

IoT International Symposium 2020



July 2020

Tokyo: Japan



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DGNSI - Service commun



Smart Cities in Europe

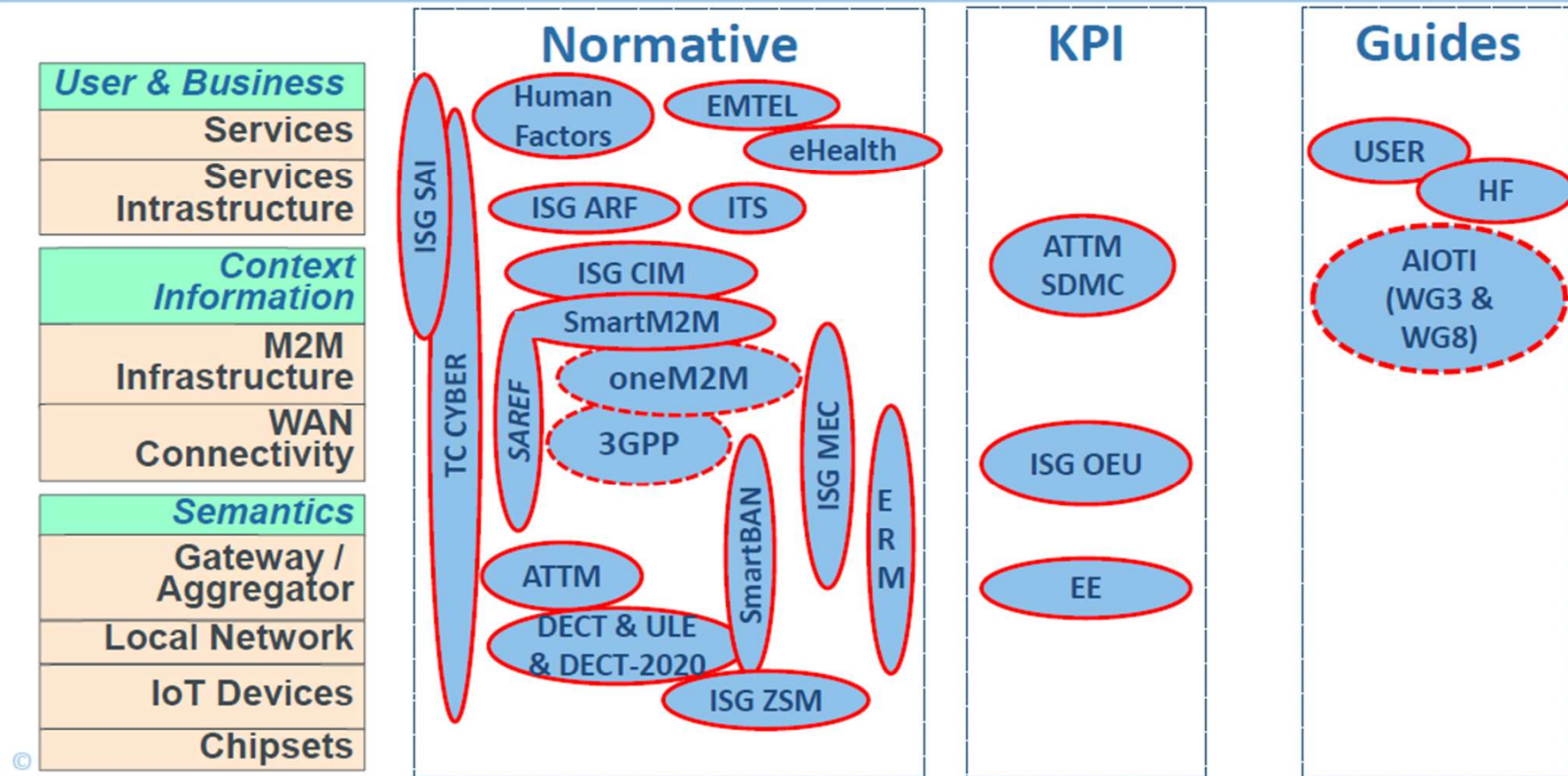
Content Summary

- Smart City related standardisation activities of ETSI
- Smart Cities and Communities concerns
- The importance of Interoperability for Smart Cities
- European approach for Smart Cities
- Smart city Standards for Interoperability
- Importance of International Cooperation between Europe and Japan



Smart Cities Standardisation activities in ETSI

ETSI activities cover (nearly) the full IoT stack



Réf: Dr Lindsay FROST ETSI IoT week 2019



Smart Cities and Communities: Public authorities challenges

Private sector and communities need to collaborate and cooperate towards a common goal !



