FG-DPM Workshop
1st ITU Workshop on Data Processing and Management for IoT and Smart Cities & Communities

"An interoperability framework built by and for Cities"

19 February 2018 - Brussels

BORDEAUX
MÉTROPOLE

From demonstrators to large Scale deployements

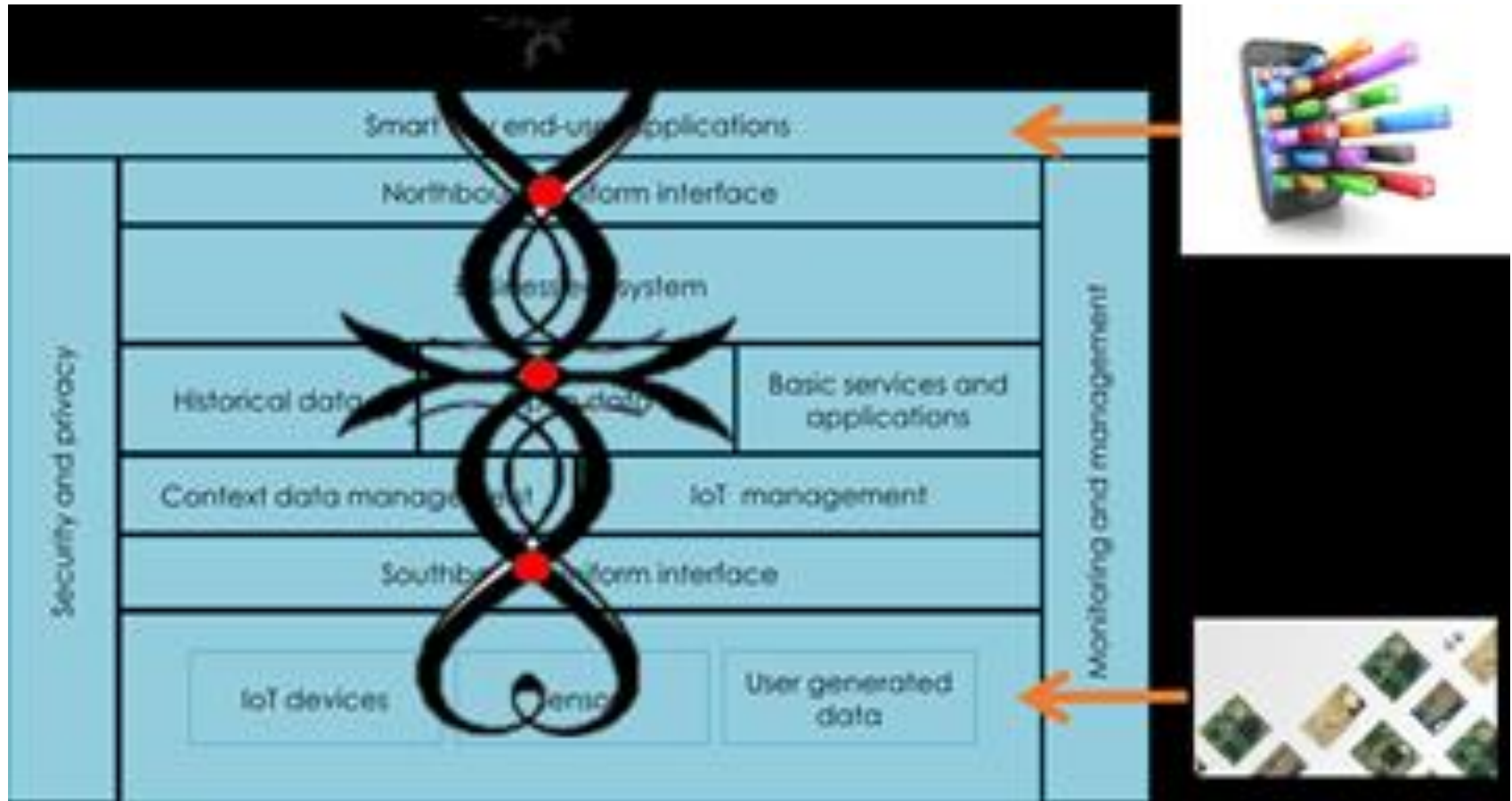All major European cities are now eager to deploy new smart city services on a large scale.

