Open APIs for Open Minds

FIWARE – Open Source and Open Standards for Digital Twins in Smart Cities

ITU Webinar, 08.09.2021

Ulrich Ahle
CEO FIWARE Foundation
ulrich.ahle@fiware.org

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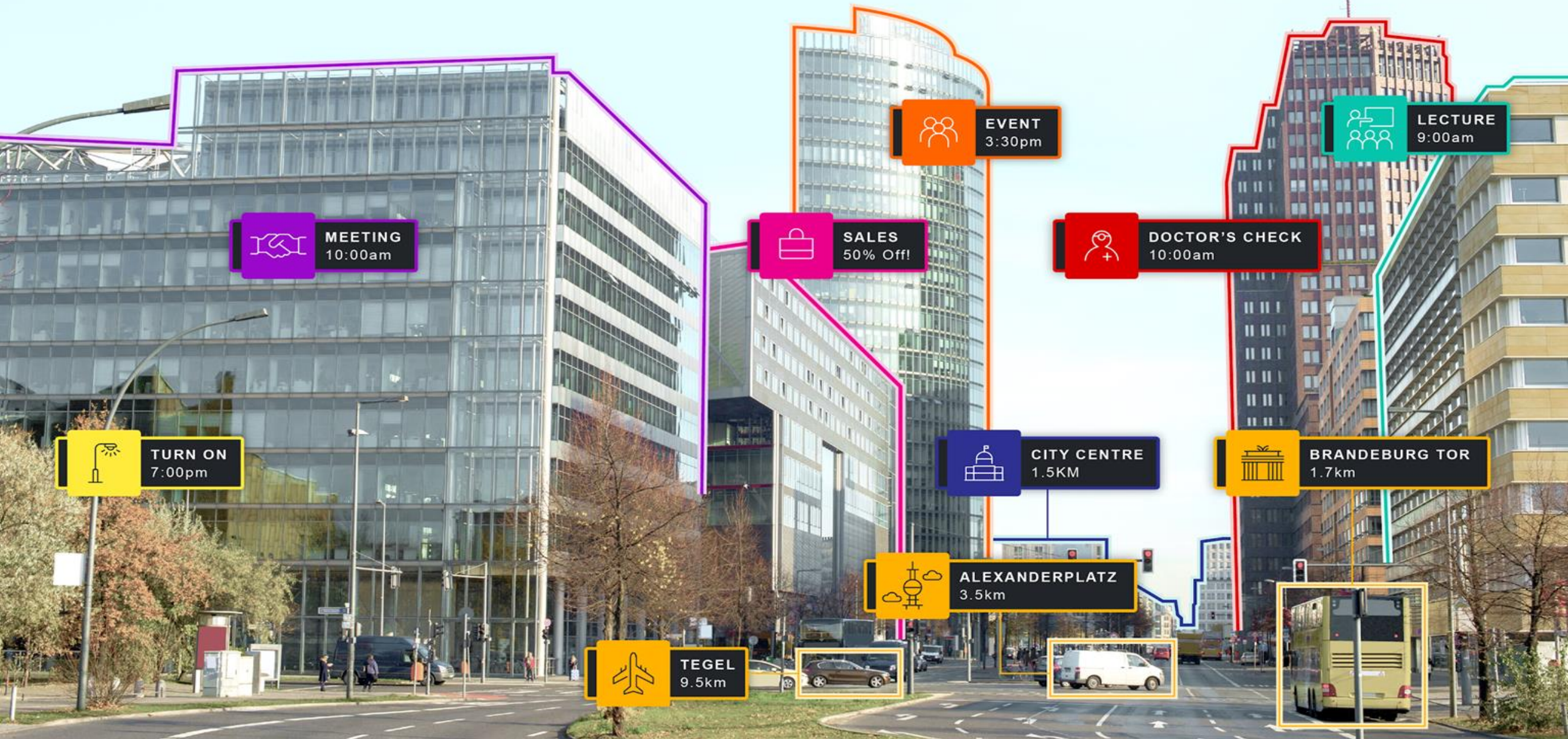
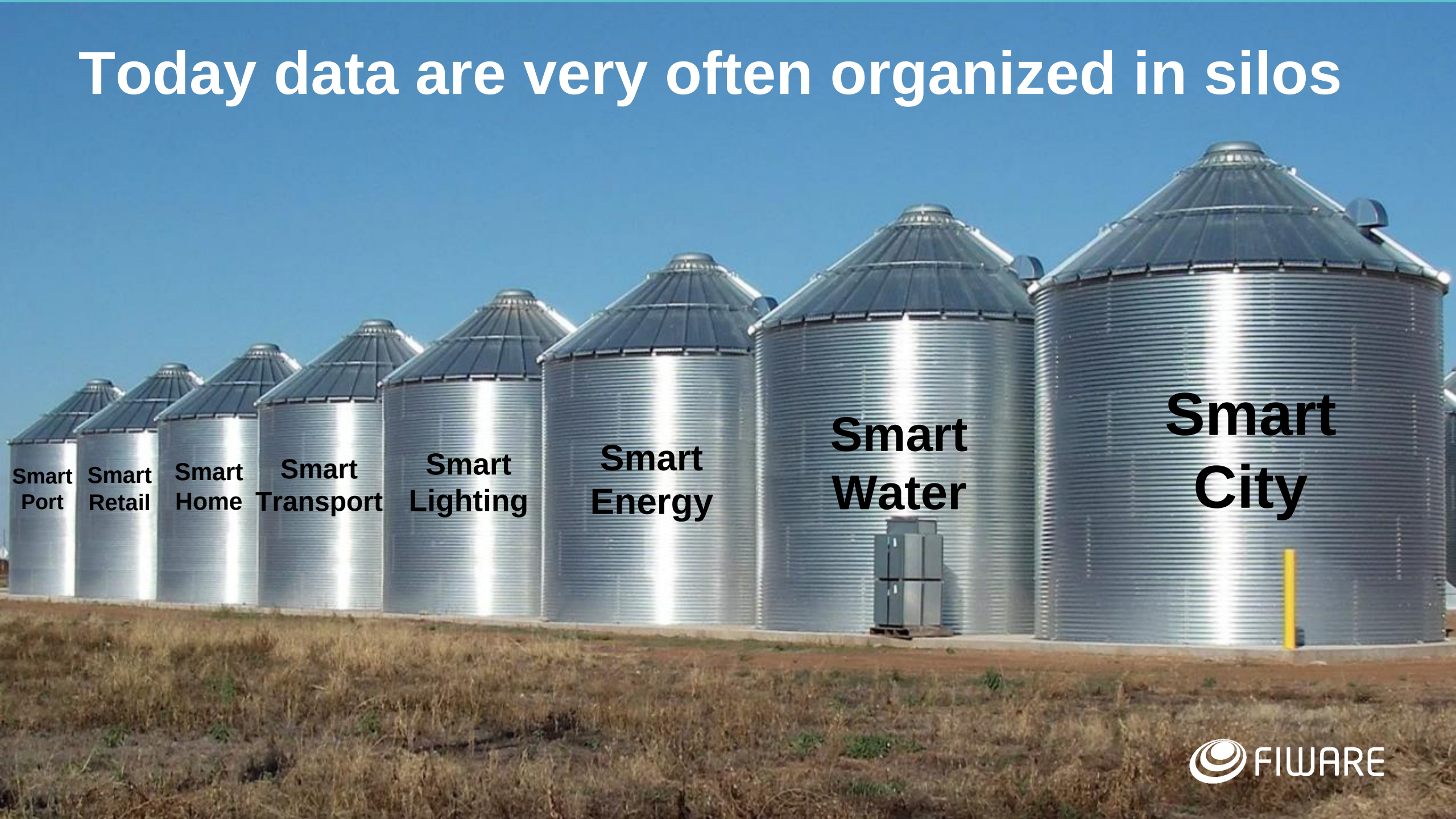
The new Digital Life will gravitate around Digital Twin / Context Information describing **What** is going on, **Where**, **When** and **Why**



