Directorate - General for Digital Services, Directorate B – Digital Enablers & Innovation

(DIGIT.B.2 – Interoperability and Digital Government)

and

Directorate-General for Communications Networks, Content and Technology

Technologies for Smart Communities (CNECT.C.3)

Use case on the implementation of the EIF4SCC and the MIMs – Ljubljana EMVI

Introduction

Participatory democracy platforms are innovative tools designed to empower citizens to engage directly in decision-making processes. These digital platforms promote transparency, inclusion, and civic participation within communities and organisations. By facilitating real-time interaction and feedback, they aim to bridge the gap between citizens and governments, fostering a more bottom-up approach to governance. Individuals can contribute ideas, vote on proposals, and participate in discussions that shape policies and initiatives. The establishment of a more informed and engaged community paves the way for the transformation of traditional models of governance around the world.

This case study examines how Ljubljana enhances local governance and citizen engagement through the EMVI EU-funded initiative which provides a platform for migrants to voice their perspectives. This initiative aligns with the primary objective of the city's digital strategy to develop Ljubljana into a digital city and to promote community cohesion among all residents.

First, the case study explores Ljubljana's smart city strategy. It then details its involvement in the EMVI project. Finally, the case study analyses the compliance of the EMVI project with the recommendations of the EIF4SCC.

1. Ljubljana's smart city strategy

Ljubljana, Slovenia's capital, has distinguished itself as a developed smart city through the implementation of a comprehensive strategy encompassing sustainability, innovation, and citizen engagement since many years. The Digital Development Strategy of Ljublana 2023-2027 contains five strategic goals :

1. **Digital City and Community**: Involving residents and fostering a digital community
2. **Digital City Administration**: Enhancing digital competencies and aligning with sectoral strategies
3. **Digital Tools for City Management**: Establishing an Urban Digital Platform (UDP)
4. **Data Management**: Responsibly managing data in the city
5. **Digital Development Economy**: Promoting job creation and efficient procurement

This strategy aligns with the Ljubljana 2025 vision, which prioritises creating a sustainable city that is closely connected to its residents. The vision emphasises fair economic progress, digital security, and transparency. An updated version, Ljubljana 2045 vision, is currently being developed.

Ljubljana concentrates its effort in smart tourism and citizen engagement. The city uses digital solutions for tourism, accessibility, and cultural heritage preservation. It provides digital platforms for citizen engagement and tourism services, enhancing visitor experiences and accessibility. For example, the Avantcar electric car-sharing initiative and its smart tourism solutions were recognised in the European Capital of Smart Tourism competition.

In addition, Ljubljana supports data management initiatives such as the University of Ljubljana's guidelines for Research Data Management, aimed at helping PhD students develop a Data

Management Plan (DMP) from the start of their research careers. This plan ensures that data collected or generated during their PhD research is preserved and made accessible to others.

Moreover, the city places a strong emphasis on digital inclusion, ensuring that all residents have access to the benefits of digitalisation. This includes providing digital literacy programs and ensuring accessible internet connectivity across the city, thereby reducing the digital divide. Digital literacy for older people (Digitalno opismenjevanje starejših) focuses on improving digital literacy among older adults through reverse mentoring by computer science students, offering personalised guidance and developing targeted short courses. It aligns with the Age Friendly University network's goals of creating inclusive educational environments for lifelong learning.

Overall, Ljubljana exemplifies a holistic approach to smart city development by integrating sustainability, digital innovation, smart mobility, smart tourism, and citizen engagement. The city focuses on enhancing quality of life, promoting environmental initiatives, and fostering economic growth through smart urban solutions.

2. The EMVI project

EMVI EU project

The EMVI project, funded by the European Commission's DG HOME through the AMIF fund, developed an e-participation platform based on the DECIDIM open source solution to encourage citizen and migrant engagement in local political life. The EMVI project, funded by the European Commission's DG HOME through the AMIF fund, developed an e-participation platform based on the DECIDIM open source solution to encourage citizen and migrant engagement in local political life. The project was piloted in several cities, including Ljubljana (Slovenia), Graz and Lustenau (Austria), Berlin (Germany), Heraklion (Greece), and Empoli (Italy).

