SYNCHRONICITY

IoT Large Scale Pilot for Smart Cities

Martin Brynskov, Coordinator

—

Chair, Open & Agile Smart Cities (OASC)

Director, AU Smart Cities, Aarhus University

Coordinator, Danish Smart Cities Network

Expert, Danish Standards SSCC mirror committee

OPEN & AGILE SMART CITIES

5 IoT Large Scale Pilots (104 m€)

- **Smart Cities = “SynchroniCity”***
- Automotive = “Autopilot”*
- Assisted living = “ActiveAge”*
- Wearables/safety = “Monica”*
- Agro = “Internet of Food & Farming”(*)

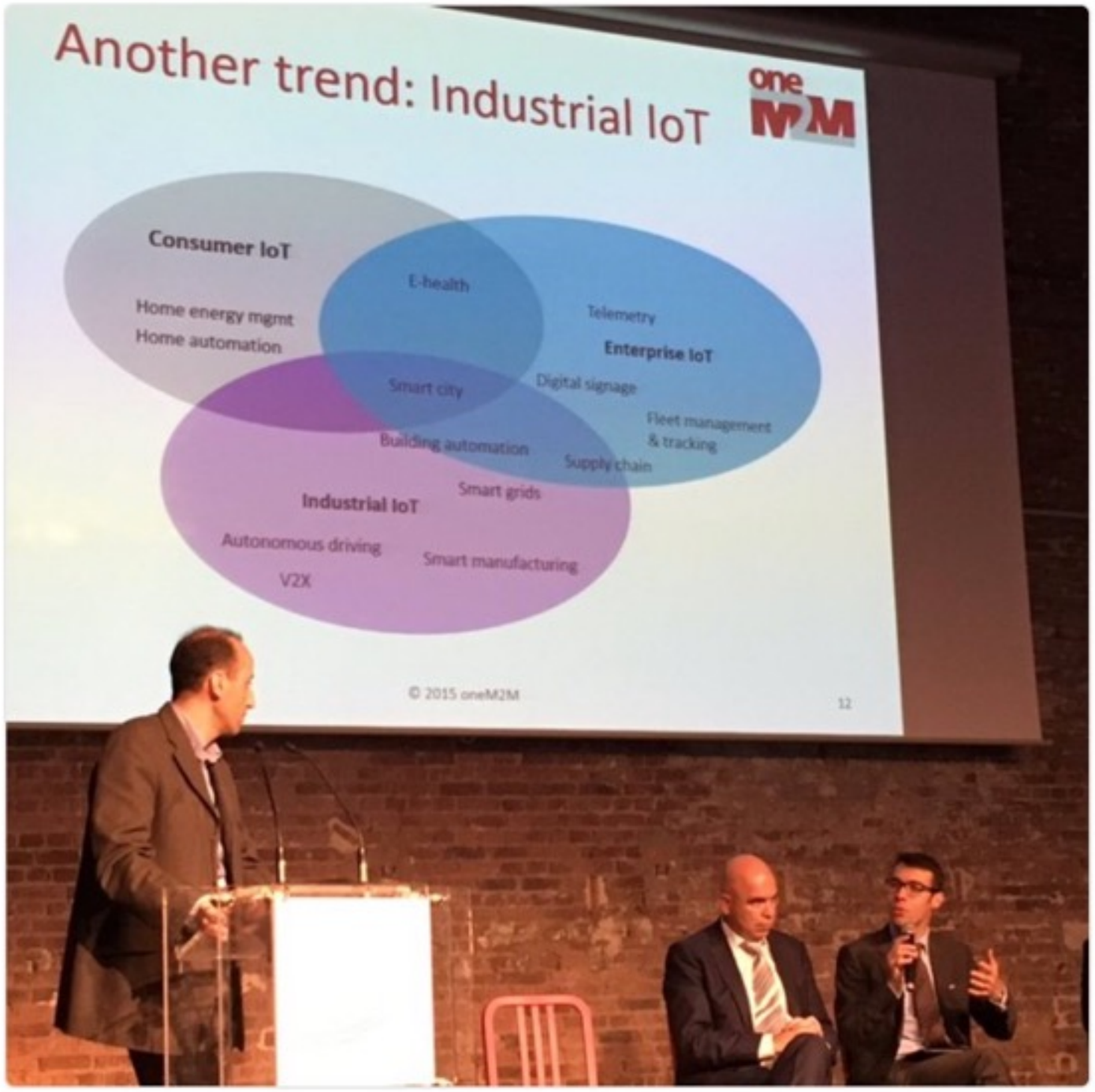
+ 2 CSAs (tech + co-creation)

