

In the framework of

SESEI



In association with



Confederation of Indian Industry

3rd Indo-European Conference on Standards and Emerging Technology

26th April, 2018 – New Delhi



**“AN INTEROPERABILITY FRAMEWORK
BUILT BY AND FOR CITIES AND CITIZENS”**

Why cities had to be involved in the standardisation process

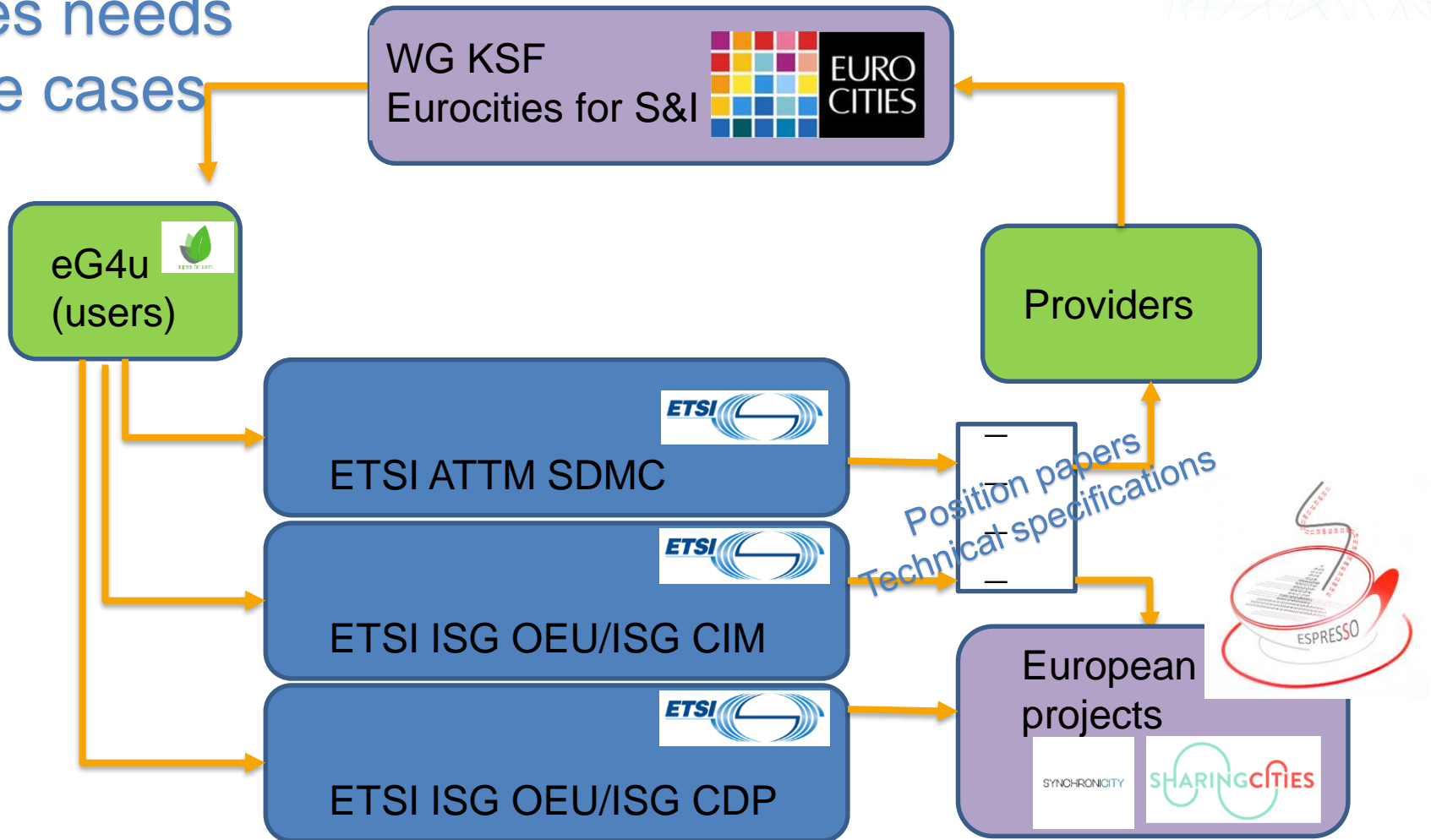


Standardisation doesn't mean interoperability regarding smart cities services



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.

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/>

ETSI TC ATTM sdmc WG



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.

