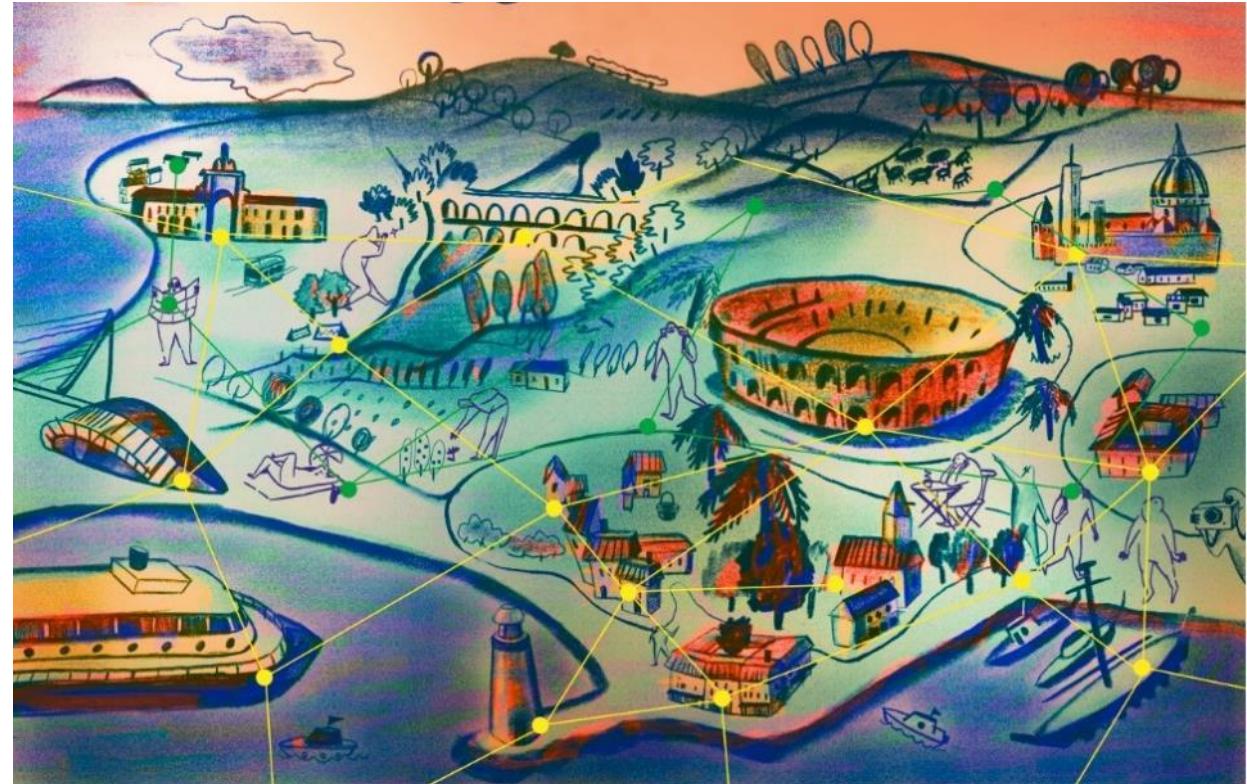


HERIT-DATA: Sustainable Heritage Management towards Mass Tourism Impact thanks to a holistic use of Big and Open Data

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Research & Development IT



Introduction



01/02/2018 to 31/01/2022



4.195.515,20 €



Leader: Toscana Region

Priority axe 3: Specific objective 3.1: To enhance sustainable the development policies for more efficient valorisation of natural resources and cultural heritage in coastal and adjacent maritime areas of a sustainable and responsible coastal and maritime tourism in the MED Area



Project co-financed by the European Regional Development Fund

REGIONE TOSCANA - Department of Infrastructure & Technology
Fundation for Reserach and Innovation (IT)
Agency for Sustainable Mediterranean Cities and Territories (FR)
CRPM Conference of peripheral maritime regions of Europe (FR)
Occitanie / Pyrenees-Mediterranean Region (FR)
Valenciaport Foundation (ES)
Agència Valenciana del Turisme – Generalitat Valenciana (ES)
Santa Maria Real Foundation of Historical Heritage (ES)
Faculty of Science and Technology - New University of Lisbon (Portugal)
Region of Western Greece (GR)
City of Dubrovnik development agency (CR)
Centre for Spatial Research (Bosni – IPA)

HERIT-DATA aims to **reduce the impact of human activities** (tourism-related ones) on cultural heritage, with a special focus on 2 kind of cultural destinations that can benefit from and be affected by mass tourism: Old towns & Sites of particular cultural heritage or archaeological interest for visitors, including UNESCO World Heritage Sites, so present in the MED territories.

In that framework, HERIT-DATA plans to develop of a sustainable and responsible tourism management towards cultural heritage in MED regions, in particular by taking advantage of **technology and innovation in management tools (Smart Cities)**, as well as other policy and social measures.