* = smart cities-related

Martin Brynskov @brynskov · Apr 21

Smart Cities—where all the IoT complexities meet. So, cities need a strong voice when standards are formed

oneM2M, Omar Elloumi, OASC and 3 others



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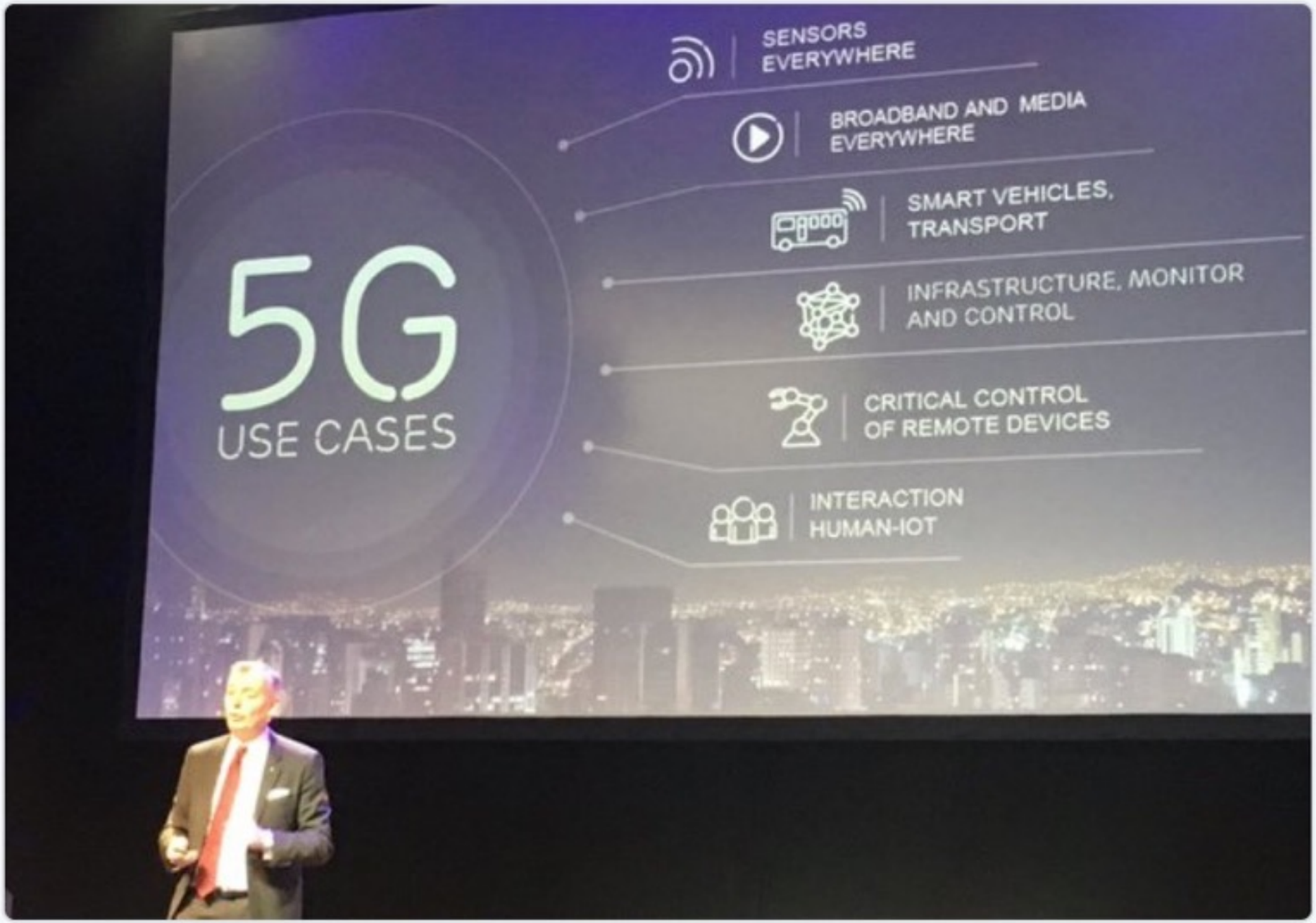
Martin Brynskov @brynskov · Apr 21

How do you envision the totality of connectedness that 5G brings? Ericsson shows—a city #netfutures16

