ONLINE EVENT

2ND Southeast Europe Smart Society Conference

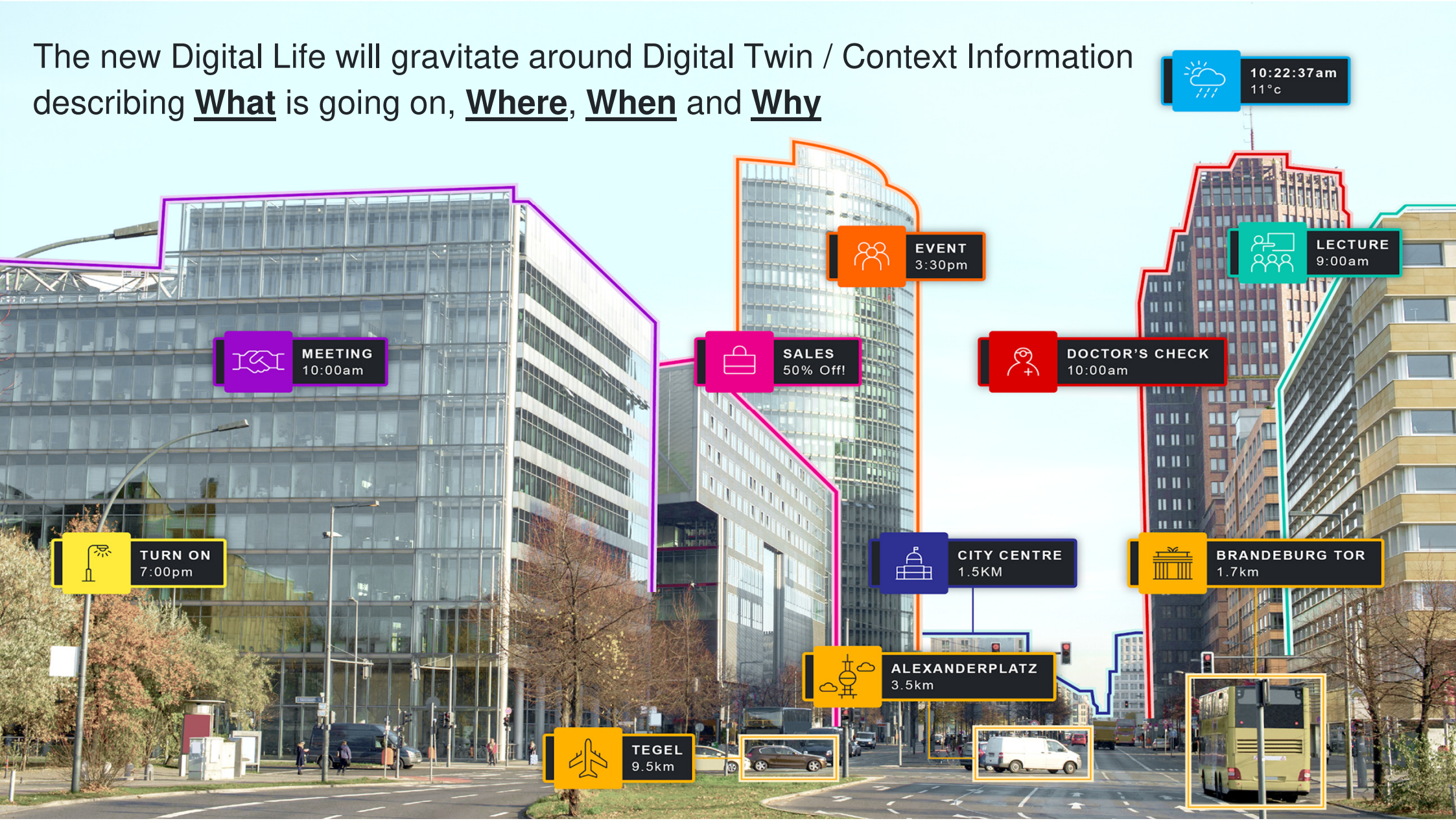
FIWARE successes in Smart Cities and Societies