The Sharing cities H2020 Lighthouse project



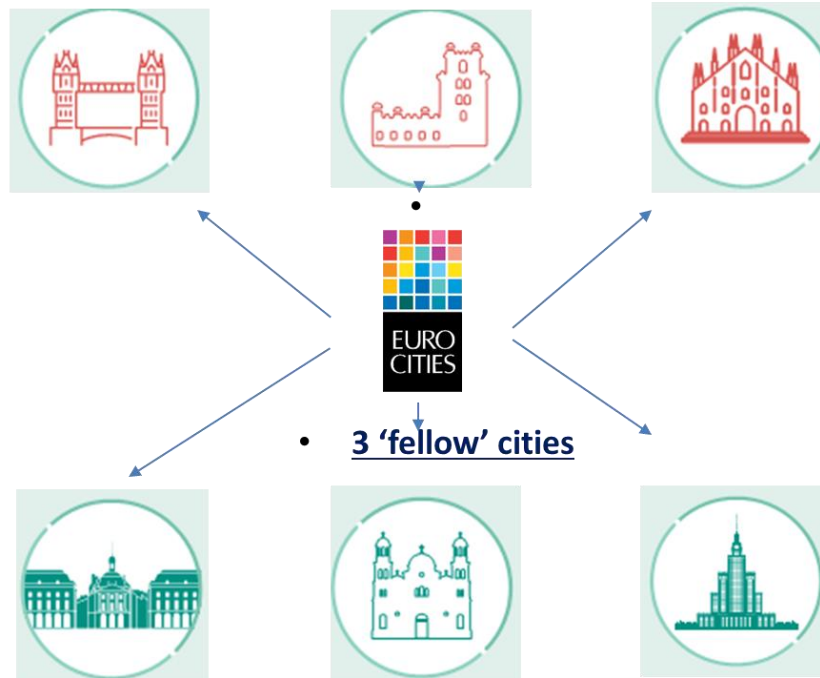
The Sharing Cities ‘lighthouse’ programme is a proving ground for a better, common approach to making smart cities a reality. By fostering international collaboration between industry and cities, the project seeks to develop affordable smart city solutions. It will result in integrated commercial-scale 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 ?



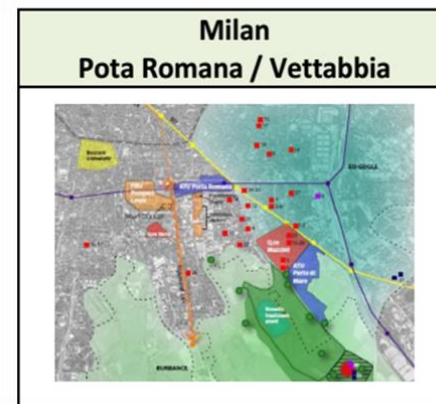
- 35 partners from cities, industry representatives, NGOs and academia
- Located in the **3 'Lighthouse' cities**:



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: Why ? Demonstrate and Replicate



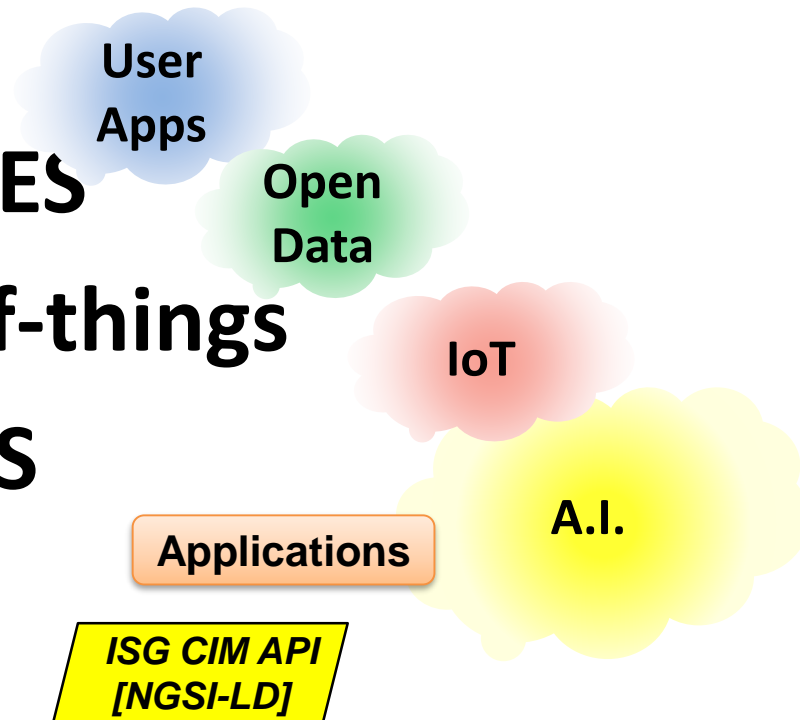
Measure	Bordeaux	Burgas	Warsaw
Citizen Engagement	●	●	
Building Retrofit	●	●	●
Energy Management	●	●	●
eMobility	●	●	●
EV Car Sharing		●	●
eBikes		●	●
EV Charging		●	●
Smart Parking		●	●
EV Logistics		●	
Smart Lamp Posts	●	●	●
Urban Platform	●	●	