Ericsson, digitalEU, DigitalSingleMarket and Digital Agenda EU



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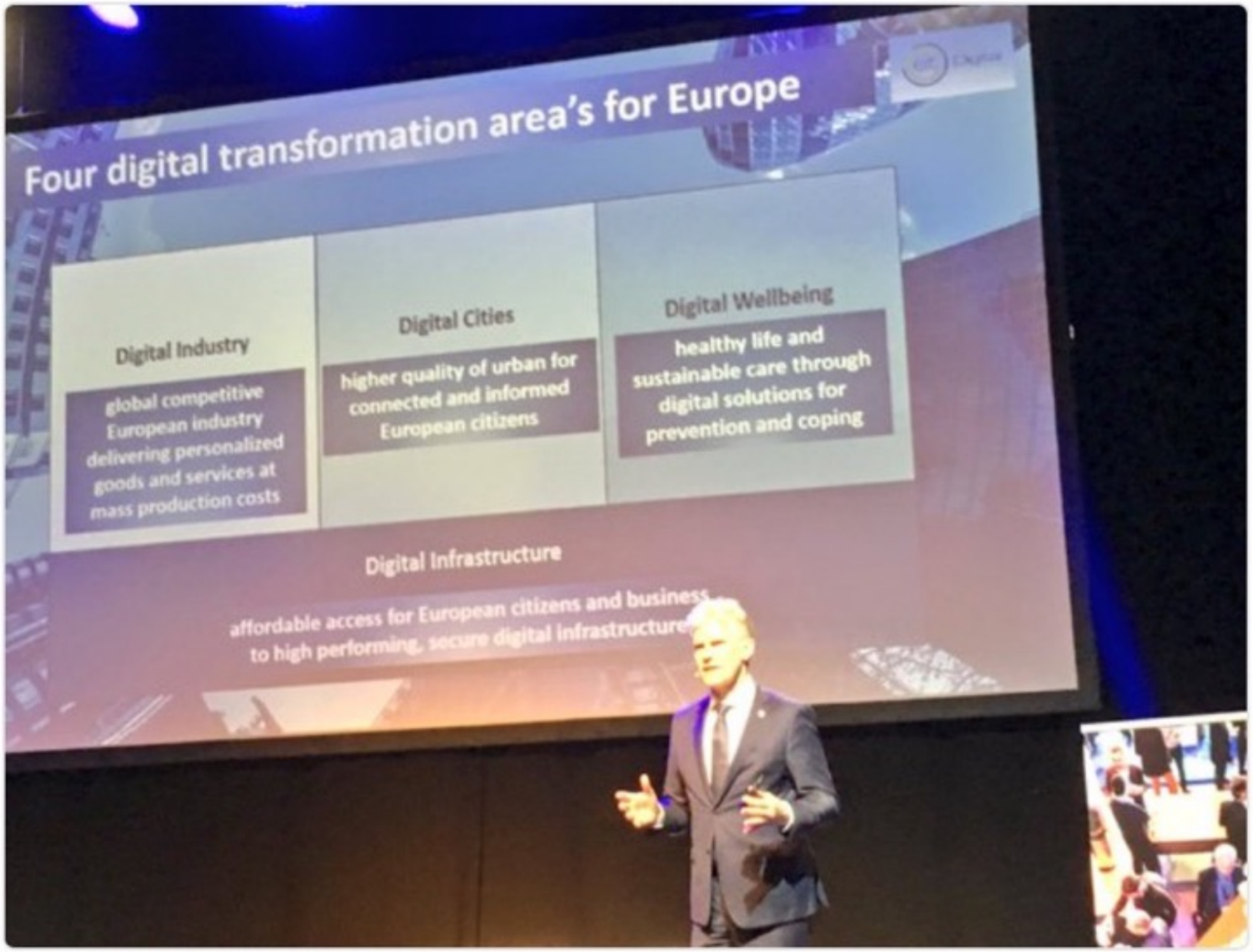
Martin Brynskov @brynskov · Apr 21

"We want cities to remain cities"—an ambitious priority by EIT #netfutures16

EIT, DigitalSingleMarket, digitalEU and 3 others



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WHY CITIES?

Cities are a catalyst for the holistic connected society.

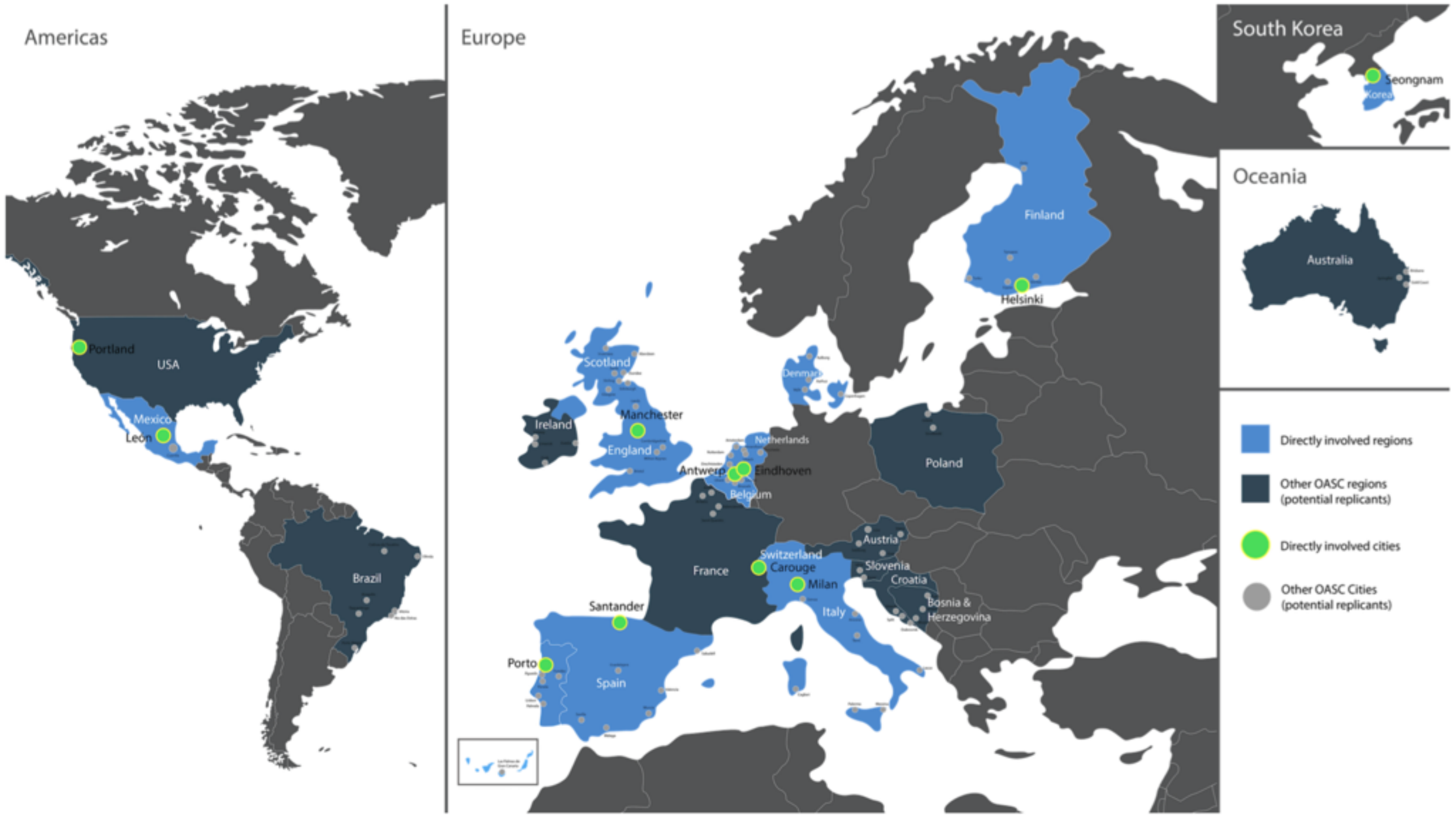
They combine vertical and horizontal logics.