11 Partners 7 countries

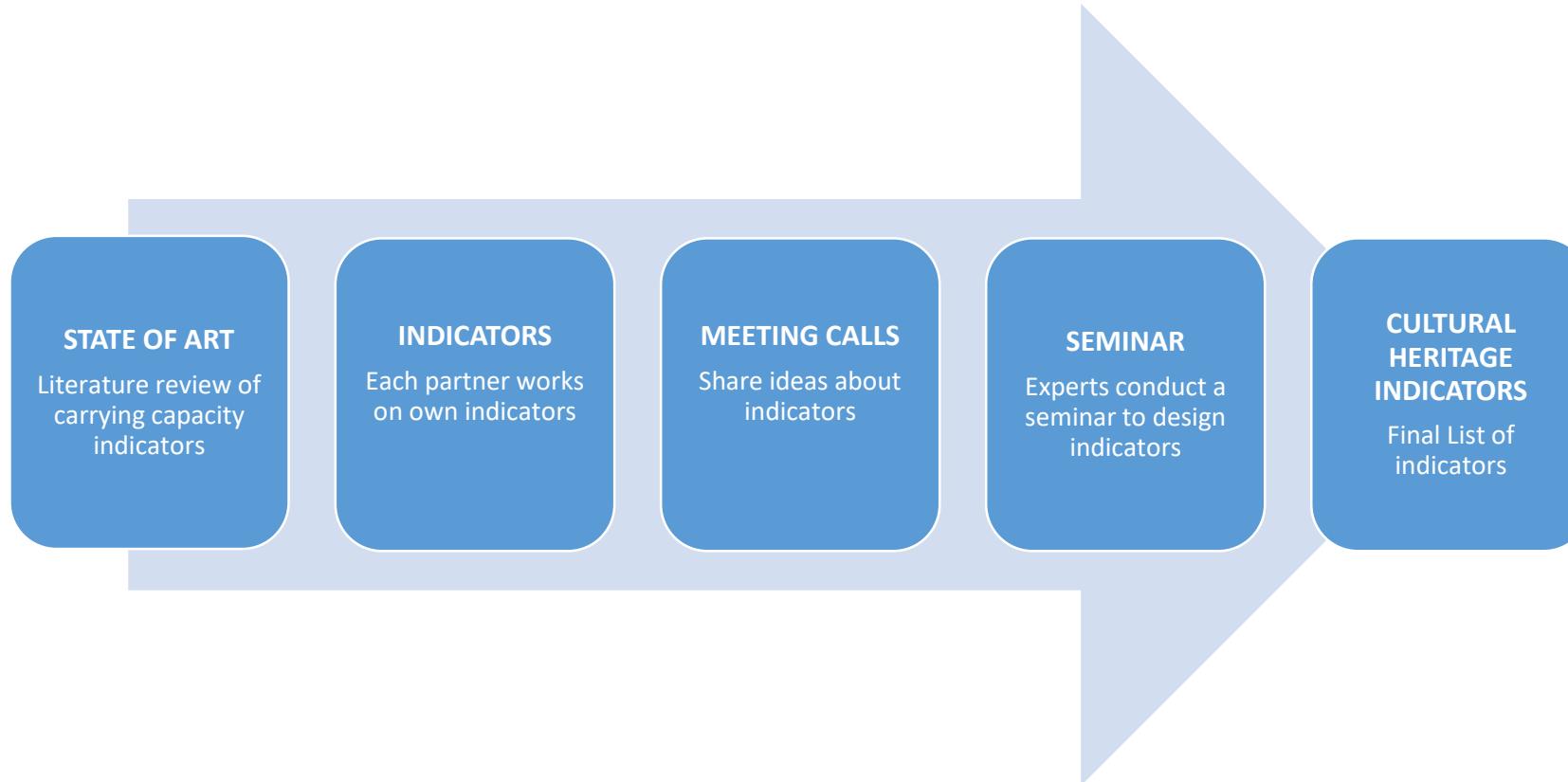




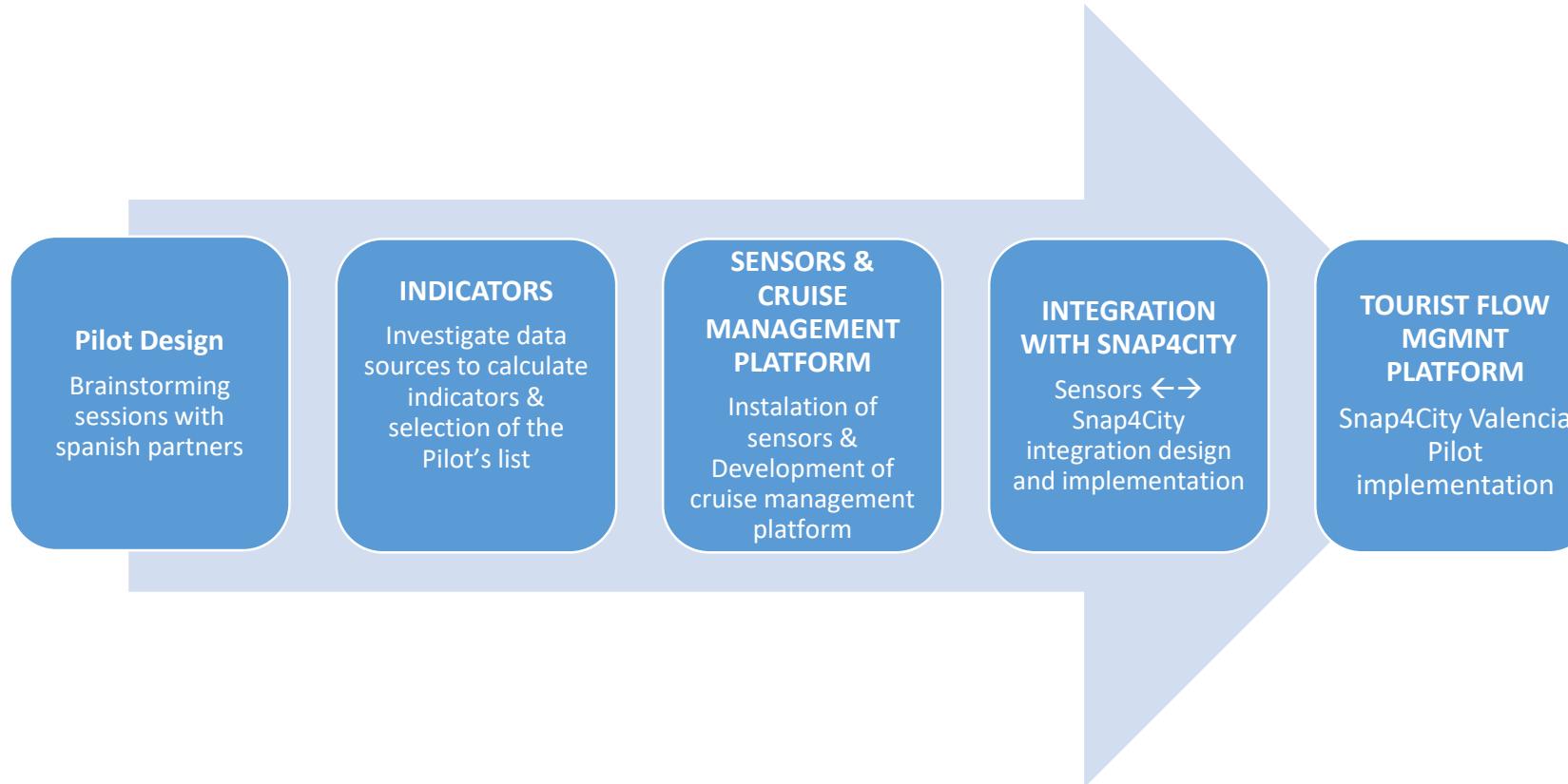
Valencia : Motivation

- **Valencia is attracting more and more visitors.**
 - From about 1.6 millions to 2 millions more tourists between 2006 and 2018
- **Most popular destinations**
 - Ciutat Vella, City of Arts and Science, Beaches and famous Fallas Festival
- **125% increase of cruise traffic at the Port of Valencia in number of passengers over the last 10 years**
- **Increase of tourist flows has also had negative impacts**
 - E.g. Increase of the rental prices (29.53% in Ciutat Vella between 2017 and 2018)
- **Valencia is starting to feel the consequences of overtourism**