Key: ● Implement ● Co-design ● Validate

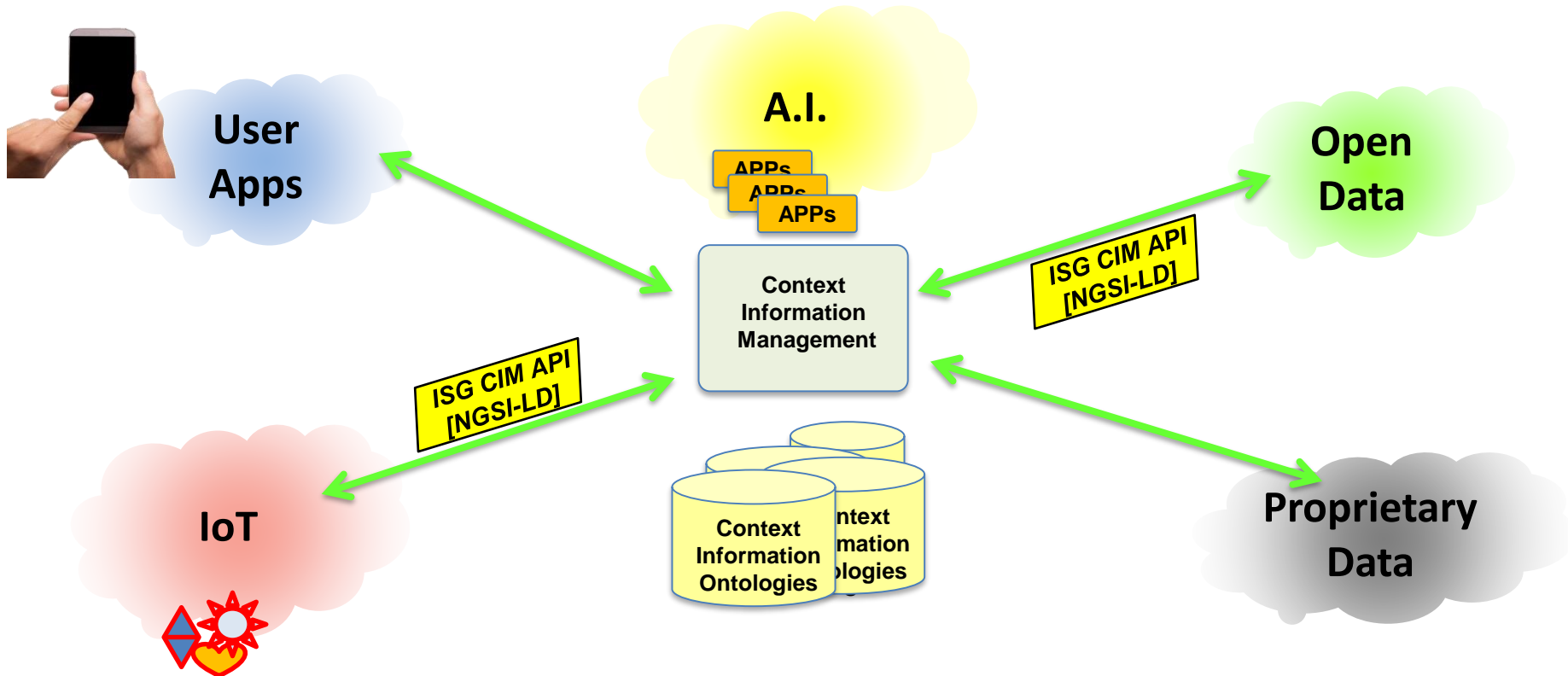
ETSI ISG CIM: Mission



**... to make it easier
for END-USERS
and CITY DATABASES
and IoT internet-of-things
and 3rd-party APPS
to exchange INFO**



Context Information Management: exchange data AND definitions (ontology)



