Smart cities in the age of the digital revolution

September 2019

Europe needs

1. An EU regulatory framework to support full access, sharing and re-use of citizen data generated in public spaces. Personal and non-personal data generated in the digital public sphere are a public asset and must be used to create value and socially responsible innovation for all.

2. A legislative proposal on ethics of artificial intelligence and citizens' digital rights to maximise the benefits of technology for the public while avoiding risks. Fundamental concerns including privacy, security, discrimination, fairness and accountability should be tackled at EU legislative level in consultation with local governments.

3. To boost the upscaling of digital solutions across Europe's cities. We call for a strong cooperation between all level of government to boost digital transformation in Europe's cities and communities, agreeing on common principles and committing to shared actions and responsibilities.

4. Digital and innovation funding programmes, including Horizon Europe, the newly proposed Digital Europe Programme and Connecting Europe Facilities to support digital transformation and boost the upscaling of smart cities solutions across Europe. We recommend maintaining the proposed programmes and level of budget allocation to ensure essential funding for Europe's digital transformation.

The digital revolution is transforming cities, and this process has just begun. Emerging disruptive technologies such as blockchain, big data analytics, Internet of Things, artificial intelligence or robotics are rapidly transforming every sector, the governance of cities and society more generally. Used responsibly these technologies have the potential to improve the quality and quantity of local services; supporting the smart and sustainable development of the city while reducing costs and delivering value for all.

However, the rise of new technologies and their local implementation, with the exponential growth of the volume of data produced, brings ethical questions and concerns. Growing fears about privacy, data protection and security but also a more and better (e)-access to local decision-making.

City authorities, the level of governance closest to the citizens, are fully committed to responding to these new challenges. City authorities are increasingly providing:

-   secure digital infrastructures and services to the citizens that reinforce trust and enable more data exchanges for new uses

-   platforms to give users more control over their data and ensuring that everyone has the right skills to access technologies but also the knowledge on how to use them responsibly.

An increasing number of city authorities are setting up technology offices, innovation and data units, and appointing chief digital and data protection officers. They are creating living labs, fostering collaboration with all stakeholders, including citizens.

Through EUROCITIES, the network of major European cities, local governments share common principles and practices for an open, shared use of data that creates value for all and they increasingly act locally and collectively on a global scale to implement new solutions to advancing and protecting digital citizen rights. Cooperation and collaboration at EU level on smart cities should be based on a city-led approach.

The smart city reality

European cities have been leading the way on smart city development for over a decade. Cities are pioneers in testing smart, sustainable and integrated solutions to become greener, more efficient, and better places[1]. Working in EU and local projects and initiatives[2], city governments have fostered territorial and multi-level collaboration and increasingly developed a broader smart city vision[3]. There is no single solution: becoming a smart city means different things to different cities. However, cities share some common principles:

1. Smart cities must be created for, by and with citizens. Improving and simplifying citizens' lives, enabling access to better e-government services, guaranteeing sustainable mobility, offering more and better jobs while developing appropriate skills must be at the core of a smart city. Citizens are and must be co-creators of smart city strategies and solutions - a successful smart city empowers and engages with people for the development and implementation of urban solutions.

2. Technology enables the smart city process. It is the means for cities to become smart; the tool for cities to better serve their citizens and create value for all. It is the combination of the most advanced technology and the simplest solutions that make our cities smarter.

3. Data is the backbone of a smart city. A growing amount of data is generated every day in cities that has significant social, scientific and economic value for citizens and society. Data is recognised as a public and individual asset, it must be open, used in the public interest and managed by people.

4. Interoperable urban platforms with open common standards and APIs, and shared data models – preferably built with open source technologies - are essential for smart city development. They help reduce vendor lock-in and non-interoperable proprietary protocols while facilitating opening markets to potential new actors and boosting digital transformation across Europe.[4] User needs must be the starting point for interoperability and standardisation processes.

5. Cooperation and partnership are key to successful smart city. City governments, citizens, industries and academia are part of the same ecosystem. A flexible approach between different ecosystem players where digital technologies, knowledge and data are shared and used responsibly will boost digital transformation of our cities.

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[1] The European charter of rights of citizens in the knowledge society, May 2015 https://bit.ly/329fZAj ; The Green Digital Charter political initiative http://www.greendigitalcharter.eu/ ; City Keys http://www.citykeys-project.eu/

[2] Sharing cities http://www.sharingcities.eu/, Smart Cities Information System (SCIS) https://smartcities-infosystem.eu/, European Innovation Partnership on Smart Cities and Communities (EIP SCC) https://eu-smartcities.eu/, Urban Agenda for the EU https://ec.europa.eu/futurium/en/urban-agenda

[3] Becoming cities of the future, lessons learned from experimenting smart cities, October 2016 https://bit.ly/30Hy7Rj

[4] Technological sovereignty and digital rights for cities https://www.barcelona.cat/digitalstandards/manifesto/0.2/

Europe needs

Tackling digital revolution challenges goes beyond local competences; they require concerted and coordinated efforts at all levels of government. We propose these priority actions for the new EU institutions to be planned and developed in cooperation with member states and cities to ensure a positive digital transformation and make Europe's cities smarter.