The project approach was to create a migrant-specific solution to enhance their participation opportunities. However, migrants expressed a preference against migrant-specific processes, desiring inclusion as regular city residents. Consequently, in most municipalities including Ljubljana, the project engaged all city residents, seeking ideas to improve communal living.

Whilst the EMVI project needed to reflect the specificities of each participating city, a series of common project objectives were defined:

- **To pilot migrant e-participation and ensure inclusivity**: Participating cities conducted tenders outlining their objectives and requirements, focusing on accessibility, especially for migrants. Language accessibility was crucial; the platform allowed users to switch easily between various languages, including English, German, Arabic, Turkish, and other common migrant languages. In Ljubljana, Balkan languages were also supported. Device compatibility was another key aspect of accessibility. Recognising that many migrants primarily use mobile phones, the platform was designed to be mobile-friendly, ensuring better engagement.
- **To increase the capacity of local and regional authorities to effectively consult migrants**: for instance through online events such as capacity-building sessions (online and

face-to-face) with public authorities. However, lessons learnt from the project showed that participants were not always comfortable in this type of exchange due to privacy concerns.

- **To establish innovative participation tools and open new spaces for migrant voices to be heard**: offering options and linking online and offline participation is crucial as inclusive participation cannot solely rely on offline methods. This lack of diversity hinders the representation of various perspectives, including those of migrants and women.

The two-year project started in January 2022 and ended in December 2023. The e-participation platforms were mainly developed in 2023 due to the extensive phase of inception. A follow up project called EMV-LII launched in March 2024, will continue the development of the e-platforms in the respective cities part of the project.

EMVI project participants

As mentioned above, the EMVI project was a consortium comprising several cities: Ljubljana (Slovenia), Graz and Lustenau (Austria), Berlin (Germany), Heraklion (Greece), and Empoli (Italy). This consortium was managed by Südwind, a development policy non-governmental organisation that campaigns for sustainable development, human rights and fair working conditions worldwide. Technical support on the innovative tools was provided by the Austrian company Mitgestalten partizipationsbüro (Participation office) which is an official DECIDIM partner.

The choice of DECIDIM – an open source success story

In 2017, Barcelona City Council launched DECIDIM, an open source digital platform dedicated to participatory democracy, entirely designed and built in a collaborative way. DECIDIM allows users to create and customise a platform to facilitate citizen participation. The project was co-funded by the European Regional Development Fund.

DECIDIM is managed by an international open source community called Metadecidim, gathering hundreds of citizens, developers, designers, public administration, politicians and researchers. DECIDIM is also managed by the Decidim Free Software Association that ensures the governance of Metadecidim.

The EMVI project selected DECIDIM due to its high ranking among e-participation solutions, its open source license, and its widespread use by municipalities and international institutions. For instance, the solution was used by the European Commission during the Conference on the Future of Europe. At local level, Helsinki City Council used it to create the city's participatory budgeting platform called OmaStadi and in France, the Gironde region leveraged DECIDIM to develop a participatory platform for various topics (e.g. mobility, budget, culture, etc) as part of the Gironde Numérique initiative.

The solution's interoperability was particularly attractive for prompt deployment and long-term durability in various pilot cities. The publication of the source code under an open source license facilitated the integration of additional features such as mobile solutions.

Technical infrastructure of the solution

The EMVI solution development and maintenance was procured to the Participation Office called the Mitgestalten Partizipationsbüro. The platform uses a multi-tenant model to ensure interoperability, allowing various components to coexist within a single system. Whilst the development of the platform's backend was centralised and procured by the consortium of cities, the front-end development was performed at the local level.

A coordination team conducted a pilot project that, while not directly utilised, served as a valuable reference for project staff and local e-participation platforms. The project code is publicly available on GitHub, enabling developers to collaborate on the platform and allowing other cities to potentially reuse the solution. Specific enhancements for this project included improving mobile usability and implementing AI translations from Amazon Web Services to support multilingual capabilities. Additionally, developers integrated OmniAuth, a library that standardises multi-provider authentication for web applications, allowing users to register using accounts from various providers such as Google and Facebook. These developments were shared with the open source community and showcased at the DECIDIM Fest in October 2023, an annual event that aims to exchange on the success and challenges of the implementation of the solution.