Some private service providers don't cooperate or even consult with cities authorities prior to launching their service, creating difficulties.



Smart Cities and Communities: Public authorities challenges

- **ICT:** To manage data, drive cities assets and support decision making
- **Governance:** fundamental pillar to build the next generation of sustainable city
- **Citizen:** A key and privileged player at the heart of the design of new smart city services.





Smart Cities and Communities : Citizen concerns

United Nations Human Settlements Program (UN-Habitat)

1. Universal and equal access to the internet, and digital literacy

Citizen need to access to affordable and accessible internet and digital services on equal terms, as well as the digital skills to make use of this access and overcome the digital divide.

2. Privacy, data protection and security

They should have privacy and control over their personal information through data protection in both physical and virtual places, to ensure digital confidentiality, security, dignity and anonymity, and sovereignty over their data, including the right to know what happens to their data, who uses it and for what purposes.

3. Transparency, accountability, and non-discrimination of data, content and algorithms

They should have access to understandable and accurate information about the technological, algorithmic and artificial intelligence systems that impact their lives, and the ability to question and change unfair, biased or discriminatory systems.

4. Participatory Democracy, diversity and inclusion

They should have full representation on the internet, and the ability collectively to engage with the city through open, participatory and transparent digital processes. Everyone should have the opportunities to participate in shaping local digital infrastructures and services and, more generally, city policy-making for the common good.

5. Open and ethical digital service standards

Everyone should be able to use the technologies of their choice, and expect the same level of interoperability, inclusion and opportunity in their digital services. Cities should define their own technological infrastructures, services and agenda, through open and ethical digital service standards and data to ensure that they live up to this promise.



Smart Cities and Communities :

Cities answers to citizen concerns

The Cities Coalition for Digital Rights, CC4DR, is a nascent organization, founded in 2018 with the mission to promote, support, and defend the digital rights of city residents and visitors.

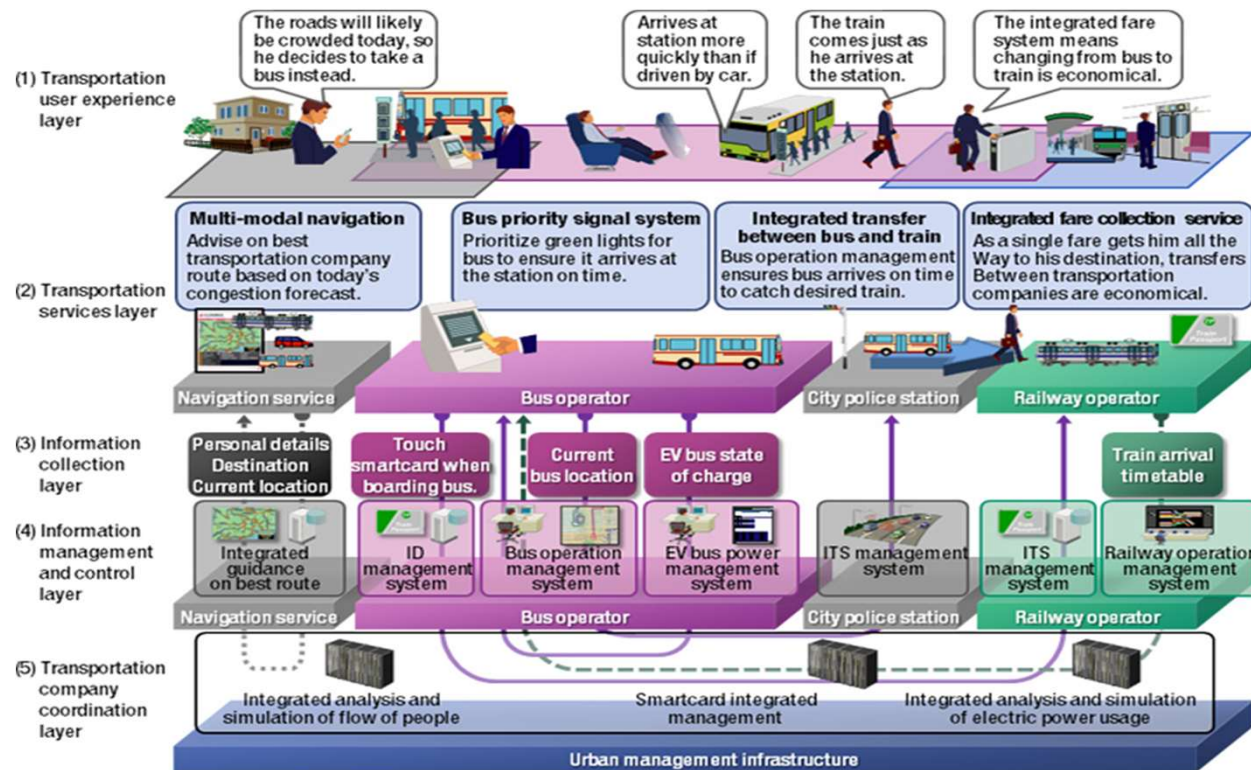
After about six months, here are the first outcomes:

- 45 members from five continents and growing;
- 6 languages for the principles — English, Spanish, Catalan, French, Italian, and Albanian;
- 4 international gatherings — Mozfest, Smart Cities Expo Barcelona, Helsinki AI, and We Make the City Amsterdam;
- 3 conference and forum presentations — EUROCITIES, Smart Cities NYC, and NYC Forum;
- 3 major global partners — United Nations Habitat, United Nations Human Rights, and United Cities and Local Governments;
- 2 international organizations adopting digital rights principles — **G20 Tokyo Communiqué** and US Conference of Mayors resolution;
- 1 robust website, <https://citiesfordigitalrights.org/>, with 29 different local case studies.



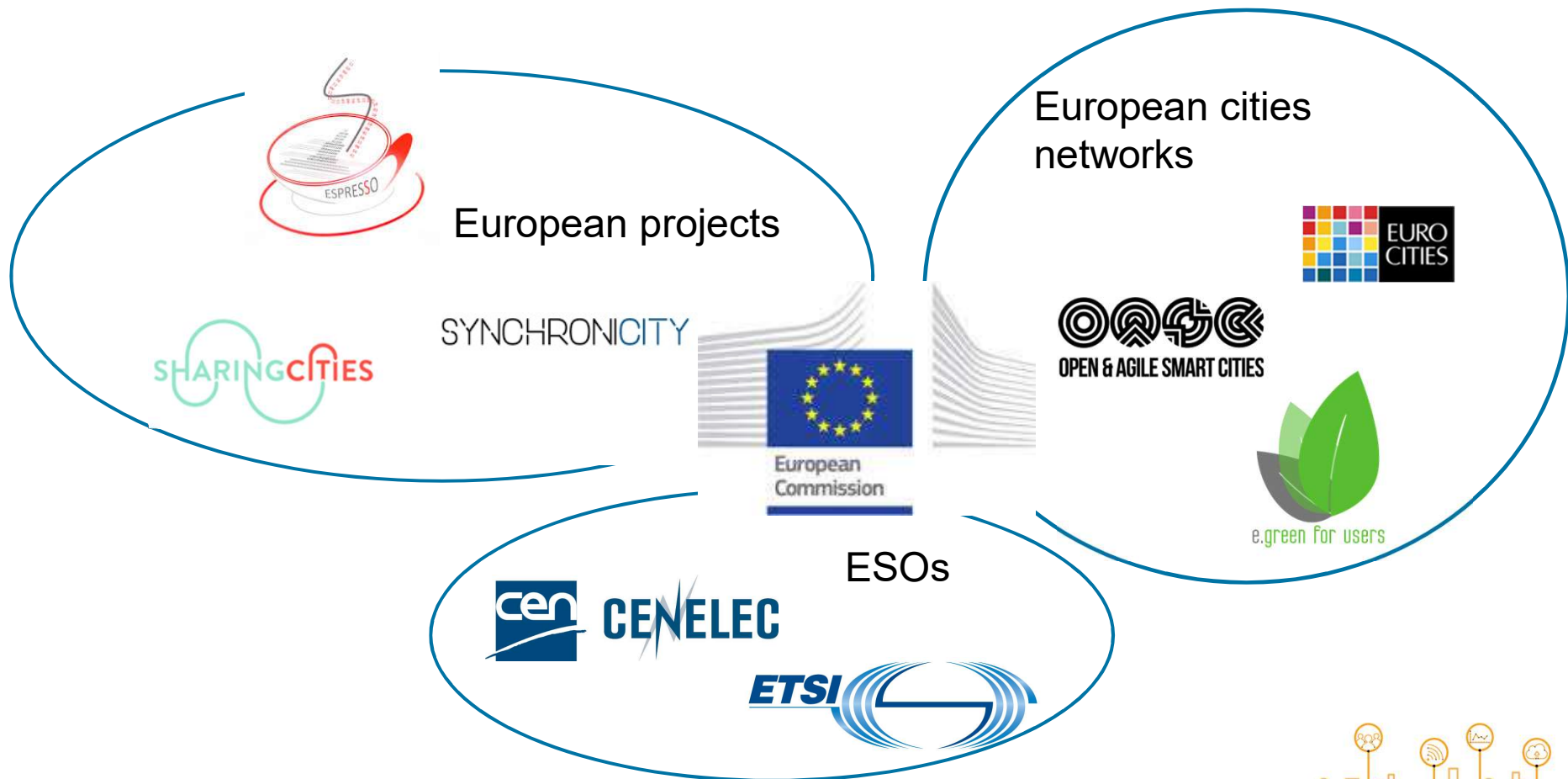
Smart Cities and Communities : Interoperability is key