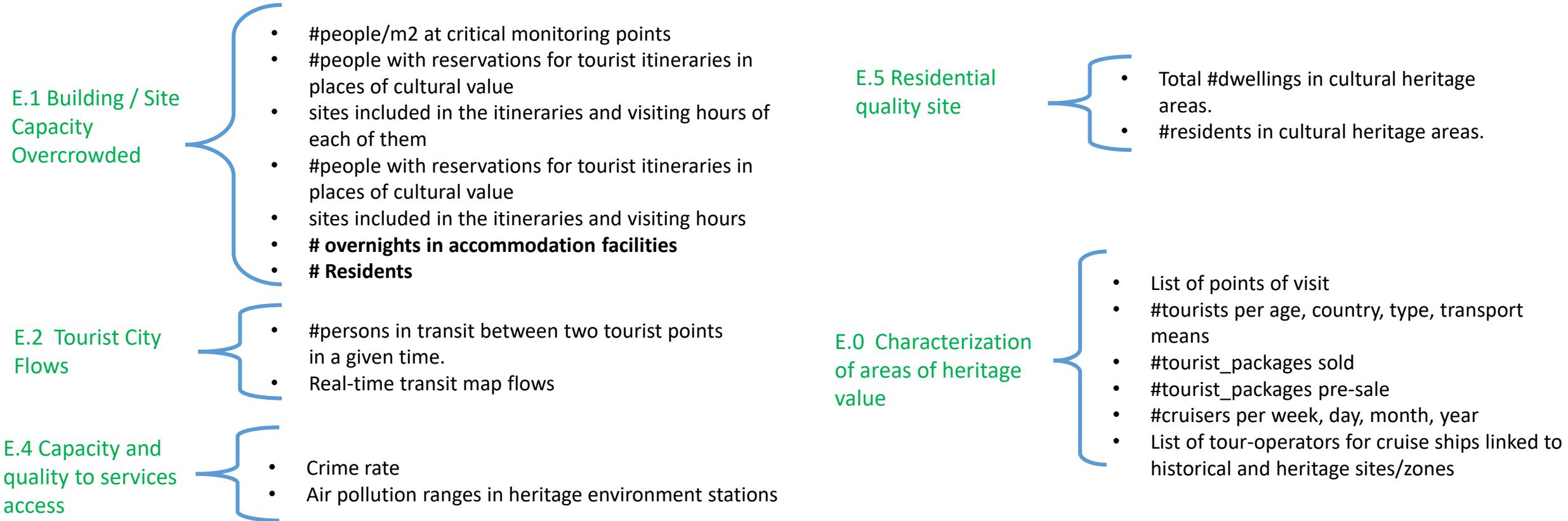
WP3 Indicators: definition process



WP4 Valencia Pilot: design & implementation process



Valencia Pilot: Targeted Indicators

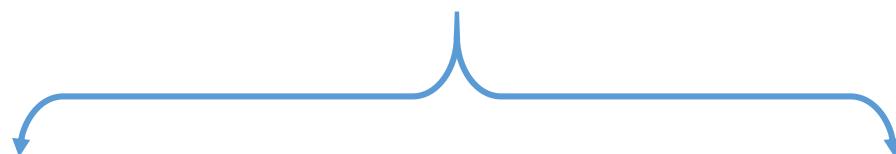


Valencia Pilot: Targeted Indicators

Indicador		Fuente	Datos necesarios
Tourist Itinerary: sites included in the itineraries and visiting hours of each of them		Plataforma APV	* Itinerario de puntos de visita a partir de histórico y de la plataforma APV (o de TCV)
Index perception post-experience Security (sample)		Depende del cuestionario y de la APP, y luego de la participación de los turistas	* Definir cuestionario con preguntas, para establecer un índice ponderado mediante una escala que indique la percepción del turista y pueda utilizarse aquí.
Answers to questions of questionnaires made to real tourists to the perception of "hygiene, sanitary conditions and cleanliness", in the tourist visit made.		Depende del cuestionario y de la APP, y luego de la participación de los turistas	* Definir cuestionario con preguntas, para establecer un índice ponderado mediante una escala que indique la percepción del turista y pueda utilizarse aquí.
Total number of people at critical monitoring points.		Sensores Diputación y FVP	* Ubicaciones a medir: Mercado Central - Plz. Virgen, Ciutat Vella - Puerto * Nº de personas (MACs) recibidos en el punto de medida, máximo pico y número total por día
Total number of dwellings in cultural heritage areas.		Cada 10 años, a parir del censo	
Number of residents in cultural heritage areas.		http://servicios.ine.es/wstempus/js	National Statistics Institute (INE). Data is available within the INE's TEMPUS3 database. Monthly

Valencia Pilot: Sensors & Cruise Management Platform

One of the key points of the pilot is the **acquisition of primary data collected directly by sensors** located at different sites in Valencia.



E.1. Building /site capacity overcrowded

- Monitoring environmental parameters of a heritage buildings (temperature, humidity, luminosity, gases, etc.)
- Num. people / m²



E.2.Tourist City Flows

- WIFI sensors installed in entrance of heritage buildings, transit points and access points to the city (e.g. port)

In collaboration with:

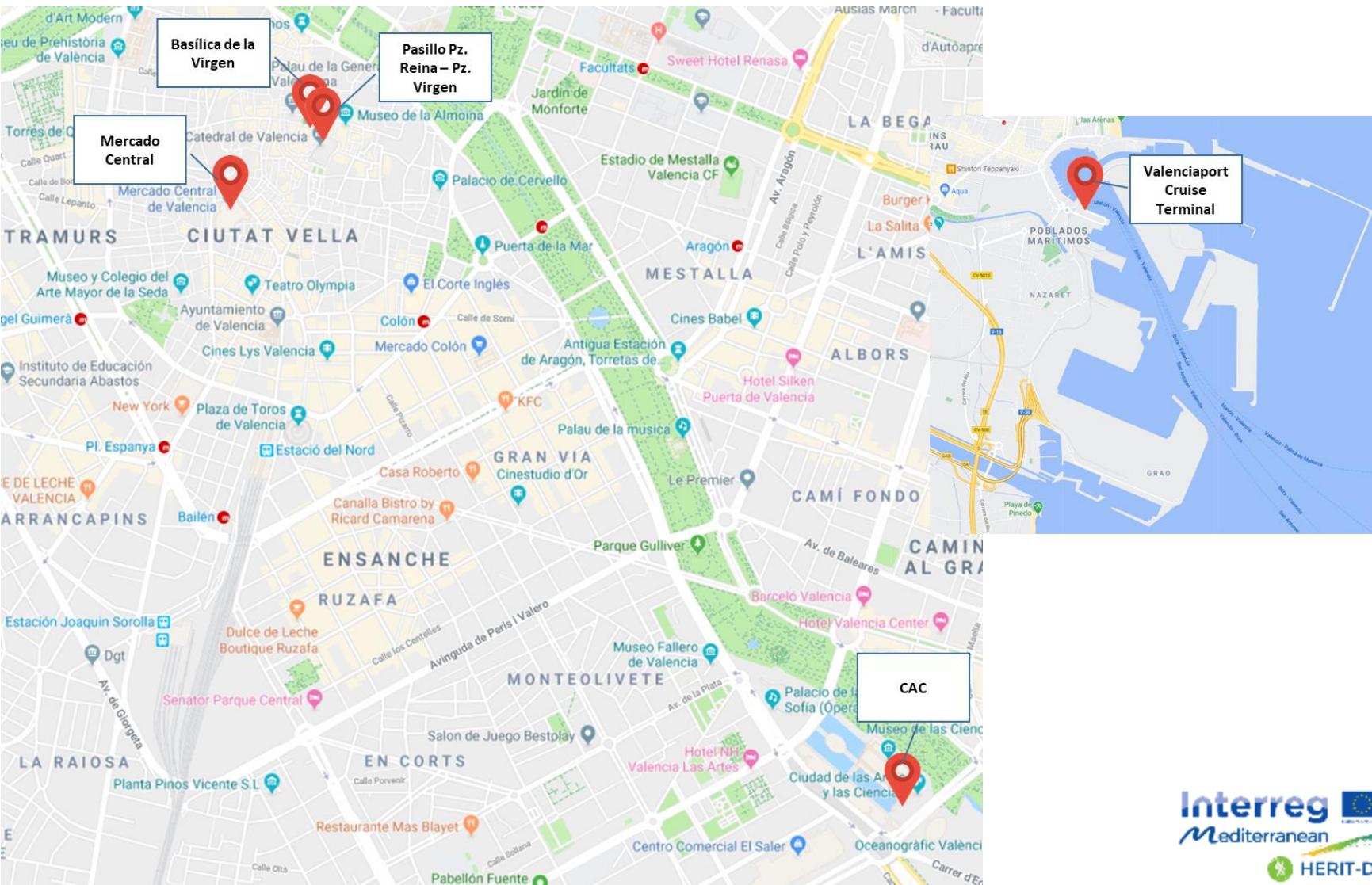


Autoridad Portuaria de Valencia

Development of the Cruise Management Platform

- A platform will be develop to facilitate the interconnection between cruise stakeholders and PAV. Some relevant data will be shared for the predictions and indicators

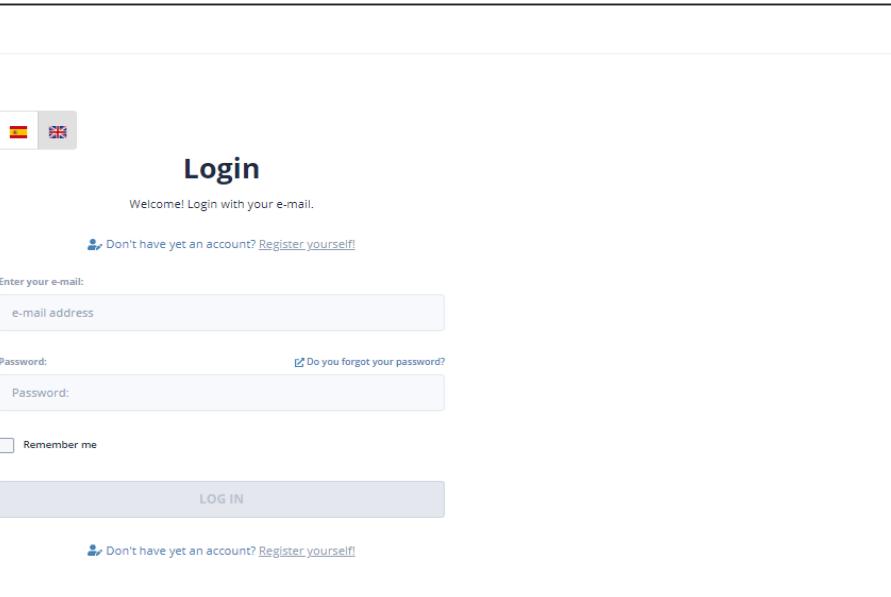
Valencia Pilot: Sensors (WiFi senzorized sites)



Valencia Pilot: Sensors (PAX counters & GW)



Valencia Pilot: Cruise Management Platform



Welcome! Login with your e-mail.

