

Connected Smart Cities Conference

"Global Standards for IoT and Smart Cities & Communities"



11 January 2018 – OASC - Brussels



From demonstrators to large Scale deployments

All major European cities are eager to deploy new smart city services on a large scale.

Facing this demand, the providers offer solutions that respond to highly variable functional perimeters which are not often interoperable between them.

« We have to propose a new approach, a 'bottom-up' approach to involve users in ETSI's standardization process enables them to contribute to the smart city standards. It allows cities to define their objectives, express their needs in terms of interoperability and efficiency and contribute to the technical standardization that will support innovation and the regulation of the «Sustainable Smart-Cities» of tomorrow. »



Interoperability: Why ?



Interoperability for cities: How ?

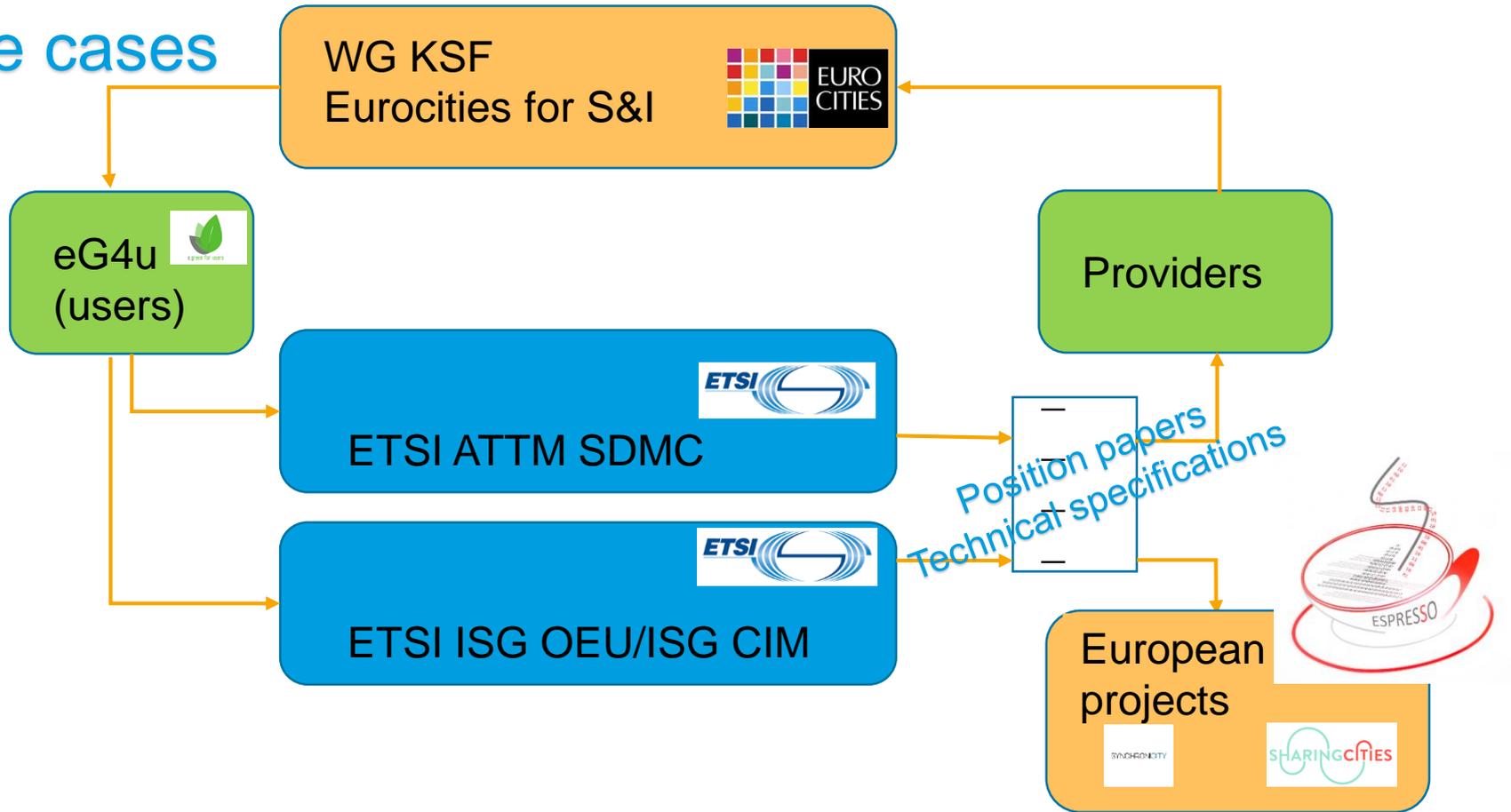
Chronology of cities involvement:

- Eurocities: New KSF strategy 2015
- eG4U: New ETSI ATTM sdmc WG 2016
- Sharing Cities: replication strategy 2016
- ESPRESSO: involvement in the advisory board 2017
- Synchronicity: member of the cities forum (T1.3) and standardisation and adoption tasks (T6.2) 2017



Interoperability for cities: How ?

Cities needs Use cases



Eurocities in a nutshell



EUROCITIES is the network of major European cities. The members are the elected local and municipal governments of major European cities.

EUROCITIES was founded in 1986 by the mayors of six large cities: Barcelona, Birmingham, Frankfurt, Lyon, Milan and Rotterdam.

EUROCITIES brings together the local governments of over 130 of Europe's largest cities and 40 partner cities, that between them govern 130 million citizens across 35 countries.

Six thematic forums: culture, economy, environment, knowledge society, mobility, social affairs, cooperation

Bordeaux Vice chairs the knowledge society forum and chairs a new standards and interoperability WG since 2016.



- Get guidance and awareness
- Define and use a common indicators (KPIs) framework
- Give confidence in investments
- Promote tangible proof of concepts and showcases



Eurocities KSF standards & Interoperability WG: The leadership management guide



Why cities and communities interested in the development of sustainable and smart services have to be much more involved in the SDO and ESO process ?

Standards are technical interface specifications defining requirements for products, production processes, services or test-methods. These specifications are voluntary.

They are developed by industry and market actors following some basic principles such as consensus, openness, transparency and non-discrimination. Standards ensure interoperability and safety, reduce costs, eliminate vendor lock-in and facilitate companies integration in the value chain and trade.

Who are the SDOs and ESOs ?

- Standard Developing Organisations may act at a national, European or international level
- European Standards are under the responsibility of the European Standardisation Organisations (CEN, CENELEC, ETSI) and can be used to support EU legislation and policies.

How does it work ?

Each standardisation body offers industry and market actors to create and manage technical committees dedicated to a specific technology. Those technical committees chose a chairman in order to manage the specifications to be delivered. Those TC are quite exclusively composed of industry representatives voluntary to contribute to those common specifications designed in a consensus way.



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Exemple of a useful use case:

A few years ago, each mobile phone provider used a specific interface for their phone charger. In 2009, the GSMA committee decided to define a common interface for all the smartphones at an international level, the UCS - universal charging solution. From 2012, except for Apple products, all the providers use the same interface: the micro-USB.

Exemple of a use case where industry representatives didn't agree to define a standardised interface:

For EV chargers, there are at least, today, four different types of depending on the trade mark of the cars: American cars, VW group cars, PSA cars and RENAULT cars, totally incompatible one from each other.

Guidance and awareness



eG4U in a nutshell

eG4U is a Non Governmental Organisation of ICT (Information & communications technologies) users from public and private sector, working together in order to improve Energy Management & Waste monitoring in the three main domains of ICT Sites, Smart Cities and Electrical and Electronic Equipment.

eG4U has been created early December, 2015, by ICT users, members of ETSI(*) Industry Specification Group (ISG) called Operational energy Efficiency for Users (OEU).

eG4U is an ETSI member.

