Internet of Things: Paving the Way for a more Sustainable City

Thematic Workshop on Internet of Things: The Way to Smart Sustainable Cities

Geneva, 25th May 201

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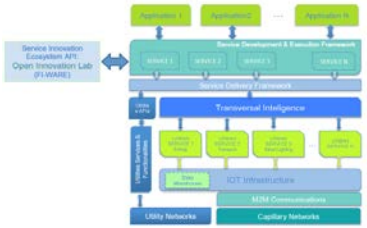

Smart Cities & IoT & Big Data

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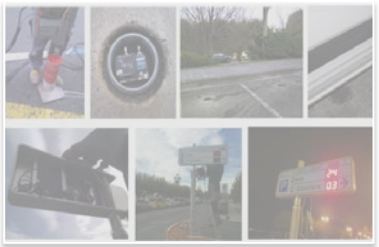

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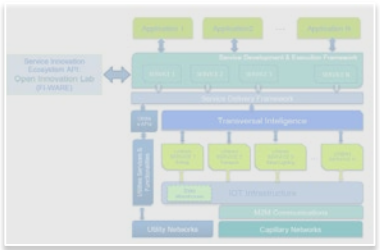


Smart Cities & IoT & Big Data

IoT and Urban Services

SmartSantander IoT deployment

Service Provision

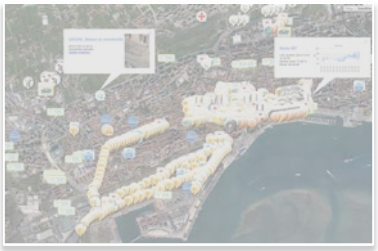
- Mobility
- Environmental monitoring
- Park & gardens
- Participatory Sensing
- Augmented Reality
- Energy

Co-creating

- New urban services
- New applications
- …relying on the citizen

Massive deployment of IoT devices

- Fixed nodes
- Mobile nodes
- Citizens as sensors
- Citizens Apps



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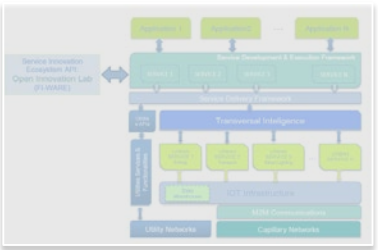


Smart Cities & IoT & Big Data

City-scale deployment

From the lab to the hostile outdoor scenario!!

