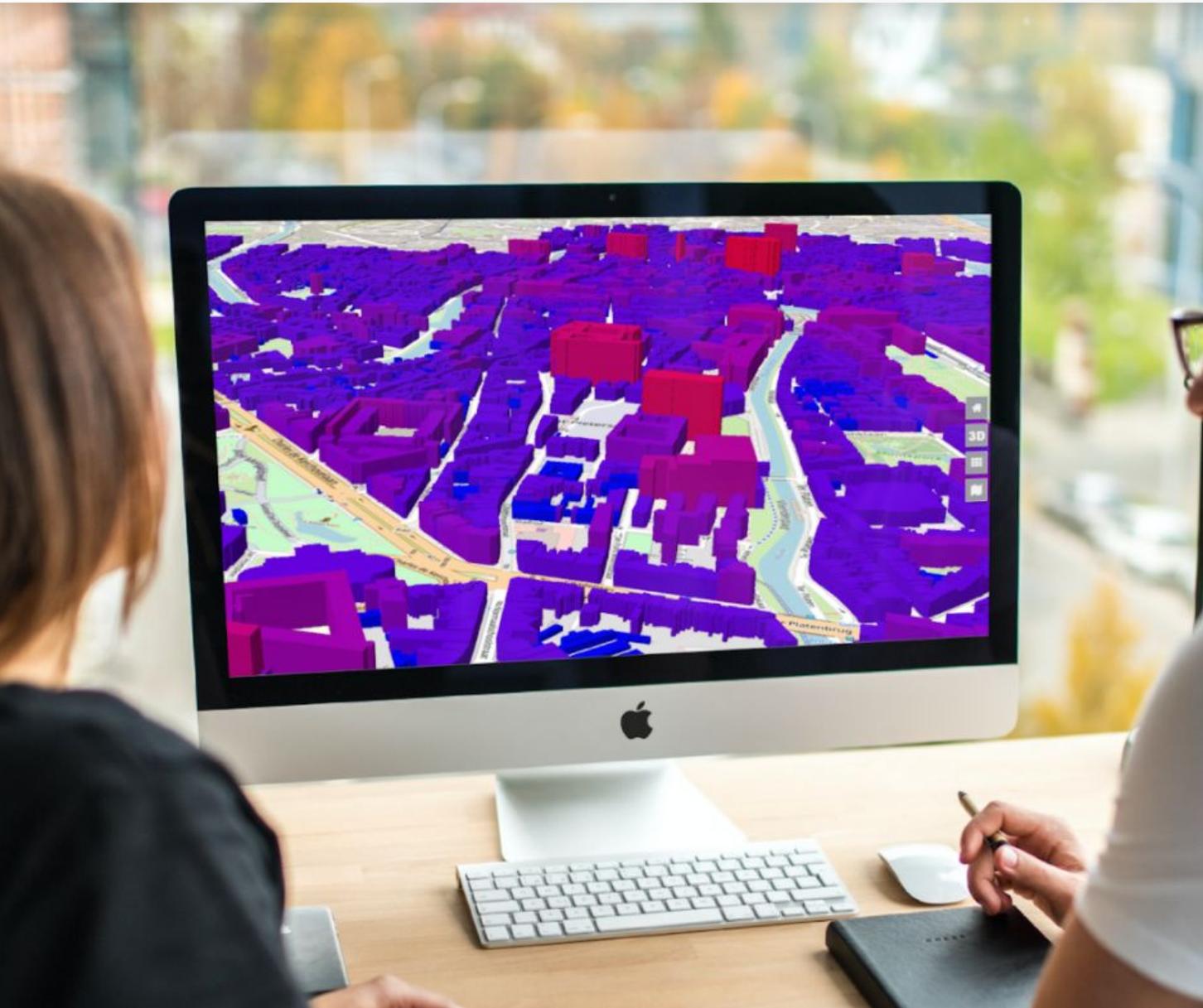


...adapting lessons
from the private
makers sector..



