



Declaration on joining forces to boost sustainable digital transformation in cities and communities in the EU.

**LIVING-IN.EU**

We, decision makers at all levels of government together with organisations and networks of cities and communities of all sizes<sup>1</sup>, believe that strong cooperation through multi-level governance in the EU and co-creation with citizens are key to our mission of turning our cities and communities into smart and sustainable places where people enjoy living and working. We aim for a cohesive, digital Europe, where every community can enjoy the economic and social benefits of this transformation, while making sure not to leave anyone behind<sup>2</sup>. We therefore underline the need for sufficient public and private investment in digital services, technologies, infrastructures and skills to achieve this goal.

At a time when our cities and communities are faced with a growing range of challenges, this declaration marks an important step in the launch of the 'European way' of digitally transforming cities and communities. This approach will ensure technological leadership in the EU while respecting European values and diversity, as well as individuals' digital rights.

Although a number of initiatives<sup>3</sup> have led to successful innovative digital solutions<sup>4</sup>, their impact on society as a whole remains limited and unevenly distributed across the EU. The extensive uptake and scaling up of these solutions are crucial to help our cities and communities meet their climate targets and reduce their environmental footprint. It will also encourage citizen participation, and help all types of businesses, including SMEs and start-ups, to prosper. It is time for all levels of government in the EU to join forces to scale up digital solutions so that at least 300 million Europeans can enjoy a better quality of life by 2025<sup>5</sup>. Encouraging the use of commonly agreed digital solutions among regions, cities and communities will help close the digital divide and reduce inequalities for a stronger territorial cohesion.

Digital solutions underpinned by locally-generated data are essential for delivering more informed, innovative and high-quality services to the public and to businesses. These solutions include smart urban mobility, energy efficiency, sustainable housing, digital public services and civic-led governance. If the public is to trust these systems, data must be used responsibly through digital platforms, and its quality, security and privacy must be ensured.

Cooperation across geographical areas and between sectors will boost innovation and allow cities and communities to develop efficient, cost-effective and citizen-centric services. Therefore, the deployment and scaling up of open, interoperable, cross-sector and cross-border platforms as a means to boost digital transformation is at the heart of this declaration. This will help ensure technological sovereignty in the EU and the co-creation of digital solutions that do not lock our cities and communities into specific technologies.

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1] EUROCITIES – the network of major European cities; Open and Agile Smart Cities (OASC); European Network of Living Labs (ENoLL).

2] As recently stated in the Opinion of the European Committee of the Regions 'Digital Europe for all: delivering smart and inclusive solutions on the ground' (2019)

3] E.g.: the European Innovation Partnership on Smart Cities and Communities (EIP SCC), the Digital Transition Partnership of the Urban Agenda for the EU (DTP UA), the Smart Cities Information System (SCIS), Horizon 2020 projects such as the Lighthouse projects and the IoT large-scale pilots, urban innovative actions, the URBACT programme, the EU cohesion policy and the European Institute of Innovation and Technology (EIT) and its communities, the Digital Cities Challenge (next phase, the 100 Intelligent Cities Challenge will start in January 2020) and the Declaration of Cooperation on Digital Transformation and Smart Cities Growth signed by the mayors of all participating cities, the eGovernment action plan 2016-2020 and the Tallinn eGovernment ministerial declaration (2017)

4] The first version of the list is in the annexed input paper, and can be expanded over time.

5] As stated in the Memorandum of Understanding on 'Towards Open urban Platforms for Smart Cities and Communities', EIP SCC, General Assembly, 21 May 2015 (<https://ec.europa.eu/digital-single-market/en/news/memorandum-understanding-towards-open-urban-platforms-smart-cities-and-communities>).

## THE SIGNATORIES AGREE ON THE FOLLOWING PRINCIPLES<sup>6</sup>:

- a citizen-centric approach;
- a city-led approach at EU level;
- the city as a citizen-driven and open innovation ecosystem;
- ethical and socially responsible access, use, sharing and management of data;
- technologies as key enablers;
- interoperable digital platforms based on open standards and technical specifications, Application Programming Interfaces (APIs) and shared data models.

## THE SIGNATORIES COMMIT TO DEVELOP TOGETHER SUSTAINABLE MEASURES TO:

### FINANCIAL

- contribute on a voluntary basis to a joint investment plan to adopt and implement common existing digital solutions on a large scale in the EU<sup>7</sup>;
- optimise synergies between EU, national, regional and local funds;
- strengthen investment in local digital transformation from EU funds and programmes, to ensure an inclusive and sustainable Europe;
- use common public procurement practices to jointly define specifications and reduce the cost of investing in successful digital platforms and related technologies.

### TECHNICAL

- use a commonly agreed list of standards and technical specifications to achieve interoperability of data, systems, and platforms among cities and communities and suppliers around the world<sup>8</sup>;
- make key enablers of city digital solutions — including data, infrastructure and services — available to all;
- use a common marketplace to share data, digital services and solutions among cities and communities.