Ulrich Ahle, CEO FIWARE Foundation

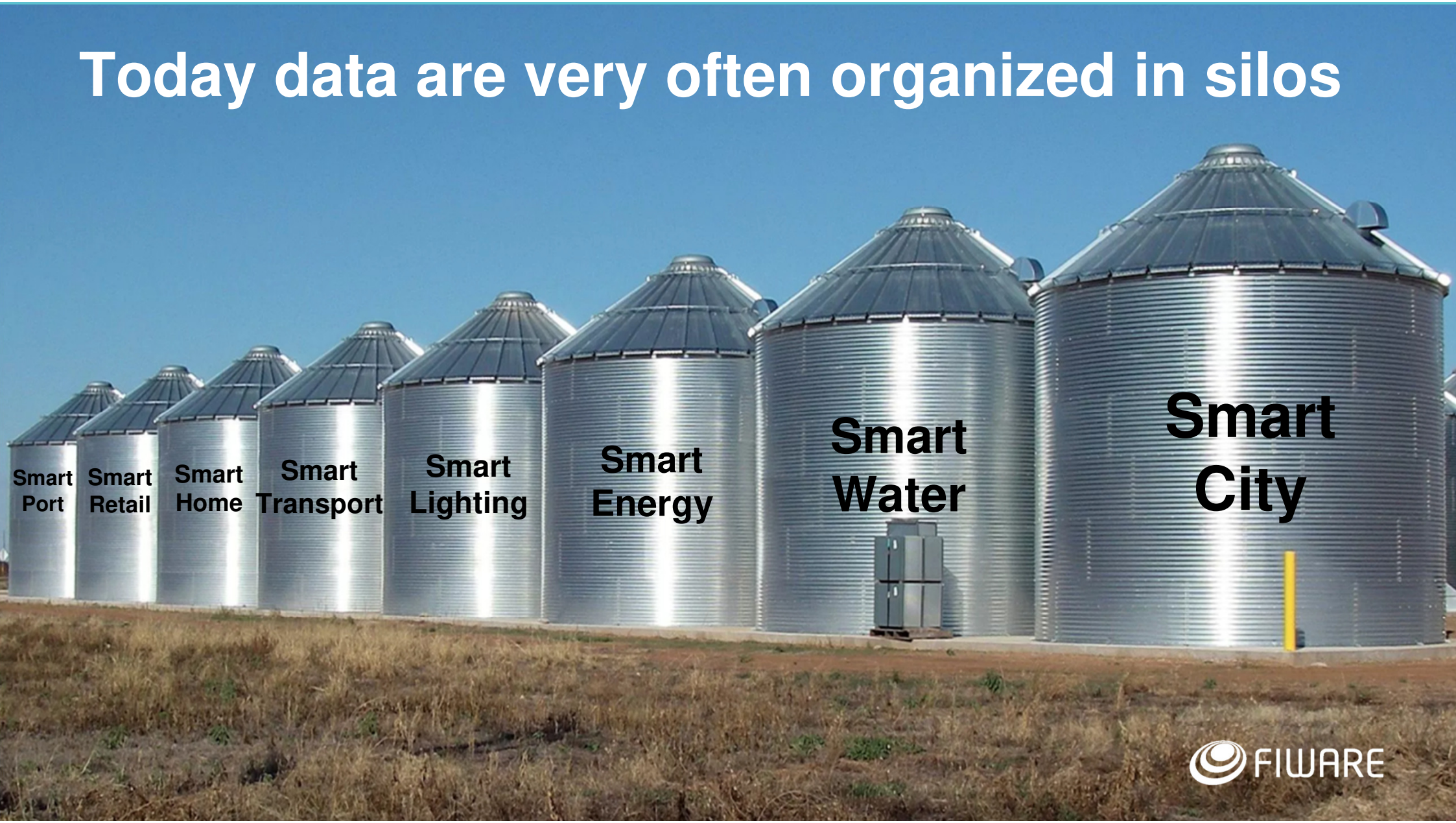
SMART SOCIETY

FIWARE

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

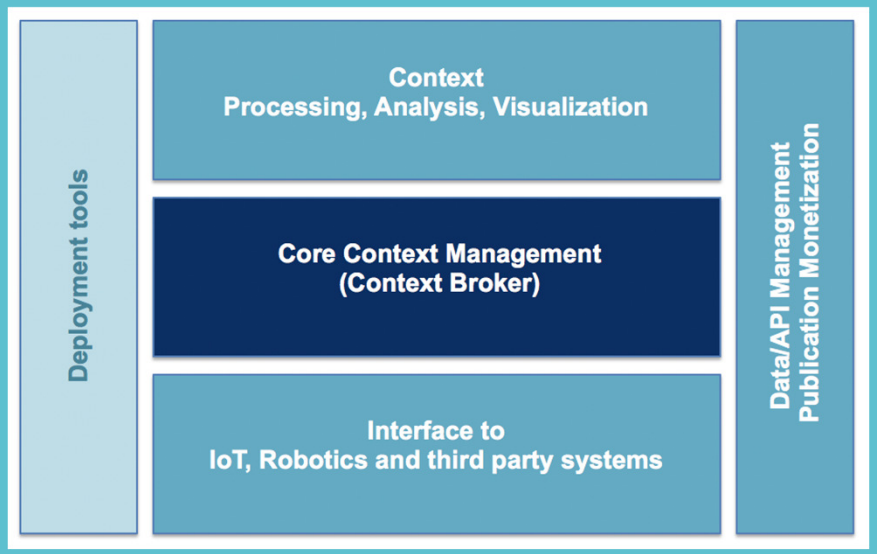


Today data are very often organized in silos



This is FIWARE!