Implementation in Ljubljana

Objectives of Ljubljana's EMVI project

The Ljubljana EMVI project aimed to enhance the political participation of migrants, including asylum seekers, living in Ljubljana through in-person meetings facilitating interactions with local authorities, the establishment of a migrant advisory council representing migrants' interests, and the launch of an e-Participation platform.

Locally, the project involved two NGOs in joint implementation: Gmajna, responsible for the promotion of the DECIDIM platform is an organisation that aims to carry out non-profit activities in the field of culture, art, social protection and education and the Peace Institute, an independent and non-profit research institution that strives to create open communities, which cooperated with the Association of Municipalities of Slovenia, the largest representative association of local communities in Slovenia.

Although the municipality of Ljubljana was not involved in the initial phase of the project implementation, it is today an official partner in the follow-up project.

Several entities called assemblies manage the platform including:

- ADRA Slovenia: is an association part of a global network of humanitarian and development organisations operating in the world.
- Institute African Village: operates as a community platform aimed at bringing together individuals of African origin living in Slovenia and those interested in African culture.
- Slovenia Philanthropy: is a humanitarian organisation that aims at raising the quality of living in the community and advocating the socially weaker in Slovenia.
- IFOKOLPA: is a civil initiative part of Gmajna organisation, comprising individuals from diverse backgrounds, united by the desire to address pressing social issues in the fields of integration, human rights, and migration.

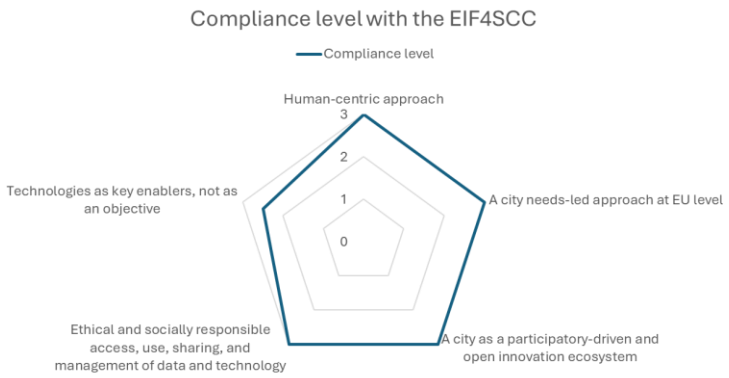
The DECIDIM platform was faced with low user engagement. During the period from January 2022 to September 2023, one of the subjects launched "EMVI Issue Raising Process" on the DECIDIM Ljubljana platform collected 9 proposals and gained 20 followers. Although DECIDIM's extensive customisation capabilities enabled the implementation of many features, the high number of functions made the platform less user-friendly. As a result, despite its potential as a robust e-participation tool, the platform became complex and sometimes discouraged user interaction. Project participants highlighted the need to balance the customisation of innovative tools with user-centricity requirements, meeting users' needs without hindering accessibility.

3. Interoperability

Interoperability assessment

This series of case studies on smart city projects aims at assessing the level of awareness of the European Interoperability Framework for Smart Cities and Communities (EIF4SCC). The EIF4SCC is an adaptation of the European Interoperability Framework (EIF) tailored for local governments, providing a comprehensive framework to guide city leaders and officials in establishing public services/projects. The framework is subdivided into several principles and elements, strategically designed to encompass all facets of interoperability, including definitions, recommendations and use cases from cities and communities across Europe. Smart city project leaders interviewed for this case study have been asked to evaluate their project's compliance the recommendations of the EIF4SCC. Figure 1 below presents the self-assessment results of the EMVI project.