<https://www.eg4u.org/>



WG SDMC will work on deployment of ICT systems, and networks, and sites allowing interactions for data capture (both data consumers and providers) and management of data within each service and between different functions and services and will produce:

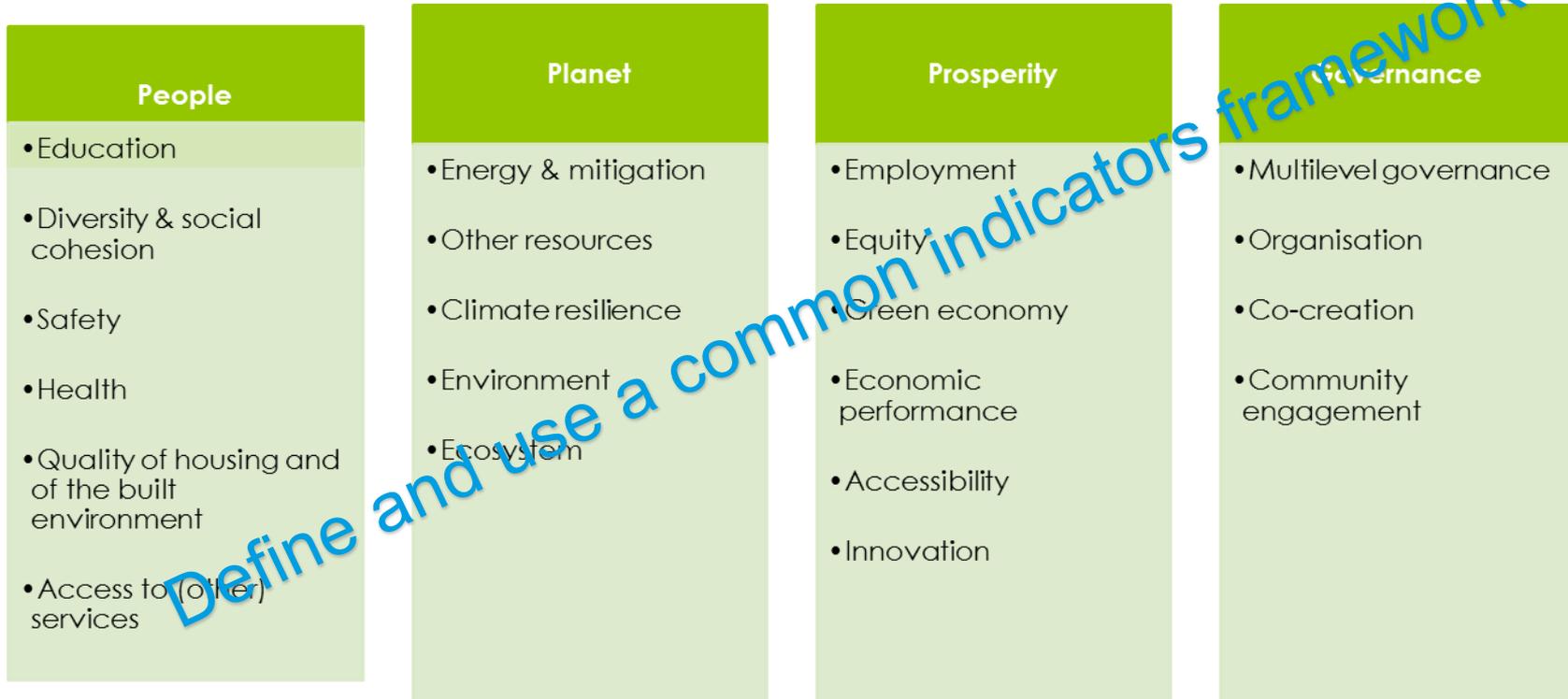
- Standardisation work on specific engineering of SDMC ICT
- Specifications of topology and functional requirements
- Specifications of functional and physical characteristics of interfaces
- Standardisation work on operational sustainability management

A first TS 103 463 published

Defining indicators (KPIs) for Smart Cities expressing city level in terms of People, Planet, Prosperity and Governance.



TS 103 463: based on CITYkeys project published on 22th May 2017



Based on CITYkeys project, the TS 103 463 was published on 22nd May 2017:

73 city indicators have been defined so far.