### LEGAL

- assess the legislative measures needed to provide a common EU framework for cross-sector and cross-border digital solutions to cities and communities (e.g.: eID<sup>9</sup> schemes)

### EDUCATION AND CAPACITY BUILDING

- develop administrative capacities to make the best of digitalisation and to avoid technology or vendor lock-in;
- develop citizen-centric design approaches as a new competence for policy-making;
- identify new skills needed by public authorities and businesses, and take action to ensure that people acquire these skills;
- provide the public with the digital education and skills they need to benefit from smart city solutions and to participate in decision making;
- develop a culture of having a co-creative, participative and cross-sector approach to designing and implementing smart and sustainable local solutions;

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<sup>6]</sup> The full description of these principles is available in the annexed input paper.

<sup>7]</sup> With full respect for the signatories' legal and financial obligations.

<sup>8]</sup> The first version of the list is in the annexed input paper, and can be expanded over time.

<sup>9]</sup> Connecting Europe Facility electronic identification (eID) building block (<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eID>).

- facilitate and coordinate activities including knowledge sharing, communication, dissemination and consultancy provision, to scale up successful digital solutions;
- take advantage of opportunities that can accelerate deployment, such as Digital Innovation Hubs<sup>10</sup>.

## MONITORING AND MEASURING

- help develop and implement a framework, built on existing methodologies<sup>11</sup>, to measure and monitor the benefits for citizens, public authorities, businesses and other stakeholders at local level.

A multi-level governance steering board was set up in the first quarter of 2020 to progress on the above commitments and ensure that they are delivered by 2025. This steering board joins forces and resources and improves stakeholder dialogue and collaboration in order to boost the sustainable digital transformation of cities and communities.

Representative of:

First name and surname:

Position:

Signature:

Date:

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10] A Digital Innovation Hub is a single organisation or coordinated group of organisations that supports companies and/or the public sector in their digital transformation by providing access to technical expertise and experimentation ('test before invest') as well as innovation services such as financing advice, training and skills development. More info at <https://ec.europa.eu/digital-single-market/en/digital-innovation-hubs>.

11] E.g.: The Digital Economy and Society Index (DESI) is the composite index that summarises relevant indicators on digital performance in the EU and tracks the evolution of EU Member States in digital competitiveness (<https://digital-agenda-data.eu/datasets/desi/visualizations>), the Digital Cities Challenge self-assessment tool measured the cities' technological transformation along 8 dimensions: <https://www.digitallytransformyourregion.eu/assess-your-city-digital-maturity>

## PROMOTED BY



**EUROCITIES** is the network of major European cities. Our members are the elected local and municipal governments of major European cities. Their objective is to reinforce the important role that local governments should play in a multilevel governance structure. We aim to shape the opinions of Brussels stakeholders and ultimately shift the focus of EU legislation in a way which allows city governments to tackle strategic challenges at local level.

[eurocities.eu](http://eurocities.eu)



**OPEN & AGILE SMART CITIES (OASC)** is a non-profit, international smart city network that has the goal of creating and shaping the nascent global smart city data and services market. They are already today at the forefront of tomorrow's standards for city data, services, and technology – and we work based on city needs with support from industry. Unlike any other city network, OASC is driven by implementation and focused on open platforms and citizen engagement.

<https://oascities.org>



**THE EUROPEAN NETWORK OF LIVING LABS (ENOLL)** is the international federation of benchmarked Living Labs in Europe and worldwide. Founded in November 2006 under the auspices of the Finnish European Presidency, the network has grown in 'waves' up to this day. LLs operate as intermediaries among citizens, research organisations, companies, cities and regions for joint value co-creation, rapid prototyping or validation to scale up innovation and businesses. LLs have common elements but multiple different implementations.

<https://enoll.org>



**FINLAND'S PRESIDENCY OF THE COUNCIL OF THE EUROPEAN UNION** The main focus of the Presidency related to urban development is to support the successful implementation of the Urban Agenda for the EU, including advancing the creation of the new Leipzig Charter. As a specific theme, digital innovation in cities is highlighted.

<https://eu2019.fi>



**THE EUROPEAN COMMITTEE OF THE REGIONS** is the voice of regions and cities in the European Union (EU). It represents local and regional authorities across the European Union and advises on new laws that have an impact on regions and cities (70% of all EU legislation).

<https://cor.europa.eu>

## INPUT PAPER

### PRINCIPLES FOR SUSTAINABLE DIGITAL TRANSFORMATION OF CITIES AND COMMUNITIES IN THE EU

#### CITIZEN-CENTRIC APPROACH

Europe's digital transformation process is to be developed with, and for, people. Sustainable mobility, energy efficiency, sustainable production, clean air, efficient digital public services, accessible housing and waste management are at the core of smart and sustainable cities and communities, creating quality and qualified jobs and a more equal and inclusive society. Citizens have a key role to play in developing and implementing smart city strategies and solutions. Connecting and engaging with people while enabling them to play a role in policy-making and creating solutions is crucial for successful, smart cities and communities.

