OUTPUT FACTSHEET

Project index number	CE0200649	**Acronym**	EnCLOD			
Output type *("x" to be included)*	**Strategy/ action plan**		**Pilot action**	X	**Solution**	
Output number (O.xx)	O 2.1	**Output title**	City of Žilina Pilot Action on Open Data to improve territorial governance			
If the output target is > 1 in the AF, please specify the output(s) described in the factsheet	1					
Output delivery date	30/04/2026					
Project website	https://www.interreg-central.eu/projects/enclod/					

Summary description of the output

Please present the output by addressing the following topics.

Territorial challenges and needs in the regions specifically addressed by the output
(max. 700 characters)

The city of Žilina is undergoing major changes in its transport system, including adjustments to the road network and parking regulation, which create a growing need for evidence-based decisions on mobility and road safety. The city needs reliable data to identify where speeding, high traffic volumes and pedestrian exposure create the greatest risks, particularly at crossings near schools and busy intersections. The Pilot Action aims to meet this need by monitoring vehicle counts, speeds and categories, providing municipal decision-makers with a continuous and objective basis for identifying high-risk locations and prioritising measures to improve pedestrian safety.

Main aim(s) of the output and how it contributes to tackle the identified challenge(s)
(max. 500 characters)

The Pilot Action aims to tackle pedestrian safety challenges at critical locations, particularly crossings near schools and busy intersections, by expanding Žilina's Urban Living Lab sensor network to over 100 devices. It integrates new traffic data with datasets from the EU-funded CleverNet and NXTLVL Parking projects to develop a decision-support tool (Traffic Safety Preventist Tool) that helps the municipality define targeted policies and measures to reduce risks at identified crossings. The tool will include a Traffic Safety Index and a ranking of high-risk locations, enabling the city to identify the most critical areas, prioritise interventions and better communicate the need for potentially restrictive safety measures.

Technical description of the output (e.g. scope, main features, innovative elements etc.)
(max. 1500 characters)

The output was developed to strengthen data-driven traffic management and improve road safety in Žilina by providing continuous, reliable information on mobility patterns. Its purpose is to support transport planning, evaluate the effectiveness of mobility measures and identify locations requiring safety interventions, particularly for vulnerable road users. Building on previous investments, the project expanded the city's Urban Living Lab by integrating 42 new EnCLOD traffic sensors with the existing CleverNet and NXTLVL Parking networks and other municipal traffic assets, creating a monitoring infrastructure of more than 100 sensors. The resulting platform consolidates previously fragmented data streams into a single integrated framework, where traffic information is processed, visualised through interactive dashboards and published as Open Data. The innovative value of the output lies in combining IoT technologies, Open Data and digital visualisation tools within a unified decision-support system. Rather than simply monitoring traffic, the platform transforms continuous, location-specific data into actionable evidence for planners, decision-makers and citizens. The sensor network fills important information gaps by providing real-time data on vehicle speeds, traffic volumes and mobility patterns, enabling the municipality to identify hazardous locations and assess the impact of transport measures. The output establishes a scalable foundation for future smart mobility policies and the broader digital transformation of urban governance.

Involvement of target groups during output development and/or implementation
(max. 700 characters)

The Pilot Action has successfully established a multi-level network of stakeholder, including the following groups:
- Municipal Police and City Traffic Engineer: primary users of project data, to identify high-risk locations;
- Municipal subsidiaries (Public transport company, City Energy company): data providers for transport and energy;
- Academic community and students: engaged through research activities and hackathon, potential future participants;
- Professional audience: 120 experts engaged through DIM 2024 international conference, to make Žilina an innovation hub;
- Ministry of Investments, Regional Development and Informatization (MIRRI SR): as the PA is linked to a national project.

