

Open APIs
for Open
Minds

FIWARE: Overview

José Manuel Cantera Fonseca

josemanuel.canterafonseca@telefonica.com

@jmcantera

But ... what makes an application really be “smart”?



CONTEXT

MATTERS

Implementing Smart Solutions requires gathering and managing context information at large scale

Smart Cities



Shop

- Location
- Business name
- Franchise
- offerings



Citizen

- Birthday
- Preferences
- Location
- ToDo list



Bus

- Location
- No. passengers
- Driver
- Licence plate

Implementing Smart Solutions requires gathering and managing context information at large scale

Smart Agro



Crop

- Humidity
- Leaf area
- Age



Drone

- Location
- Battery level
- Speed
- Direction



Tractor

- Location
- Speed
- Direction

Implementing Smart Solutions requires gathering and managing context information at large scale

Smart Industry



Gas Tank

- Station
- Max Volume
- Current Level
- Min Threshold
- Temperature



Station

- Location
- Owner
- SLA



Tanker

- Driver
- Location
- Max Volume
- Current Level
- Speed
- Direction

What if ...

*there were
a standard API
and harmonized
DATA MODELS*

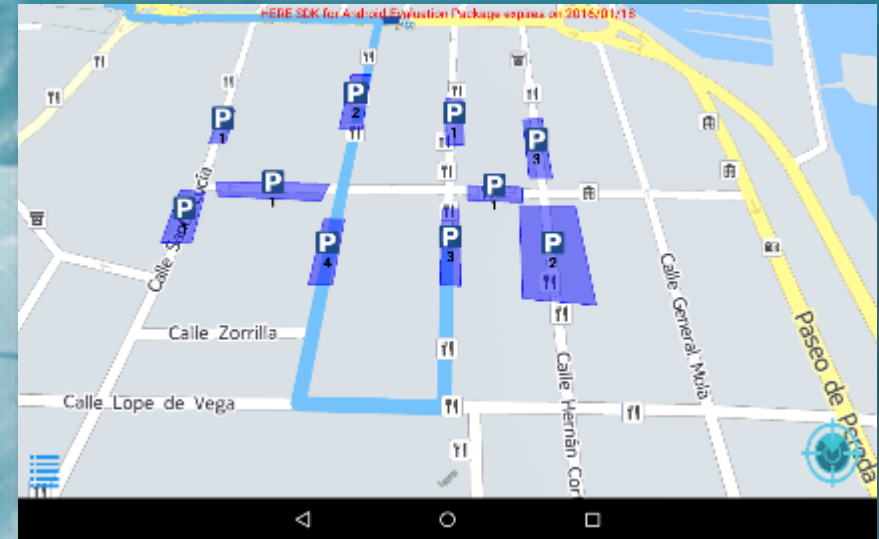
*for accessing
context information?*

Users will enjoy portable solutions

City of Porto



City of Santander



Entrepreneurs will benefit the opportunities of a larger market

“We can invest on development of solutions we don’t have to adapt for each and every customer”



Shared context information would boost innovative services and the development of multi-side markets



THE DATA ECONOMY

IoT would be an enabler, no barriers because of complexity

“I don’t care what low-level IoT protocol is used”

“I should not need to handle connectivity with IoT devices”

GET <Token>
/v2/entities/lamp1/attrs/powerState/value

Standard API +
↓

Context Broker

Reading the value provided by a sensor should be as easy as reading an attribute value of an entity



IoT would be an enabler, no barriers because of complexity

“I don’t care what low-level IoT protocol is used”

“I should not need to handle connectivity with IoT devices”

PUT <Token>
/v2/entities/lamp1/attrs/powerState/value “on”

Standard API +
↓

Context Broker

Actuation on a device should come as a side effect derived from updating the attribute value of an entity





FIWARE

Open APIs for Open Minds

Once context information is gathered, a lot of useful complementary FIWARE enablers can be used

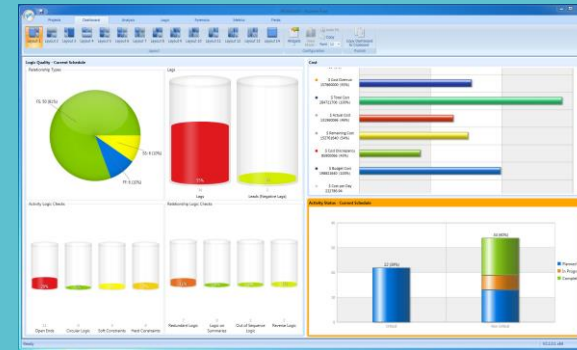
Advanced Web-based UI
(AR, 3D)