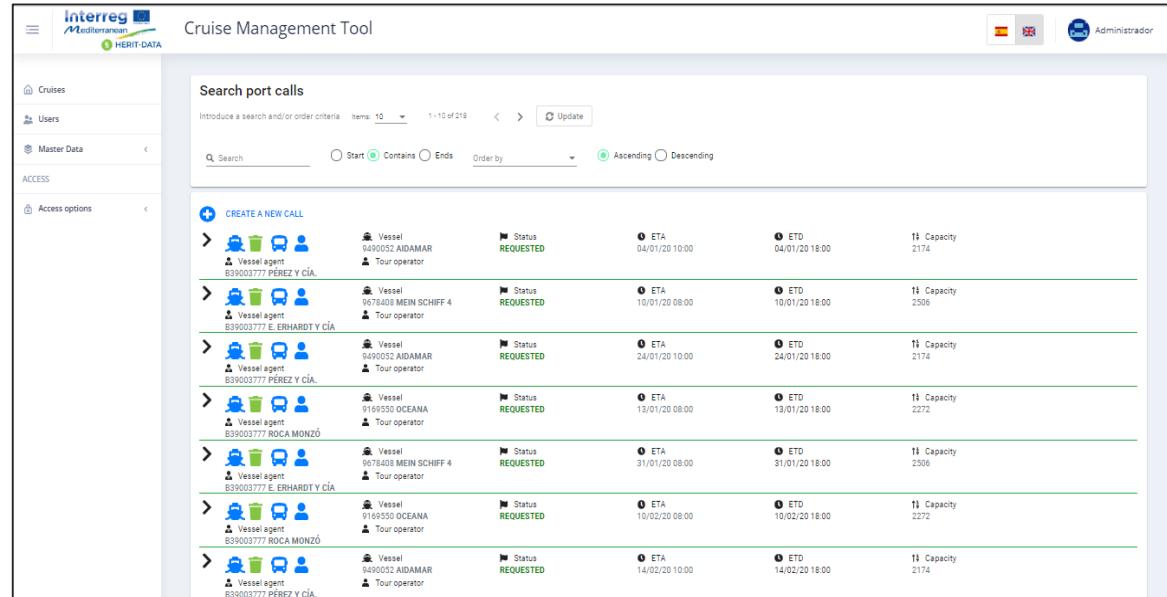
Don't have yet an account? [Register yourself!](#)

Enter your e-mail:

Password: [Do you forgot your password?](#)

Remember me

Don't have yet an account? [Register yourself!](#)



Cruise Management Tool

Search port calls

Introduce a search and/or order criteria Items: 10 1 - 10 of 219 < > Update

Search Contains Ends Order by Ascending Descending

CREATE A NEW CALL

Vessel	Status	ETA	ETD	Capacity
0490052 AIDAMAR Vessel agent B39003777 PÉREZ Y CIA.	REQUESTED	04/01/20 10:00	04/01/20 18:00	2174
9678403 MEIN SCHIFF 4 Vessel agent B39003777 E. ERHARDT Y CIA	REQUESTED	10/01/20 08:00	10/01/20 18:00	2506
9490052 AIDAMAR Vessel agent B39003777 PÉREZ Y CIA.	REQUESTED	24/01/20 10:00	24/01/20 18:00	2174
9169550 OCEANA Vessel agent B39003777 ROCA MONZO	REQUESTED	13/01/20 08:00	13/01/20 18:00	2272
9678403 MEIN SCHIFF 4 Vessel agent B39003777 E. ERHARDT Y CIA	REQUESTED	31/01/20 08:00	31/01/20 18:00	2506
9169550 OCEANA Vessel agent B39003777 ROCA MONZO	REQUESTED	10/02/20 08:00	10/02/20 18:00	2272
9490052 AIDAMAR Vessel agent B39003777 PÉREZ Y CIA.	REQUESTED	14/02/20 10:00	14/02/20 18:00	2174

