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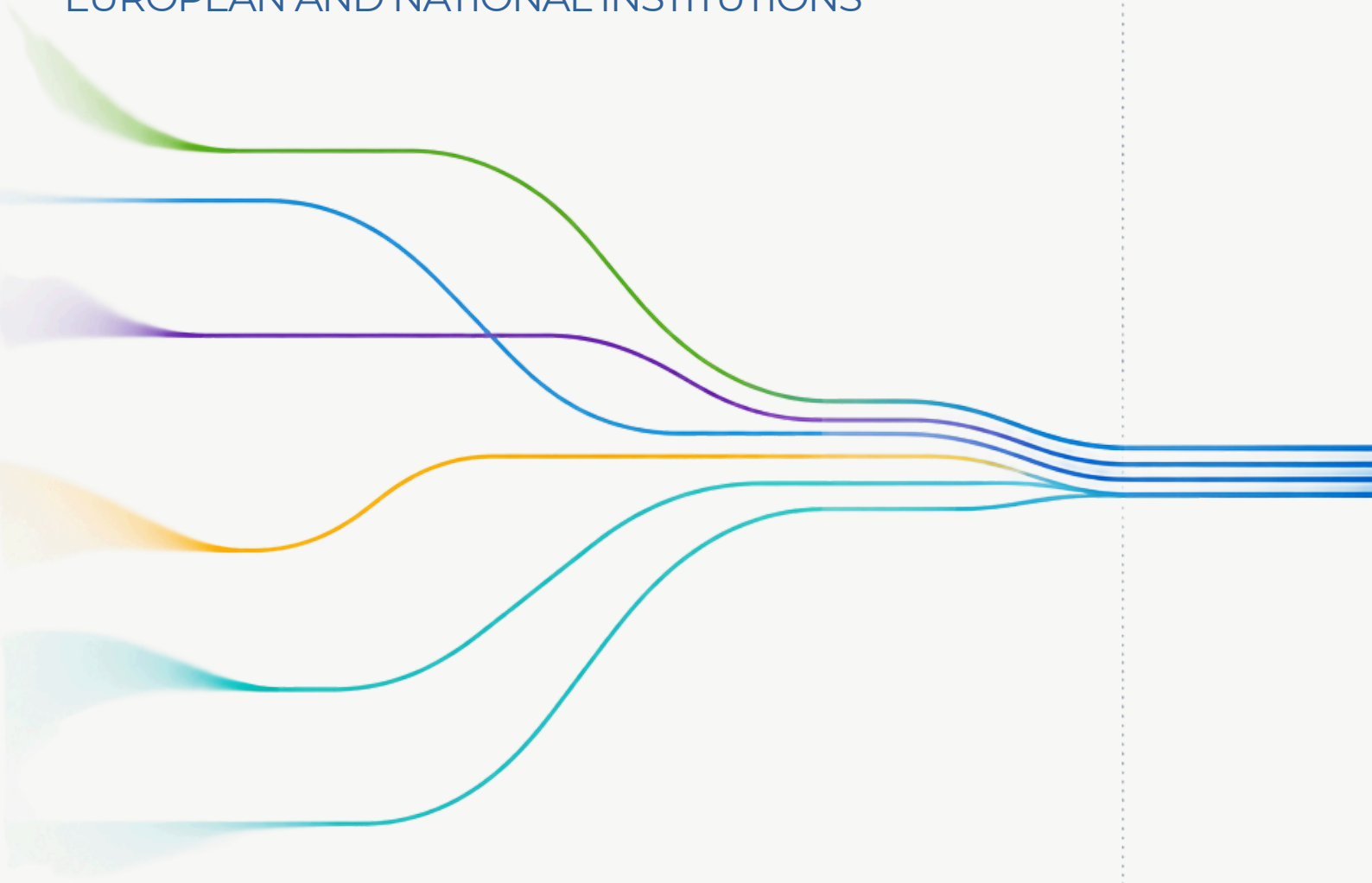
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POLICY BRIEF #2

Boosting data-driven governance at the European level

POLICY RECOMMENDATIONS FOR EUROPEAN AND NATIONAL INSTITUTIONS



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EXECUTIVE SUMMARY

This policy brief was developed within the framework of the Interreg Central Europe project EnCLOD. The project aims to strengthen the governance capacity of five Central European public authorities by promoting Open Data (OD) and Internet of Things (IoT) sensor networks. Within the project, five pilot areas, namely Vicenza (Italy), Olomouc (Czech Republic), Debrecen (Hungary), Žilina (Slovakia), and Nova Gorica (Slovenia), were selected to address specific challenges in urban and territorial governance, with a specific focus on mobility, environment, and climate change. To achieve this, each region has developed a local Action Plan to leverage OD and IoT solutions for smarter territorial governance and city-region planning.