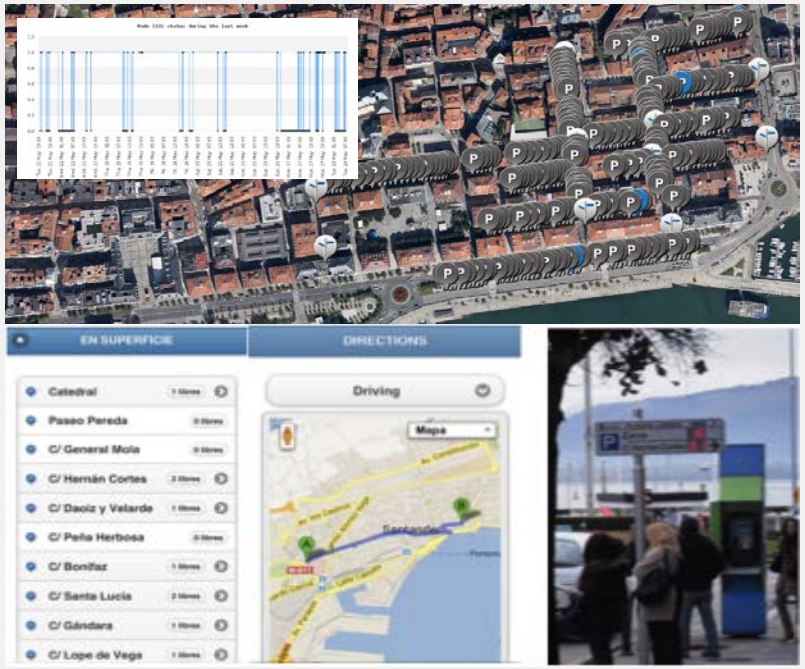




Street Parking Management

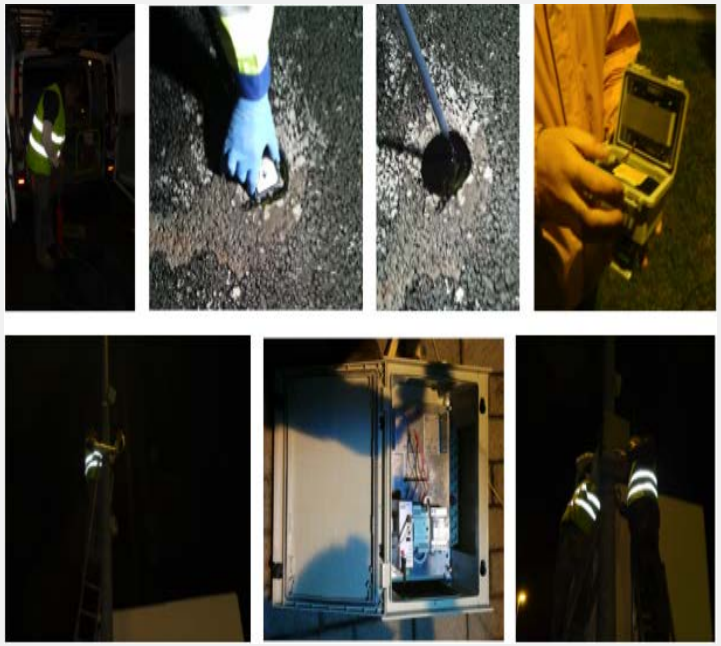
Sensors & Panels installation

Service Provision & Monitoring



Traffic Management

Sensors installation

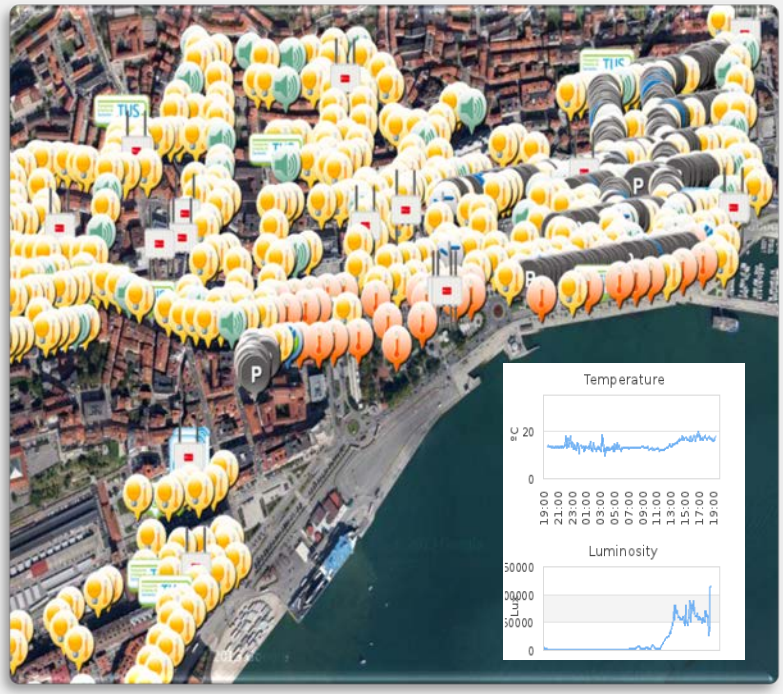


Service Provision & Monitoring

Environmental Monitoring

Sensors installation