Cooperation dimension of the output, i.e. joint development within the partnership and, if applicable, joint implementation (see output indicator definitions in chapter I.3.3 and Annex 2 of the programme manual)
(max. 700 characters)

University of Žilina developed together with the other partners the methodology and workplan of all Pilot Actions, which includes: design and deployment of a sensor network, Open Data publication, data analysis, development of a support tool, training and hackathons.The Pilot Action was directly implemented by University of Žilina (SK) in collaboration with City of Žilina as associated partner, with CityOne and CITIQ, both partner from Czechia, providing technological support, IoT sensors, and scientific expertise. Further support was provided by the University of Olomouc (CZ) in particular for the implementation of microzoning, and by the Province of Vicenza (LP, IT) and the University of Ljubljana (SI), leader of the EnCLOD Guidelines on Open Data and IoT for territorial governance, for the design and refinement of the pilot approach and monitoring. Regular exchanges and peer learning among all Pilots were ensured throughout the project.

Results - expected change and lasting effects in the territories generated specifically by the output, its uptake by relevant organisations and benefits for target groups
(max. 1000 characters)

The pilot successfully transformed fragmented traffic information into a structured Open Data ecosystem capable of continuously identifying high-risk pedestrian crossings and supporting evidence-based prioritisation of safety interventions. The combination of more than 100 traffic sensors, a new database covering over 270 pedestrian crossings established the technical and methodological foundations for a future municipal decision-support system capable of ranking dangerous locations and guiding investments in road safety (Traffic Safety Preventist Tool).
The lasting effects of the output for Žilina include a strengthened capacity to base mobility and safety decisions on continuous, objective data. Its uptake is reflected in the city's commitment to develop a city-wide Digital Twin built on the pilot's 61-zone microzoning framework, linking traffic data with air quality, noise and energy information. Žilina also plans a permanent partnership with Olomouc to align Open Data standards, microzoning methods and data infrastructure architecture. To ensure sustainability, the city intends to formally adopt the KRIT strategy (Concept for the Development of Public Administration IT and Innovation), securing a dedicated framework and budget for the long-term operation and maintenance of the sensor network.

Ownership and durability of the output after the project end, considering financial and institutional support including, if applicable, maintenance
(max. 700 characters)

This pilot action was designed with the Municipality of Žilina as associated partner and main future user. The sensors deployed during the Pilot Action are owned by CITIQ, which provided them under a Data-as-a-Service model, as foreseen in the approved Application Form. Most sensors were installed on city assets, while some traffic sensors were connected to infrastructure managed by Žilina. CITIQ is responsible for their operation and maintenance. Beyond the project period, the Municipality of Žilina is committed to ensure their long-term operation and maintenance through the formal adoption of the Concept for the Development of Public Administration IT and Innovation strategy, which is expected to provide the institutional framework and dedicated financial resources required. CITIQ will continue to support the municipality through the Urban Living Lab initiative, providing technical assistance, data services and expertise for the further development of the sensor network and related digital applications.

Transferability of the output to other territories, sectors or target groups and planned measures for supporting such transfer
(max. 700 characters)

The common project methodology (publicly available as Deliverable D.1.3.1 - preliminary version) will be the basis for the EnCLOD Guidelines on effective Open data usage for territorial governance (Deliverable D.3.3.1 - Final revised version available at the end of the project) that will promote knowledge uptake and transferability at the European level, benefitting from all the Pilot Actions to trigger wider replication of the project approach. Transfer will be supported through the planned twinning with Olomouc, alignment with national Digital Twin initiatives, and integration of datasets into interoperable platforms. These measures will allow other Slovak and European cities, public authorities, researchers and technology providers to adapt the approach for safer mobility, more efficient monitoring, faster policy responses to road safety risks and wider digital innovation.

Related final deliverable(s) (Number(s) and title(s) to be included)	D2.2.2 "Žilina Pilot Action report & lesson learned"
Output web link (if applicable)	https://www.interreg-central.eu/projects/enclod/?tab=media
GPS coordinates (if applicable)	City of Žilina: 49.218, 18.740