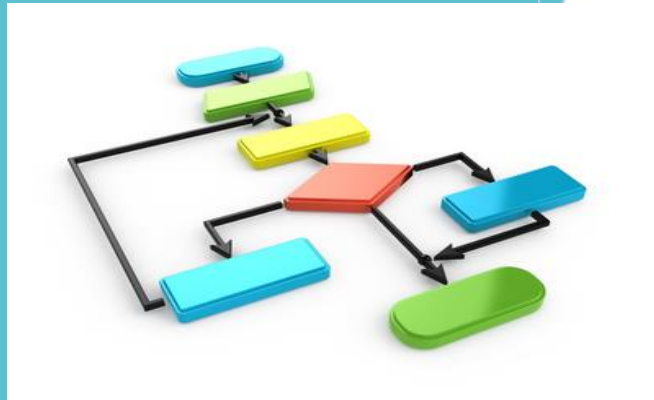
Open data publication



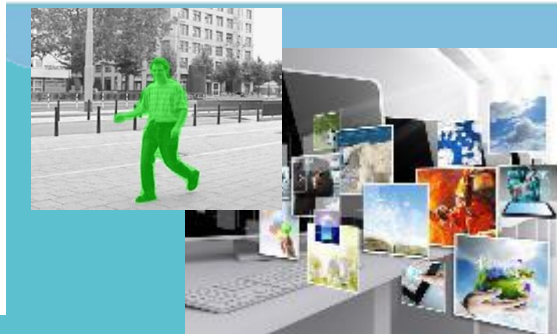
Data/Apps visualization



IoT-enabled Context Information Management



Complex Event
Processing



Multimedia processing



Big Data Analysis

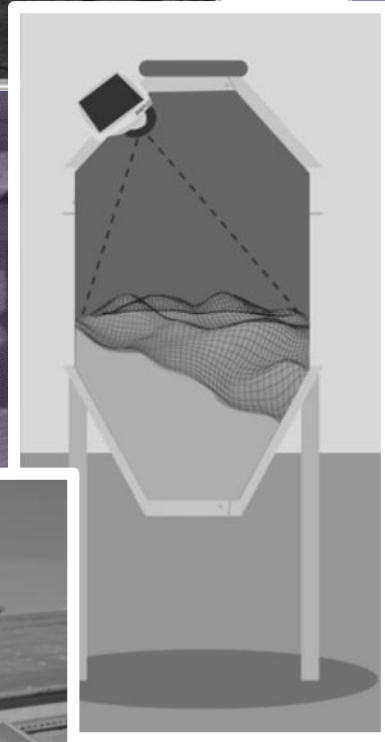
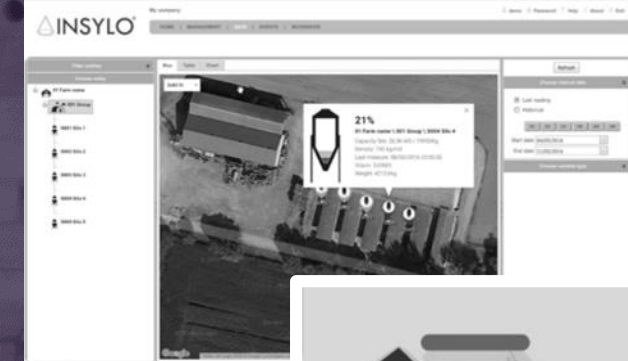
Use Cases



Silos Management
Energy Saving
Water Management
Noise Monitoring
Safe Driving
Smart Cattle

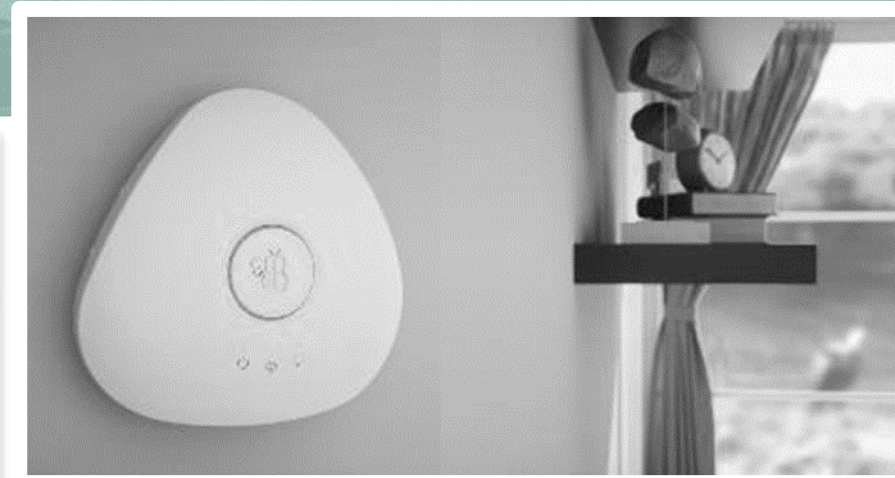
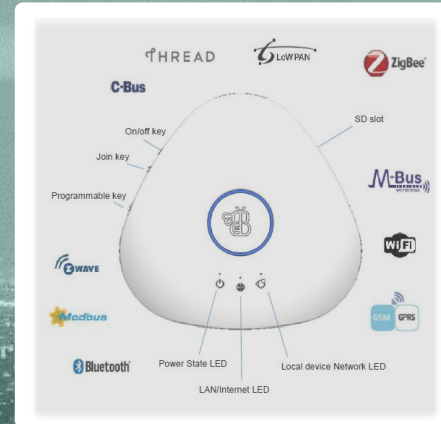