#### A CITY-LED APPROACH AT EU LEVEL

Strategic cooperation at EU level to scale up digital solutions should benefit from a city-led approach. As the level of government closest to the citizens, local authorities are best placed to understand the needs of the local communities and to coordinate an integrated approach that connects local, regional, national and European businesses.

#### THE CITY AS A CITIZEN-DRIVEN AND OPEN INNOVATION ECOSYSTEM

Cities and communities are ideal real-life, large-scale testing grounds for digital solutions and can act as urban-living labs. Cities can lead stakeholder participation and ensure that the local community is actively involved in creating solutions. Open innovation, through which local stakeholders cooperate and take ownership of the agreed solutions, is vital for a successful digital transformation in the EU. Equally important is that cities and communities in the EU collaborate to make the most of economies of scale to foster investment in innovation.

#### TECHNOLOGIES AS KEY ENABLERS

Technologies are a means rather than an end in the digital transformation of our cities. The most advanced technologies with the simplest solutions is the ideal combination that will make our cities smart and sustainable.

#### ETHICAL AND SOCIALLY RESPONSIBLE ACCESS, USE, SHARING AND MANAGEMENT OF DATA<sup>12</sup>

A vast quantity of digital data is produced every day. This data must be used responsibly and its quality, security and privacy ensured by design, to ensure public trust. Practices to be avoided include misuse of data — including unauthorised data sharing, reselling customer data, and biased algorithms that reinforce social inequalities. Digital data must be used in the public interest to improve decision making and public services. Local governments must support practices and initiatives that ensure a better use and management of data, including the once-only and privacy-by-design principles, algorithm transparency and the use of unbiased algorithms to improve quality of life and digital rights in cities and communities.

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<sup>12</sup> EUROCITIES principles on citizen data ([http://nws.eurocities.eu/MediaShell/media/EUROCITIES\\_citizen\\_data\\_principles\\_final.pdf](http://nws.eurocities.eu/MediaShell/media/EUROCITIES_citizen_data_principles_final.pdf)) and the Cities Coalition for Digital Rights (<https://citiesfordigitalrights.org>).

## INTEROPERABLE DIGITAL PLATFORMS WITH OPEN STANDARDS, APIS AND SHARED DATA MODELS

Urban platforms are the ‘operating systems’ of the services provided by smart cities. They are necessary for handling the growing range of stakeholders and data across various sectors. Interoperable urban platforms that promote open standards, APIs and shared data models are crucial for removing barriers such as vendor lock-in and non-interoperable proprietary protocols. Interoperable urban platforms are essential for developing and putting in place innovative and cost-effective solutions across the EU, since they create open and interoperable ecosystems and can be extended to serve as spaces for creative experimentation.

### EXISTING SUCCESSFUL DIGITAL SOLUTIONS

EU-funded and local pilots as well as supporting actions and partnerships have produced standards, mechanisms, services, guidelines and tools that enable the interoperability of urban platforms, with a strong local impact and significant EU added value. Examples are listed below.

A ‘Consolidated Report of Technical Specifications’ has been prepared as a working document<sup>13</sup> to support the action plan for the declaration.

**SMART APPLIANCE/ANYTHING REFERENCE (SAREF)<sup>14</sup>:** The SAREF ontology, an ETSI/OneM2M standard, is a shared model of consensus that helps match existing assets, such as standards, protocols, and data models. It consists of base ontology and extensions for the relevant sectors, including one for cities (SAREF4CITY). A combined city solution based on SAREF and NGSI-LD has been successfully piloted in the SynchroniCity project.

**OASC MINIMAL INTEROPERABILITY MECHANISMS (MIMs)<sup>15</sup>:** The MIMs are universal tools for achieving interoperability of data, systems and services between cities and suppliers. Implementation can be different, as long as crucial interoperability points in any given technical architecture use the same interoperability mechanisms. They are vendor-neutral and technology-agnostic, meaning that anybody can use them and integrate them into existing systems and services.

**URBAN PLATFORMS:** Open standards and open source components such as the EIP-SCC DIN SPEC 91357 Reference Architecture Model Open Urban Platform<sup>16</sup> developed in collaboration with the EU-funded project ‘Espresso’<sup>17</sup>, the ETSI OneM2M reference library<sup>18</sup>, the SynchroniCity reference architecture<sup>19</sup> and the FIWARE reference architecture<sup>20</sup> help cities and communities remain agile and avoid vendor lock-in.