...to bring entrepreneurial thinking,
agile processes and open innovation
to Government decision making





Combining
predictive data
models and
visualizations is
the key to
understanding
future impact...





3D interfaces makes city intelligence easier to understand by all...

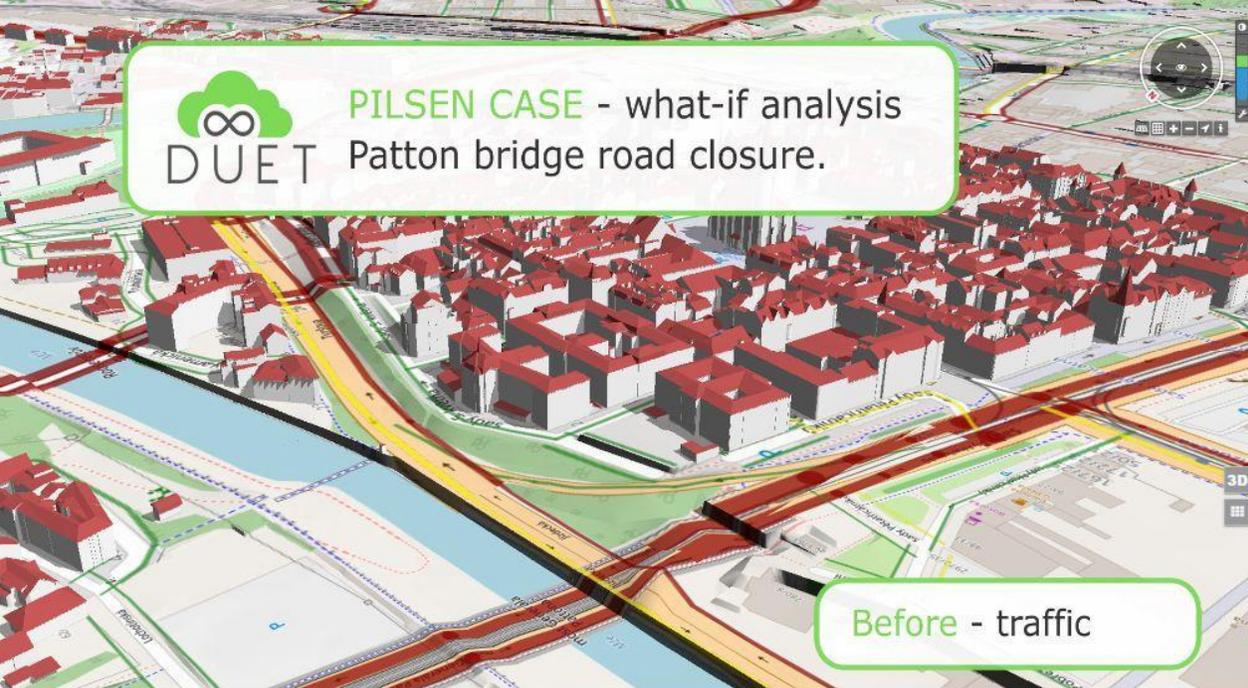


Facilitating experimentation and co-creation to deliver policy and services that were previously impossible