An exemple Education:

Indicator title	Indicator unit	Definition
Access to educational resources	Likert	The extent to which the city provides easy access (either physically or digitally) to a wide coverage of educational resources
Environmental education	% of schools	The percentage of schools with environmental education programs
Digital literacy	% of people	Percentage of target group reached

Digital competence can be broadly defined as the confident, critical and creative use of ICT to achieve certain goal. Digital competence is a transversal key competence which, as such, enable us to acquire other key competences (e.g. language, mathematics ...)



The next steps:

TS 110 174-2:"SDMC Multiservice Networking Infrastructure and Associated Street Furnitures"

The goal is to detail measures which may be taken to ease the deployment of smart new services and their multiservice street furnitures of digital multiservice city within the IP network of a single city or an association of cities administratively clustered. Furthermore, the suggested measures will enable to engineer a reliable common networking infrastructure which can improve the Total Cost of Ownership (TCO) for the public administration while improving the energy efficiency of the overall deployment.



The Sharing cities H2020 Lighthouse project



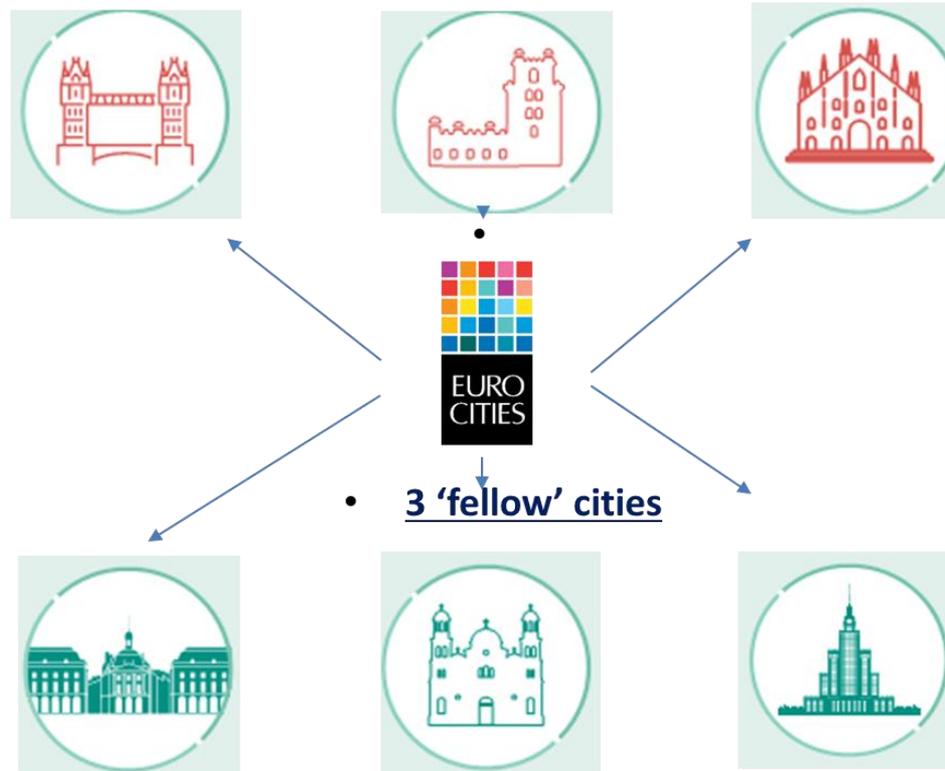
The Sharing Cities 'lighthouse' programme is a proving ground for a better, common approach to making smart cities a reality. By fostering international collaboration between industry and cities, the project seeks to develop affordable smart city solutions. It will result in integrated commercial-scale smart city solutions with a high market potential. The project partners will work in close cooperation with the European Innovation Partnership on Smart Cities and Communities and with other 'lighthouse' consortia.

Sharing Cities offers a framework for citizen engagement and collaboration at local level, thereby strengthening trust between cities and citizens.