This policy brief has been drafted in the context of this EU-funded project with a threefold approach. Firstly, the recommendations are drawn from the key results emerging from the implementation of project activities, especially in relation to conclusions on the policy implications from the five pilot areas. Secondly, the policy document was complemented by desk research, drawing from the scientific literature and relevant EU resources, including, among others, the Open Data Maturity Report 2025. Finally, the recommendations were further validated and refined through the expertise of the EnCLOD Consortium members.

The ultimate goal of this policy document is to provide a set of target-oriented recommendations to guide national and European strategies that support data-driven governance and improve data utilisation for decision-making at all administrative levels —particularly the local and regional ones. The starting point of this policy document is that local and regional administrations (including urban planners, policymakers, and technicians) play a primary role in successfully implementing effective data-driven territorial governance. On their side, local and regional administrators should also adopt appropriate measures to upscale their capacity in using Open Data for territorial governance. This policy document is therefore complemented by a companion brief, developed under the EnCLOD project and tailored to local and regional administrators, namely EnCLOD Policy Brief 1: “Open Data for Data-Driven Territorial Governance”.

Taking all of these into consideration, the primary target audience is, therefore, represented by national and European institutions and policymakers. However, the document has a cascade effect on local and regional administrators as well as on the community of reusers of Open Data, including, among others, Open Data experts, technological stakeholders, citizens, etc. To achieve the above-mentioned objective, the key recommendations presented in this policy brief include the following:

A. Promote dynamic, reusable and public open data;
B. Provide appropriate technical and financial support;
C. Boost cross-border and cross-sector cooperation.

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Disclaimer

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State of the art:

The **European Union considers data to be an essential resource** for economic growth, competitiveness, innovation, job creation, and general societal progress. In particular, the EU envisions that the future development of data-driven applications will deliver wide-ranging benefits to both citizens and businesses. These include, among others, enhancing healthcare, creating safer and cleaner transport systems, generating new products and services, reducing the costs of public services, and improving sustainability and energy efficiency.[1]

At the European level, the Open Data Directive (Directive (EU) 2019/1024), the Common European Data Spaces, the Data Governance Act, and the European Strategy for Data, the High-Value Datasets Implementing Regulation (EU) 2023/138, form the core policy and legal frameworks governing open data. Taken together, these frameworks are designed to implement effective open data policies at the EU and national levels and can significantly **contribute to achieving key European objectives** across multiple crucial fields. These encompass climate change (e.g., aligning with the 2030 Agenda for Sustainable Development and the EU Strategy on Adaptation to Climate Change), digitalisation (e.g., the Digital Europe Programme), and economic development (e.g., the NextGenerationEU recovery plan).

At the national level, EU Member States had to align with European priorities by transposing Directive 2019/1024 into their national legislation. As highlighted in the 2025 Open Data Maturity Report, countries across Europe have, on average, continued to advance their open data maturity. However, Member States have different levels of Open Data Maturity. Notably, **the policy dimension remains the most developed area**. The underlying 'policy framework' indicator saw the highest maturity increase, reflecting the fact that Member States are continuously refining their data strategies with targeted measures, such as enhancing the availability of dynamic and citizen-generated data and supporting re-use by the private sector.

To maximise the impact of open data under these conditions, a **coordinated, multi-agency approach is required**. National governance must actively support subnational implementation, fostering an ecosystem where local and regional authorities can build their open data capacity. Even when facing legal or structural limitations, national governments should act as facilitators—**offering the essential financial, technical, and advisory resources needed to unlock local open data potential.**

Within this framework, **cities and regions play a pivotal role**, as they are central to the adoption of data-driven territorial approaches. However, to operate effectively, local administrations require robust policy support from both national and European strategies.

Against this background, this policy brief aims to provide **key recommendations on how** national and European policies and strategies can support the diffusion of data-driven governance and better usage of data for policies and decision-making at all administrative levels. To achieve this, the following are the key recommendations tailored to European and national actors:

- Promote dynamic, reusable and public open data;
- Provide appropriate technical and financial support;
- Boost cross-border and inter-agency cooperation.