Today data are very often organized in silos



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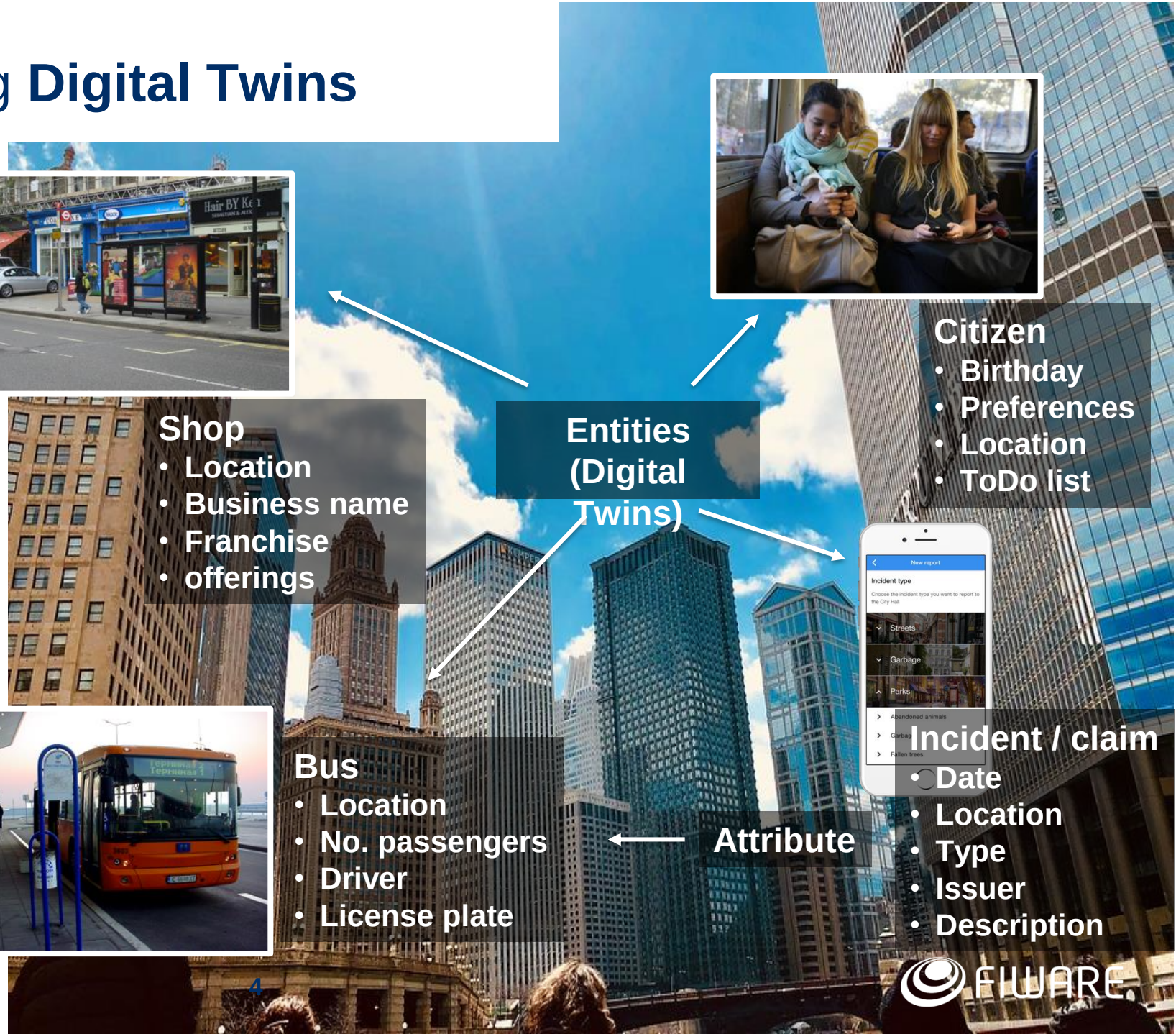
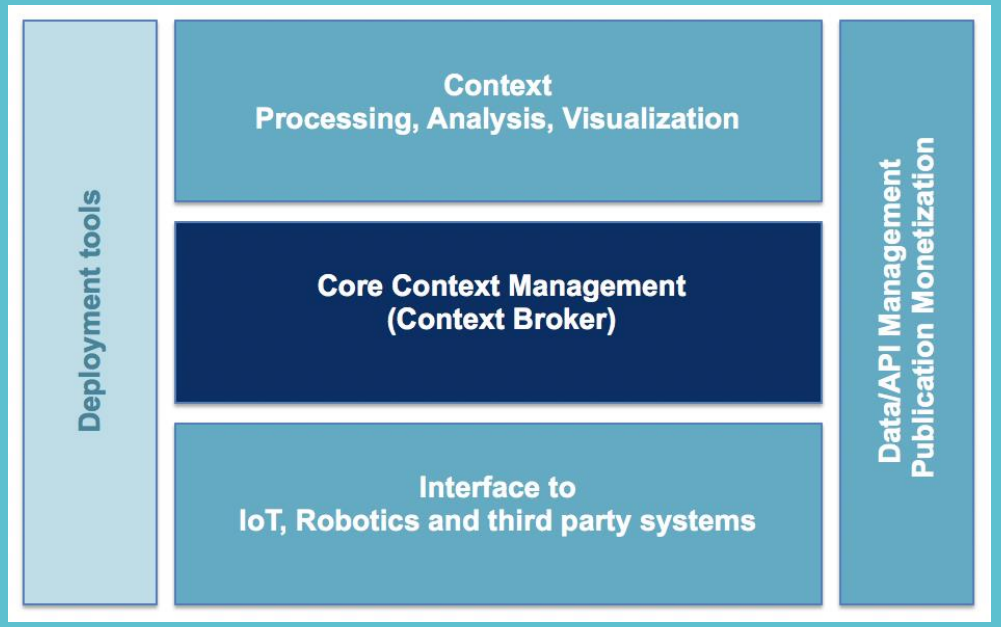
Modeling **Context** using **Digital Twins**