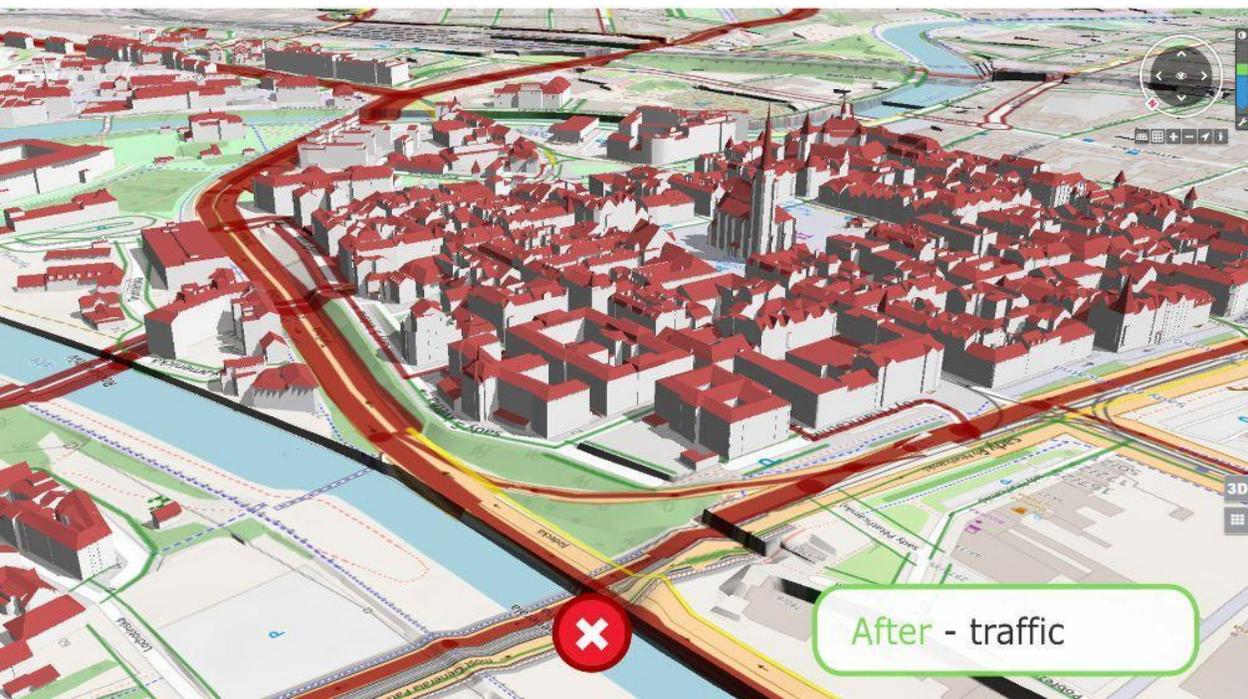
PILSEN CASE - what-if analysis
Patton bridge road closure.