1. To ensure citizen digital rights protection
2. To avoid vendor lock in and stimulate the market by giving confidence in the ecosystem as a whole: citizen, public and private sector.

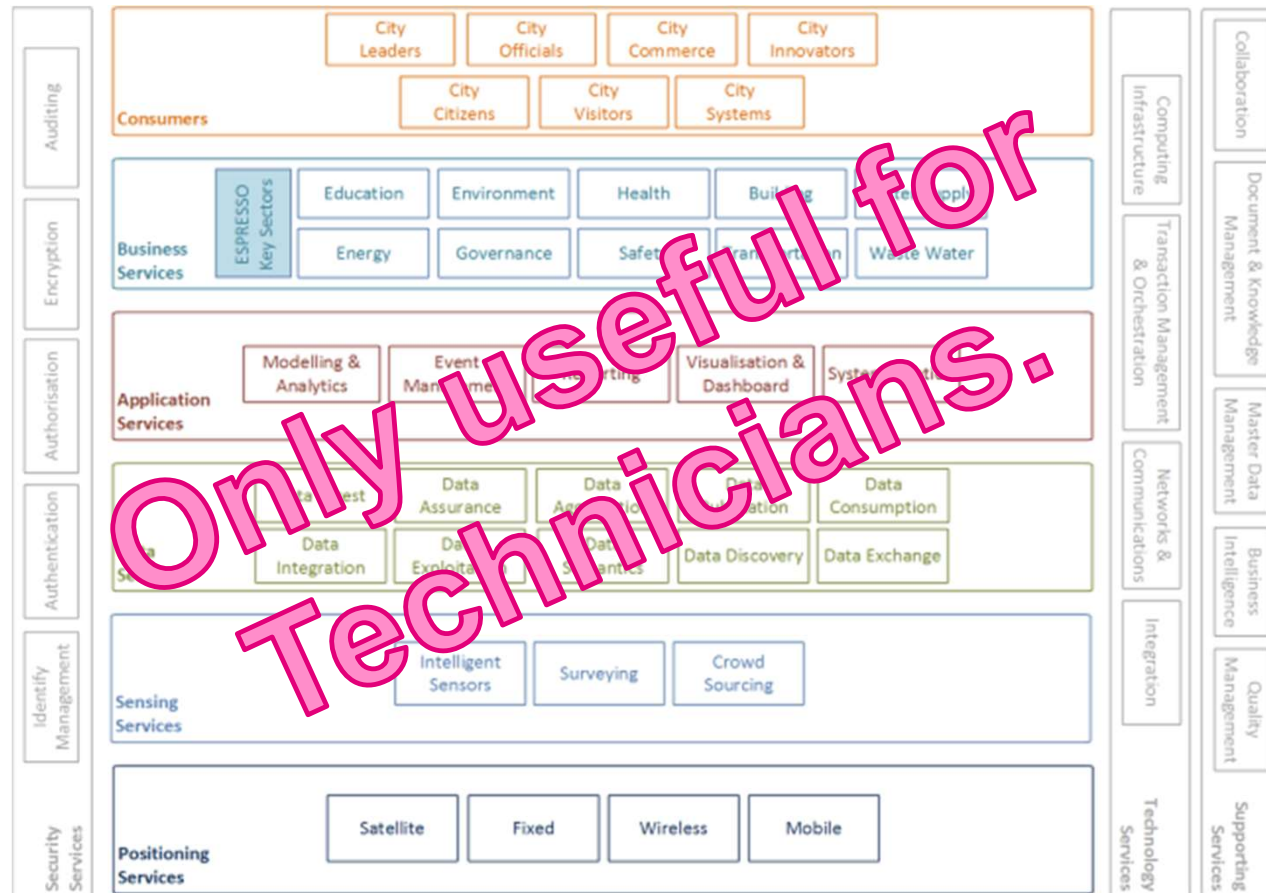


