SECURED IoT DEVICES TO ENRICH STROLL ACROSS SMART CITY PARK

HEALTHY SPOTS

The widespread smart city deployments across the globe traditionally miss the most relevant link in the chain: the citizen themselves. Healthy spots comes to provide a new layer in these kind of systems and services, where sensors appear to empower citizens and put in their hands the ability to take decisions based in the availability of data relevant to plan their daily routines.

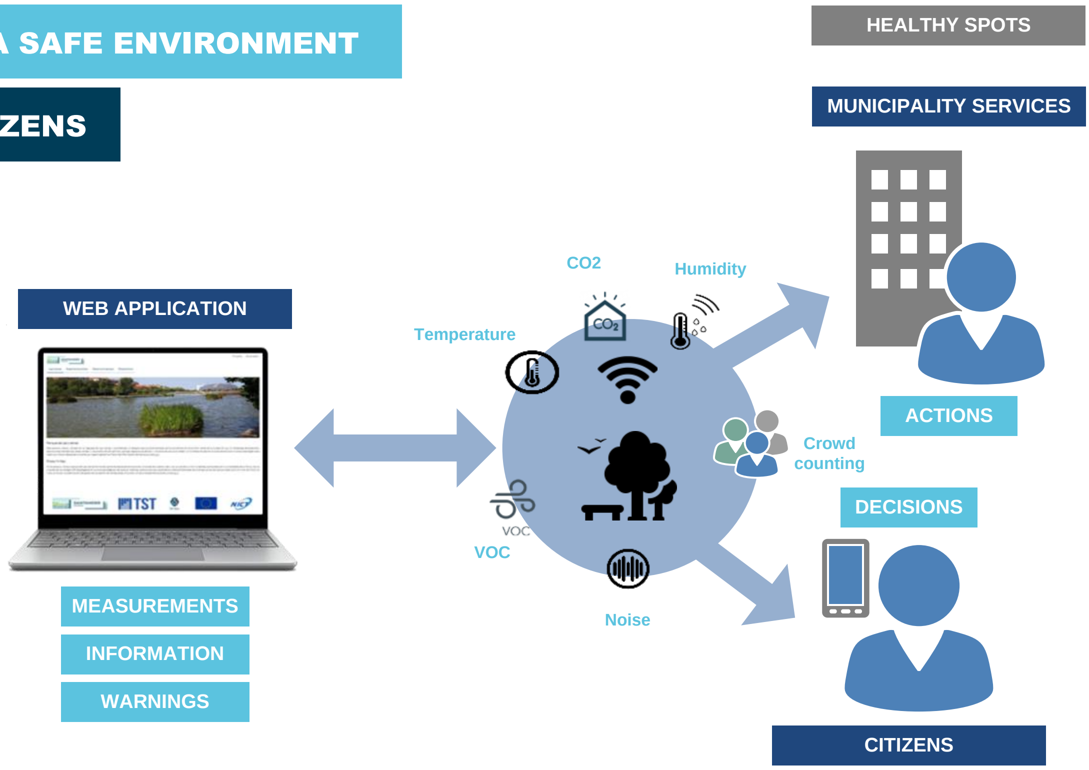
Healthy spots provides relevant information for the Municipality as this data would help when analyzing the area and programming specific actions. Citizens will receive a positive impact as well since they will now have the chance to perfectly know the park conditions before going there and avoiding potentially risky situations.

SIMPLE, SECURE & SMART REMOTE PARK CONDITIONS & ACTIVITY MONITORING

REAL-TIME ANALYSIS AND QUICK ACTION WHEN FACING EMERGENCY SITUATIONS BASED ON ENVIRONMENTAL AND CROWD COUNTING SENSORS

GUARANTEE A SAFE ENVIRONMENT

FOR OUR CITIZENS



HEALTHY SPOTS AND THE MAIN CHALLENGE IN THE PROCESSING OF SENSITIVE DATA

Security and integrity of the data collected continues to be a big concern around these types of solutions for its applicability and scalability. The **environmental and crowd counting sensors deployed continuously collect sensitive information that a malicious actor can use to tweak and commit inappropriate actions.**

M-SEC AS A SOLUTION TO THE GREAT CHALLENGE IN PRIVACY & DATA SECURITY

- **Access to data only by authorized and authenticated entities**
  Thanks to **Eclipse sensiNact** and its fine grained security mechanism, only authenticated and authorized entities can access to the data collected by the Healthy Spots sensors.

- **Prevention of malicious attacks to access the full content of database**
  M-Sec's Crypto Companion Database encrypts sensitive data with an asymmetric public/private key pair.

- **End-to-end approach**
  All the data flowing from the IoT devices to the cloud and to the user application is secured thanks to the Security Manager that ensures Authentication, Accounting and Authorization in the whole system.

- **Blockchain-ready system**
  The data generated by the whole service, properly encrypted, is complemented **by blockchain-related features** available to users through the web application.

- **A Marketplace to monetize anonymous data**
  Data that is not personal or sensitive is sent automatically to the **M-Sec Marketplace** prepared to provide a secure IoT data exchange environment. This Marketplace includes a Trust&Reputation component capable to evaluate the actual content being shared.