It’s a massive meta-market.

It addresses the gaps most intensely.

SYNCHRONICITY

A Global Market for IoT-enabled Urban Services



8 cities in Europe + 3 global + OASC (104)

SYNCHRONICITY

- 34 partners, 11 countries, 33 months.
- Budget: 20m€ (15m€ EC) / 3m€ for open calls.
- Core cities: Antwerp (BE), Eindhoven (NL), Helsinki (FI), Manchester (UK), Milan (IT), Porto (PT), Santander (ES), Carouge (CH).
- Linked cities: Léon (Mexico), Seongnam (Korea), Portland (USA).
- Leveraging: OASC, AIOTI, EIP-SCC, FIWARE, FIRE.

SYNCHRONICITY

SynchroniCity represents the first attempt to deliver a **Single Digital City Market** for Europe by piloting its foundations at scale in reference zones across 8 European cities, involving also other cities globally. It addresses how to **incentivise and build trust** for companies and citizens to actively participate, in finding **common co-created IoT solutions** for cities that meet citizen needs and to create an environment of **evidence-based solutions** that can easily be replicated in other regions.

SYNCHRONICITY

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.

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, including tools for co-creation & integration of legacy platforms.

SynchroniCity Consortium

#	Participant organisation name	Short name	Country
1	Aarhus University (Coordinator)	AU	DK
2	Aalto University	AALTO	FI
3	Alexandra Institute	AI	DK
4	Atos	Atos	ES
5	BronzeLabs	BL	UK
6	City of Antwerp	ANT	BE
7	City of Eindhoven	EIN	NL
8	Forum Virium Helsinki	FVH	FI
9	City of Manchester	MAN	UK
10	City of Milan	MIL	IT
11	City of Porto	POR	PT
12	City of Santander	SAN	ES
13	Digital Catapult	DigiCat	UK
14	Engineering Ingegneria Informatica SpA	ENG	IT
15	Future Cities Catapult	FCC	UK
16	European Network of Living Labs	ENoLL	BE
17	Heijmans Wegen BV	HW	NL
18	Imec	Imec	BE
19	Manchester Metropolitan University	MMU	UK
20	Philips Lighting	Philips	NL
21	Rombit	ROM	BE
22	Telefónica	TID	ES
23	TST Sistemas	TST	ES
24	Ubiwhere	UBI	PT
25	University of Cantabria	UC	ES
26	HOP Ubiquitous	HOPU	ES
27	City of Carouge*	CAR	CH
28	Mandat International*	MI	CH
29	UDG Alliance*	UDG	CH
30	City of Léon*	LEO	MX
31	INFOTEC*	INFOTEC	MX
32	Tecnológico de Monterrey*	ITESM	MX
33	AMIO*	AMIO	MX
34	Korea Electronics Technology Institute*	KETI	KR
—	Telefónica México**	TEFMX	MX