*Exchanging data and ontology allows Users and A.I. to see **MEANING***

ETSI ISG CIM Work Item Scopes

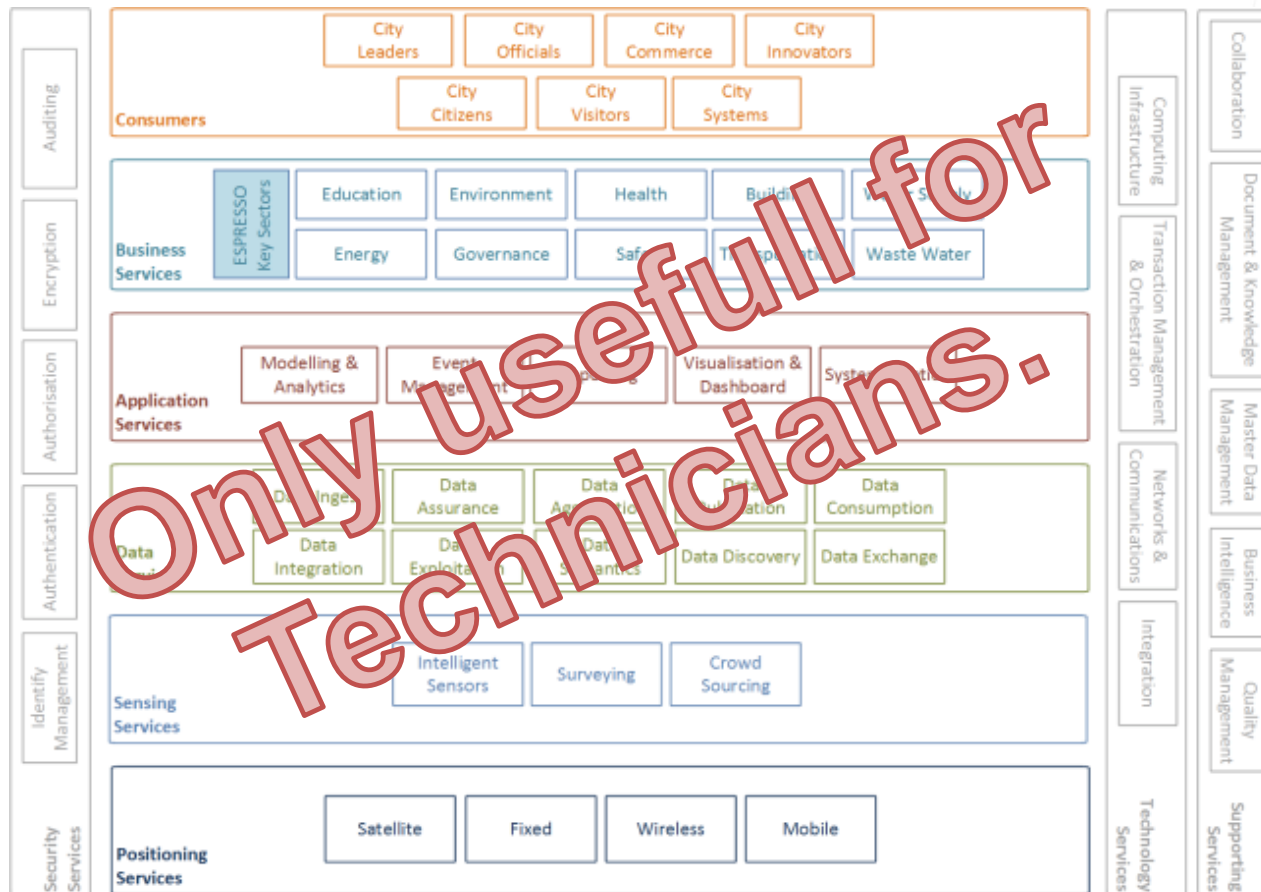
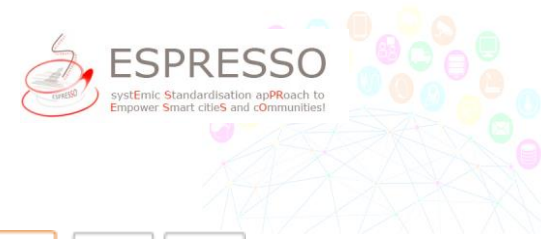


See: <https://portal.etsi.org/tb.aspx?tbid=854&SubTB=854>

- [DMI/CIM-001-AB \(MI \) Annotated Bibliography](#)
- [DGR/CIM-002-UC \(GR CIM 002\) Use Cases](#)
- [DGR/CIM-003-GAP \(GR CIM 003\) Architecture and Gap Analysis](#)
- [DGS/CIM-004-APIprelim \(GS CIM 004\) API](#) → **PUBLIC VERSION [HERE](#)**
- [DGS/CIM-005-DPP \(GS CIM 005\) Data Publication Platforms](#)
- [DGS/CIM-006-MOD0 \(GS CIM 006\) Information Model\(s\)](#)
- [DGR/CIM-007-SEC \(GR CIM 007\) Security and Privacy](#)
- [DGR/CIM-008-NGSI-LD-Primer \(GR CIM 008\) API Intro for Developers](#)
- [DGS/CIM-009-NGSI-LD-API \(GS CIM 009\) Full API \(due December\)](#)

