OpenLivingLab Days 2024

Side Event:

Smart Communities: AI, Digital Transition and Social Change

September 24, 2024

Outcomes Summary

Written by ENoLL (European Network of Living Labs)

This publication is a European Network of Living Labs (ENoLL) product.

Written by

Danae Pantelide (danae.pantelide@enoll.org)

Funded by the European Union

The side event was co-organised and co-hosted by the EU-funded projects Go Li.EU and CommuniCity.

The Go Li-EU project (GA: 101083615) is funded by the European Union under the DIGITAL EUROPE programme.

The CommuniCity project (GA: 101070325) is funded by the European Union under the HORIZON EUROPE programme.

Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union or the granting authorities. Neither the European Union nor the granting authorities can be held responsible for them.

First edition

DOI: 10.5281/zenodo.14051315

This work by ENoLL is licensed under Creative Commons Attribution-NonCommercial 4.0 International.

Contents

Introduction 4

Methodology 5

Outcomes 6

Public Sector 6

Community 7

Private sector 8

Academia 10

Conclusions 11

Introduction

On 24 September 2024, a side event titled *Smart Communities: AI, Digital Transition, and Social Change* was co-organised by the Living-in.EU (Go.Li.EU) and CommuniCity projects at the annual OpenLivingLab Days, hosted by the European Network of Living Labs. Held in Timisoara, Romania, this in-person event brought together representatives from diverse sectors and thematic areas. The programme comprised three main components:

a) An introduction to the Go.Li.EU and CommuniCity projects, explaining how cities, technology providers, and other stakeholders can engage with and benefit from their offerings.

b) An interactive session focused on engaging stakeholders to identify the challenges cities face on their journey towards digital transition, highlighting key issues and gaps to address.

c) An interactive debate on the social implications of digital transition and the use of big data in public management.

This summary presents the main outcomes from Part B, the interactive session, where participants collaboratively identified core problems and challenges facing cities, communities, academia, and industry during the process of digital transformation. The insights shared here aim to inform and support cities and other affected stakeholders as they plan for and navigate the digital transition.

Methodology

The methodology implemented in this side event is called *The Pentagonal Problem*, from the *Visual Toolbox for System Innovation: A Resource Book for Practitioners to Map, Analyse, and Facilitate Sustainability Transitions* by Javier De Vicente Lopez and Cristian Matti (2016). This resource is part of the Transitions Hub Series by Climate-KIC, Brussels. ISBN 978-2-9601874-1-0.

This method was chosen for our event as it effectively engaged stakeholders from each sector of the quadruple helix innovation framework—academia, community, public authorities, and private companies. Involving diverse stakeholders in the early stages of problem identification, ideation, and solution development is essential in socially impactful initiatives. The visual aspect of the methodology enabled participants to define the problem more clearly and find common ground. Having key players from Timisoara's local ecosystem—university deans, high-ranking public officials, representatives of influential companies, and prominent NGOs—contributed to a rich exchange of insights during the interactive session.

The Pentagonal Problem tool helps in precisely identifying complex issues, fostering a deeper understanding of the challenges to be addressed and the gaps to be filled. This structured approach is essential for cities and other relevant parties as they begin developing solutions. Socially complex problems are rarely isolated; they span sectors, are interconnected with the ecosystem and societal structures, and involve multiple stakeholders with varied perceptions and interests.

To align with our specific objectives, participants were organised into four groups based on the quadruple helix model: academia, community, public authorities, and private companies. Attendees were encouraged to move to the table where they felt their expertise or experience would make the most impact. Each table was provided with a sheet outlining the pentagon framework. The central question for all teams was: *How can cities achieve citizen engagement in their journey toward digital transition?*

After grouping, participants were guided through the following seven steps:

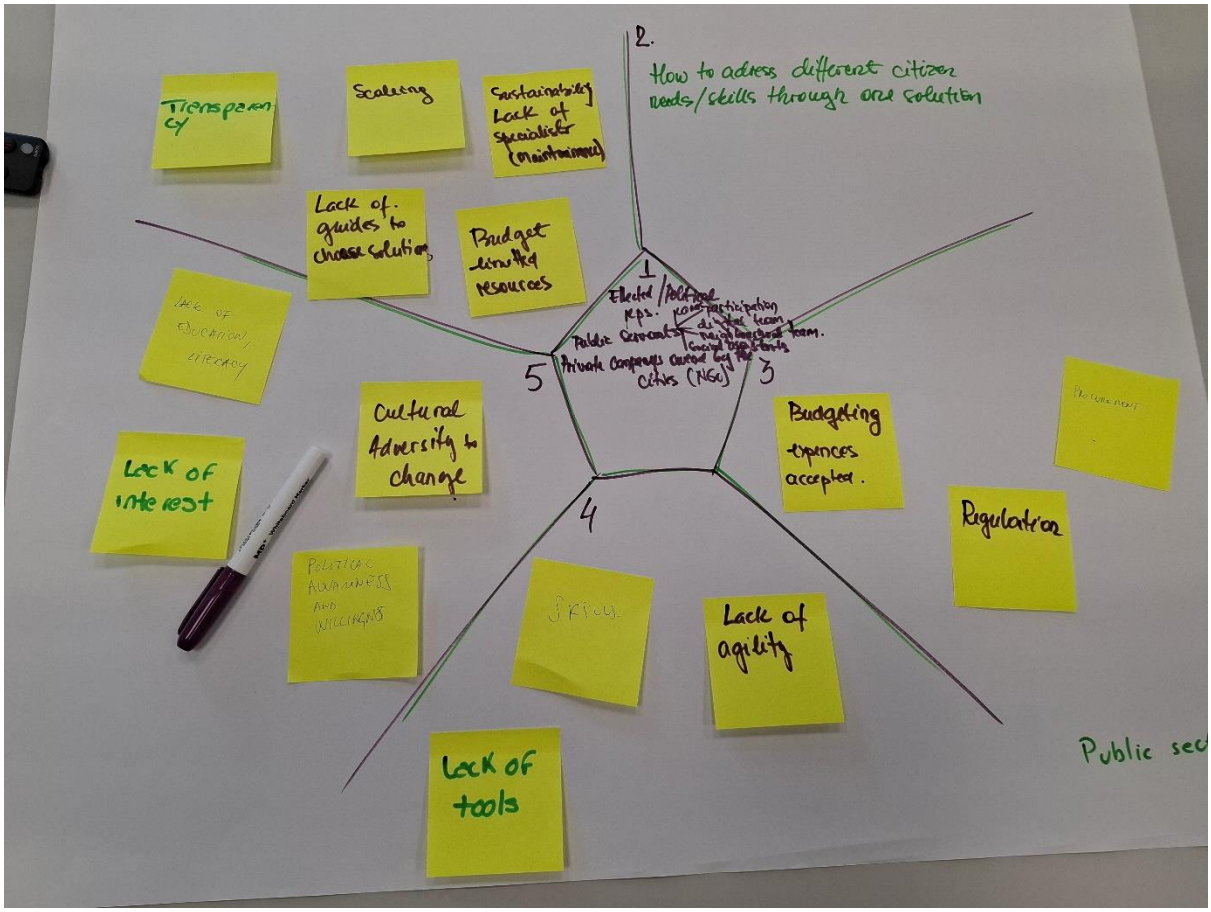
1. **Identify Yourself** – Participants introduced themselves and clarified the perspective or organisation they represented, detailing who is directly impacted by the challenges in the path toward digital transition.
2. **Identify the Problem** – Each group formulated a concise problem statement to ensure focused discussion and detailed analysis.
3. **Identify Policy Challenges** – Participants outlined the policy-level challenges faced by each stakeholder.
4. **Identify Technical Challenges** – Teams identified challenges from a technical and technological perspective.
5. **Identify Social Challenges** – Participants discussed the social dimensions, examining how urban digital transition affects or is affected by societal factors.
6. **Identify the Resource Gap** – Teams brainstormed on what resources are lacking to address the identified challenges at all levels.

Upon completing these steps, each group presented their findings and conclusions to the room. These outcomes are documented in the remainder of this report.

Outcomes

Public Sector

The public sector group included officers from the Timisoara Municipality, along with the Mayor's Advisor on technological matters.



Profile: Elected political representatives. public servants (digital and neighbourhood teams, social assistants) and private companies owned by the city (e.g. affiliated NGOs).

Problem: How can diverse citizen needs and skill levels be addressed effectively through a single technological solution?

