

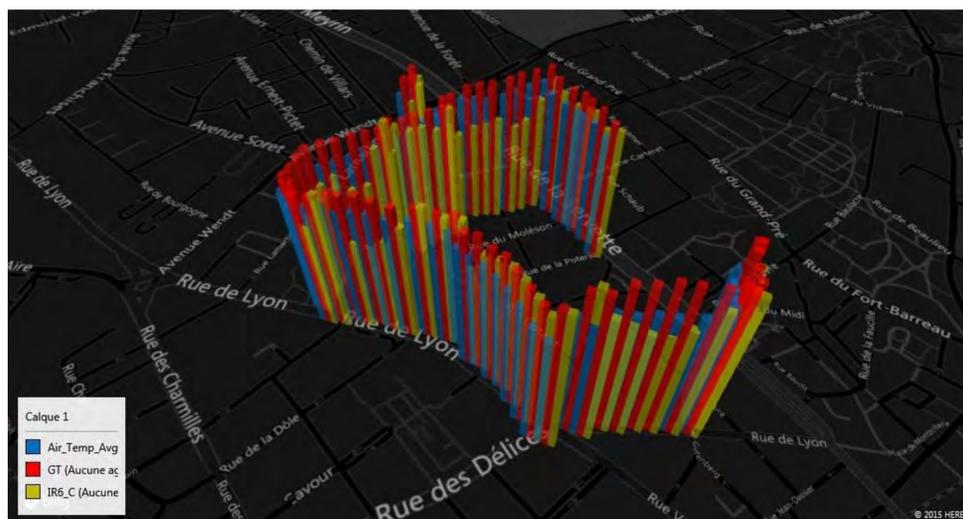
# City Feel – an instrument for climatic urban design for healthy cities and mitigate heat island

**1** In order to mitigate the warming in our cities and to ensure a better and comfortable quality of public spaces in more dense cities, we need more knowledge.



**City Feel** is a broad project within the framework of climatic urban design. The aim of the project is to develop and share a methodology and a affordable measurement equipment to be easily deployed on the streets, squares and other public places at the pedestrian level. The equipment collects quantitative (physical) and qualitative (visual) environmental data that are georeferenced and correlated to qualify the urban ambiances.

**2** The monitoring equipment is embedded into a backpack that is carried during a « climatic urban walk » - that can be reproduced at different times of the day or seasons so to yield a dynamic view of the climatic quality of a portion of the city.



Exemple of georeferenced representation of data during a Walk

## 3 Overview of environmental sensors

- Fisheye camcorder mounted on 2 axis stabilisator
- 5 directional IR-sensor (front, rear, left, right, top)
- Globe temperature (mean radiant temp.)
- Wind speed and direction (sonic anemometer)
- Four direction sound recorder (front/rear, left/right)
- sound level recorder
- Vertical stem equipped with 6 thermocouples
- GPS
- 1 directional (bottom) IR-sensor
- 1 Raspi camera (bottom)
- Push button to set a flags in data recording to mark specials events during Walk

In the backpack :

- Campbell CR-6 logger
- Arduino
- Li-Ion battery
- inertial platform (gyro)
- ventilated air temp. and humidity
- O<sub>3</sub>, NO<sub>x</sub> and PM10 sensors (connected to external air duct)

## 4 Join the project. Current research focuses on :

- Optimization of the device and automation of data retrieval and storage
- Development of a signature based data search system to be used for identification of similar cases
- Development of immersive and user friendly graphical interface

**Crowdsourcing.** We make available the monitoring equipment to public and academic partners who have interesting in contributing and sharing case studies trough an open source database containing monitored situations related to urban climatic design of public spaces.

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L'avenir est à créer