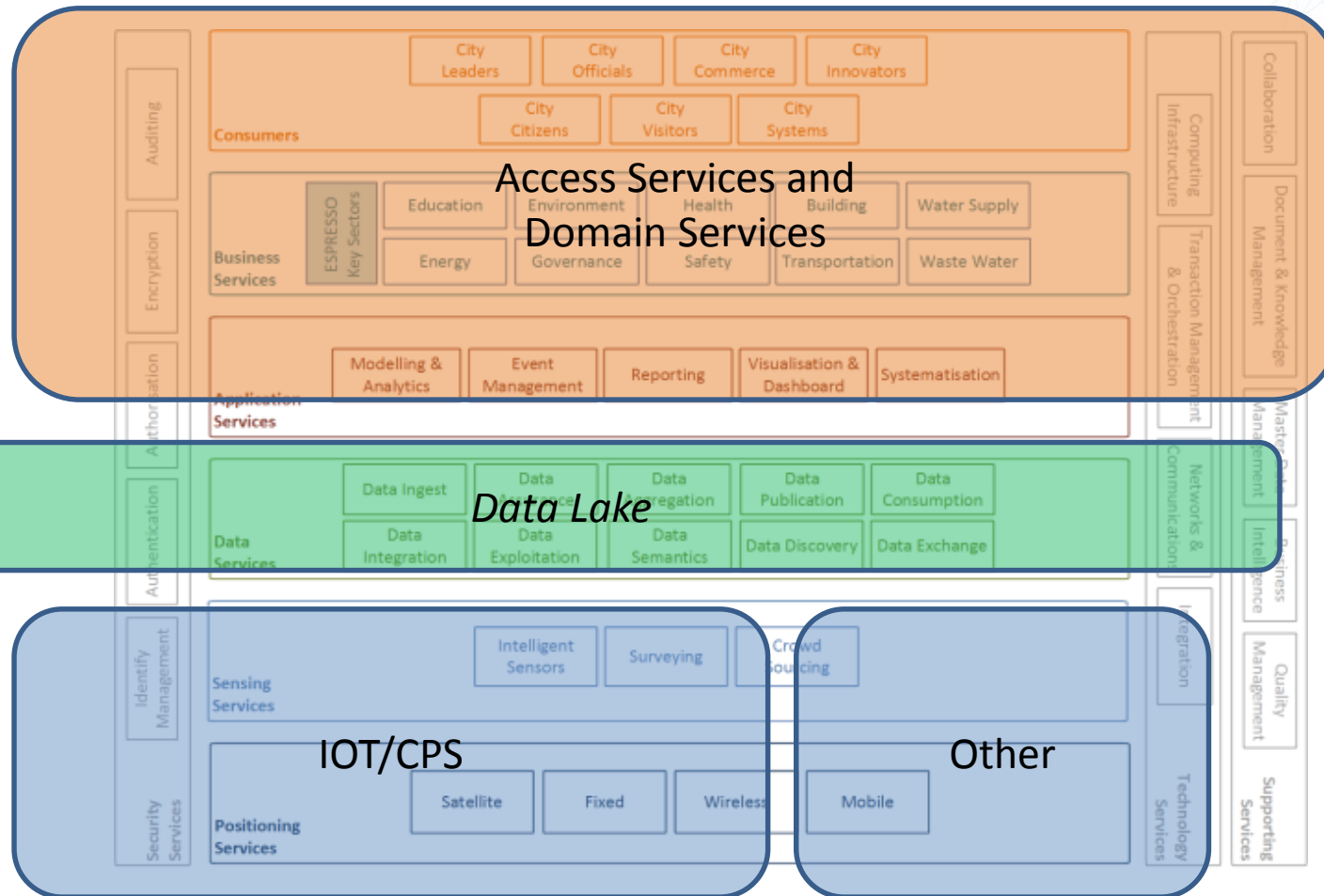


Information Systems Architecture (the complex hamburger slide)



Information Systems Architecture

The MIM approach



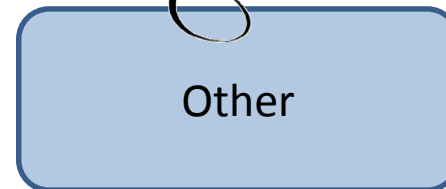
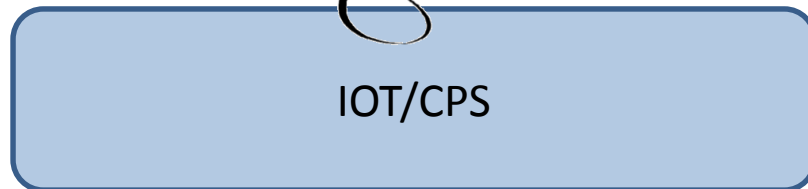
Seeking Interoperability, +16000 standards identified



Appl Zone



Data Zone



Device Zone

Pivotal Points of Interoperability



Access Services and





JS, Python

Appl Zone

ISG CIM API [NGSI-LD]

Data Lakes



CityGML

LoD, ERD

Data Zones

IOT/CPS



Other

CSV, ERP ...

Device Zone

A first tangible outcome: « Smartlight »



Early 2017, Bordeaux launched a call to equip a Smart district located in the north of the city

- ✓ 220 lamp posts
- ✓ EV chargers
- ✓ Street access control management
- ✓ Energy management in public buildings
- ✓ Water, gas, electricity meters
- ✓ Smart bins ...