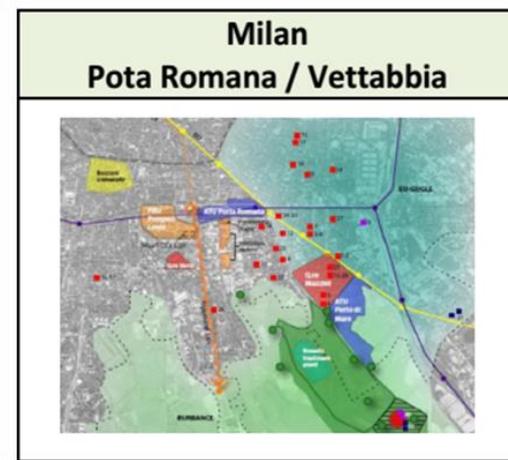
The Sharing cities: Who ?

- 35 partners from cities, industry representatives, NGOs and academia
- Located in the **3 'Lighthouse' cities**:



The Sharing cities: Where ?

- The demonstration districts in 'lighthouse' cities Lisbon, London and Milan will implement replicable urban digital solutions and collaboration models.



'Fellow' cities Bordeaux, Burgas and Warsaw will co-develop, validate, or implement these solutions and models.



The Sharing cities: When and how much ?



- The project will run for **5 years (2016-2020)**. 3 years to develop and deploy and 2 years to follow up and analyse.
- The project draws on **€24 million in EU funding**, and aims to trigger **€500 million** in investment; engage over 100 municipalities across Europe.
- Specific fundings are dedicated to fellow cities for dissemination and 'replicability' assessment.



The Sharing cities replication Work Package

Measure	Bordeaux	Burgas	Warsaw
Citizen Engagement	●	●	
Building Retrofit	●	●	●
Energy Management	●	●	●
eMobility	●	●	●
EV Car Sharing		●	●
eBikes		●	●
EV Charging		●	●
Smart Parking		●	●
EV Logistics		●	
Smart Lamp Posts	●	●	●
Urban Platform	●	●	

Key: ● Implement ● Co-design ● Validate



An H2020 SCC support action



ESPRESSO

systEmic Standardisation apPRoach to
Empower Smart cities and cOMmunities!

Based on a detailed requirements-engineering campaign executed in close cooperation with cities, standardisation organizations, administrative bodies, and private industry, the project will identify open standards matching the elicited requirements and will establish a baseline for interoperability between the various sectorial data sources and the Smart City enterprise application platform. In a comprehensive set of coordination, support and networking activities, the project will engage a very large number of stakeholders, such as Smart Cities (both existing and those with aspirations), European Standardisation Organizations (ESOs), National Standardisation Bodies (NSBs), Standards Development Organizations (SDOs), public administrations, industries, SMEs, and other institutions. ESPRESSO's approach emphasizes cost reduction and will foster an open market for many actors, avoiding lock-in to proprietary solutions. European Smart City solutions that adopt these prescripts will be raised to the forefront worldwide.



SynchroniCity: an H2020 LSP4 project



SynchroniCity represents the first attempt to deliver a Single Digital City Market for Europe by piloting its foundations at scale in 11 reference zones - 8 European cities & 3 more worldwide cities - connecting 34 partners from 11 countries over 4 continents. Building upon a mature European knowledge base derived from initiatives such as OASC, FIWARE, FIRE, EIP-SCC, and including partners with leading roles in standardization bodies, e.g. ITU, ETSI, IEEE, OMA, IETF,

SynchroniCity will deliver a harmonized ecosystem for IoT-enabled smart city solutions where IoT device manufacturers, system integrators and solution providers can innovate and openly compete. With an already emerging foundation, SynchroniCity will establish a reference architecture for the envisioned IoT-enabled city market place with identified interoperability points and interfaces and data models for different verticals. This will include tools for co-creation & integration of legacy platforms & IoT devices for urban services and enablers for data discovery, access and licensing lowering the barriers for participation on the market.

SynchroniCity ... http://cordis.europa.eu/project/rcn/206511_en.html



Thanks for your attention

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