Workplan

GANTT Chart IoT-1-2016 LSP Synchronicity	Leaders	M01	M02	M03	M04	M05	M06	M07	M08	M09	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
WP1 Tools, guidelines and support	**iMinds**																																	
T1.1 Ecosystem support and enrichment	AU																																D.1.1.2	
T1.2 SynchroniCity architecture guidelines	DIGICAT				D1.2.1	D1.2.2							D1.2.3														D1.1.1						
T1.3 Monitoring and synchronization of the reference zones	FCC				D1.3.1					1.3.2							D1.3.3						D1.3.4							1.3.5			
T1.4 Multi-stakeholder, citizen-centred methodology	iMinds						D1.4.1						D1.4.2																				
WP2: IoT-Enabled Framework Component Provisioning and Integration	**TID**																																	
T2.1 IoT Enabled Smart City Reference Architecture	TID						D2.1.1																											
T2.2 Enablement of a DSM for IoT enabled Smart City Applications	ENG									2.2.1																							D2.2.2	
T2.3:Advanced data marketplace mechanisms	DIGICAT									2.3.1											D2.3.2													
T2.4 Enablement of a DSM for IoT devices manufacturing for Smart Cities	UDG												D2.4.1																				D2.4.2	
T2.5 Reference Zone platforms deployment and operation	ATOS															D2.5.1							D2.5.2										
WP3:Base Applications and Services	**PHI**																																	
T3.1: IoT service design and co-creation	PHI								D3.1.1																									
T3.2: Implementation of baseline IoT services and customization tooling	BL											D3.2.1											D3.2										
T3.3: Customised city services implementation	ENG														D3.3.1											D3.3.2							
T3.4: Deployment and Operation	FVH													D3.4.1																		D3.4.2	
WP4: Pilot Validation	**UC**																																	
T4.1 Validation methodology	FCC												D4.1.1																					
T4.2 Technical validation	UC																	D4.2.1								D4.2.2							
T4.3: User, Stakeholder and market validation	POR																																D4.3.1	
T4.4: Validation of integration and replication	TID																																D4.4.1	
WP5: Open Calls	**FCC**																																	
T5.1 Validation of the open call mechanism	FCC												D5.1.1																					
T5.2 Dissemination of the open calls	ENOLL												D5.2.1						D5.2.2															
T5.3 Selection of SME projects	FCC																D5.3.1				D5.3.2													
T5.4 Support the delivery of the SME projects	FCC																																D5.4.1	
WP6: Impact and Sustainability	**Aalto**																																	
T6.1: Smart City IoT Exploitation and sustainability plan	Atos									6.1									D6.1.2												6.1.3			
T6.2: Standardisation of IoT and Service Eco-system	MI																														6.2.1			
T6.3: Marketing communications	ENoLL			D6.3.1/2									D6.3.3																				D6.3.5	
T6.4: Impact evaluation	Aalto												D6.4.1						D6.4.2														D6.4.3
WP7 Coordination and Management	**AU**																																	
T7.1 Overall management of the project and risk contingency planning	AU			D7.1.1			(x)						x																					
T7.2 Formal responsibilities of the Coordinator within the project	AU																	D7.2.1															D7.2.2	
T7.3 Administrative responsibilities of the Coordinator within the project	AU																																	
T7.4 General tasks for the Coordinator during the project	AU						D7.4.1																											

Base apps

Open call

Enrichment

Sustainability

MS1:RZ liaison officers appointed

MS2: RZ Engagement plans ready

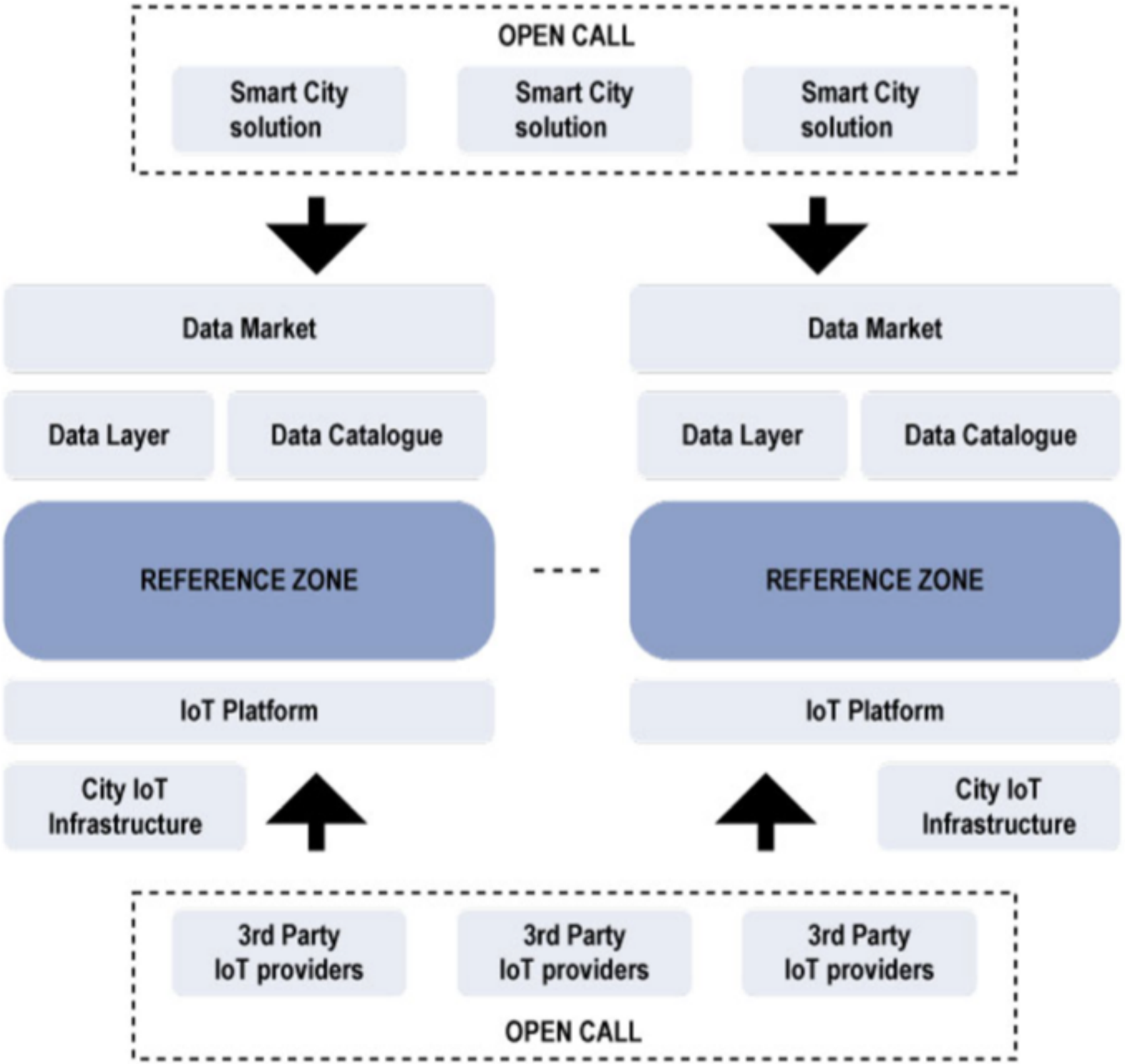
MS16: Signing of grant agreements with selected SME projects