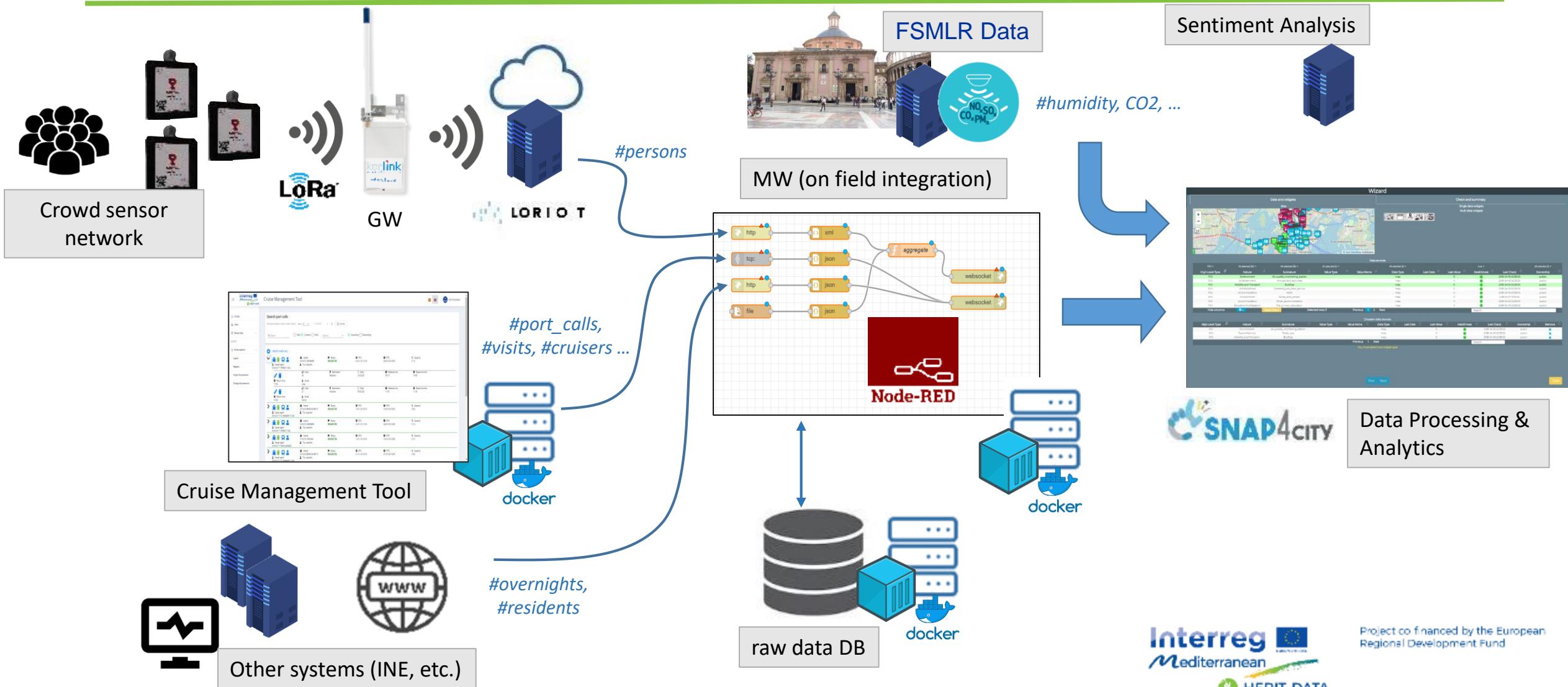
Login page

Cruise Management Platform

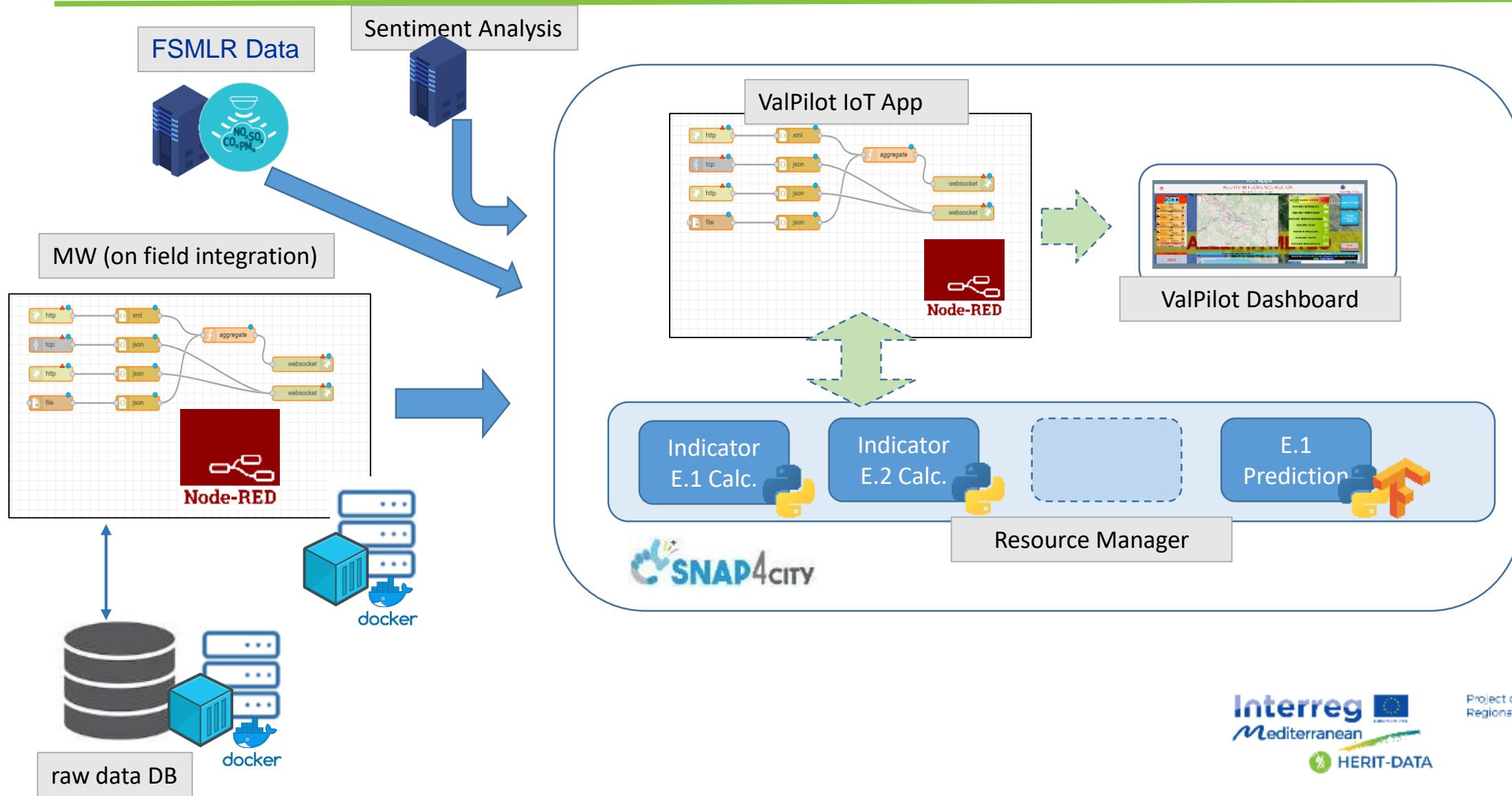
Several user profiles
Cruise company
Port Authority
Tour-operator

Open information

Valencia Pilot: Integration with Snap4City



Valencia Pilot: Integration with Snap4City



Valencia Pilot: Tourist Flow Management Platform

Design

- Brainstorming Google Doc
- Ideas consolidation meetings
- Mock-ups prior to implementation

Valencia Pilot Dashboard: View 1

Home page listing the different dashboards so that the user can easily navigate through the whole set of dashboards.