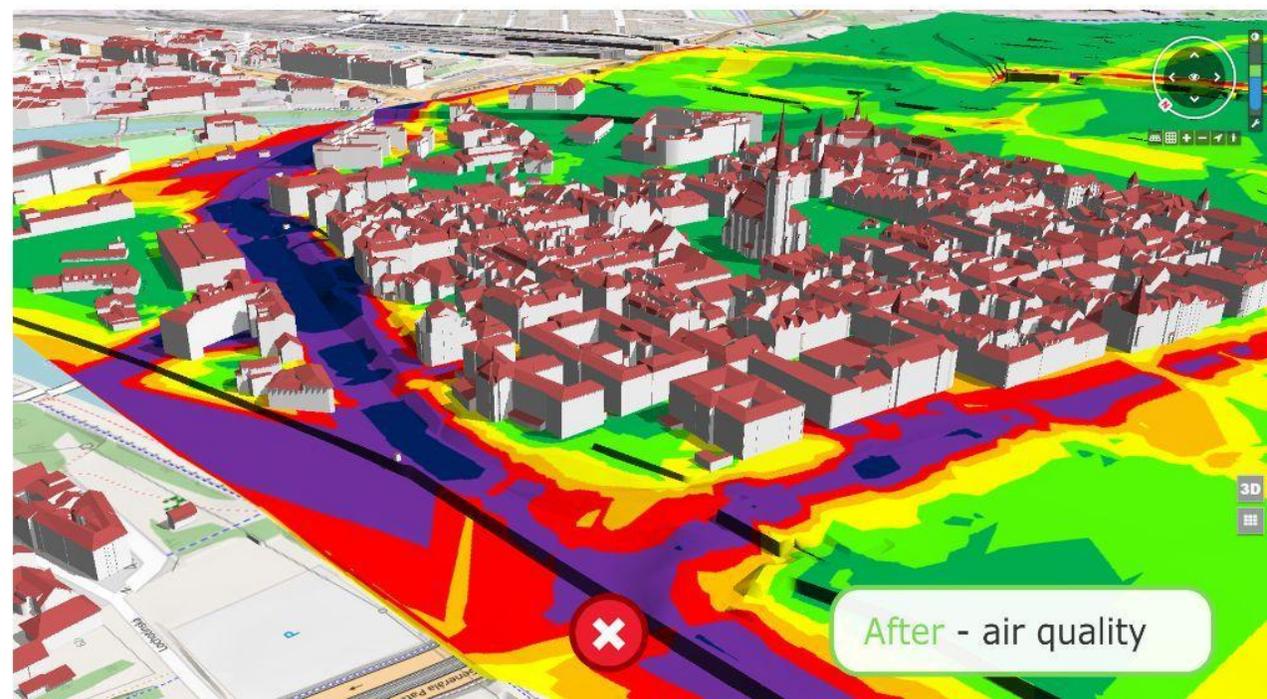
Before - traffic



Before - air quality



After - traffic



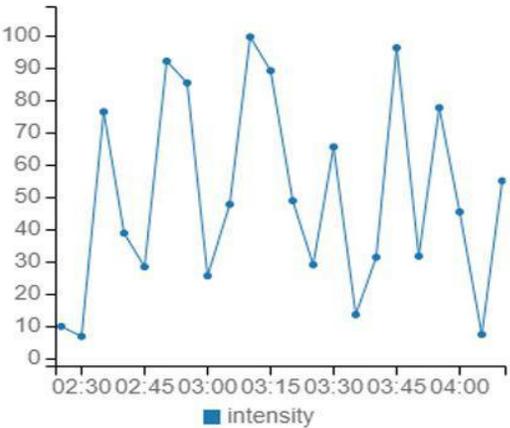
After - air quality



ANTWERP CASE - visualisation of motorised traffic per street segment, based on sensor/mobile data.

Traffic intensity vs time

OFF





ATHENS CASE - mapping shady areas in the city.





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digitalurbantwins.com

intelcomp.eu

policycloud.eu



EVIDENCE-BASED POLICY MAKING

MICHELA MAGAS, CHAIR, INDUSTRY COMMONS FOUNDATION, AND FOUNDER, MTF LABS



CO-CREATION: NEW EUROPEAN BAUHAUS

REDEFINING ABILITY: HUMANS IN THE LOOP

The more I concentrate, the higher the scale is.

RIIKKA HÄNNINEN

laulaja

CHALLENGING PRECONCEPTIONS: MARKET ADOPTION READINESS LEVELS



A row of bright green bicycles parked in a public space, likely a bike-sharing station. The bicycles are arranged in a line, receding into the background. Each bicycle has a white identification tag on the frame. The background is slightly blurred, showing a building and some greenery. The overall scene is bright and clean.