- Goal: Remote monitoring and optimized replenishment of silos in farms
- Target customers: farms and feed suppliers
- Main features:
 - patented 3D scanning
 - easy installation (5 mins)
 - no batteries (solar panel)
 - collaborative platform for farmers and feed suppliers



Beeta™

- Goal: helps to save on energy bills
- Target customers: households service providers (Utility, Telco, Insurance)
- Targeted users: family houses, buildings
- Main features:
 - multiprotocol gateway interoperable with off-the-shelf devices
 - able to engage users over time





- Goal: smart metering and quality of water monitoring
- Target customers: domestic users, public authorities, water suppliers
- Main features:
 - plug&play integration with multiple metering devices
 - bidirectional hexaWAN LPWA covering shadow areas
 - industrial-grade devices
 - IPv6 support





- Goal: Noise monitoring and sound event detection and identification
- Target customers: smart cities, smart spaces, security companies
- Main features:
 - advanced and innovative analysis using 3D audio captures
 - monthly and daily readings and statistics



Time	Loc1	Loc2	Loc3	Loc4	Loc5	Loc6	Loc7
08:00		79.9	77.0	85.3	85.8	60.0	58.6
08:30	81.8	79.0	80.8	85.4	74.2	79.1	56.6
09:00	81.7	78.0	77.3	87.6	80.9	58.3	55.7
09:30	57.9	78.3	79.8	83.0	83.7	77.1	86.3
10:00	70.0	68.0	69.0	80.0	80.0	80.0	80.0