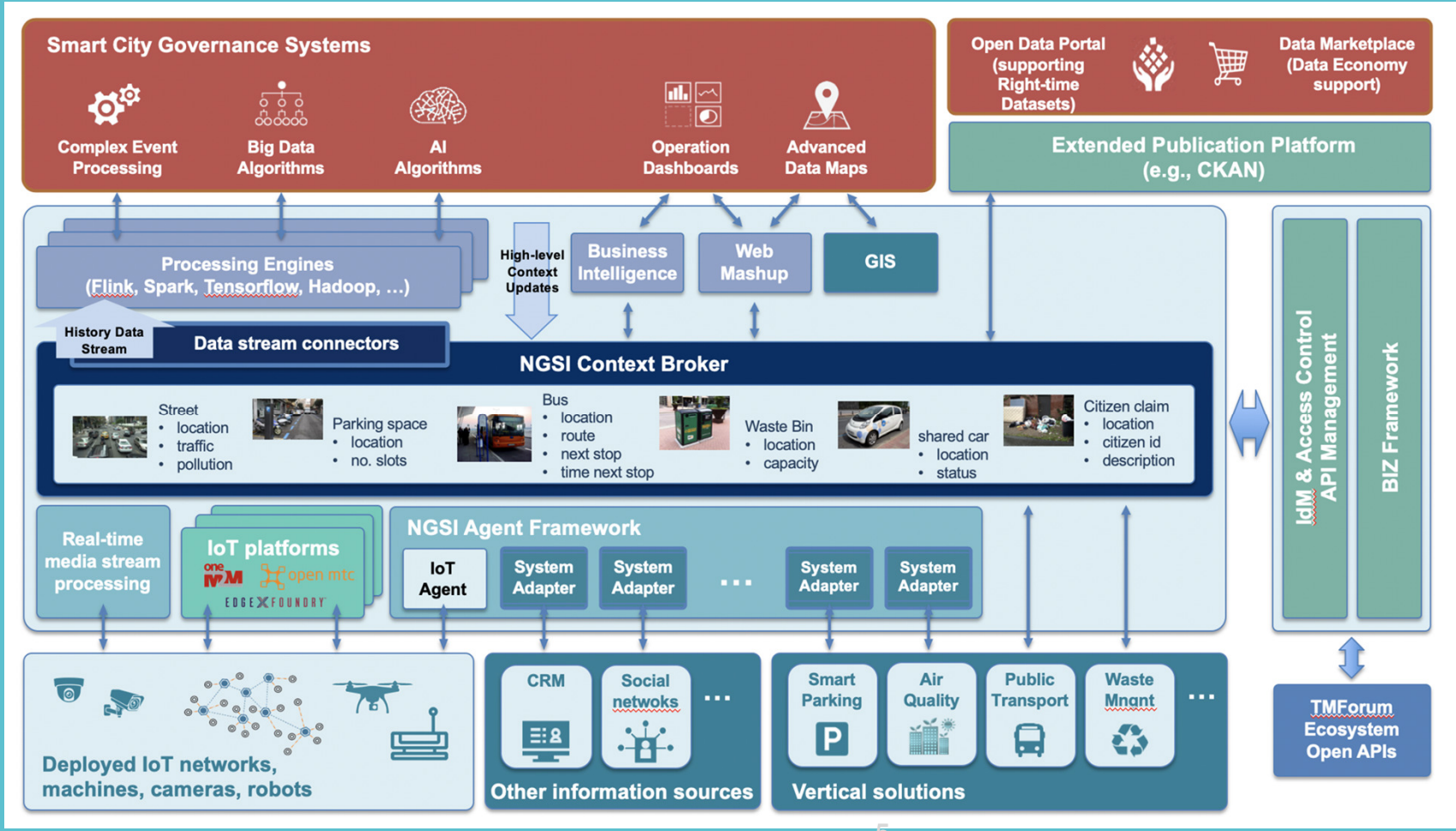
FIWARE



- 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

A complete Reference Architecture for Smart Cities



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.**

Implementation of OASC MIM 2

tmforum

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

Implementation of OASC MIM 1

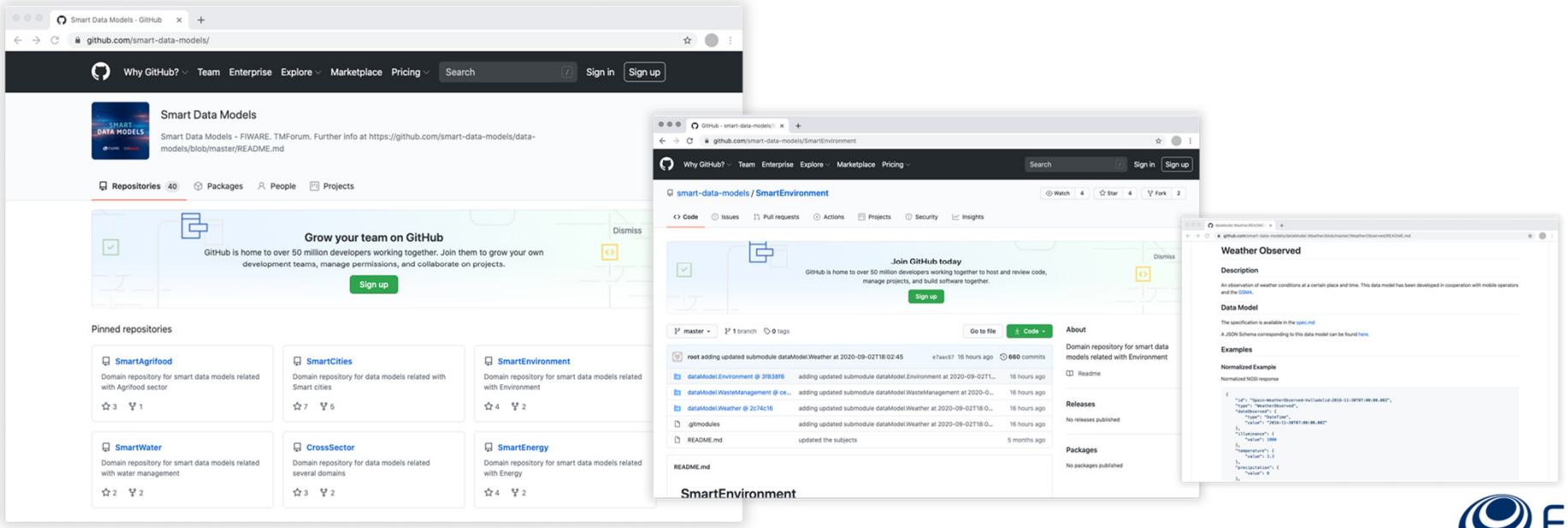
ETSI published on January 24th, 2019 "**NGSI-LD**" the new Context Information Management Standard API. The rationale is to reinforce the fact that this specification leverages on the … **FIWARE NGSIv2** to incorporate the latest advances from Linked Data.