Smart Cities and Communities : The European approach to Interoperability

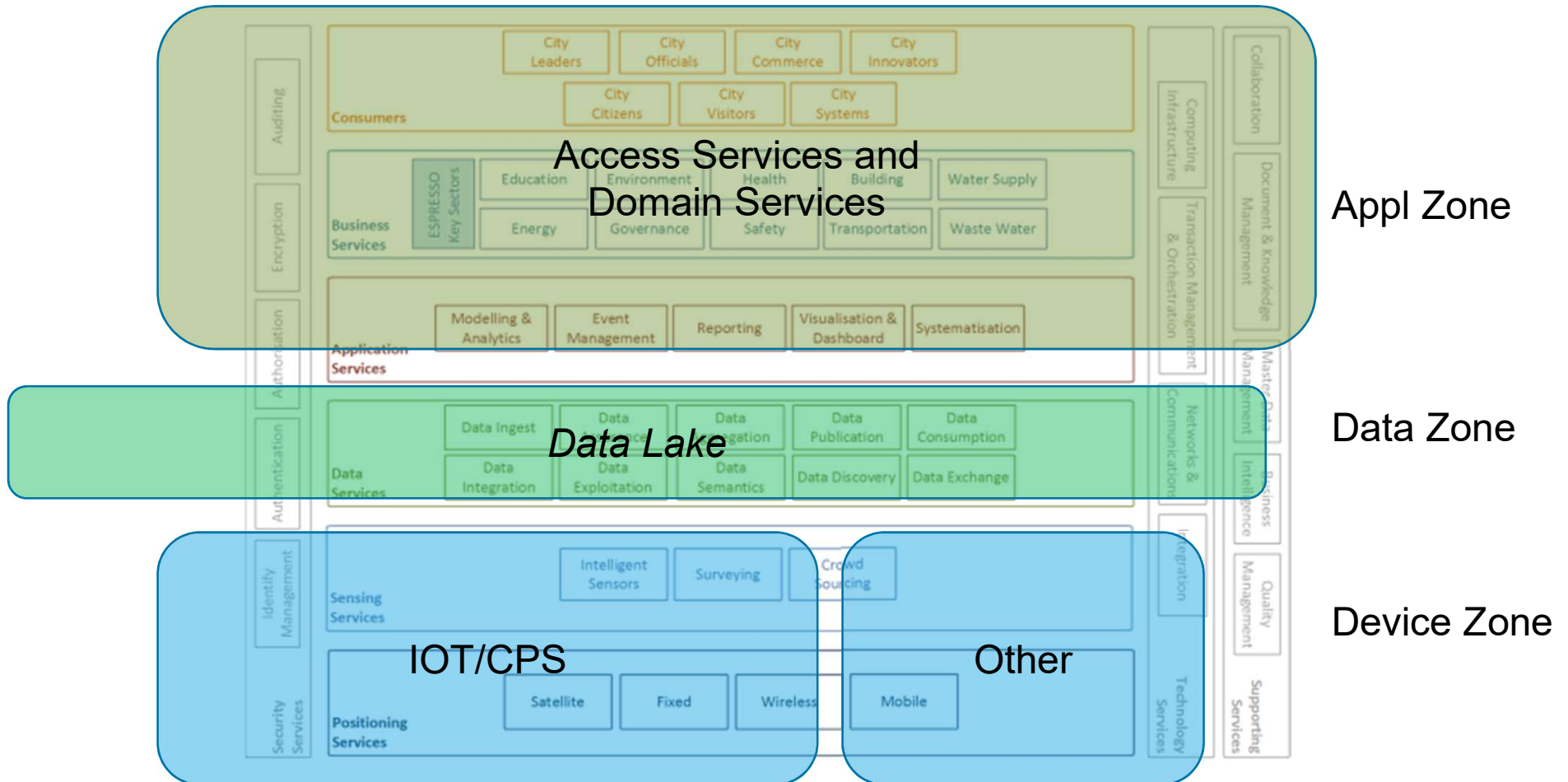
How to transform an heterogenous and siloed legacy infrastructure towards interoperable and industrialised smart city services ?