MS17: IoT pilot operational in ALL reference zones (basic)

Staged, ambitious (33 mo)
Including open call for SMEs

SYNCHRONICITY

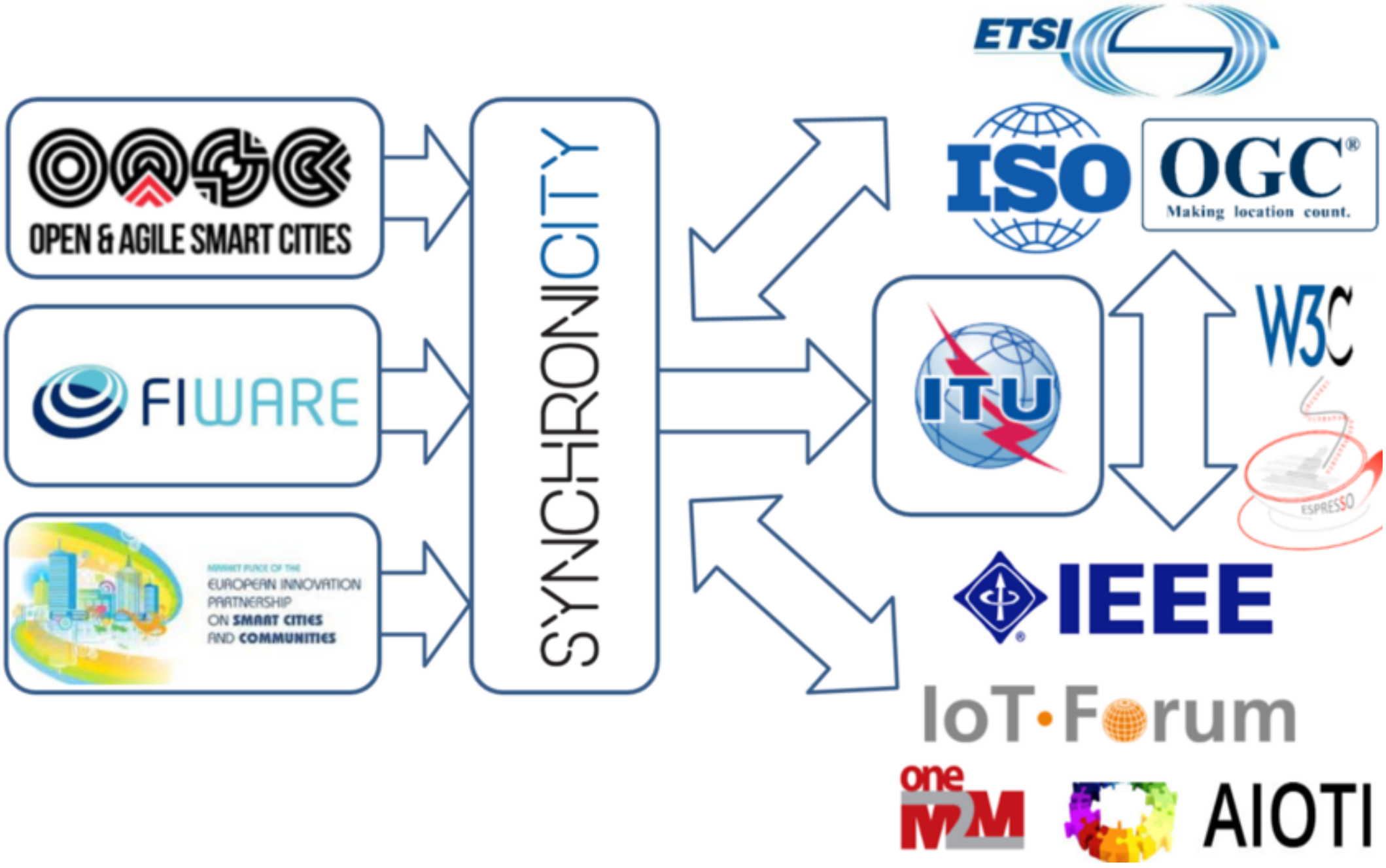
Interoperability points



Linking and contributing to

- EC: Rolling Plan for ICT Standards
- ETSI Industry Specification Group for Context Information Management (ISG CIM) (addressing IoT & smart cities, based on OASC)
- AIOTI: WG3 (standards), WG8 (smart cities)
- SF-SSCC (SSCC-CG) etc.
- EIP-SCC: 2 CSAs: CITYKeys & ESPRESSO
- ITU-T (connection to UN SDG11)
- …