Figure 1 Compliance level with the EIF4SCC of Ljubljana's EMVI project[1]



Source: Wavestone on the basis of interviewees' input

According to the self-assessment by the EMVI project coordinators, the project strongly aligns with four of five of the EIF4SCC principles: "**A human-centric approach**", "**A city needs-led approach at EU level**", "**Ethical and socially responsible access, use, sharing, and management of data and**

[1] Interviewees were asked to which extent the EMVI project was compliant with the EIF4CC principles. In this figure, 0 indicates "Not at all" responses, 1 indicates "To a small extent" responses, 2 indicates "To some extent" responses, and 3 indicates "To a great extent" responses.

technology", and "**A city as a participatory-driven and open innovation ecosystem**". The EMVI project aims at responding to migrant needs and organised numerous exchanges with users to ensure that the platform functionalities respond to their needs. In addition, the main objective of the EMVI platform was to support democratic participation and inclusion of migrants to cities' political life. This responds to cities' needs for inclusive policy-making processes and migrant integration. Finally, the ethical use and management of data was fostered by protective personal privacy rules and the transparency of the solution source code.

The last EIF4SCC principle, "**Technologies as key enablers, not as an objective**", gathered mixed opinions among the interviewees consulted, one interviewee indicating that the EMVI platform complied with this EIF4SCC principle "to a great extent" while another indicating that the project complied "to some extent". Whilst the project had a strong user focus, the low uptake of the solution showed shortcomings regarding its user-friendliness.

Furthermore, the EMVI project is mostly aligned with the recommendations of the Interoperability layers of the EIF4SCC as shown in Figure 2. In particular, the EMVI project was able to rely on the following good practices:

- **Integrated services governance:** the choice of the Decidim project boosted the sharing and reuse of the solution thanks to its open licence and publication on GitLab. The EMVI team also participated in the Decidim Fest 2023 to further exchange best practices and share back insights with the open source community. Finally, the results of the consultations conducted through the e-participation platform are available as open access.
- **Cultural interoperability:** the functionalities of the platform attempted to bridge cultural differences, including with the availability of 10 languages to foster accessibility. In addition, transparency was at the heart of the solution thanks its open source code and its open feedback mechanism on political issues. User contributions couldn't be dismissed without an appropriate justification. Interviewees noted that the cultural differences most impacting the project were not between users and solution providers but between the different organisations participating in the project (e.g., public administrations, NGOs, private companies).
- **Legal interoperability**: the EMVI project team used open source licences for the solution, and open access data on the results of the consultations conducted through the EMVI e-participation platform. However, as regard the interoperability of legal frameworks, the context of migrant rights needs to be taken into account as Ljubljana is one of the few cities in Europe granting all residents including migrants voting rights at municipal level.
- **Semantic interoperability:** as previously mentioned, the platform was available in 10 languages thanks to the use of AI-powered translation tools from Amazon Web Services.
- **Technical interoperability**: the use of a highly customisable, open source solution is a good practice that enabled the technical interoperability of the e-participation platform. Another good practice highlighted was the conduction of comprehensive discussions on the issue of recording personal information, in particular first and last names. The platform responded by allowing registration with Google IDs or email addresses and including the possibility of using nicknames. This flexibility was crucial, particularly for migrants or people whose legal status

is uncertain, such as asylum seekers or refugees, who may be reluctant to give their full name for reasons of confidentiality or security.

However, two layers of the EIF4SCC were deemed less taken on board by the EMVI project given its recent development. In particular, **interoperability governance** was not a primary focus as the EMVI team prioritised piloting e-participation for migrants and learning from successful examples across different countries and municipalities, adapting to local needs. The project aimed at identifying good practices that could be replicated in the future. Furthermore, difficulties regarding **organisational interoperability** stemmed from the partial involvement of the city of Ljubljana. This situation should evolve in the follow-on project as the city will be participating as project partner.

Figure 2 : Level of compliance of Athens' DUET project

Source: Wavestone on the basis of interviewees' input

In conclusion, the EMVI project benefits from the use of a highly customisable open source solution which enable high levels of technical interoperability. Furthermore, the user-centricity of the platform was the cornerstone of the smart city solution development through the conduction of user consultation and extensive work on the language availability of the platform. While organisational and governance interoperability are not yet fully integrated in the smart city project structure, the strengthening of the collaboration of international and local partners in the follow-on project could organically support the setup of solid governance frameworks to respond to project needs.

If you want to learn more on EMVI, you can consult the project website.

If you want to benefit from recommendations on the interoperability of smart city projects, you can consult the EIF4SCC.