The procurement specified: Sensors connectivity to IoT network **has to be compliant with the OneM2M specifications release 2** published in september 2016 which describes a standardised API: www.oneM2M.org

A first tangible outcome: « Smartlight »



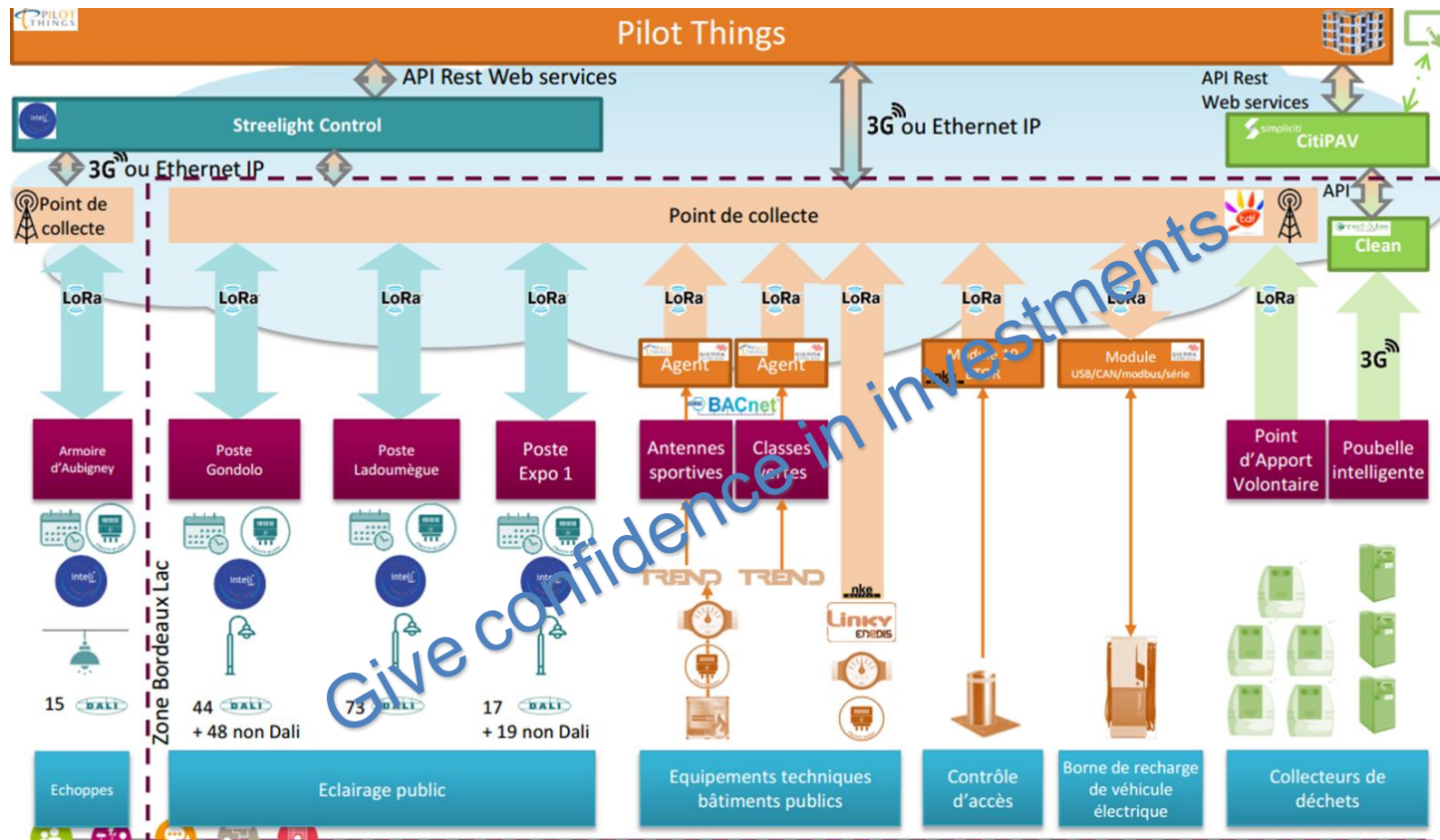
A first tangible outcome: « Smartlight »



- ✓ The cheapest
- ✓ The best technical one and ...
- ✓ The only one compliant with OneM2M



A first tangible outcome: « Smartlight »