**THE DIGITAL CITIES CHALLENGE METHODOLOGY TOOLBOX:** The Digital Cities Challenge self-assessment tool<sup>21</sup> determines cities’ digital performance level, based on existing digital transformation processes and progress along eight dimensions of digital

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13] <https://living-in.eu/sites/default/files/files/Consolidated-Report-on-Tech-Specs-v2.pdf>

14] <https://www.etsi.org/technologies/smart-appliances>

15] <https://oascities.org/wp-content/uploads/2019/06/OASC-MIMs.pdf>

16] <https://www.din.de/en/about-standards/din-spec-en/wdc-beuth:din1:281077528>

17] <http://espresso-project.eu>

18] <http://onem2m.org/>

19] <https://synchronicity-iot.eu/tech/>

20] <https://www.fiware.org/developers/>

21] <https://www.digitallytransformyourregion.eu/assess-your-citys-digital-maturity>

development. The Key Performance Indicators (KPIs)<sup>22</sup> allow the monitoring of the targeted and actual impact of the actions and initiatives on the local economy, businesses and citizens. In addition, the City Digital Transformation handbook<sup>23</sup> provides cities with concrete methodology on how to develop an effective digital transformation strategy, based on existing best practices, such as the blueprint<sup>24</sup> for cities and regions as launch pads for digital transformation.

**MOBILITY DATA PORTAL (MDP)<sup>25</sup>:** The MDP collects and connects mobility data in a multimodal dataset and makes it available through a standardised interface and under a public-private contractual arrangement. It operates as a unique access point to the city's multimodal data and services.

**HUMBLE LAMPOST<sup>26</sup>:** Aiming to install 10 million smart lampposts in order to save energy and costs in cities across the EU and accelerate their digitalisation, the Humble Lamppost project serves as an example of joint procurement and cooperation among the EIP-SCC action cluster on integrated infrastructures and processes

**THE CONNECTING EUROPE FACILITY (CEF) BUILDING BLOCKS<sup>27</sup>:** The CEF programme has developed a set of generic and reusable Digital Service Infrastructures, also known as building blocks. Currently, there are eight building blocks: (i) big data test infrastructure; (ii) context broker; (iii) archiving; (iv) eDelivery; (v) eID; (vi) eInvoicing; (vii) eSignature; and (viii) eTranslation. The building blocks can be combined and used in projects in any policy area at European, national or local level.

**SYNCHRONICITY CATALOGUE<sup>28</sup>:** As one of the EU-funded Internet of Things (IoT) European large-scale pilots<sup>29</sup>, SynchroniCity has developed jointly with cities, industry, and SMEs a catalogue of scalable IoT and artificial intelligence-enabled services for cities and communities across sectors.

**ORGANICITY PLAYBOOK<sup>30</sup>:** The EU-funded project OrganiCity has provided a toolkit to kick-start a citizen-centric co-creation of digital, data-driven solutions in cities and communities.

**CITYKEYS KEY PERFORMANCE INDICATORS (KPIs)<sup>31</sup>:** With the help of cities in the EIP SCC, this project has developed and validated local key KPIs and data collection procedures for common and transparent monitoring and to be able to compare smart city solutions across European cities.

**SMART CITY GUIDANCE PACKAGE<sup>32</sup>:** This guide helps local governments plan and manage smart city projects. While making available existing knowledge, experiences and findings, the guide provides insight into obstacles frequently encountered during implementation and explores what it takes to scale up and replicate successful initiatives.

22] <https://www.digitallytransformyourregion.eu/sites/default/files/2019-03/DCC%20Guide%20for%20Self%20Assessment%20Tool.pdf>

23] <https://www.digitallytransformyourregion.eu/sites/default/files/2019-08/City%20Digital%20Transformation%20Handbook.pdf>

24] <https://www.digitallytransformyourregion.eu/sites/default/files/2017-10/Blueprint%20for%20cities%20and%20regions%20as%20launch%20pads%20for%20digital%20transformation.pdf>

25] [https://www.crtm.es/media/444202/opticities\\_transferability\\_handbook\\_web.pdf](https://www.crtm.es/media/444202/opticities_transferability_handbook_web.pdf)

26] <https://eu-smartcities.eu/sites/default/files/2018-03/EIP%20Humble%20Lamppost%20v1.pdf>

27] <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Building+Blocks>

28] <https://synchronicity-iot.eu/>

29] <https://european-iot-pilots.eu>

30] [https://organicity.eu/wp-content/uploads/2018/06/Organicity-Playbook\\_2018-1.pdf](https://organicity.eu/wp-content/uploads/2018/06/Organicity-Playbook_2018-1.pdf)

31] <http://nws.eurocities.eu/MediaShell/media/CITYkeysD14Indicatorsforsmartcityprojectsandsmartcities.pdf>

32] <https://eu-smartcities.eu/news/smart-city-guidance-package>