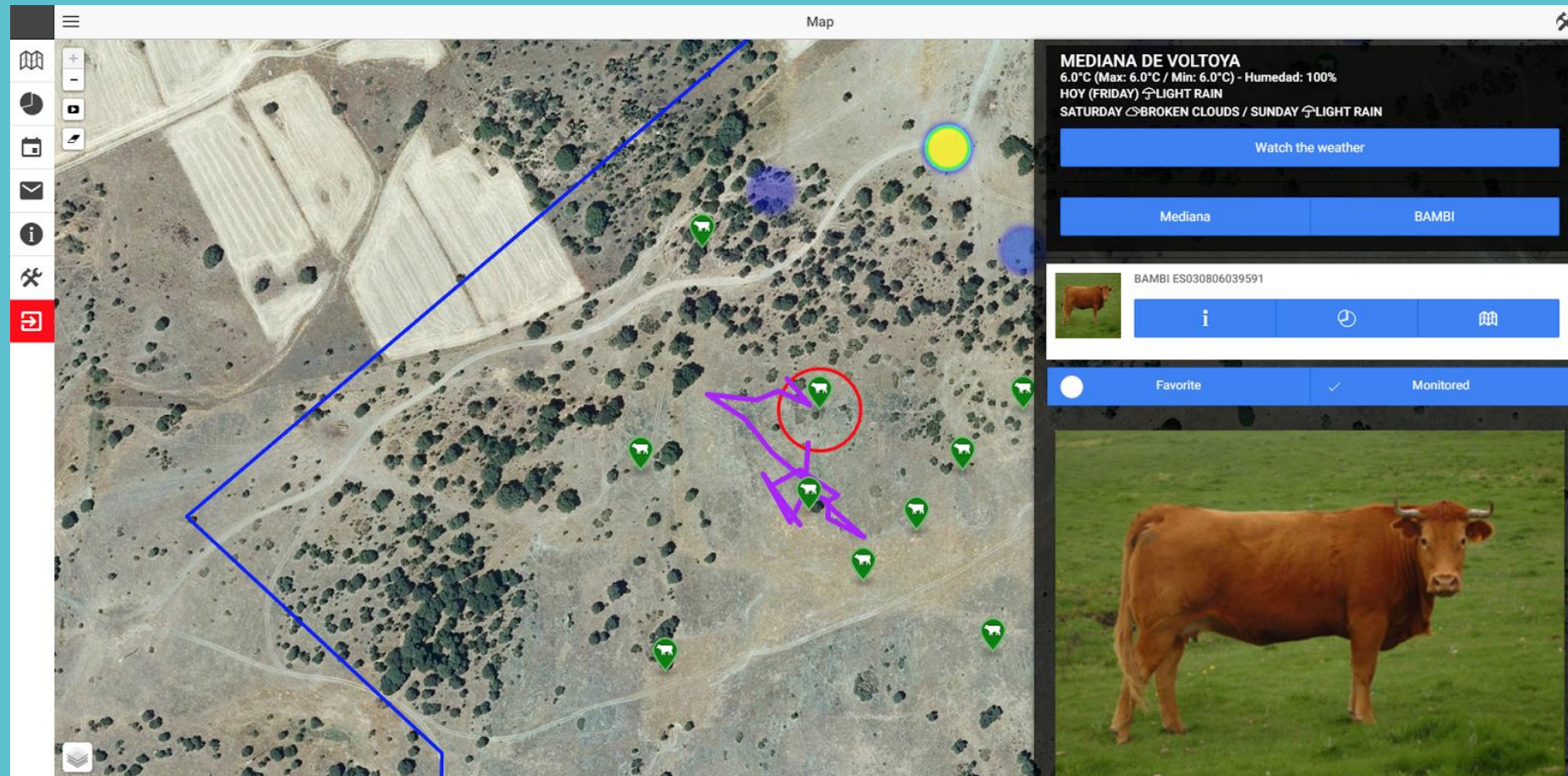


- Goal: Driver Heart Monitoring for Safer Transportation
- Target customers: transportation, Fleet Management Companies
- Main features:
 - instantaneous heart rate
 - data collected in a user-friendly way
 - personalized information environment



Smart Cattle by Sensowave

- Target customers: Cattle exploitations
- Main features:
 - Automated tracking of individual animals
 - Prevent adverse weather conditions
 - Early alerts on animal sickness
 - Animal inventory



Adoption of FIWARE standards helps to build a connection between industry and cities ...



89 cities
19 countries

Common APIs:

FIWARE NGSI to start with

Standard Data Models:

CitySDK and more

Platform for Open Data/API publication

Driven by implementation approach



GSMA recommends FIWARE
NGSIv2 as a harmonized API for
IoT Big Data ecosystems

FIWARE has adopted and extended
GSMA's harmonized data models



TM Forum & FIWARE APIs are
part of a Business Framework
that serves the emerging
economy of data.



FIWARE has been recognized as
major contributor for a shared
IoT-Enabled Smart City Framework.
The initiative is led by NIST

But we are not
creating just
technology



... but a sustainable
open innovation
ecosystem



#Community

The background of the slide features a close-up of two hands, one from a darker-skinned person and one from a lighter-skinned person, cupping a small globe of the Earth. The hands are rendered with soft, painterly textures. The globe is centered in the palms, showing continents and oceans. The overall color palette is dominated by purples and blues, with the skin tones providing natural contrast.

ThinkingGlobal



FIWARE
Mundus

A modern office environment with a stone wall background and large windows. Several people are seated at desks with computers, working. A woman in a red plaid shirt is sitting on a desk on the right, looking towards the others. The scene is brightly lit by natural light from the windows.

#ActingLocal

FIWARE
iHubs

A group of people, likely students or researchers, are gathered around a table in a laboratory or workshop setting. They are focused on their work, with some looking at laptops and others at equipment. The background is slightly blurred, emphasizing the people in the foreground.

EasingExperimentation

 FIWARE Lab

AcceleratingBusinesses





FIWARE Foundation Mission

Overall FIWARE Mission

To build an open sustainable ecosystem around public, royalty-free and implementation-driven software platform standards that will ease the development of new Smart Applications in multiple sectors.

FIWARE Foundation

The FIWARE Foundation is a legal independent body providing shared resources to help to achieve the FIWARE Mission by Empowering, Promoting, Augmenting, Protecting, and Validating the FIWARE technologies and the whole Community around them.

FIWARE Summit 2016 – Moving Forward, Going Global

- Learn the Technology
- Meet the Community
- Understand the Potential

**SAVE
THE
DATE!** 

FIWARE Summit
December, 13th-15th 2016
Málaga, Spain



WHEN

December,
13th-15th 2016



WHERE

Palacio de Ferias y Congresos de Málaga
(Trade Fairs and Congress Center)
Av. Ortega y Gasset, 201.
29006 MÁLAGA (Spain)

DREAM BIG
IT WORKS



FIWARE

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| Thank you!

<http://fiware.org>

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