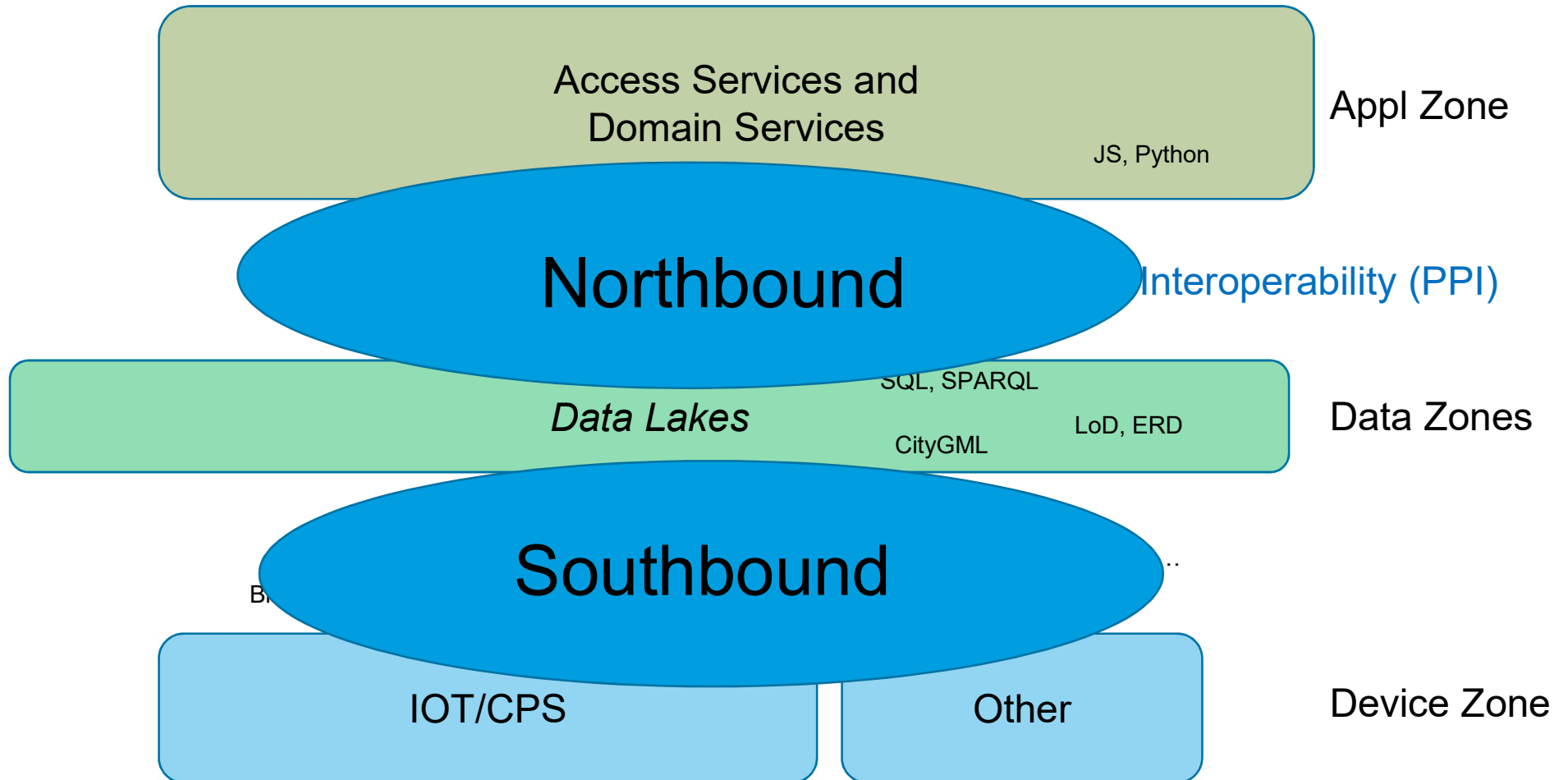
European Approach for Smart Cities: Looking for an open and interoperable platform



European Approach for Smart Cities: Looking for an open and interoperable platform



European Approach for Smart Cities: Looking for an open and interoperable platform



oneM2M standards, a glue to fix the southbound layer interoperability issues



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**



oneM2M standards, a glue to fix the southbound layer interoperability issues



Solutions providers from different backgrounds propose to deliver a global smart city services portfolio. However, they can just address a part of the solution !