This is FIWARE!



- A framework of open source platform components to access and manage heterogeneous context information through open APIs
- A standard for exchange of context information: **FIWARE-NGSI** (Next Generation Service Interface)
- Generic Enablers and Solutions to provide Smart Services with the **FIWARE Context Broker** as main component

FIWARE: Standardization on a global scale

FIWARE Context Broker
Technology has been chosen as a new CEF (Connecting Europe Facility) Building Block by all European member states.

Existing CEF Building Blocks so far:

- **eDelivery**
- **eInvoicing**
- **eID**
- **eSignature**
- **eTranslation.**

Joint Collaboration Program:
Front-runner Smart Cities

- to support the adoption of a reference architecture and compatible **common data models**
- Using FIWARE NGSI and TM Forum Open APIs
- Smart City Common Data Models will be public and royalty-free
- Initial cities: Vienna, Nice, Genoa, Utrecht, Porto, Santander, Valencia, Gothenburg, La Plata, Montevideo

ETSI published on January 24th, 2019 "**NGSI-LD**" the new Context Information Management Standard API. The rationale is to reinforce the fact that this specification leverages on the … **FIWARE NGSIv2** to incorporate the latest advances from Linked Data.

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FIWARE: supporting cities in their digital transformation

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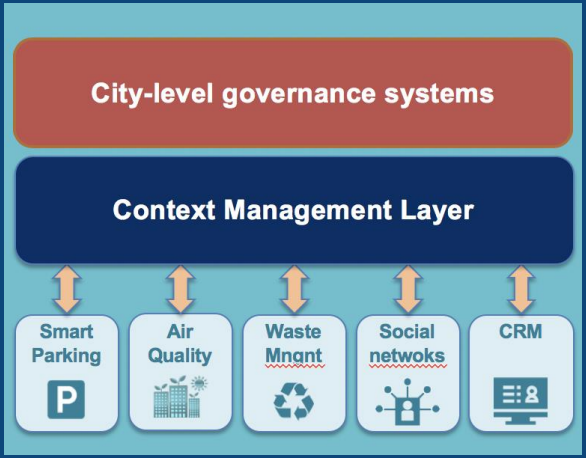
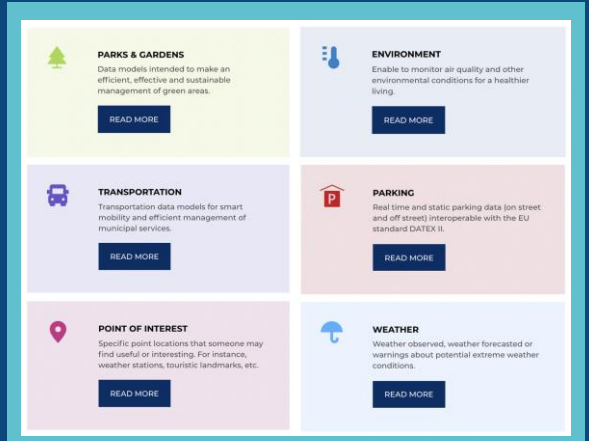
Exploiting Data across verticals

- Breaking information silos through shared context data space with standard API
- Enabling Overall City-level Governance Solutions



Collaborating towards a sustainable market

- Common Info Models
- Full interoperability between cities and within the city
- Enabling portability of solutions across cities



Supporting Open Innovation

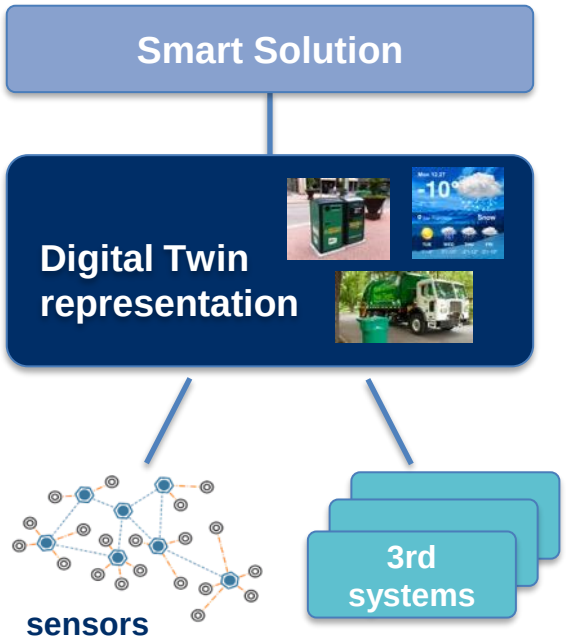
- Right-time context info published as open data to third parties
- Authorization and access control (API management)

Enabling the Data Economy

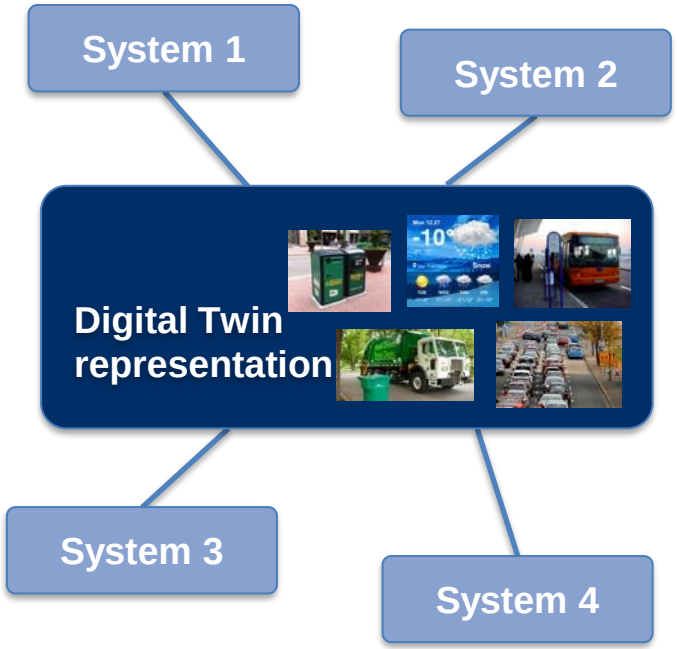
- City as a platform including also 3rd party data enabling innovative business models
- Open and commercial data enabling multi-side markets