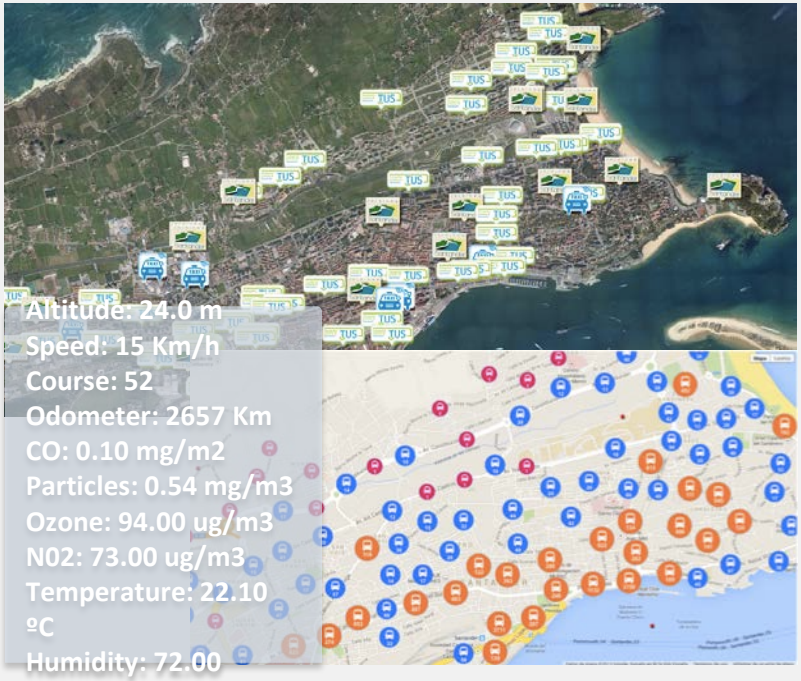
Service Provision & Monitoring



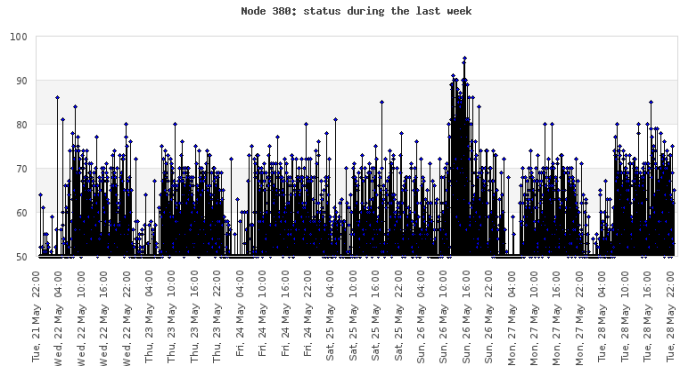
Mobile Environmental Montoring

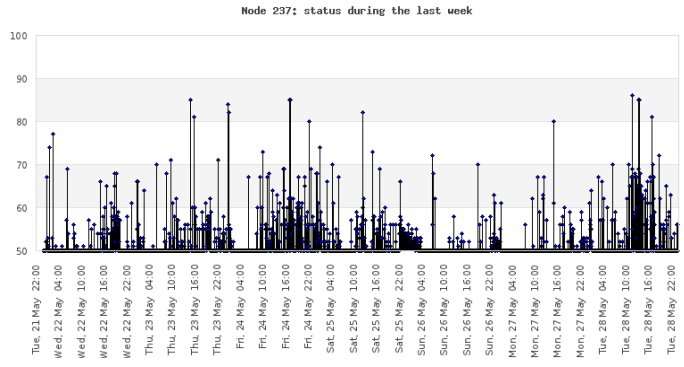
Sensors installation

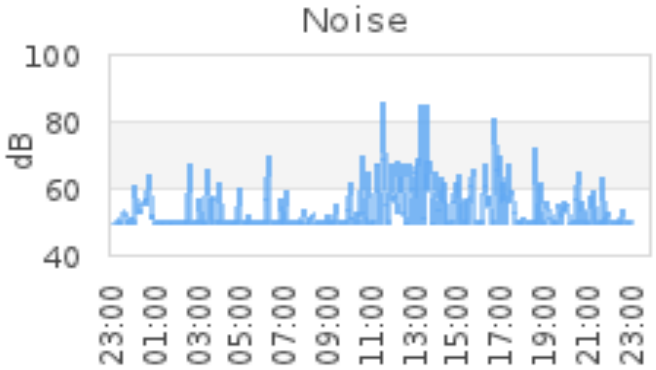
Service Provision & Monitoring



Noise Monitoring



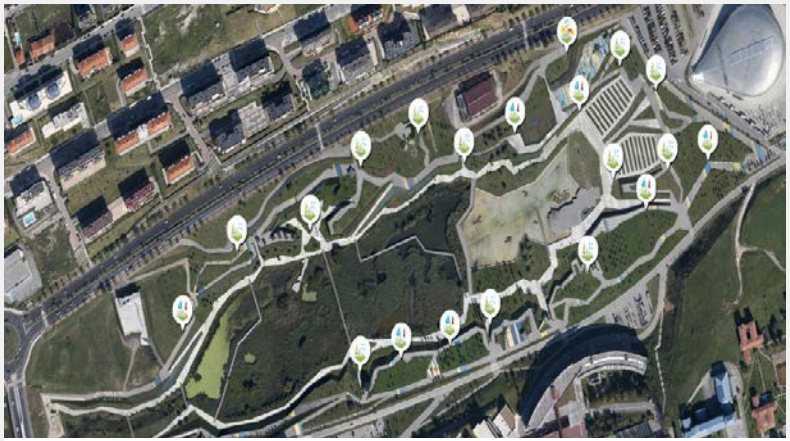




Parks and Gardens Irrigation