FIWARE

Implementation of OASC MIM 2:
A joint effort for the definition of common data models

FIWARE Foundation collaborates with relevant national and international organizations to realize the definition of common data models for multiple application domains (e.g. Smart Cities, Smart AgriFood, Smart Energy, Smart Manufacturing).

Defined data models rely on well-established “de-facto” standards (e.g. schema.org, SHAREF or IEC CIM in Energy).



Smart Cities: where we are

Efficient & Open

- Vertical solutions (some being IoT-enabled) bringing efficiency but in silos
- Historic and static data published as open data

Yes!
Many cities are already Efficient and Open ….

… but there is still a journey to travel to be where they SHOULD BE

FIWARE

Diapozitiv 8

6 Juanjo, as a general comment suggest to start with this https://drive.google.com/file/d/1VgDzbHWeGHJFbLv51MJ1eJ-Q0SNOICnN/view?usp=sharing

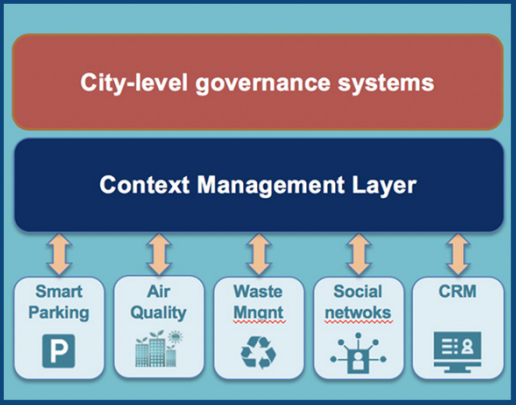
Angeles Tejado; 8. 07. 2020

FIWARE: supporting cities in their digital transformation journey

0 — 1 — 2 — 3 — 4

Exploiting Data across verticals

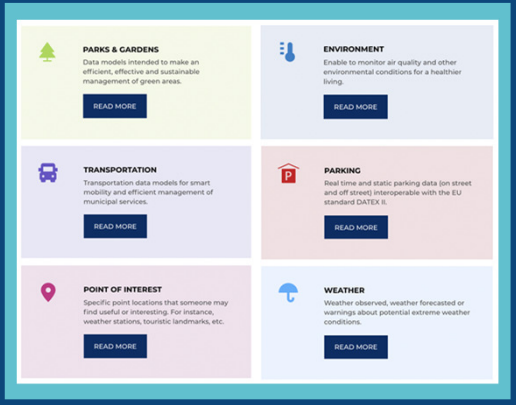
- Breaking information silos through shared context data space with standard API
- Enabling Overall City-level Governance Solutions



