D3.1

Deliverable – Software Concept (M8)

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Executive Summary

In recent times, more and more, the trend is to include intelligent or advanced algorithms in their calculation engines. Our *SUI complete vision* is sustainable in terms of energy, water and pollution; provide healthy environmental conditions; optimize whole-life value and be responsive to the needs of occupants and organizations. Today, embedded technologies are being developed to link the building and its systems more closely to the occupants. The decision-making chain is complex and involves many stakeholders and each decision contains multi-variables.

This document describes the complete vision that involves the SUI Management Platform. SUI Management Platform measures, monitors and controls the flow of energy and bioclimatic parameters within a SUI. This platform will be a key factor within a SUI area as it will be responsible for the connection of all the data providers and consumers. SUI Hub is an SUI Energy Management System (SEMS) which gathers data from device sensors situated in users' locations or area sensors. All the data collected from devices/sensors (static or mobile) or other web services will be used to check triggers/events defined by the user or pushed to 3rd parties through a REST API. The SUI HUB will serve as a convergence spot in which data arrives from one or more devices and is forwarded out in one or more directions. The SUI HUB may also include computation resources to perform some processing tasks before data is forwarded.

The architecture of the SUI HUB is composed of 4 big elements:

- ✓ **Data collection** – can be static sensors, mobile sensors or data from different WEB services
- ✓ **SUI HUB Core**
- ✓ **Client Side** (Mobile or Web interfaces to manage accounts/devices/locations/events)
- ✓ **REST API**

This project is an experimental version of the concept described. In this experimental version, some of the main features of the complete vision will be displayed, aiming at the testing and technological validation of the platform. This subject will be further explained in deliverable document D.3.2. Platform prototype tested for individual scenarios.