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

Standardisation doesn't mean interoperability when you address smart city services

The PPI/MMI approach
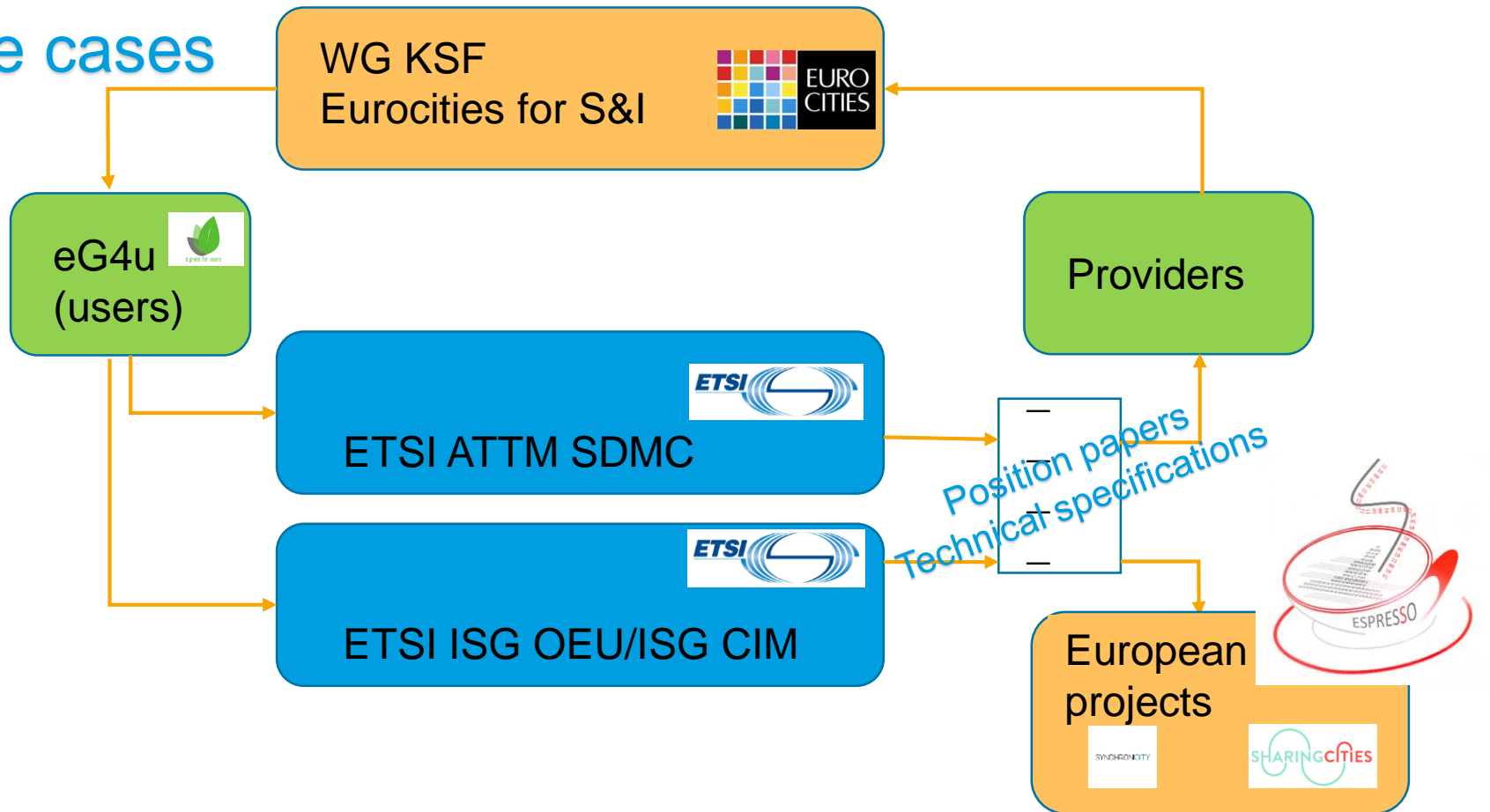
Interoperability for cities: How ?

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

WG KSF
Eurocities for S&I
EURO CITIES

eG4u
(users)

ETSI ATTM SDMC
ETSI

ETSI ISG OEU/ISG CIM
ETSI

Position papers
Technical specifications

Providers

ESPRESSO

European projects
SYNCHRONICITY   SHARINGCITIES

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.