1. **A EU regulatory framework to support full access, sharing and re-use of citizen data[5]**

    Current business models do not allow full access and use of data collected in public spaces, blocking local companies, academics, governments and citizens from participating in and benefiting from socially responsible innovation. The growing number of sensors, cameras and antennas displayed in cities will exponentially increase the volume of data in the coming years. Local governments consider data generated in public spaces, regardless of operates them, as a public asset to be accessed, shared and used to create value for all. We call for a European framework that will enable access, exchange and re-use of citizens data while fostering interoperability in Europe. The proposal should be based on the EUROCITIES principles on citizen data[6].

2. **A legislative proposal on ethics of artificial intelligence (AI) and citizens' digital rights**

    The growing use of artificial intelligence and its integration into sectors such as health and education have focussed attention on the social implications of the use of technology. The crucial question is how to maximise the benefits for the public while avoiding the risks. Fundamental concerns about privacy, security, discrimination and fairness as well as accountability cannot be covered only by non-binding EU guidelines. Future EU legislation on ethics of AI and other emerging technologies should be developed in consultation with cities and take into account the principles defined by the Cities Coalition for Digital Rights[7].

3. **To boost the upscaling of digital solutions across Europe's cities**

    Cities have been testing smart local solutions and participating in many EU projects and initiatives in recent years. This has contributed to cities becoming climate change resilient and more resource efficient, while also delivering new and efficient public services. Despite growing collaboration and innovation, Europe's digital transformation is too slow and its impact on society is still limited. City authorities are key to moving Europe's smart city agenda forward; they are strongly committed to widespread replication and upscaling of innovative digital solutions across Europe. EUROCITIES calls for strong cooperation between all level of government to boost digital transformation in Europe's cities and communities, agreeing on common principles and committing to shared actions and responsibilities. We need strong political engagement and commitment at all levels for Europe's cities to become smarter.[8]

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[5] Citizen data is personal and non-personal data, directly or indirectly generated in the digital public sphere, including through public services, using digital technologies and collected through different infrastructures (Internet of Things, telecom networks, payment systems, cameras, digital platforms, social networks, etc). This data is traced, collected, measured, stored, used, managed and processed both by public and private entities (according to the General Data Protection Regulation) https://bit.ly/30HSXQM

[6] EUROCITIES principles on citizens data https://bit.ly/30HSXQM

[7] Cities Coalition for Digital Rights https://citiesfordigitalrights.org/

[8] EUROCITIES and several of our member cities are actively involved in the urban agenda partnerships, including the partnership on digital transition, coordinated by Oulu, Sofia and Estonia. The multi-level collaboration led to concrete proposals, including on how to accelerate innovation and boost digital transformation: https://ec.europa.eu/futurium/en/system/files/ged/digital_transition_action_plan_for_dgum_300818_final.pdf

4. **To ensure ambitious support for sustainable urban solutions**

Digital and innovation EU funding programmes, including Horizon Europe, the newly proposed Digital Europe Programme and Connecting Europe Facilities, are crucial to supporting digital transformation and boosting upscaling of smart city solutions in cities. We recommend maintaining the proposed programmes and level of budget allocation to ensure essential funding for Europe's digital transformation. Cities recognise the progress made in the recent years to foster horizontal and holistic approach to research and innovation. However, more efforts should be made to facilitate local solutions that integrate economic development, climate, mobility, social and cultural aspects. It is not enough to invest in IT infrastructure - we need to invest in people too. The development of digital skills in local public administrations is essential to equip city authorities with the necessary competences to deal with the challenges related to digital innovation. It is also a vital step in enhancing citizen empowerment and participation while ensuring the competitiveness of the European economy and overcoming the digital divide. This cross-functional approach is a challenge to current funding programmes and financial instruments at EU level.

The mission-oriented approach to EU research and innovation is a good start. We particularly support the mission dedicated to climate-neutral and smart cities, which has the potential to have a positive impact on the lives of many citizens throughout Europe and worldwide. The co-creation approach is crucial to defining the goals and criteria of the missions. EUROCITIES, as a member of the Horizon Europe mission on Climate Neutral and Smart Cities, will actively contribute to a vision for cities that is focused on carbon neutrality and smart solutions, but also helping to ensure consistency with the many other challenges facing urban areas, including governance.