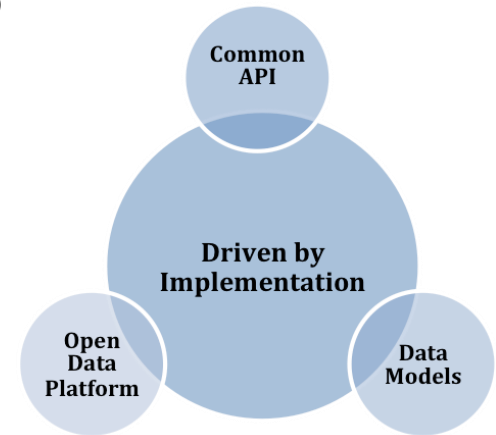


A Global Digital Single Market for IoT-enabled Urban Services

20 m€ (3 m€ Open Call); 39 partners; 13 countries; 36 months

Develop foundations through large scale urban IoT pilots
in 8 European cities

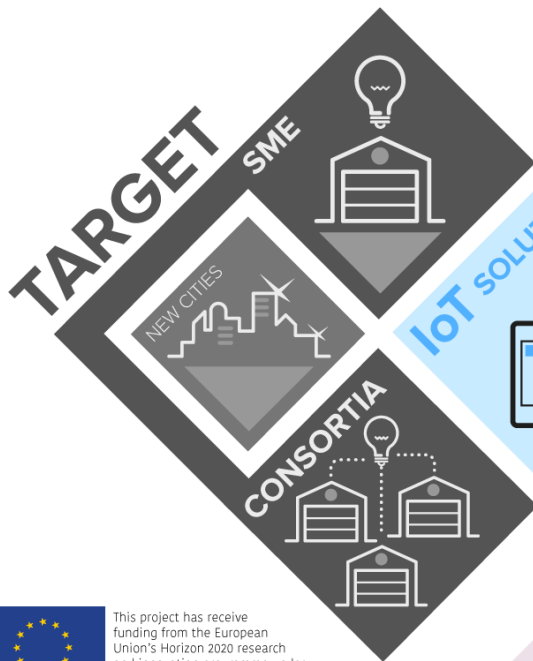
- Create a **level plane for open standards** and open architecture to avoid vendor lock-in and city lock-in
- Repeatable, scalable & **city centric**
- Allow the development of **sustainable** business models
- Address **supply/demand** in IoT, not just in the principle but **in the practice**



THE OPEN CALL

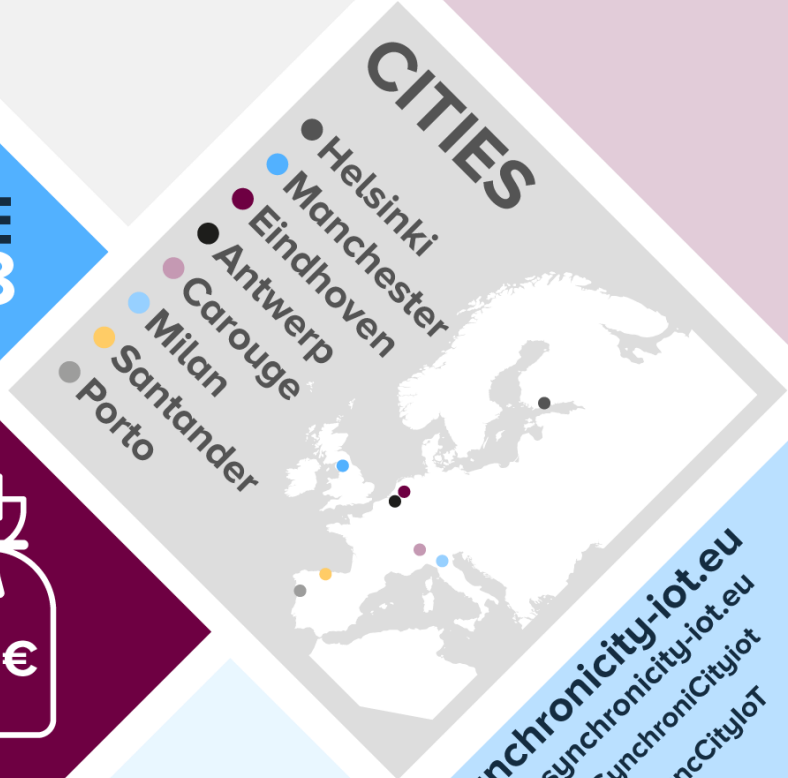
SYNCHRONICITY

Synchronicity opens up a global IoT market where cities and businesses develop shared digital services to improve the lives of citizens and grow local economies.



OPEN CALL
1st JUNE 2018

FUND
3M€



[synchronicity-iot.eu](mailto:info@synchronicity-iot.eu)
info@synchronicity-iot.eu
[@SynchronicityIoT](https://www.facebook.com/SynchronicityIoT)
[@SyncCityIoT](https://www.facebook.com/SynchronicityIoT)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No732240

WHO IS IT FOR?