[1] https://digital-strategy.ec.europa.eu/en/policies/strategy-data

Recommendations for boosting Data-Driven Governance at the European and National Level

The following paragraphs provide an overview of the above-mentioned three key recommendations for boosting Data-Driven Governance at the European and national levels.

A. Promote dynamic, reusable and public open data

As outlined in the Open Data Directive, public data should be open by default. This means that government-held data, such as statistics, geospatial data or research results, should be accessible in machine-readable formats and ready for reuse. Furthermore, the Directive aims to ensure that public sector information can be reused for both commercial and non-commercial purposes under transparent and fair conditions. Finally, it requires real-time access to dynamic data via application programming interfaces (APIs).

In this context, national and European policies play a crucial role in supporting the effective publication of reusable Open Data at the local and regional levels. The following are some key recommendations for supporting this process:

Key recommendations for National Institutions:

- **Boost publication, transparency and reuse:** Publish the open data on the national Open Data portal to promote their existence and reuse. Shift open data policies from mere data publication towards data usability, including support for analytical tools, dashboards and digital applications built on top of open data.
- **Support Dynamic Open Data Infrastructure:** Drive the development of dynamic open data as a standard component of public governance by providing local authorities with reusable data architecture models.
- **Develop Standard National APIs:** Define and promote specifications for standardised application programming interfaces to be used across all local/regional open data platforms for sharing, summarising, and presenting data.
- **Create a National Leadership and Support Role:** Establish a national governance body (e.g., a National Chief Data Officer or dedicated agency) to champion data publication and serve as a dedicated helpdesk to address technical gaps and needs emerging from the local level.
- **Promote the implementation of territorial data frameworks:** enabling the integration of heterogeneous datasets into a unified analytical environment for decision-making.
- **Align public procurement with open data principles:** by ensuring not only data collection but also open publication, standardisation and support for reuse, including enabling third-party engagement.
- **Boost Open Data demand**: Develop a deeper understanding of user needs and collaborate with data providers to prioritise publication in line with this demand.

Key Recommendations for EU Institutions:

- **Further Promote and Enhance the European Data Portal** (Data.europa.eu), improving search functionalities and the indexing of sub-national and regional datasets.
- **Foster Metadata Interoperability:** Build upon recognised standards to foster interoperability and comparability of metadata across Europe.
- **Targeted Funding for Local Capacity Building:** Provide dedicated funding streams (e.g., under the Digital Europe Programme, the Interreg programme) to upgrade technical infrastructure and upskill staff within local, regional and national authorities on open data and interoperability.

B. Provide appropriate technical and financial support

National and European stakeholders should provide the necessary technical and financial support to empower local and regional authorities in implementing Open Data initiatives and policies. Technical support includes, in particular, capacity-building, knowledge sharing, and advisory support. On the other hand, financial support is required to sustain local Open Data initiatives and training activities at the sub-national level. To achieve these, the following are the key recommendations:

Key recommendations for National Institutions:

- **Training Delivery and Certification:** Cooperate with public administrations and training organisations to develop open data curricula tailored for regional and local authorities. Ensure these courses are formally recognised with official certifications upon completion, while leveraging existing open data training materials whenever available.
- **Financial Allocation:** Guarantee that dedicated financial resources are allocated across all administrative levels for the continuous training of civil servants working with data.
- **Integrate Training into Open Data Policy:** Systematically embed education and capacity building into open data policies.
- **Integrate Open Data Courses:** Support the integration of open data courses and capacity-building activities within university curricula in national universities.
- **Provide Technical Assistance:** Assist in developing local and regional open data initiatives to accelerate urban digitisation, the adoption of AI, and data-driven approaches to urban planning.

Key Recommendations for EU Institutions:

- **Promote Learning Paths:** Facilitate learning paths and professional development for the public sector, supporting national authorities in designing open data training tailored for territorial governance.
- **Knowledge Sharing**: Organise both in-person and online events to help national authorities better understand and leverage EU instruments and policies regarding open data. Promote the dissemination of key results emerging from EU-funded projects working on Open Data as a way to further support knowledge sharing.
- **Dedicated Funding**: Provide targeted financial support for open data initiatives and digital twin programmes through dedicated EU-funded projects, to accelerate the green and digital transition and EU competitiveness.