Policy Challenges: Municipal procurement processes and regulations are complex and inflexible, making it difficult to adapt quickly. Approving municipal budgeting expenses involves lengthy, complicated procedures, which can slow progress.

Technical Challenges: Public administrations often lack the necessary skills and tools to implement effective solutions, and there is limited agility among public authorities. Cities are generally under-equipped to design and adopt new solutions. Frequent changes in mayors and municipal structures also disrupt continuity, making it difficult to maintain

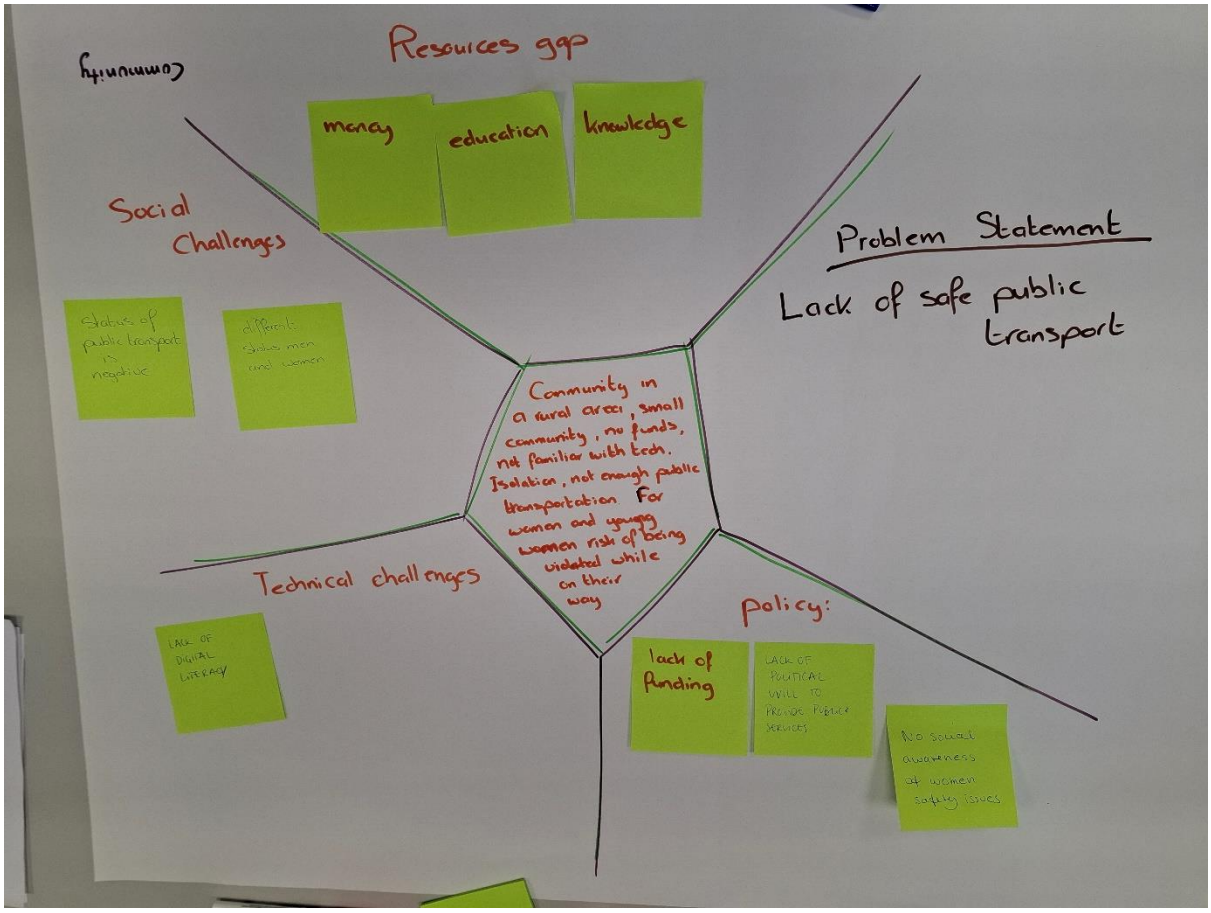
progress in a consistent direction. Long-term plans and resources are required to ensure sustained progress beyond the terms of elected officials.