Smart lighting



Network infrastructure



Telecom Operator



Water and sanitation



oneM2M standards, a glue to fix the southbound layer interoperability issues



- The cheapest
- The best technical one and ...
- **The only one compliant with oneM2M**



What about the northbound ?

ETSI ISG CIM and NGSI-LD

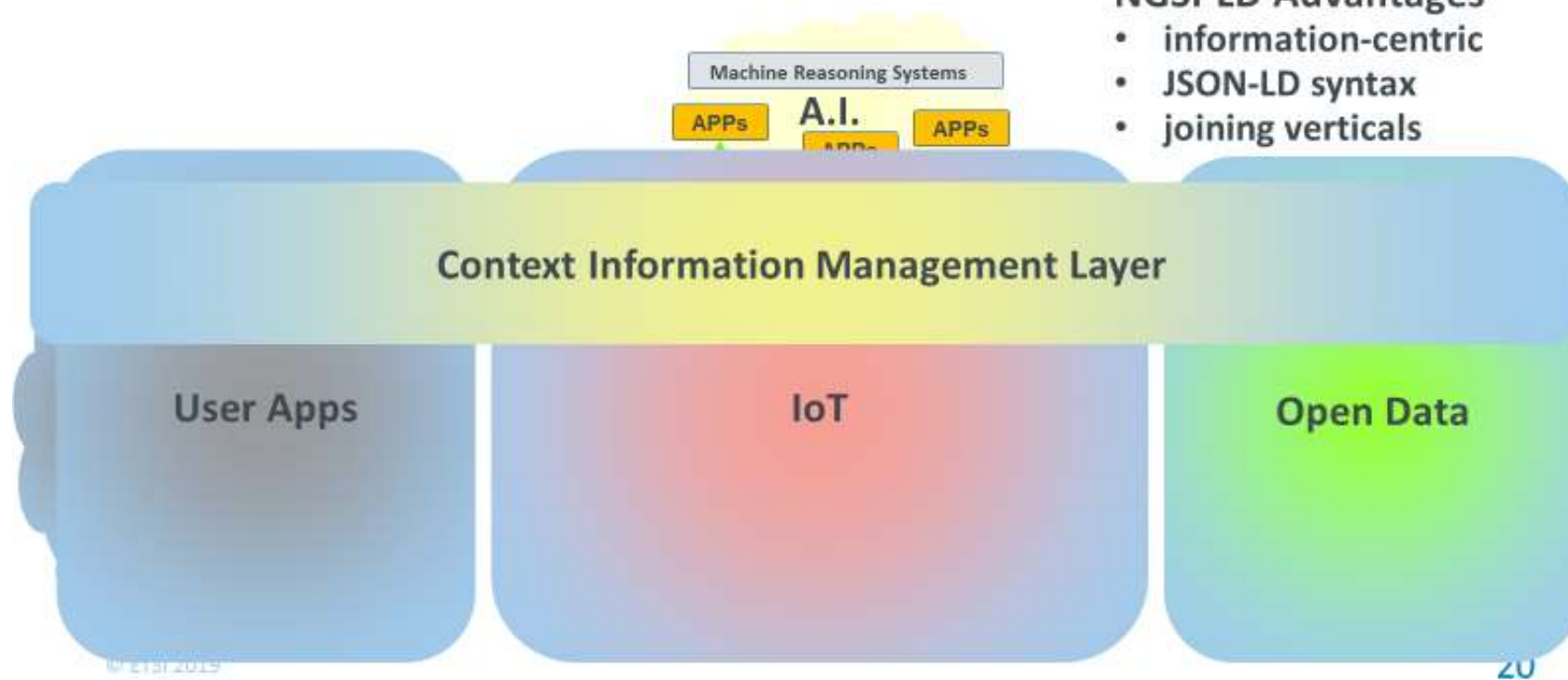
Dr Lindsay FROST: Nec Labs, Chairman of ISG-CIM

Context Information Management: Joining Verticals
Information-centric with developer-friendly NGSI-LD