C. Boost cross-border and cross-sector cooperation

Transnational cooperation allows the numerous best practices and experiences existing across the EU to be shared and disseminated between countries with different levels of Open Data maturity. Furthermore, cross-border collaboration helps build a critical mass of available open data, effectively engaging the private sector to support local governance and data-driven policymaking.

To continuously advance the local open data ecosystem, collaborations must also be strengthened across sectors, including among public institutions, private businesses, academia, and civil society. Wide involvement across different sectors is pivotal for implementing Open Data initiatives and policies, especially involving potential reusers of the Open Data.

Key Recommendations for national institutions:

- **Boost Cross-border Cooperation:** Enhance collaboration with other countries to share knowledge, tools, and experiences regarding open data for boosting territorial governance.
- **Participate in EU Projects:** Collaborate with institutions from other Member States on EU-funded projects to foster knowledge exchange and improve national capacity in open data policies and measures.
- **Promote Cross-sector Cooperation:** Strengthen local data ecosystems by connecting public authorities, academia, the private sector, and civil society as a fundamental prerequisite for data-driven governance. Through meetings and engagement opportunities, actively involve potential re-use groups (e.g., data-gathering companies, research institutions, NGOs) in national open data governance to foster co-ownership and secure support across sectors.
- **Align National and Local/Regional Strategies:** Maintain a strong connection between national strategies and objectives and the actual needs of local agencies and authorities.
- **Enhance Regional and Local Coordination:** Improve coordination with local and regional open data teams to better align on user needs and the implementation of sub-national initiatives.
- **Empower Open Data Liaison Officers:** Encourage the network of open data liaison officers to establish data publication plans and monitor progress. Enable these officers to exchange knowledge both within the public sector and with the broader re-user community, while deepening their understanding of the benefits of public sector data re-use.

Key Recommendations for EU-Institutions:

- **Support Transnational Exchange:** Facilitate collaboration among EU countries by promoting dedicated forums for transnational discussion and knowledge sharing on Open Data policies and initiatives.

Promote European Funding: Set up dedicated EU funding opportunities designed to boost the exchange of ideas and best practices across Member States. For instance, EU financial contributions could support study visits, exchanges, transnational meetings and cross-border capacity-building activities.

Good practice example: Boosting local-national collaboration on Open Data

CONTEXT
In the context of the EnCLOD project, the Žilina Pilot case successfully showcased the relevance of creating a **strong collaboration between the city and the national level** for the purpose of implementing an Open Data initiative.

COLLABORATION
The city of Zilina built a strong collaboration with the Slovak Ministry of Investments. Regional Development and Informatization to support the implementation of the Open Data initiative designed at the city-level. The local initiative was strategically linked to the national project *"Support of municipalities on the way to digital twins and digital services"*.

KEY OUTCOME
Zilina's hands-on experience with the **Data-as-a-Service (DaaS) model** is now being integrated into national smart city methodologies. This model shows that shifting a municipality's focus away from owning and maintaining hardware — and toward receiving high-quality, professional data streams instead — significantly reduces the technical and administrative burden on local governments.

LESSONS LEARNED
The lessons learned, particularly regarding the management of IoT infrastructure lifecycles and the consolidation of datasets into unified portals, are planned to serve as a practical blueprint for other Slovak cities on their path toward digital transformation.

LONG-TERM IMPACT
The results are intended to provide a proven foundation for standardising digital services and digital twin roadmaps at the national level, contributing to future nationwide smart city development frameworks.

How the EU-funded EnCLOD project shaped Open Data governance in Central Europe

The EnCLOD project is an initiative funded by the Interreg Central Europe programme, implemented between May 2024 and October 2026. The key objective of the project is to strengthen the governance capacity of five Central European public authorities by promoting Open Data and Internet of Things sensor networks. Five pilot areas have been involved in the project implementation, namely Vicenza (Italy), Olomouc (Czech Republic), Debrecen (Hungary), Žilina (Slovakia), and Nova Gorica (Slovenia). Each pilot area addressed a specific challenge in mobility, environment, and climate change by developing a local Action Plan to leverage OD and IoT solutions for smarter territorial governance and city-region planning.

As further detailed below, this initiative represented a good example of the **crucial role of European funds in supporting the subnational development of Open Data initiatives, fostering cross-border cooperation and promoting capacity building and knowledge sharing.**

- **EnCLOD contribution to cross-border and cross-agency cooperation**

During the project lifetime, the five pilot cases worked together to achieve the project objectives. Through dedicated online and in-person meetings, they discussed ideas and challenges on the use of Open Data for improving territorial governance. They also exchanged knowledge and technical capabilities (e.g., on sensor deployment, Open Data policy and reuse), supporting each other in the respective pilot action activities. The most advanced Pilot cities provided strategic support to the other cities, driving innovation and supporting the digital transition.