Start-ups and SMEs working in **IoT** (apps or infrastructure), **TRL \geq 6**

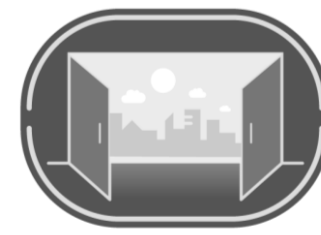


New cities wanting to become part of Synchronicity



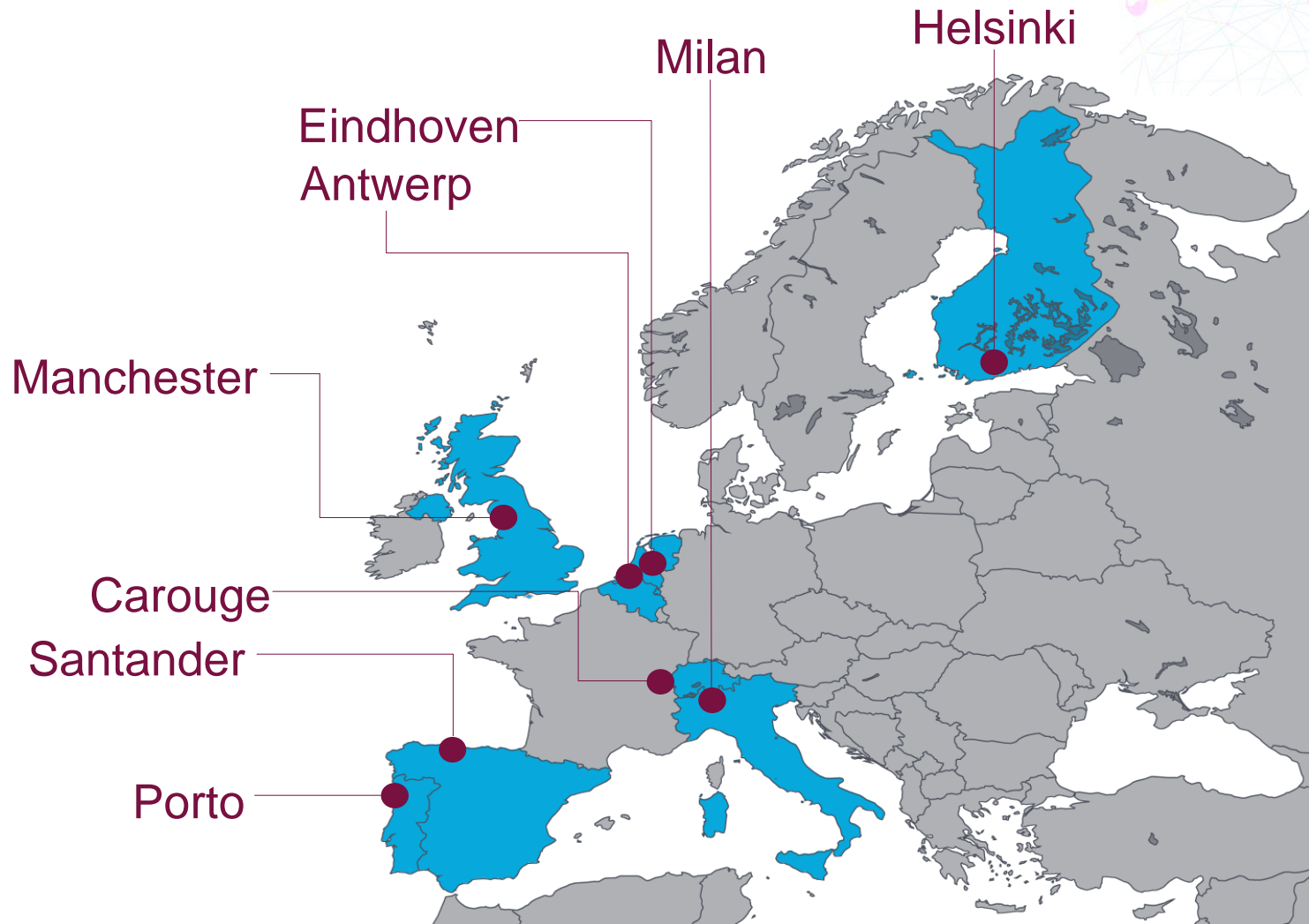
Consortia of SMEs or SME(s)/City(s)

THEMES & CHALLENGES



Sustainable Mobility	Environment and Wellbeing	Citizen Engagement	Open Theme
Enabling and improving Mobility as a Service	Climate Change Mitigation	Increasing citizen engagement in decision making	Open Challenge
Encouraging more non-motorised transport	Improving air and noise quality	Increasing a greater level of diversity in political engagement	

CORE PILOT CITIES



Congratulations to the Indian Smart Cities eco système



- <https://www.aninews.in/news/national/general-news/three-indian-smart-cities-selected-among-finalists-for-wwfs-one-planet-city-challenge201803091607010001/>



Thanks for your attention !



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