TOOLS FOR GOVERNANCE: DATA-ENABLED PUBLIC SPACES

HUMAN-CENTRIC: CHALLENGING INDUSTRY 4.0

MICHELA MAGAS EVIDENCE-BASED POLICY MAKING 09 DECEMBER 2021

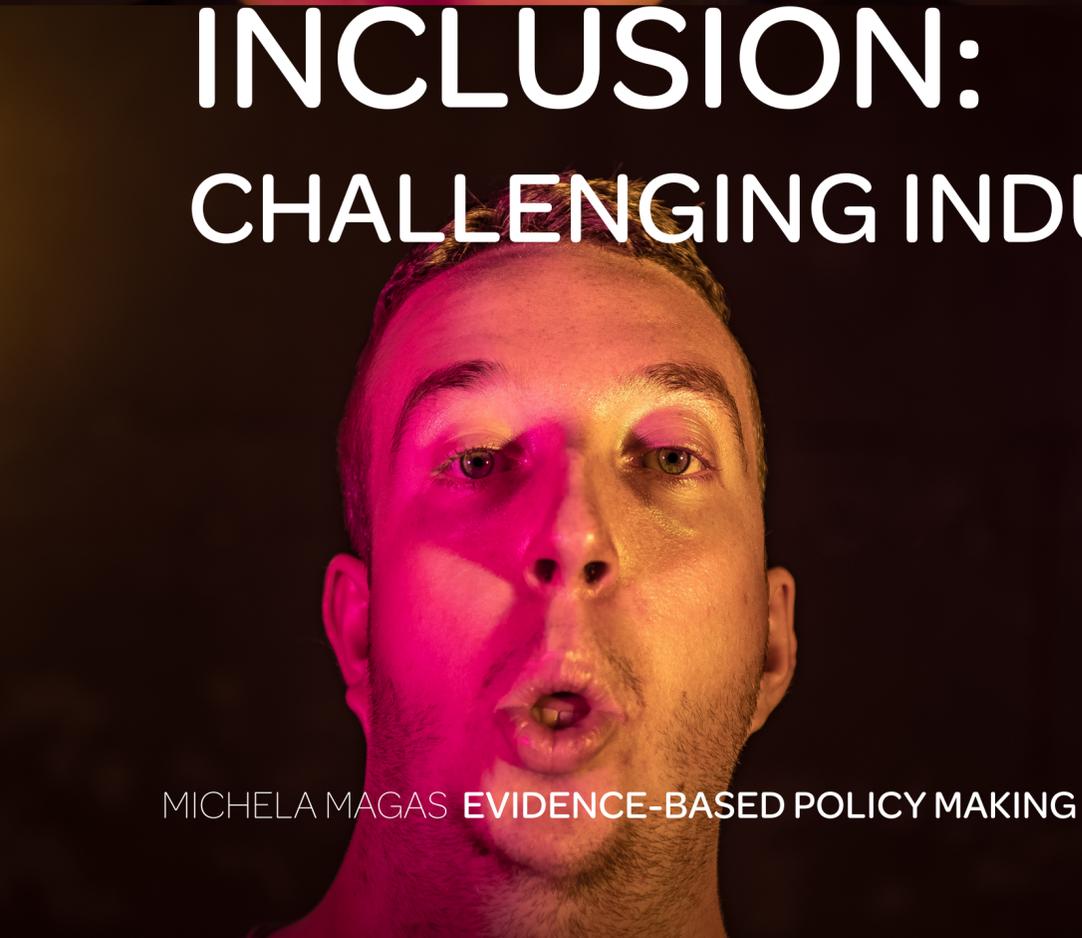


INDUSTRY 4.0
AUTOMATION
TO
INDUSTRY 5.0
HUMAN-CENTRIC

NEB
HUMAN-CENTRIC
TO
**MORE-THAN-
HUMAN**



INCLUSION: CHALLENGING INDUSTRY 5.0



INDUSTRY 5.0

INCLUSION

SEVERAL

CATEGORIES

OF PEOPLE

NEB

RADICAL INCLUSION

EMPHASIS ON

WHERE WE

CONVERGE



MOONSHOTS: STIMULATING KNOWLEDGE EXCHANGE



INDUSTRY 5.0
UPSKILLING
BY
TRAINING

NEB
THE FUTURE OF
WORK IS DRIVEN BY
MISSIONS

HORIZONTAL ENABLERS FOR CLOUD-BASED POLICY MAKING

BREAKTHROUGH INNOVATION

(MODELLING OF CURRENT AND EMERGING MARKET POSSIBILITIES)

INTEROPERABILITY (INDUSTRY COMMONS / ONTOCOMMONS)

SYSTEMS OF AGREEMENTS (FROM INTERNATIONAL REGULATION TO PEER-TO-PEER CONTRACTS)

SYSTEMS OF RESILIENCE (ENVIRONMENTAL SUSTAINABILITY AND BLACK SWAN EVENT RESILIENCE)