Eurocities KSF standards & Interoperability WG: ToR 2017

- Get guidance and awareness

- Define and use a common indicators (KPIs) framework

- Give confidence in investments

- Promote tangible proof of concepts and showcases

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 an 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 commitees 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.

Guidance and awareness

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.

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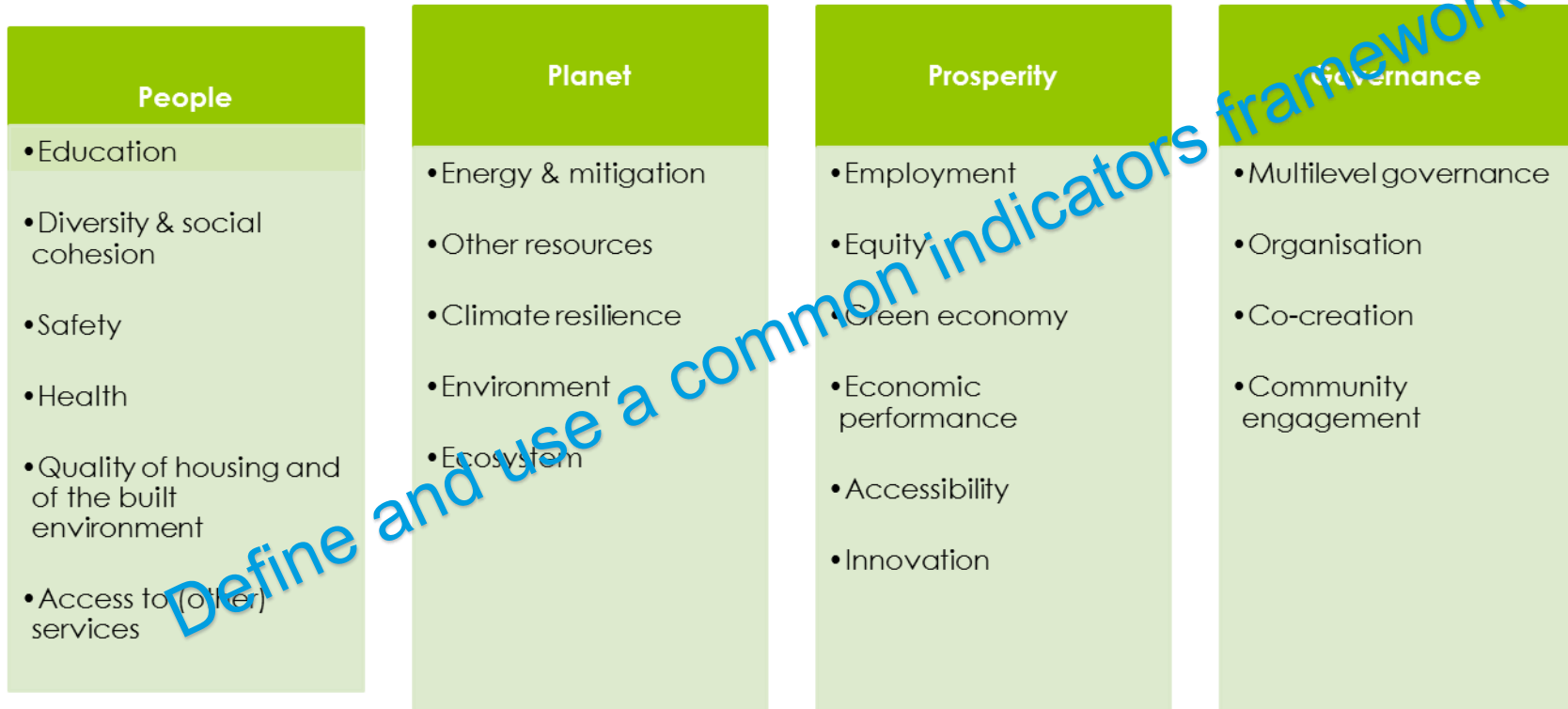
- Standardisation work on specific engineering of SDMC ICT
- Specifications of topology and functional requirements
- Specifications of functional and physical characteristics of interfaces
- Standardisation work on operational sustainability management

A first TS 103 463 published

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

ETSI TC ATTM sdmc WG

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

People	Planet	Prosperity	Governance
• Education	• Energy & mitigation	• Employment	• Multilevel governance
• Diversity & social cohesion	• Other resources	• Equity	• Organisation
• Safety	• Climate resilience	• Green economy	• Co-creation
• Health	• Environment	• Economic performance	• Community engagement
• Quality of housing and of the built environment	• Ecosystem	• Accessibility	
• Access to (other) services		• Innovation	

Define and use a common indicators framework

ETSI TC ATTM sdmc WG

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.