Sensors installation

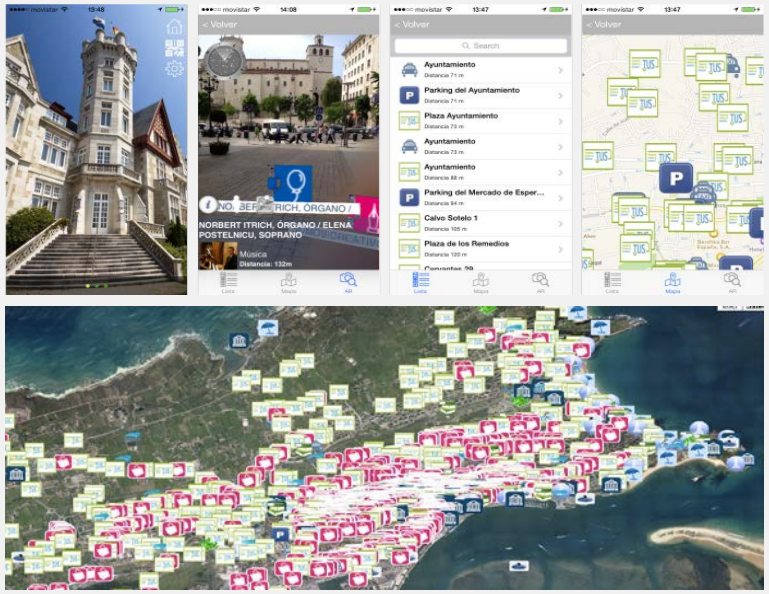
Service Monitoring



Type	Date	NodeId	Position	Temperature	Relative Humidity	Soil Moisture	Ground Temperature
agriculture	2013-10-01 18:50:22	3242	-3.76588 , 43.46890	24.03 °C	70.76 %		
irrigation	2013-10-01 18:50:22	3214	-3.80351 , 43.47404	25.13 °C	68.76 %	37.238919297569 centibares	23.22 °C