Implementation of OASC MIM 1

Collaborating towards a sustainable market

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



Implementation of OASC MIM 2

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

Implementation of OASC MIM 3

+170 Partner Offerings already on the FIWARE MARKET PLACE

Powered by FIWARE
- Platforms
- Solutions

FIWARE-ready
- IoT devices
- Software enablers

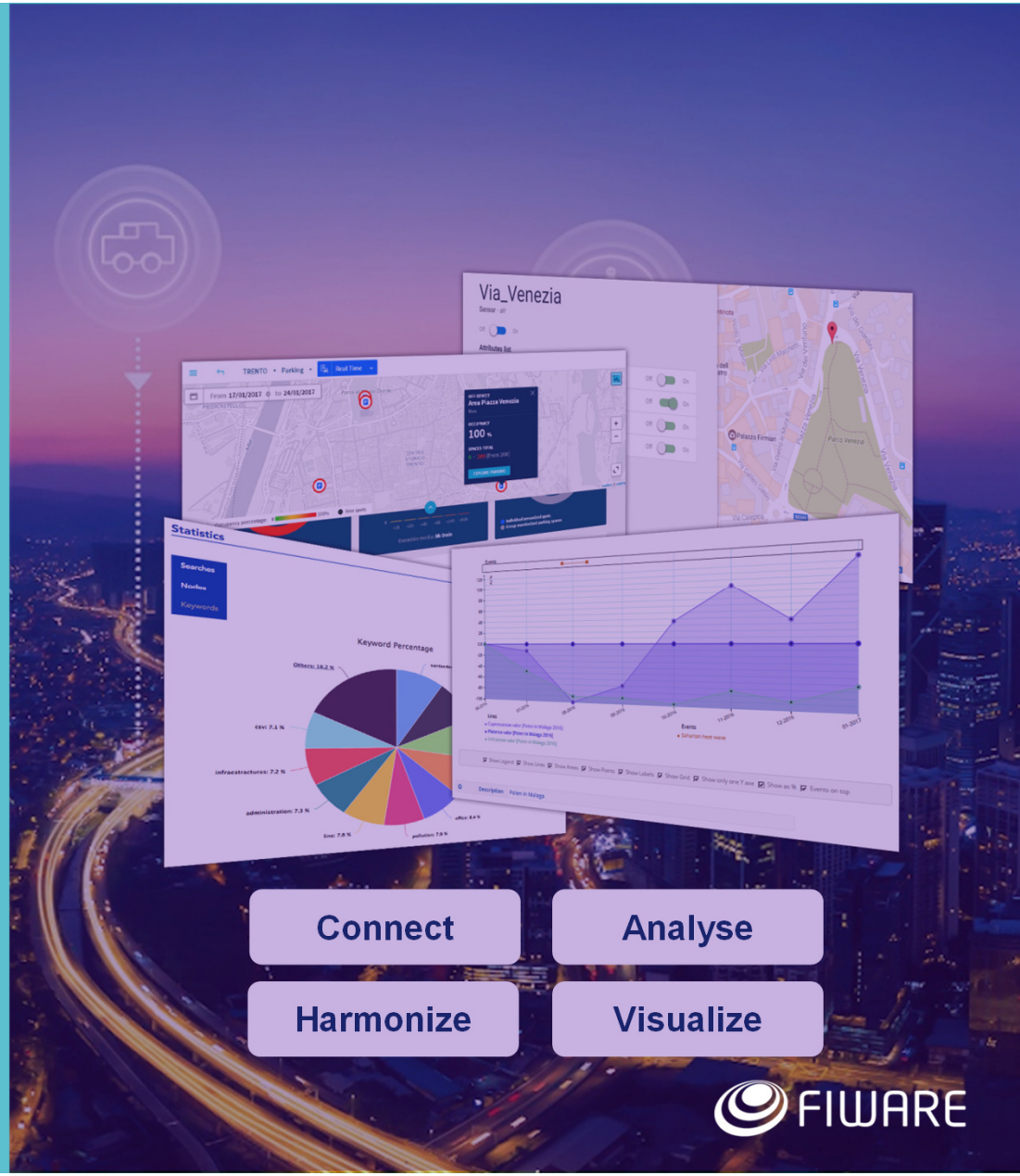
FIWARE Services
- Training / Coaching
- Systems Integration

FIWARE

Digital Enabler

Engineering's Ecosystem Platform

- Goal: Give awareness to city managers about exploitable data breaking the technological silos.
- Target customers: Smart cities, Data providers, citizens
- Main features:
  - Discover data sources from the web
  - Federate heterogeneous data sources (e.g. sensors, legacy, open data, etc.…)
  - Measure the quality of data and promote exploitation
  - Enable communication among sensors
  - Analyze and render data through user friendly dashboards
  - Fast reuse of dashboards and apps for different customers



ENGINEERING

NEC

Cloud City Operations Centre

- Goal: City gets sustainable and smarter by various “Solutions for Society” on Unified Data analytics platform for City
- Target customers: smart cities
- Main features:
  - Manage & monitor city resources
  - Customized implementation
  - Cross-sectoral Smart City Platform
  - Easy integration with other applications
  - Data Security
  - Friendly user interface

Atos City Pulse

Powered by FIWARE

- A mayor's challenge in Eindhoven:
  - Eindhoven is a safe city but ...
  - at **Stratumseind** too many incidents are reported
  - can technology help to reduce the number of incidents?