SYNCHRONICITY & standards



Sébastien Ziegler

OPEN & AGILE SMART CITIES

Australia

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Belgium

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Bosnia and Herzegovina

OPEN & AGILE SMART CITIES

Brazil

OPEN & AGILE SMART CITIES

Croatia

OPEN & AGILE SMART CITIES

Denmark

OPEN & AGILE SMART CITIES

England

OPEN & AGILE SMART CITIES

France

OPEN & AGILE SMART CITIES

Finland

OPEN & AGILE SMART CITIES

Ireland

OPEN & AGILE SMART CITIES

Italy

OPEN & AGILE SMART CITIES

Netherlands

OPEN & AGILE SMART CITIES

Portugal

OPEN & AGILE SMART CITIES

Scotland

OPEN & AGILE SMART CITIES

Spain

OPEN & AGILE SMART CITIES

Austria

OPEN & AGILE SMART CITIES

Slovenia

OPEN & AGILE SMART CITIES

Mexico

OPEN & AGILE SMART CITIES

Poland

OPEN & AGILE SMART CITIES

Hungary

OPEN & AGILE SMART CITIES

Norway

OPEN & AGILE SMART CITIES

Greece

OPEN & AGILE SMART CITIES

104 cities

22 countries

Europe, Latin America, Asia-Pacific

—

www.oascities.org

info@oascities.org

CONNECTED SMART CITIES CONFERENCE 2017

“Making IoT work for cities and citizens”

January 12, 2017, Brussels

Committee of the Regions

CONFERENCE PARTNERS & ACTIONS

OPEN & AGILE SMART CITIES

EUROCITIES

European Network of Living Labs

EUROPEAN UNION
Committee of the Regions

European Commission

OISPG

ORGANICITY

SYNCHRONICITY

SELECT for Cities

IoT

AIOTI

ETSI

FIWARE FOUNDATION

Creative Ring

tmforum

smart city expo WORLD CONGRESS

BDV BIG DATA VALUE ASSOCIATION

CATAPULT Future Cities

METROLAB NETWORK

서울디지털재단 Seoul Digital Foundation

European
Commission

CONNECTED SMART CITIES CONFERENCE 2017

Opening plenary			
Cross-cutting themes and domain-specific sessions			Tech track
Innovation ecosystems	Market creation & policy issues	Mobility	Platforms & data models
Lunch			
Cities by and for people	Assisted living & aging	Digital Water	Standards for real-time urban services
Closing plenary			

Connected Smart Cities Conference 2017

Martin Brynskov, Open & Agile Smart Cities
Markku Markkula, Committee of the Regions
Günther H. Oettinger, European Commission
Mary-Ann Schreurs, Eindhoven & EUROCITIES KSF
Anna-Kaisa Ikonen, Tampere, Finland
Kees van der Klauw, Philips Lighting, AIOTI

Moderator: Jarmo Eskelinen, Future Cities Catapult

OPEN & AGILE SMART CITIES

Connected Smart Cities Conference 2017

Ben Levine, MetroLab Network, USA
Chi-Hyung Lee, Seoul Digital Foundation, Korea
Alberto Martin Torras, Smart City Expo
Nikolaos Isaris, European Commission, IoT

Martin Brynskov, Open & Agile Smart Cities

Moderator: Jarmo Eskelinen, Future Cities Catapult

OPEN & AGILE SMART CITIES

SOLUTIONS

DILEMMAS

SMART CITY **DILEMMAS**

1. Flexibility, precision, productivity—for whom?
2. We don’t experience the same city
3. Resilient or vulnerable?
4. Democratic proximity—or buzz?
5. No-one left behind?
6. Overview—or surveillance?
7. New public spaces without government?
8. Is it possible to plan at all?
9. Public organization and competences
10. Public service 2.0

Source: The think tank ”Future digital cities – for and with people”

HOW TO PLAN AND PREDICT...

Peter Hesseldal

BARRIERS

- **Technology isn’t the main problem.** Making it relevant for 21st century society at large is a big problem.
- **Nobody knows** how to formulate requirements, neither demand or supply.
- **It’s not working to project** the south-bound logic north-wards, and the vertical technical standards development towards a hypothetical market.
- **Lack of collaboration**, both on demand and supply side. Tunnel vision.
- **Lack of non-technical competences.**
- **No (positive) political attention.**

OPEN & AGILE SMART CITIES

WHAT CAN MOVE US FORWARD?

