

Real time reporting system for monitoring with sensor technologies

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Partner in charge: IAAC

Contributing partners: n/a

Summary

The report documents the current state of the tools that create the iSCAPE software platform. It is a preliminary deliverable since many of the will evolve during the next months as they get used on the various iSCAPE pilots. Before the end of the project, the platform development status will be compiled and a final comprehensive report will replace the existing one.

The tools presented include: the Smart Citizen Platform, the Smart Citizen Engine, the Smart Citizen Website, the ISCAPE Data Analysis Framework, Virtual Living Lab and the Onboarding App

The **Smart Citizen platform** supports the core features of the platform and the report documents the new components developed specifically for the project as well as those components that already existed. The platform is a front and backend solution for ingesting, storing and interacting with public data with a particular focus on crowd sensing applications. The platform has been set up to support a wide variety of sensor data, however, for the time being the primary datasets expected as part of the ISCAPE project are the following:

- **ISCAPE Citizen Kits:** low-cost environmental sensors aimed at being deployed by citizens themselves..
- **ISCAPE Living Labs Stations:** environmental sensors aimed to be deployed by the Living Lab communities to monitor the effects of the local interventions.
- **Existing cities Air Quality Stations:** includes data available online or offline in the form of a database, a web page or a file including updated data of a city Air Quality Stations.

- **On site data collected by local research teams:** might include other data that might be collected at the different ISCAPE sites or computer data based on existing platform data

Building modular and reusable software and using existing platforms is seen as critical in terms of optimizing the research and development effort; and by increasing the technology readiness levels of existing technologies, the project exploitation strategy can be drastically improved.

The report also presents the **Smart Citizen Engine**, the cloud based software supporting data ingestion, aggregation and retrieving and the **Smart Citizen Website** <https://smartcitizen.me/kits/> that supports the users to find relevant data by allowing easy discovery and filtering of assets, based on geolocation, tags, groups, name and owners.

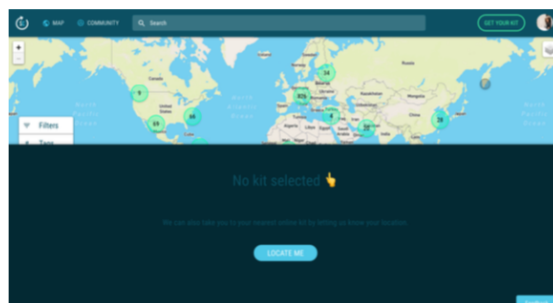


Figure 1 Smart Citizen Map Browser

Other tools presented in the report include the Data Analysis Framework, the Virtual Living Lab and the Onboarding App.

The **Data Analysis Framework** is built with the purpose to help the project research community to process and analyze the data obtained from the sensors. The framework is based on Jupyter Notebooks, and the data analysis tools are based on Pandas and are ready to support Scikit later.

The **Virtual Living Lab** has been already released online as in documented on ISCAPE D8.3. The final Sensor Platform integration with the Virtual Living Lab will be documented on the Comprehensive release of this document.

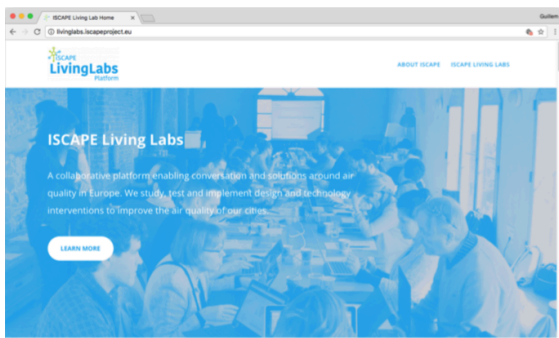


Figure 2 iSCAPE Living Labs home page

The **Onboarding App** aims to facilitate the process of sensor setup to ensure

that users, irrespective of technical expertise, can install the sensors. It guides the user through the course of the setup using simple language and a friendly graphic language.

The full report will be published in February 2018.



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