SYSTEMS OF RESPONSIBILITY (CSR, RESPONSIBLE AI, WORK ETHICS)

SYSTEMS OF BELIEFS (SOCIAL VALUES)



THANK YOU

MICHELA MAGAS, CHAIR, INDUSTRY COMMONS FOUNDATION, AND FOUNDER, MTF LABS

Panel discussion: from data to decision making

- Why evidence-based policymaking?
- How can public authorities transform the usually slow, deliberative policy making process to one that is more agile, responsive & trusted?
- How do the local policymaking challenges extrapolate to Europe?
- What do you recommend the Data Driven Policy Cluster when looking to foster evidence based policymaking?
- What is your takeaway for policymakers?



Andrea Halmos

Policy Officer in the 'Technologies for Smart Communities' Unit of DG CONNECT.



Alan Paic

Senior Policy Analyst in the Science and Technology Policy (STP) Division



Claudia Fabo Cartas

She works at ECSA as Project Officer for the EU-Citizen



Lieven Raes

Lieven is an internationally recognised Smart City expert at Information Flanders



Michela Magas

Advisor to the EU and G7 and the creator of the concept of the Industry Commons



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- ai4publicpolicy.eu
- decido-project.eu
- digitalurbantwins.com
- intelcomp.eu
- policycloud.eu

Co-organised by:



Policy Cloud
Cloud for Data-Driven Policy Management

Decido



intelcomp

9-10 December 2021

EVIDENCE BASED POLICYMAKING IN EUROPE 2021

USE CASES AND DIGITAL TOOLS
FOR IMPROVED DECISIONS

Agenda

- **11.30-11.45 Evidence Based Policy Cases - Pitching the tracks (Plenary)**
 - Track 1: Health & social wellbeing - Germana Gianquinto (AI4PublicPolicy)
 - Track 2: Climate change - Panagiotis Kokkinakos (DECIDO)
 - Track 3: Mobility - Susie McAleer (DUET)
- **11.45-12.15 Coffee break (move to your track)**
- **12.15-13.30 Tracks (Breakout rooms)**
- **13.30-14.00 Wrap up (Plenary)**

Evidence Based Policymaking 2021

Session: Evidence Based Policy Cases
from data to decision making

Track 1 - Health & Social

Join us:

9th December 11:30 am CET



Paresa Markianidou

Technopolis Group, IntelComp



Armend Duzha

Maggioli S.p.A. PolicyCloud



Germana Gianquinto

GFT Italy, AI4PublicPolicy

Evidence Based Policymaking 2021

Session: Evidence Based Policy Cases
from data to decision making

Track 2 - Climate Change

Join us:

9th December 11:30 am CET



Phoebe Koundouri

Athens University of Economics and
Business
IntelComp



Antonio Filograna

Engineering Ingegneria Informatica
DECIDO



Ilia Christantoni

University of Athens
DAEM

Evidence Based Policymaking 2021

Session: Evidence Based Policy Cases
from data to decision making

Track 3 - Mobility

Join us:

9th December 11:30 am CET



Jiri Bouchal

InnoConnect
DUET



Ana D. Georgieva

Sofia Municipality Innovative Sofia
PolicyCloud



Alessandro Amicone

GFT Italy
AI4PublicPolicy

Evidence Based Policymaking in Europe Summit: 2021

Policy Cloud Innovation Workshop

9th December 2021

3 pm - 5 pm CET

[Join us](#)



Policy Cloud

Cloud for Data Driven Policy Management



**Data Driven
Policy Cluster**

Co-creating digital tools for better governance

Evidence Based Policymaking in Europe Summit: 2021

**Join us:
10th December 10 am CET**

Day 2: from digital disruption to digital adoption



Roberto di Bernardo

Senior Researcher and Head of the
Open Government R&D Group.



Michael Mulquin

MiMs Ambassador at Open &
Agile Smart Cities (OASC).



Suzanne Dumouchel

Research engineer at the CNRS.
EOSC



Natalia Manola

CEO of OpenAIRE.



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