NGSI-LD Advantages

- information-centric
- JSON-LD syntax
- joining verticals



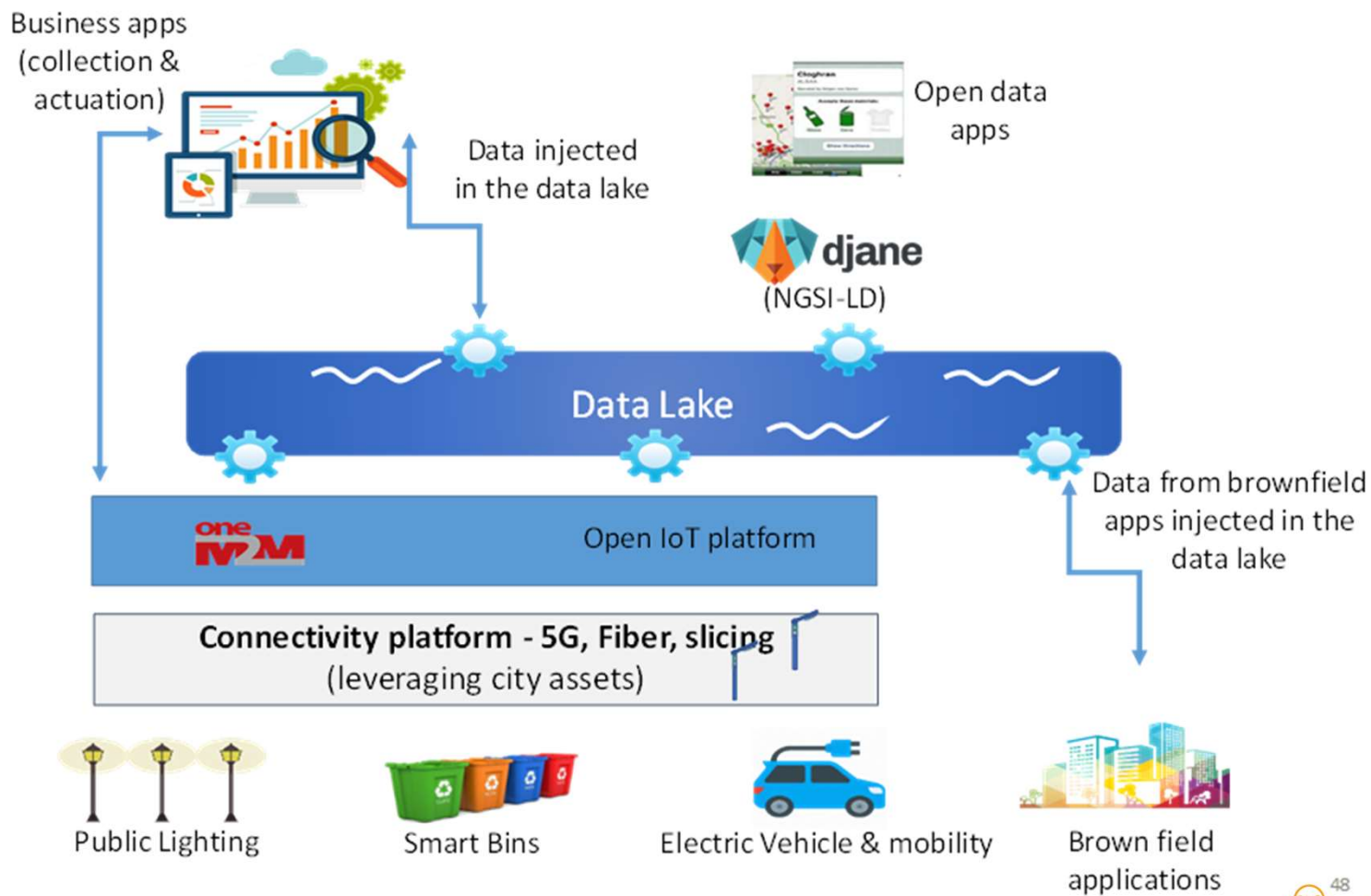
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ASAP-VALUE to close the loop

OPEN CALL ...



How to go further: higher and quicker ? Importance of Europe-Japan Cooperation



International agreements on standards will give more confidence for the public sector and enlarge the market for business

- Sharing experience with foreign countries
- Disseminate best practices between Europe and partner countries
- Create long term partnerships between cities, academics, startups
- ...



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STANDARDISATION
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Thanks for your attention



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