Social Challenges: There is a general lack of digital literacy and limited understanding of the benefits of new solutions among both citizens and municipal staff. Cultural resistance to change and a lack of interest in adopting new technologies are also significant obstacles. Political awareness and commitment vary, which can further hinder adoption. Citizens have a wide range of needs, making it challenging to create a single solution that fits all. Solutions must be carefully researched and based on clear identification of each community group's needs. Additionally, misinformation (fake news) poses a challenge to the work of municipal officers.

Resources Gap: Transparency between public authorities and municipal teams is essential for creating a city that genuinely prioritises community needs. Scaling up technological initiatives is challenging due to technical barriers and budget limitations, so access to technological advancements and funding is crucial. Comprehensive guides with adaptable solutions can help cities avoid "reinventing the wheel" by tailoring existing solutions to their specific contexts. Strong support from the mayor is also critical for advancing initiatives.

Community

The Community group included individuals working on social inclusion programmes, NGOs with a social focus and municipal departments engaging with specific community groups.



Profile: A small, isolated rural community with no dedicated funding and unfamiliar with technology. The community lacks adequate public transportation and women and young women face safety risks when travelling from place to place.

Problem: How can we safely transport from one place to another as (young) women in rural areas?

Policy Challenges: There is limited political will to fund safe public services, resulting in outdated or non-existent policies and regulations addressing safety and the use of technology to address social challenges. Additionally, there is low social awareness about women's safety issues, both among the women themselves and within the broader community.

Technical Challenges: Digital literacy is low among both local authorities and community members, leading to limited awareness of technology as a potential solution to social issues. Solutions addressing these types of social challenges are also scarce; while the community as a whole would benefit, the local authority typically acts as the buyer, which complicates matters if funding is insufficient.

Social Challenges: Technology is unfamiliar to much of the community, and there is a general reluctance toward public transportation. Additionally, there are significant gender disparities, with women facing more restrictions and safety risks, particularly in secluded rural areas.

Resources Gap: There are limited financial resources, minimal education on safety and protection, and little knowledge or awareness of how technology could serve as a solution to these challenges.

Private sector

The Private sector (tech companies) group included company representatives and people involved in private social innovation initiatives.

Profile: A start-up developing an artistic-collab platform for musicians with disabilities

Problem: How can tech providers secure quick and easy access to public organisations such as city administrations?

Policy Challenges: Complex, bureaucratic processes and limited timelines as well as capacity constraints of smaller companies make it challenging to navigate procurement processes effectively. Current regulations and standards are outdated, hindering companies working on digital transition solutions from establishing connections and furthering their development. GDPR regulations should be adapted to address the specific needs of people with disabilities.

Technical Challenges: Technologies designed for accessibility in specific community groups, such as people with disabilities, are still in developmental stages. Some features remain underdeveloped or outdated. Large tech companies are often reluctant to prioritise these markets, viewing them as less profitable due to unclear demand and potentially limited market size. Additionally, there is a lack of alignment between cities and the private sector on technological priorities and standards.