- Relevant, horizontal, holistic specifications
  - **fora, processes for pre-standard initiatives** —> standards/certification
- **Simple** interoperability (APIs & semantics)
- **Strong demand-side voice**. Letting cities provide core input on acceptance (security, ethics & privacy)
- **Usability** and usefulness (easy experimentation)
- **Competences** beyond the technical crowd (dissemination isn’t enough)

OPEN & AGILE SMART CITIES

STANDARDS

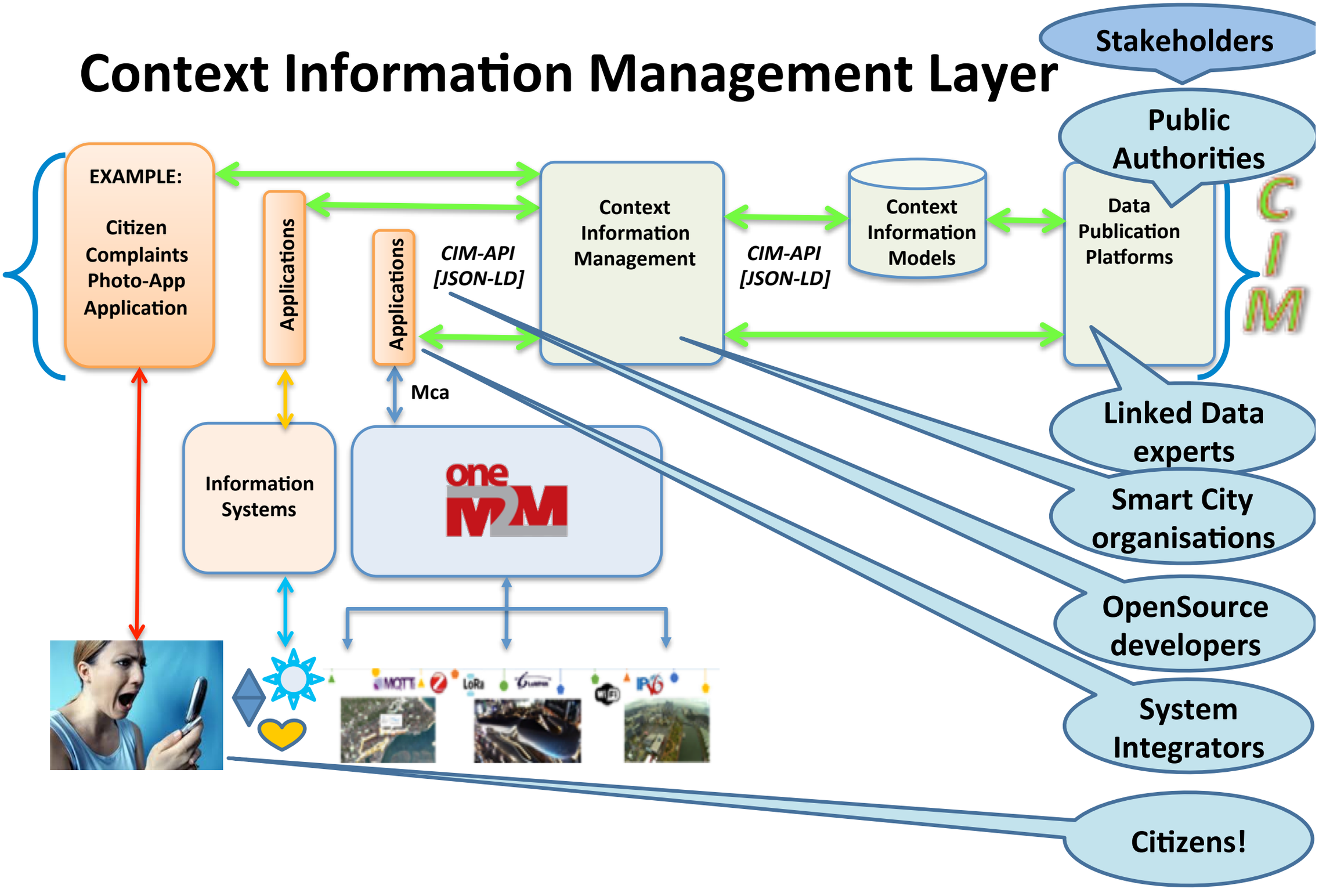
NEW: ETSI ISG CIM

OPEN & AGILE SMART CITIES

PRESS RELEASE

ETSI launches new group on Context Information Management for smart city interoperability

Sophia Antipolis, 11 January 2017: ETSI is pleased to announce the creation of a new Industry Specification Group on cross-sector Context Information Management (ISG CIM) for smart cities applications and beyond. The first meeting of the ISG CIM is planned to take place at the ETSI premises in Sophia Antipolis, France, on 9-10 February 2017.

Data without context are meaningless. Every sensor measurement, every entry in a database, every tweet sent and every webcam video watched has its own context. The context seems obvious to humans: the temperature sensor is attached to an air-conditioner in the house, the database of vehicle registration numbers is used by a policeman in the city, the tweet comes from a person who has just witnessed something interesting and the webcam shows a particular city street with its name embedded in the video frames.

NEW: ETSI ISG CIM