Atos City Pulse

Powered by FIWARE

Stratumseind

Data analytics on …

- Detect walking patterns
- Sound analytics
- Social media analytics
-

… results in predictive services for the police

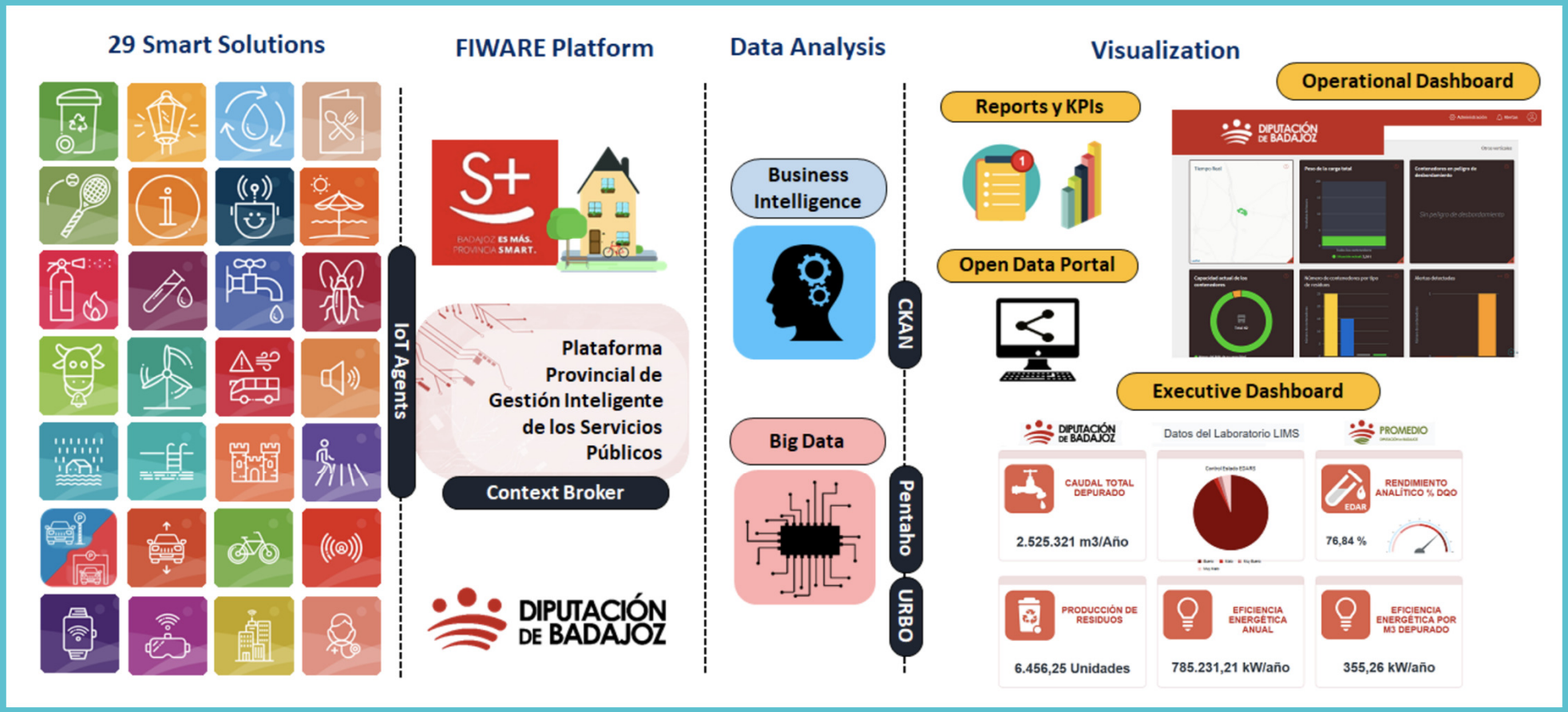
Atos City Pulse

Powered by FIWARE

Benefits:

- Crime rat reduced by more than 50%
- Police resources focussed where they are really required
- Business owners have lower repair and clean-up costs
- Less need for hospital and medical resources due to fewer alcohol related incidents
- More business and tourism attracted to the city due to a fall in negative PR

CEF Success Story: Provincial Platform in Badajoz for Smart Public Services Management



https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/2019/04/25/Badajoz+Is+More+-+the+journey+to+become+a+smart+province