Exemple: The smart lamppost

# 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.
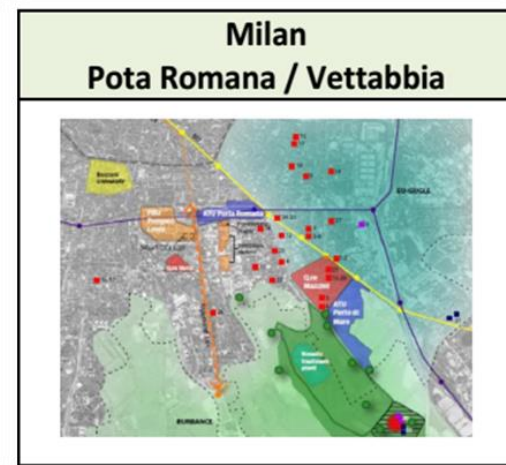
The Sharing cities: Who ?

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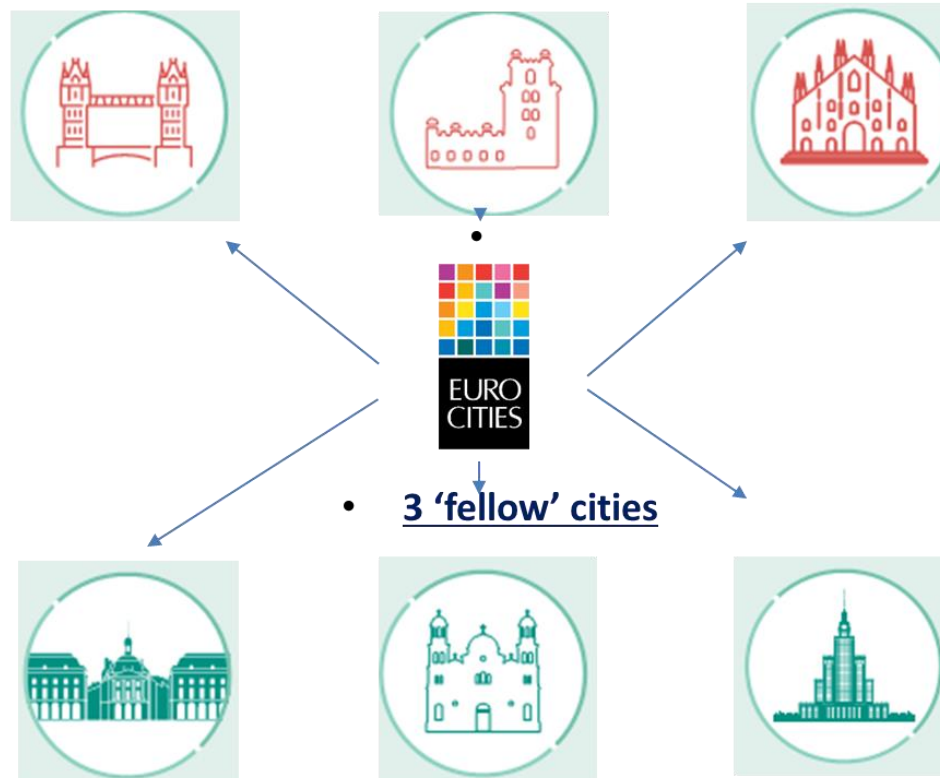
- **3 'fellow' cities**

The Sharing cities: Where ?