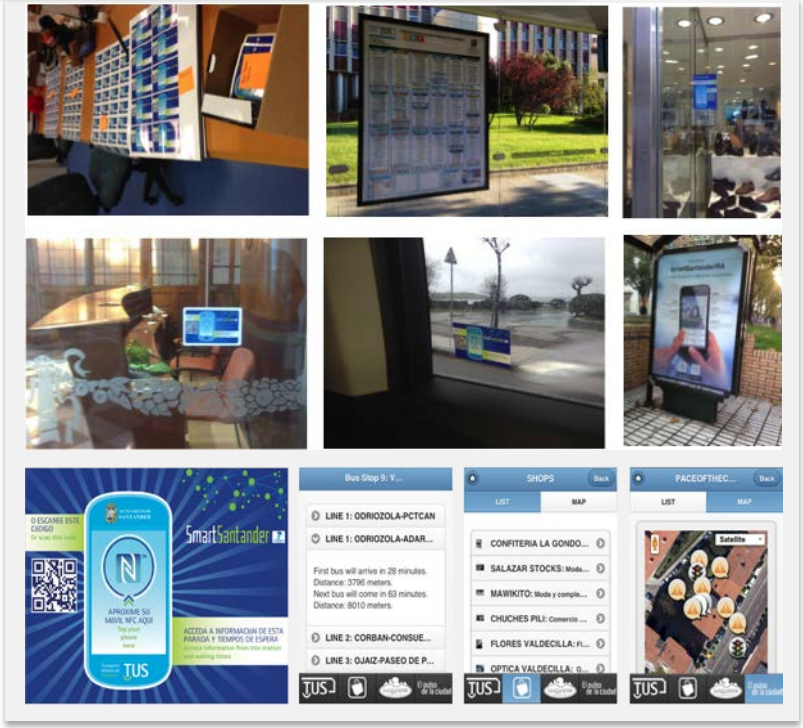
Augmented Reality

Sm Application Usgage oyment



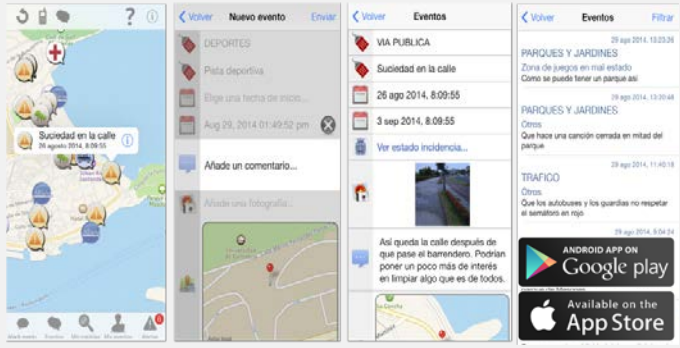
3000 POIs

More than 22000 downloads,



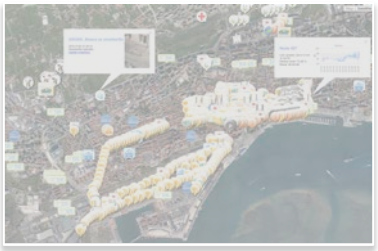
Participatory Sensing

Paceofthecity application



Elpulsodelaciudad.com

EL DIARIO MONTAÑÉS MULTIMEDIA



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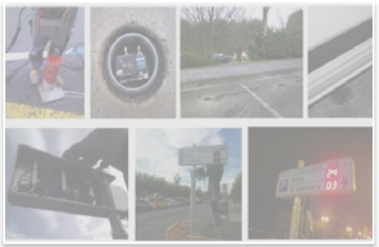