FIWARE

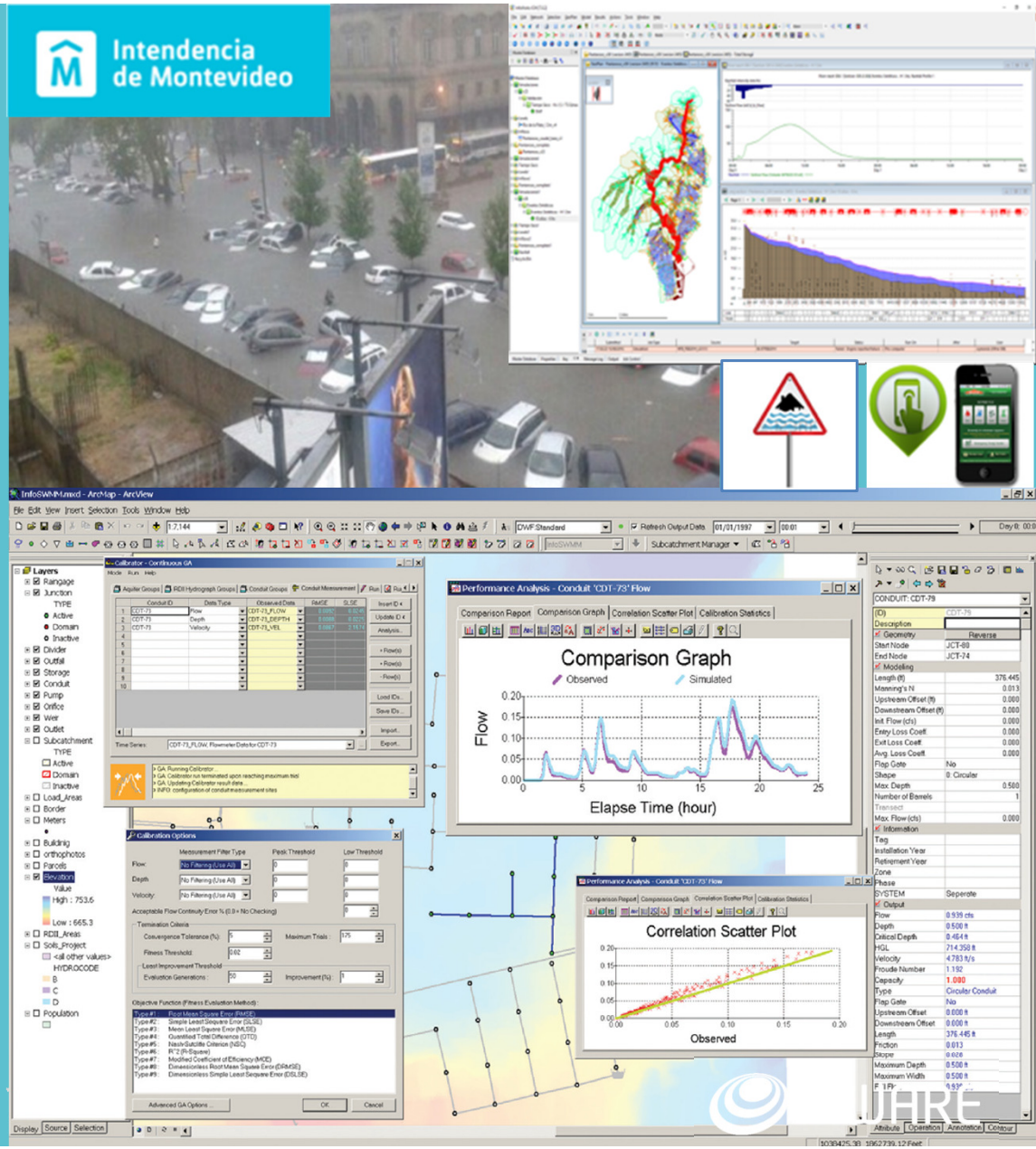
Real time flood-warning

Intendencia de Montevideo

- Goal: Real-time warning in flood situations
- Target customers: Citizens, companies, authorities
- Main features:
  - Connection of sensors, SCADA systems, port management system to the FIWARE Smart City platform in Montevideo
  - Real-time alerts to users via push services and social media

Development project: Early warning system for floods

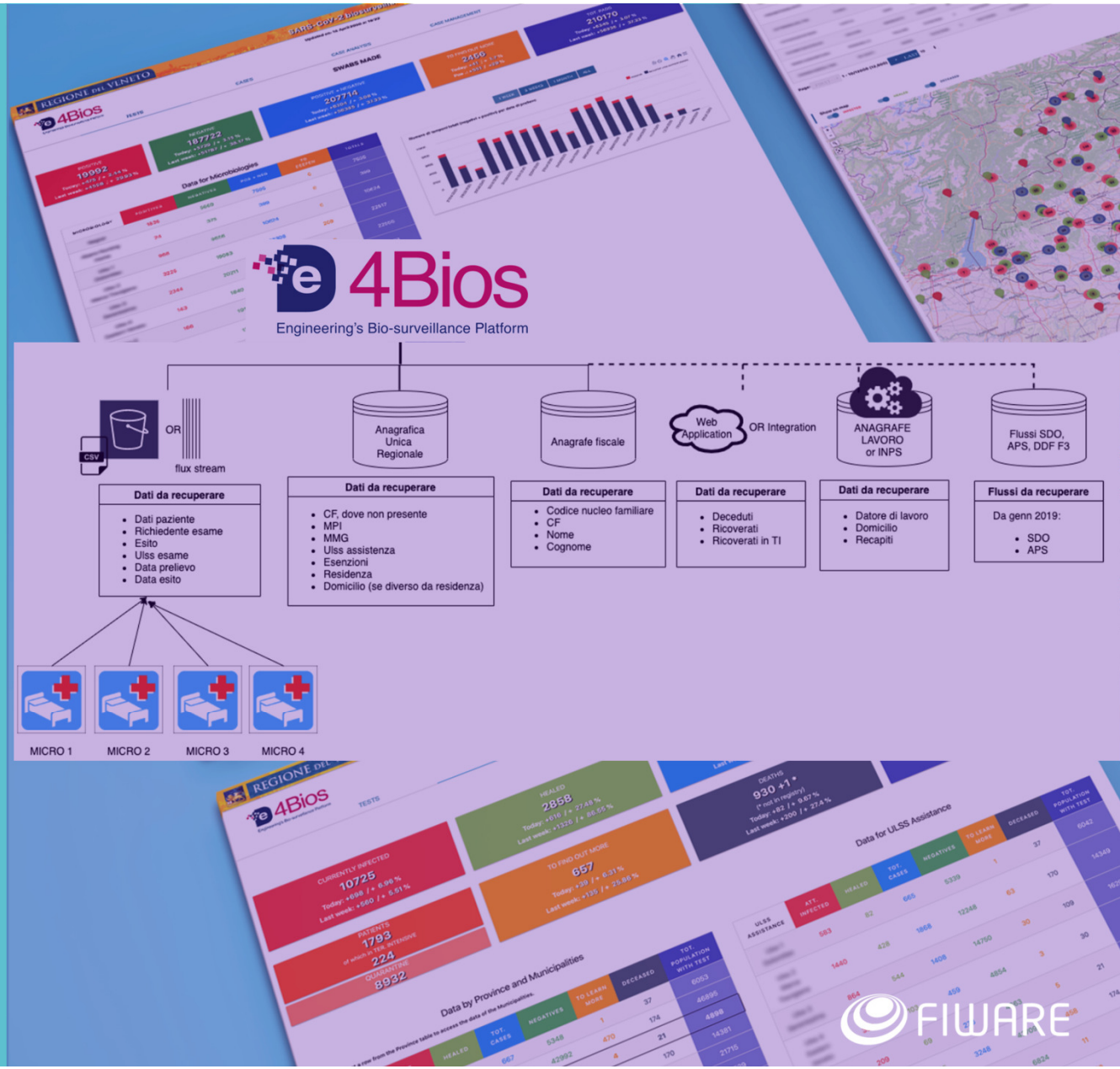
- Objective: Reduce the effects of urban floods by means of predictive flood models
- Target customers: Citizens, companies, authorities
- Main features:
  - Use of sensor data, soil hydrological and meterological models and hyperlocal data from Citizen Apps/Twitter/Facebook
  - Creation of prediction models
  - Early personalized alerts for users with further development of the alert strategy based on user feedback and priorities
  - Integration into the Smart City platform