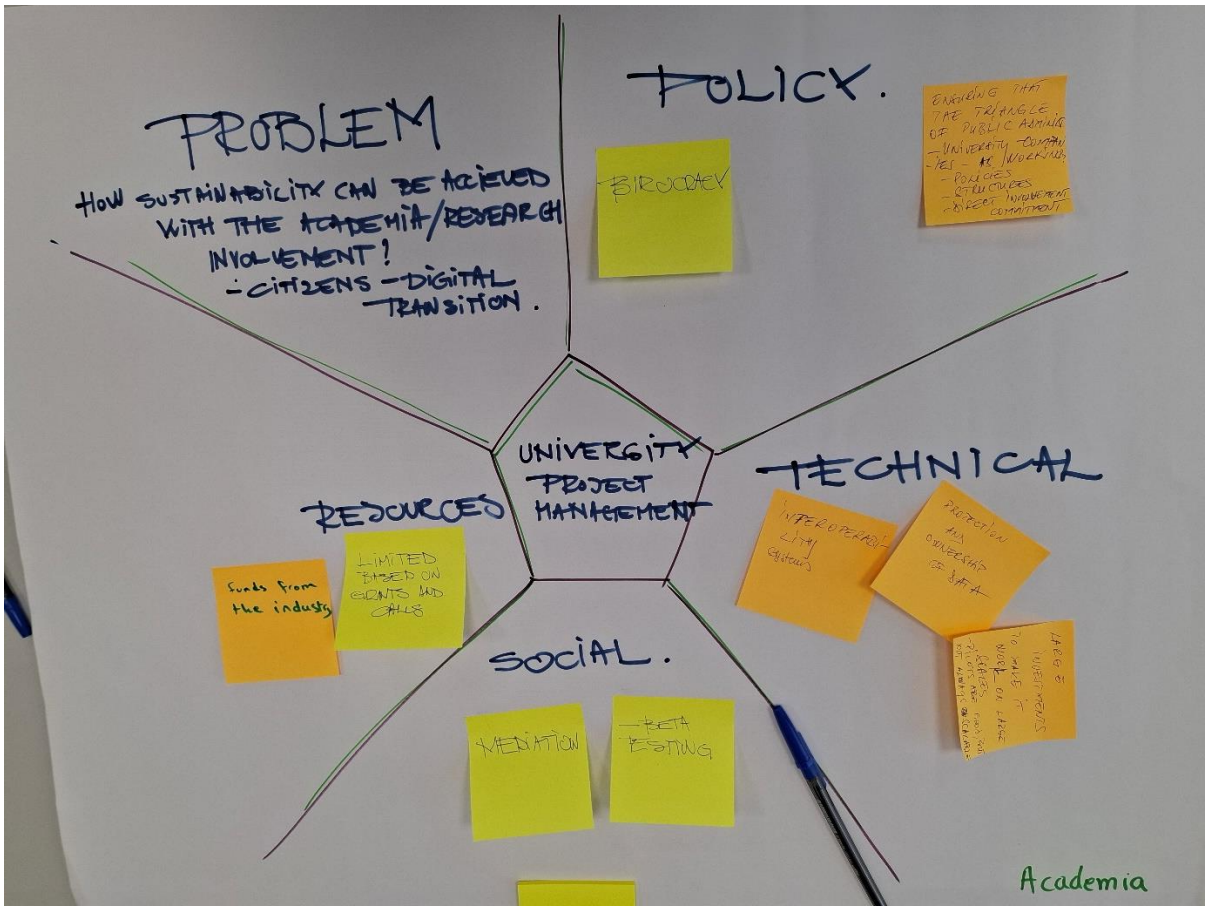
Social Challenges: There is limited access to a robust testing ecosystem. Networks that could support testing and market access (city administrations and end beneficiaries) are often not well-structured, making outreach difficult. Remote and rural areas, in particular, require increased digital literacy to participate effectively in digital initiatives. Broader digital literacy gaps add to these barriers.

Resources Gap: Private initiatives like this start-up currently attract little investor interest. The developers also lack expertise in interoperability standards, which are essential for

seamless collaboration and data sharing with other systems. The market potential remains uncertain, limiting interest from larger players.

Academia

The team of Academia included professors and senior academics from local universities (UPT, UVT) with specialisations in Sociology, Education, Architecture, Digital Technologies, and more,



Profile: University Project Management teams

Problem: How can academic research and outputs be sustainably utilised by other parties, such as cities and citizens, within the framework of digital transition?

Policy Challenges: Bureaucratic procedures within universities, public authorities and city administrations hinder the effective use and dissemination of academic outcomes. Currently, there is insufficient communication and coordination between public authorities, universities and companies regarding policies, structures and mutual commitment. Policymakers must be willing to enforce changes to ensure that the opportunities to tackle the problem on a policy level are there.

Technical Challenges: A significant challenge is achieving interoperability among systems to facilitate smoother collaboration among interested parties. Data protection and ownership also require careful consideration when multiple parties are involved. Additionally, large-scale investments are needed to enable impactful implementations;

while pilot projects are valuable, they often lack scalability, requiring further investigation and funding.

Social Challenges: Academia's role in engaging citizens and communities early on, especially for beta testing, is critical. As a mediator, academia can leverage scientific knowledge to promote approaches that are both engaging and rewarding for citizens.

Resources Gap: Current funding largely depends on regional, national or European grants limiting the impact and continuity of academic projects once initial funding ends, for further development and exploitation. Industry funding, which could support the broader implementation of research outcomes, is also insufficient but crucial for long-term development and scalability.