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

London
Royal Borough of Greenwich

Lisbon
Downtown Area

Milan
Pota Romana / Vettabbia

'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	Co-design	Validate	
Building Retrofit	Validate	Validate	Implement
Energy Management	Implement	Co-design	Validate
eMobility	Co-design	Implement	Validate
EV Car Sharing		Co-design	Validate
eBikes		Implement	Validate
EV Charging		Implement	Implement
Smart Parking		Implement	Implement
EV Logistics		Co-design	
Smart Lamp Posts	Implement	Implement	Validate
Urban Platform	Validate	Validate	

Key: ● Implement ● Co-design ● Validate

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
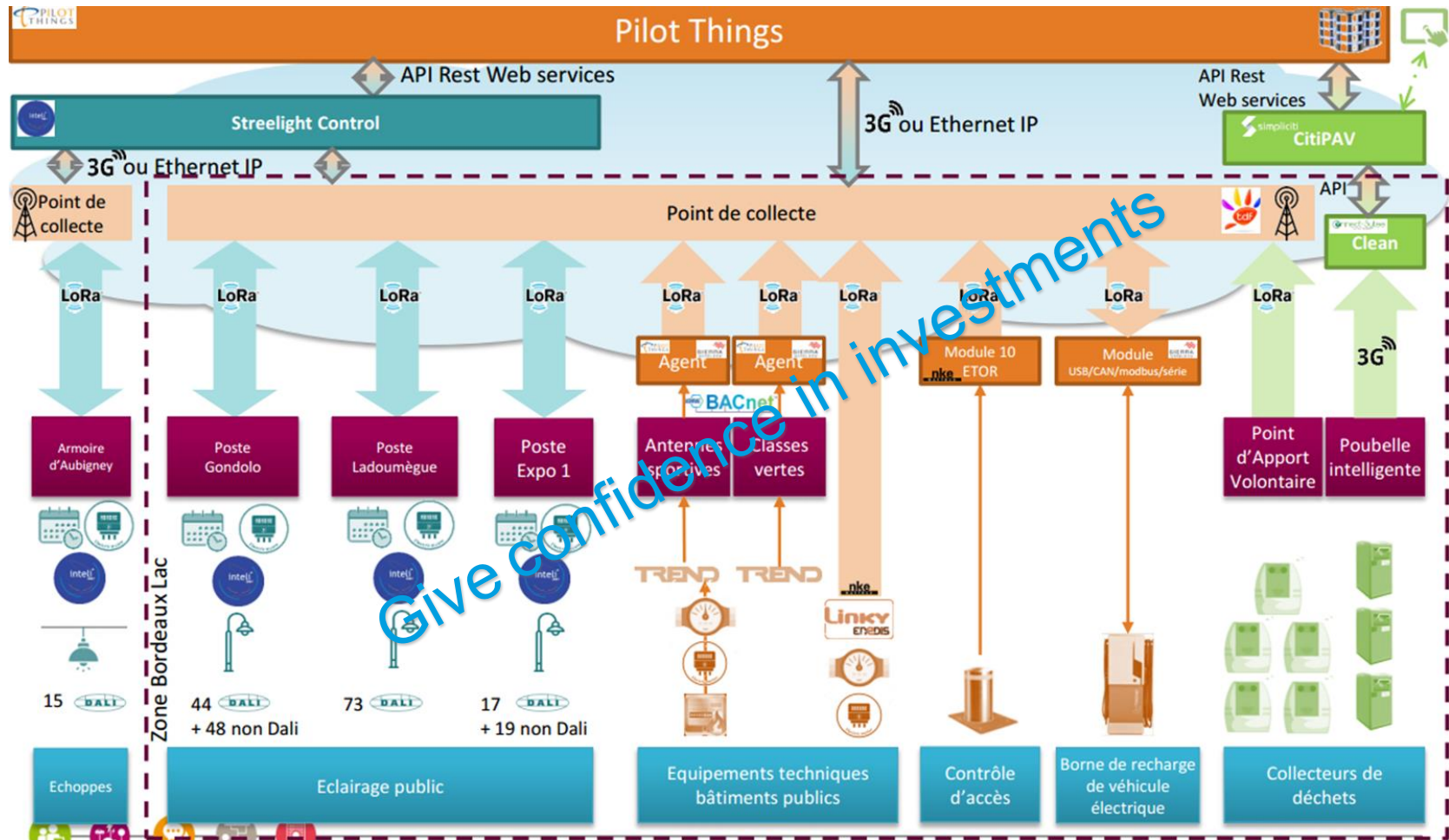
A first tangible outcome: « Smartlight »

A first tangible outcome: « Smartlight »

- The cheapest

- The best technical one and …

- **The only one compliant with OneM2M**

Thanks for your attention

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