In addition, as the Consortium is composed of representatives from different public and private institutions, the project further promoted cross-sector collaboration. At the same time, the effective implementation of local pilot actions supported the creation of new collaboration opportunities among the public sector and other stakeholders, including but not limited to the private sector (e.g., for the sensor deployment), civil society (e.g., when organising public events), and the research sector.

- **Capacity building and knowledge sharing**

Several activities of the EnCLOD project were specifically designed to boost capacity building. This includes, among others, dedicated training sessions (e.g., for local administrators, university students, technicians); inspirational workshops, hackathons and public events for improving awareness among citizens about the relevance of Open Data for territorial governance. Also, as a way to further support knowledge sharing, the results, studies, and guidelines developed in EnCLOD will enable the dissemination and replicability of the dataset and methodology outside the project's geographical area of interest and after the project's completion.

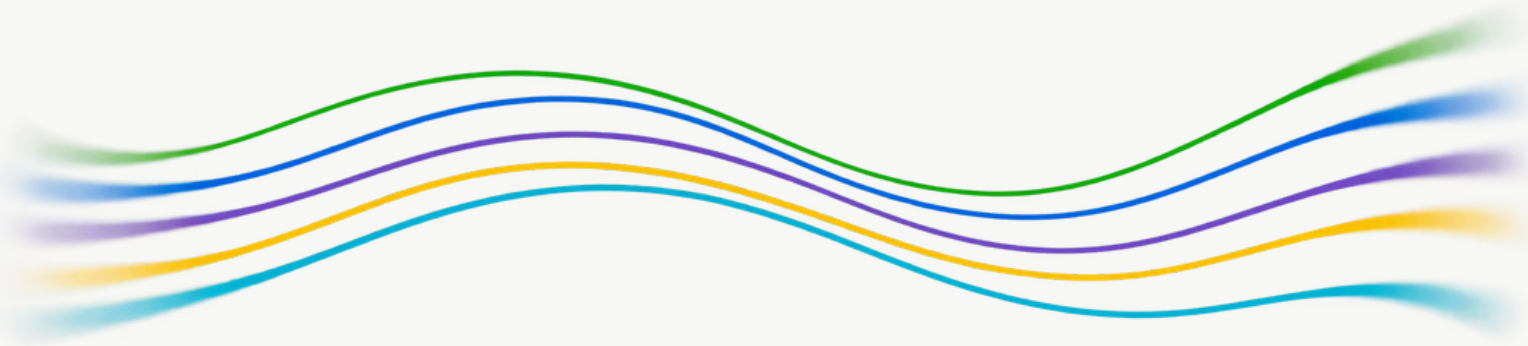
In conclusion, the EnCLOD Project benefitted from the **European Union's financial support by providing support to Open Data initiatives**. Within this framework, the EnCLOD project promoted the creation and transnational dissemination of open datasets and IoT technologies for territorial governance. By enabling the consistent integration of digital Open Data into planning and decision-making, the project fostered more informed governance, stronger citizen and stakeholder engagement, and ultimately, more effective territorial governance.

The EnCLOD project in data:



CONCLUSIONS

Effective national and European policies and strategies are pivotal to support the diffusion of data-driven governance and better use of data for policies and decision-making at all administrative levels, especially at local and regional levels. To do so, the policy brief at hand identified three key recommendations to guide this process. Namely, A) to promote dynamic, reusable and public open data, B) to provide appropriate technical and financial support, and C) to boost cross-border and cross-sector cooperation.



RESOURCES

- *Recommendations for Open Data Portals: from set up to sustainability*
- *The Open Data Directive: Unlocking the value of public sector information in Europe*
- *2025 Open Data Maturity Report*
- *A European strategy for data*
- *EnCLOD Website*
- *D3.3.1 EnCLOD guidelines on effective Open Data usage for territorial governance*

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OPEN DATA STRONGER TERRITORIES A MORE CONNECTED EUROPE

The EnCLOD project supports European regions and local authorities in unlocking the potential of open data for more inclusive, sustainable and resilient territories.

By strengthening data governance, interoperability and cross-border cooperation, EnCLOD contributes to a more connected Europe, where data drives better policies and improves lives for people across Europe.

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