Additional Comments: Creemos que este diseño debe ser considerado más una matriz de los diferentes gráficos y dashboards, idealmente con visualización en tiempo real, aunque esto dependerá del grado de desarrollo de la plataforma.

Valencia Pilot Dashboard: View 4 (chart dashboard)

Map view with the area under study (Ciutat Vella and the Valenciaport). Three options have been considered.

Comments:

- In each dashboard we can share a bar or a velocity gauge with the current level of that indicator with blue, yellow and red (overpassing the threshold) zones.
- In each topic, for example Ciutat Vella, we will allow a first dashboard with statistics and velocity gauge visualization at indicator component level. Then, when you click on the icon (see more), second dashboard will show you a detailed description of the data required.
- Historical data (weekly, monthly, monthly) will be shown in the first and second dashboard mentioned above. However, we might show historical data in another dashboard, the third one.
- There could be also some statistical numbers (mean, min, max, values). Regarding the data collected directly from the sensors, we should share (specific for indicators A and B) only the data collected from 0 (morning) to 24 hours (evening) in order to capture the tourist activity in Valencia.

Valencia Pilot Dashboard: View 5 (Historical data)

Daily, weekly and monthly historical data: this information could be presented by a linear graph to see the evolution. In this regard, the daily maximum peak reached and the average value per day should be shown in the graph. Then, the threshold line (horizontal red line) is deemed essential to show when the area is congested.

Indicator Component: E11.1

Higher granularity? Sensor data also?

- It depends on how we upload the data to the platform (if we upload the raw data or at indicator component level)

Indicators:

- (E01) 1.2.1, (E-1.1), (E-0.22.1), (E-0.22.1), (E1) 1.2.1 Cruise, (E-0.21.1), (E-0.21.2), (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)
- (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)

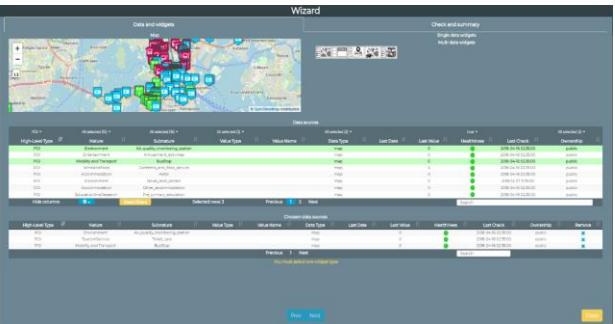
Valencia Pilot Dashboard: View 5 (Heat Map)

HeatMap view of the Ciutat Vella showing the level of each indicator or data with a control bar that allows the user to select the data to be shown.

All the map views could be aggregated in one dashboard and the user can select which one to show. The Mapview 2 could be the default. An **arrow** button on the right corner is used to switch from one view to another (bottom) to another (top).

Indicators:

- (E01) 1.2.1, (E-1.1), (E-0.22.1), (E-0.22.1), (E1) 1.2.1 Cruise, (E-0.21.1), (E-0.21.2), (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)
- Sentiment analysis (E.3.1.5 - E.3.1.8)



Valencia Pilot Dashboard: View 2 (Option 1)

Map view with the area under study (Ciutat Vella and the Valenciaport). Three options have been considered.

Option 1:

1. Location icons aligning over the sensors installed in Valencia. When you click on the icon you will get a basic description (location name, sensor type, last registered values of that sensor)
2. Different colors for each family of sensors (air quality, environmental reasons, etc.) Example: <http://www.eapcity.org/dashboard/CityView/index.php?#/dashboard#H7gjbfur>

Indicators:

- (E01) 1.2.1, (E-1.1), (E-0.22.1), (E-0.22.1), (E1) 1.2.1 Cruise, (E-0.21.1), (E-0.21.2), (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)
- (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)

Pilot Meeting 09-07-2020

interreg Mediterranean HERIT-DATA

Valencia Pilot Dashboard: View 2 (Option 2)

Map view with the area under study (Ciutat Vella and the Valenciaport). Three options have been considered.

Option 2:

1. A hybrid option, where sensor information with hourly updates is displayed on a map, while more static or less refreshed data is viewed in a drop-down list with tables, or graphs. In this way it is possible to better understand the origin of the data and its usefulness. (a side column added to the side of the map)
2. Sentiment analysis (E.3.1.5 - E.3.1.8)

Indicators:

- (E01) 1.2.1, (E-1.1), (E-0.22.1), (E-0.22.1), (E1) 1.2.1 Cruise, (E-0.21.1), (E-0.21.2), (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)
- (E-0.22), (E-0.23), (E-1.2.1), (E-1.2.2), (E-1.1.1)

Pilot Meeting 09-07-2020

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THANK YOU FOR YOUR ATTENTION!

HERIT-DATA: Valencia pilot site

Backup Slides