Conclusions

The discussions highlighted a range of cross-cutting challenges faced by Academia, Tech Providers, Public Sector, and Community groups. Each group outlined specific needs and barriers, from bureaucratic and technical issues to social and resource constraints. Here are the core challenges and the parties identified as critical for initiating a fair and inclusive digital transition in both rural and urban areas.

Core Challenges

1. **Policy and Bureaucracy**:
    - **Challenge**: Outdated or overly complex bureaucratic procedures prevent efficient collaboration and resource allocation. Municipalities and public authorities struggle with limited flexibility in their procurement and budgeting processes, hindering the adoption of digital solutions.
    - **Required Action**: Streamline bureaucratic processes, update regulations, and implement policies that support agile, technology-driven solutions and encourage collaboration across sectors.
    - **Initiating Parties**: National and regional government bodies, municipal councils, and policymakers need to lead these changes by creating a supportive legislative environment.
2. **Technical Capacity and Interoperability**:
    - **Challenge**: Public authorities, communities, and even some tech providers lack the necessary digital skills and infrastructure. Interoperability issues further complicate the integration of digital solutions across sectors.
    - **Required Action**: Invest in training public officials, community leaders, and tech developers in digital skills and interoperability standards, especially in tools that address accessibility and social challenges. Fund technical infrastructures that support scalable, integrated solutions.
    - **Initiating Parties**: Local and regional governments, academic institutions, and tech companies can drive these improvements by collaborating to establish training programs and technical guidelines.
3. **Social Inclusion and Digital Literacy**:

- **Challenge**: Low digital literacy across communities, particularly in rural and underserved areas, limits engagement and adoption of digital solutions. Socioeconomic disparities, cultural resistance, and gender-specific safety concerns further complicate digital transitions.
- **Required Action**: Develop tailored digital literacy programs and accessible technology solutions that are inclusive of all community members. Support outreach and awareness campaigns to bridge literacy gaps and raise awareness of digital benefits.
- **Initiating Parties**: NGOs, community leaders, and educational institutions are well-positioned to lead these initiatives, with funding and support from public authorities and private sponsors.

4. **Sustainable Funding and Resources**:
   - **Challenge**: Limited access to funding, particularly in rural and low-income areas, restricts the scalability and sustainability of digital projects. Reliance on temporary grants creates instability and prevents long-term planning.
   - **Required Action**: Establish sustainable funding mechanisms that blend public, private, and non-profit investment. Encourage partnerships with private companies and incentivise long-term investments in community-centric digital solutions.
   - **Initiating Parties**: Local governments, private investors, and grant providers must work together to create financing models that support ongoing digital transition efforts.

Key Stakeholders for a Just Digital Transition

To address these challenges effectively, several key stakeholders must take action:

- **Public Authorities**: Municipalities and local governments play a crucial role by adopting more flexible policies and prioritising digital literacy programs for citizens and officials alike.
- **Academic Institutions**: Universities can provide research-based solutions and serve as hubs for skill-building and knowledge-sharing on emerging technologies.
- **Tech Providers**: Companies, including startups, can work closely with communities to develop accessible technologies and address real-world social issues, especially by creating inclusive solutions for underserved groups.
- **Community Organisations and NGOs**: NGOs and community groups must advocate for and implement digital literacy initiatives, especially in rural and marginalised communities, ensuring these efforts reach the most vulnerable.
- **Private Sector Investors**: Private sector involvement is essential to provide long-term funding and ensure projects have the financial backing needed to scale and endure.

In the path toward digital transition for rural, peri-urban, and urban communities, stakeholders face genuine and, at times, formidable challenges. To ensure a just digital transition, coordinated action across sectors is crucial. An active shift across multiple levels and purposeful actions are essential to help cities and communities transition digitally for

the benefit of all residents. Efforts should focus on making the procedures and systems in place not obstacles, but catalysts for an ethical and inclusive digital transformation.

By addressing policy and procedural barriers, fostering digital literacy, securing sustainable funding, and prioritising inclusive technology, a digital ecosystem can be built that is accessible, equitable, and sustainable. This collaborative, multi-stakeholder approach will ensure that digital transformation benefits all citizens, regardless of geographic or socioeconomic boundaries.