Digital Twins: an approach for integration at multiple levels

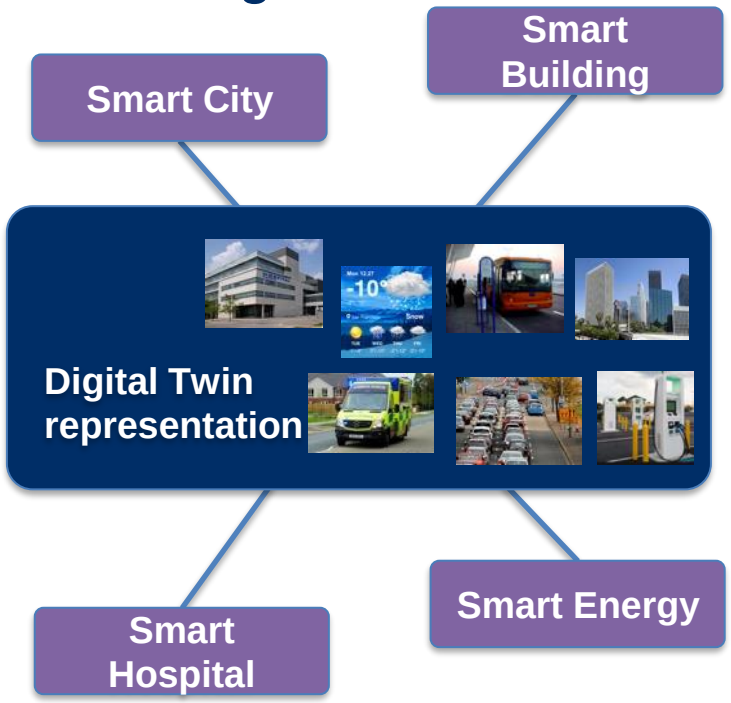
Architecting Smart Solutions



Integrating systems and data within organizations (System-of-Systems)



Sharing Data across organizations



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National Institute of Urban Affairs

Smart City

Ministry of Housing and Urban Affairs
Ministry of Electronics & Information Technology

Shri Hardeep S Puri
Minister of State (I/C)-Housing and Urban Affairs

Shri Durga Shanker Mishra
Secretary, Ministry of Housing and Urban Affairs

We invite you to

Launch of Digital Initiatives

National Urban Digital Mission (NUDM)
India Urban Data eXchange (IUDX)
Smart Cities Mission Website 2.0
Geospatial Management Information System (GMIS)
SmartCode Platform

Shri Ravi Shankar Prasad
Minister of Electronics & Information Technology

Shri Ajay Prakash Sawhney
Secretary, Ministry of Electronics and Information Technology

23rd February 2021

15:30 - 16:30 IST

Live streaming on

facebook smartcitiesmohua

For more details, visit

mohua.gov.in/ mohy.gov.in/ http://mua.org/

#TransformingUrbanIndia

The BUREAU OF INDIAN STANDARDS adopted NGSI-LD as Standard API for Smart Cities in India end of June 2021

The current resource access service specifications are aligned with the NGSI-LD API Specifications as described in ETSI GS CIM 009 V1.4.1 (2021-02).

This is FIWARE

The open source platform technology for our smart digital future!

Ulrich Ahle
FIWARE CEO
ulrich.ahle@fiware.org

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