GEOSMARTCITY SCENARIOS

Maria Cabello
mcabello@tracasa.es
tracasa

Underground Scenario

GeoSmartCity

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The ICT-PSP European project GeoSmartCity establishes a cross-platform, able to publish open GI and to provide specialized services based on open standards.

Virtual hub

For integration and publishing of local, web based, real-time sensor or user-generated open geo-information. Learn more

Pilot cases

The potentiality of GeoSmartCity is demonstrated through the development of 11 operative and re-usable pilot cases in the frame of the two scenarios: Green-Energy and Underground. Learn more

Innovative services

To facilitate the day-to-day operation and management of key municipal infrastructure sectors and public utilities activities. Learn more

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UNDERGROUND SCENARIO

Status

- 6 pilot sites in EU
- 12 Use cases
- 61 User/System Requirements

Commonalities

- The improvement of the efficiency of the underground network management (mainly in terms of integration of resources from different actors)
- The citizen involvement (crowdsourcing mobile apps)

PILOTS UNDERGROUND

Applications Showcase

11 Smart City operative applications demonstrating the added value services of the Hub.

Apps Showcase

GeoSmartCity Showcase

Project website | Contact Us

Underground Management applications

Comarca de Pamplona | Spain

Improving GIS existing platform with real-time information provided by smart sensors through a SCADA system.

View details

Genova | Italy

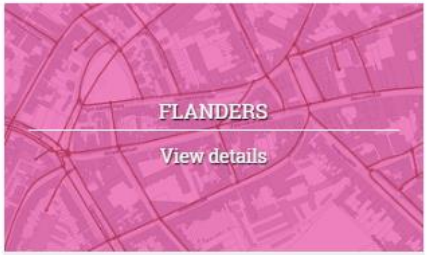
Integrated management of the utility networks and use of mobile client for data management and field works.

View details

Oeiras | Portugal

Implementing an event management platform (ruptures in water network) based on a mobile crowdsourcing app.

View details



Flanders region

Mobile application for the management of the sewage database and crowdsourcing tool.

View details

South Moravian region

Mobile crowdsourcing app to report a problems on the underground infrastructure and Augmented Reality.

View details

Ruda Śląska | Poland

integrated WebGIS platform giving the ability to verify/update basic information on the underground networks.

View details

Pamplona (Spain)

Innovative real-time services for underground networks management

Use cases:

- Consulting real-time data of the water supply and sanitation systems in a GIS viewer.
- facilitate analysis and decision-making information from a hydrographic model.

General Objectives:

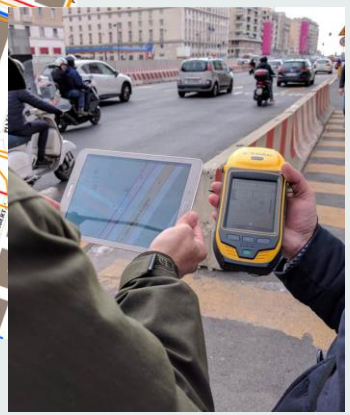
- To improve the water and sewage GIS existing platform:
- Integrating **real-time information** provided by smart sensors through a SCADA system (a computer system for gathering and analyzing real time data)
- Consult a map with values from sensors or incidents from smart sensors

Main results:

- The SCADA system linked to the GIS through SOS standardized protocols
- EPANET Hydrographic modelling using real time data through SOS services
- Consulting sensor values and evolution

Genova (Italy)

Integrated management of the utility networks and use of mobile client supporting field works.



Use cases:

- Underground Cadastre
- Excavation procedure
- Field works
- Underground networks and environmental hazards

General Objectives:

- To provide a viewer solution to support them on the network management and in field work operations.
- **Integrate different underground information** layers from different actors
- Include **INSPIRE** compliant data in the city underground data management workflow

Main results:

- View of the underground networks WMS layers in 2D map.
- View infrastructure using Augmented Reality.
- Get information of infrastructure elements.
- Use external GNSS device for precision user positioning.
- Possibility to verify and edit data on the field thanks to a specialized service.

Oeiras (Portugal)

Crowdsourcing event management platform.

Use cases:

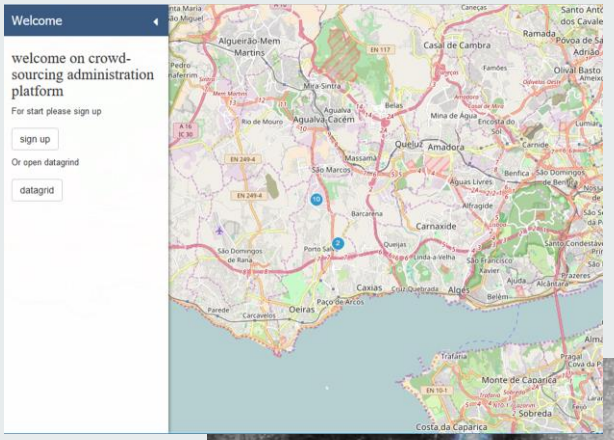
- Underground Event Management

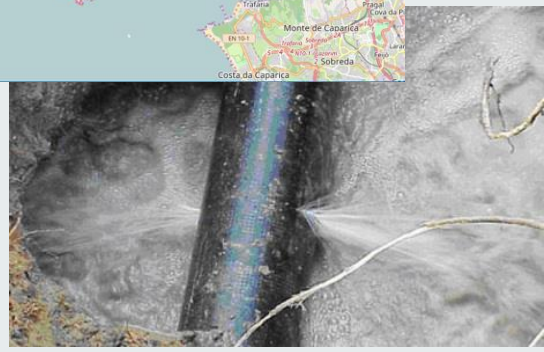
General Objectives:

- to create a more efficient **warning system** of interruptions in public roads, reduce traffic and CO2 emissions and optimize the management of the underground.