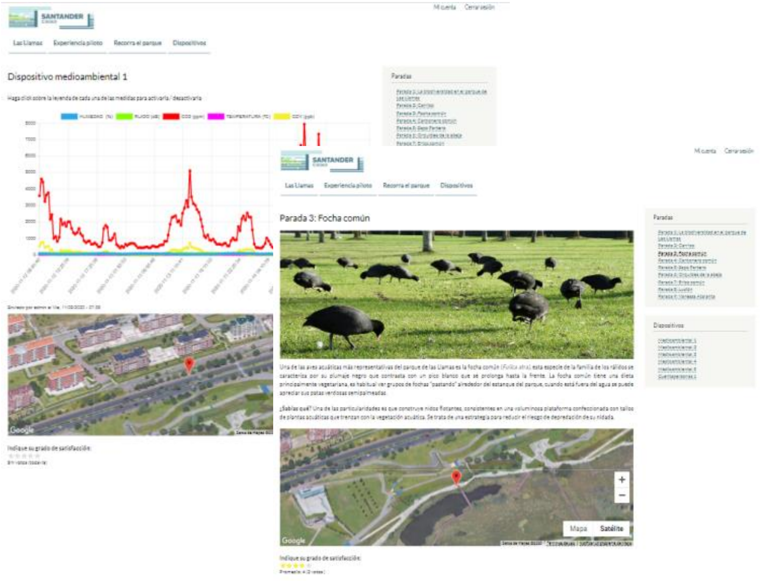
UNIQUE VALUE PROPOSITION

Non-intrusive (wireless sensor network)

Friendly (no technical skills required)

Scalable (extensive to various cities, parks and locations)

System Resilience



SANTANDER

Mi cuenta Cerrar sesión

Las Llamas · Experiencia piloto · Recorra el parque · Dispositivos

Dispositivo medioambiental 1

Haga click sobre la leyenda de cada una de las medidas para activarla / desactivarla

Indique su grado de satisfacción:

Parada 3: Focha común

Una de las aves acuáticas más representativas del parque de las Llamas es la focha común (*Fulica atra*), esta especie de la familia de los rálidos se caracteriza por su plumaje negro que contrasta con un pico blanco que se prolonga hasta la frente. La focha común tiene una dieta principalmente vegetariana, es habitual ver grupos de fochas "pastando" alrededor del estanque del parque, cuando está fuera del agua se puede apreciar sus patas verdosas semipalmeadas.

¿Sabías qué? Una de las particularidades es que construye nidos flotantes, consistentes en una voluminosa plataforma confeccionada con tallos de plantas acuáticas que trenzan con la vegetación acuática. Se trata de una estrategia para reducir el riesgo de depredación de su nidada.

Indique su grado de satisfacción:

Paradas

Parada 1: La biodiversidad en el parque de Las Llamas
Parada 2: Carrizo
Parada 3: Focha común

Dispositivos

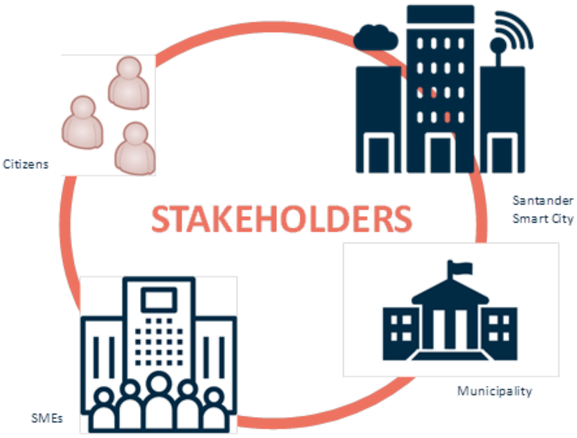
End to End Security (data encryption with asymmetric public/private key, blockchain technology for data tamper proof, distributed data, access control)

FOR WHOM IT MAY BE USEFUL?

Are you an IoT provider looking for a partnership to expand your business?

Are you part of the Municipal Services and want to rely on innovative ways to react quicker than yesterday and plan beneficial actions for the community?

Are you a citizen and want to know more about how these types of solutions can help on your daily routines?



PILOT TESTIMONY

> ***"I'm really interested in getting to know how M-Sec solves technical and security related problems, which are a real concern today in this kind of Internet of Things deployments. The idea is quite interesting and could have a positive impact on the city. Both from the citizens point, since it could help to avoid large gatherings and also thinking about having real data to compare how environmentally safe and friendly are different spots"***
>
> **(end-user, Spain)**

ABOUT M-SEC

The M-Sec project is jointly funded by the European Union’s Horizon 2020 research and innovation programme (contract No 814917) and by the Commissioned Research of National Institute of Information and Communications Technology (NICT), JAPAN (contract No. 19501).

The M-Sec consortium is a strong partnership of leading European and Japanese universities and research centers as well as companies in the area of Big Data, IoT, Cloud Computing, Blockchain and all of them have an extensive experience in smart city related projects.

The overall M-Sec consortium is made of 12 partners, 6 from 4 different European countries (France, Spain, Greece, Ireland) and 6 from Japan.

One of the main results of the project is based on providing a set of components that provide security and integrity of data traffic, end to end, from the device to the Cloud and to the application in a secure and transparent way, with a modular approach for the IoT and Smart City domain.