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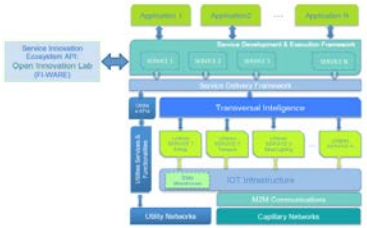
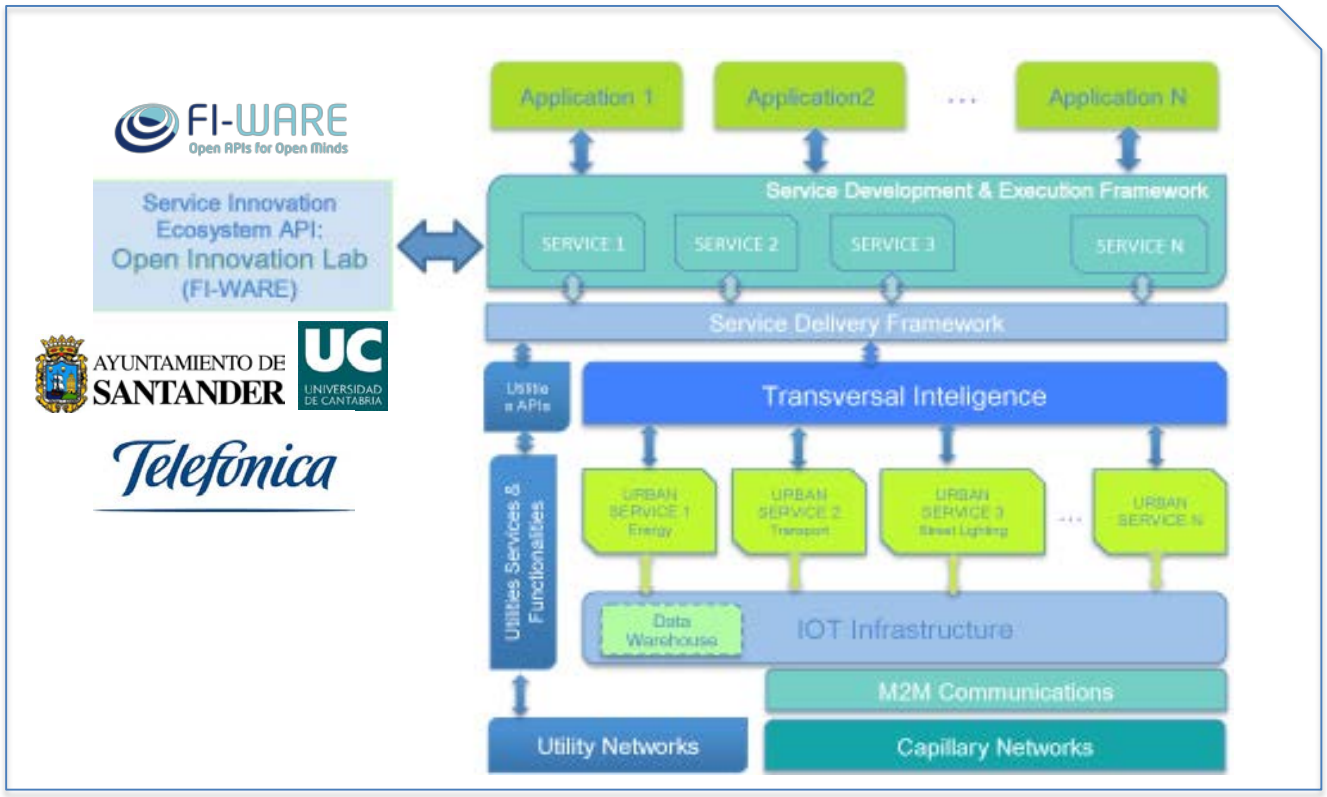
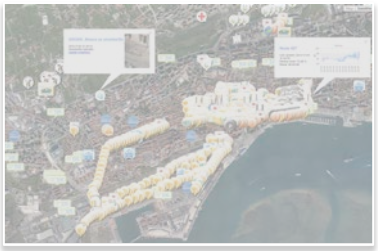


Smart Cities & IoT & Big Data

The urban platform: The seed for co-creating





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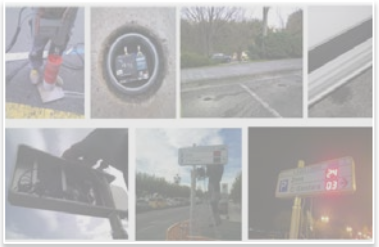

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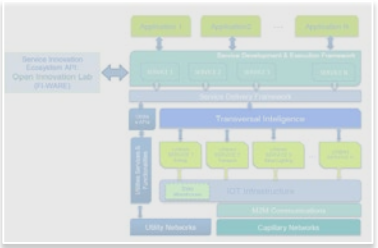

Smart Cities & IoT & Big data

Smart Cities, IoT and big data: The path towards sustainable cities

- Big data will be one of the pillars for building **autonomic cities**.
- Big data alone is not enough. The engine which is able to learn and create knowledge is needed: The **city brain**
- The city brain requires a **holistic view**: Transversal cooperation among services versus the traditional silos perspective.
- The city of the future has to operate in a **predictive** (**proactive**) mode instead of reactive one.
- Big data might become one tool for enabling smart cities **to organically** grow. Hence, stimulating citizens to participate more actively in the design of the forthcoming services and technologies to be adopted by the cities.