4Bios

Engineering's Bio-surveillance Platform

- Goal: Biosurveillance platform to manage all COVID-19 related data
- Target customers: Polititions, general practitioners, occupational doctors, operators of healthcare organizations, crisis units
- Main features:
  - Collection of all COVID-19 related data
  - Real time information
  - Relation based services
  - Identification of clusters at risk and georeferenced informations
  - Creation of epidemiological simulations
  - High level of data security and access limitations



ENGINEERING

FIWARE

FIWARE adoption on a global scale: More than 200 cities and regions Most of them are also OASC members

150 cities
31 countries

- Common APIs:
  - ✔ FIWARE NGSI to start with
- Standard Data Models
- Platform for Open Data
- Driven by implementation approach

OPEN & AGILE SMART CITIES

Australia
Brisbane, Gold Coast, Ipswich, Logan and Moreton Bay Region

Austria
Graz, Linz, Salzburg and Vienna

Belgium
Antwerp, Brussels, Ghent and Leuven

Bosnia and Herzegovina
Mostar, Sarajevo and Tuzla

Brazil
Anapólis (Goiás), Colinas do Tocantins (Tocantins), Cuiába, Garanhuns, Nova Friburgo, Olinda (Recife),Parnamirim, Porto Alegre (Rio Grande do Sul), Recife, Rio das Ostras (Rio de Janeiro), Taquaritinga (São Paulo), Uberlândia and Vitória (Espírito Santo)

Croatia
Dubrovnik, Rijeka, Sibenik and Split

Denmark
Aarhus, Aalborg, Copenhagen, and Vejle

England
Bristol, Cambridgeshire, Leeds, London, Manchester , Milton Keynes and Stoke-On-Trent & Staffordshire

Finland
Espoo, Helsinki, Oulu, Tampere, Turku and Vantaa

France
Amiens, Arras, Issy-les-Moulineaux, Saint-Quentin, Soissons and Valenciennes

Germany
Delbrück, Heidelberg, Kiel, Paderborn, and Wolfsburg

Greece
Katerini, and Trikala

Hungary
Kaposvár, Nagykanizsa, Miskolc and Szolnok

Ireland
Cork, Dublin, Galway and Limerick

Italy
Ancona, Cagliari, Genoa, Lecce, Messina, Milan, Palermo, and Terni

Mexico
Cuautla, León

Netherlands
Almere, Amersfoort, Amsterdam, Drechtsteden, Eindhoven, Enschede, Rotterdam and Utrecht

Norway
Bodø, Gjesdal, Fredrikstad, Larvik, Sandefjord, Stavanger and Trondheim

Poland
Gdansk, Grudziadz and Poznan

Portugal
Águeda, Fundão, Lisbon, Oliveira de Azeméis, Palmela, Penela and Porto.

Romania
Botosani, Iasi, and Suceava

Scotland
Aberdeen, Dundee, Edinburgh, Glasgow, Inverness, Perth and Stirling

Slovenia
Idrija, Novo Mesto, and Koper

Spain
Alicante, Guadalajara, Las Palmas de Gran Canarias, Málaga, Murcia, Sabadell, Santander, Sevilla, and Valencia

Sweden
Örebro, Skellefteå

Switzerland
Carouge and Geneva

FIWARE

The Advantages of an Open Source Platform like FIWARE for Smart Societies

- The basic software (Platform and Generic Enablers) is available for everyone, for free, forever
- A large open source developers community is maintaining and further developing the basic software components
- A large group of start ups and global corporate companies are providing smart solutions and smart services based on FIWARE
- Lowest cost of ownership for the end users
- Standard, public, and royalty free data models and open APIs are avoiding a ’vendor-lock-in-effect‘

FIWARE

This is FIWARE

The open source platform technology for our smart digital future!