Main results:

- Crowdsourcing: Insertion of a crowdsourcing event trough the mobile client
- Search Water\Sewer Interventions: Access the web application and do research according to the characteristics of crowdsourcing events.
- Client authentication: The web client ensures different authentication levels depending on user roles.
- Croudsourcing report aproval: An authenticated user approves the crowdsourcing feedback for these inputs appear on the map.





Flanders Region (Belgium)

Consulting sewer network information, trace the sewer network and alert sewer network issues by using a mobile client.

Use cases:

- Accessibility of sewer network data in a mobile application.
- **Crowd sensing platform** to alert issues in the sewer network.

General Objectives:

- Focus on the conformance of the Flanders sewer network data to **INSPIRE** specifications
- Manage sewage network from a **mobile/web client** application
- Integrate in the system a **crowdsourcing** component so the sewage database can be consulted by the public in order to report possible anomalies or remarks.

Main results:

- The **tracing functionality** that makes possible to trace the route of substances and helps field workers to limit the search area for incidents and be faster to find the cause or perpetrator and prevent health and environmental damage.
- Citizens or other non-professional users (like civil servants with no connection to sewer system management) can **report an issue** on the sewer network.

South Moravian Region (CZ)

Mobile apps for public administration and utility companies.

Use cases:

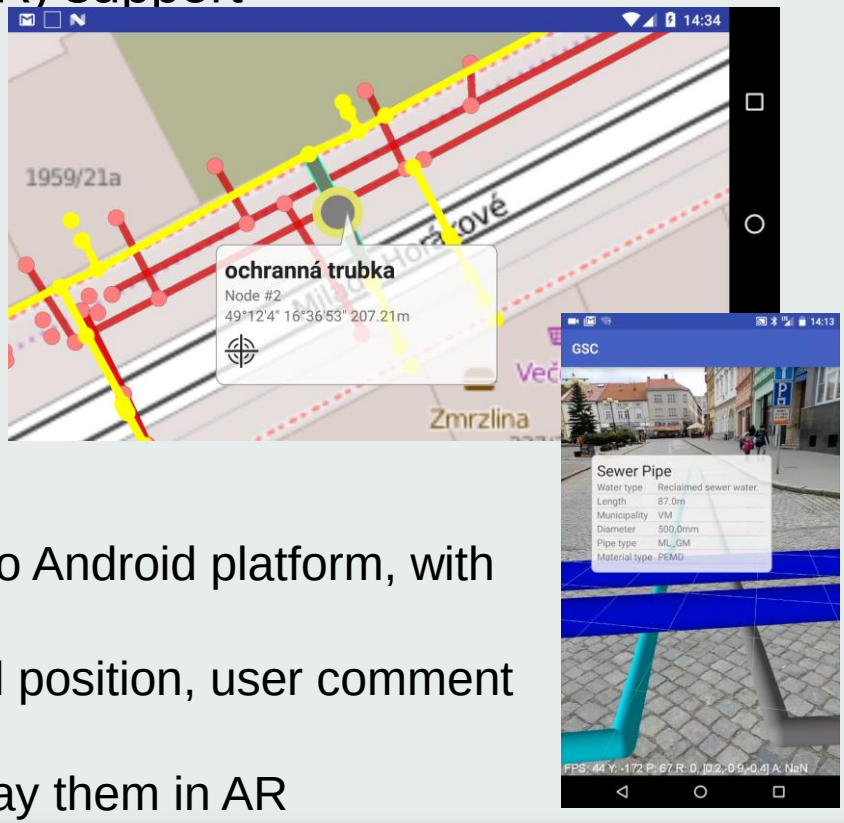
• C**rowdsourcing** support for public administration

• To enable utility companies to view underground infrastructure, such as sewage, water and pipes, electrical cables, directly on the street using a mobile device with **Augmented Reality** (AR) support

General Objectives:

• Provision or **volunteered geographic information** (VGI) to report a problems on the public underground infrastructure.

• Use of mobile clients to support the management and update of existing data on the field.



Main results:

•Two apps that deploy mobile clients, targeted to Android platform, with different functionality.

•Crowdsourcing: Take a picture, determine local position, user comment and send it to appropriate service.

• AR: Read data from dedicated WFS and display them in AR environment.

Ruda Śląska (Poland)

Integrated WebGIS platform to better manage basic information on the underground networks.

Use cases:

• Utility and municipality operators that need to manage the underground networks and to share the data for ownership and incidences issues.

General Objectives:

• The application focuses on the **integration and harmonization of the underground network** data coming from the municipality and the Utility companies.

• Data and specialized services will be integrated in existing GIS platform supporting an integrated approach on the management and maintenance of the networks.

Main results:

• An integrated WebGIS platform giving the ability to verify/update basic information on the underground networks and to share the data in order to clarify the ownership issues

• Mobile and web clients

• Authenticated access to information and permission roles

Thank you

Grazie

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