

WPT3.3 Output

One designed building performance measurement system

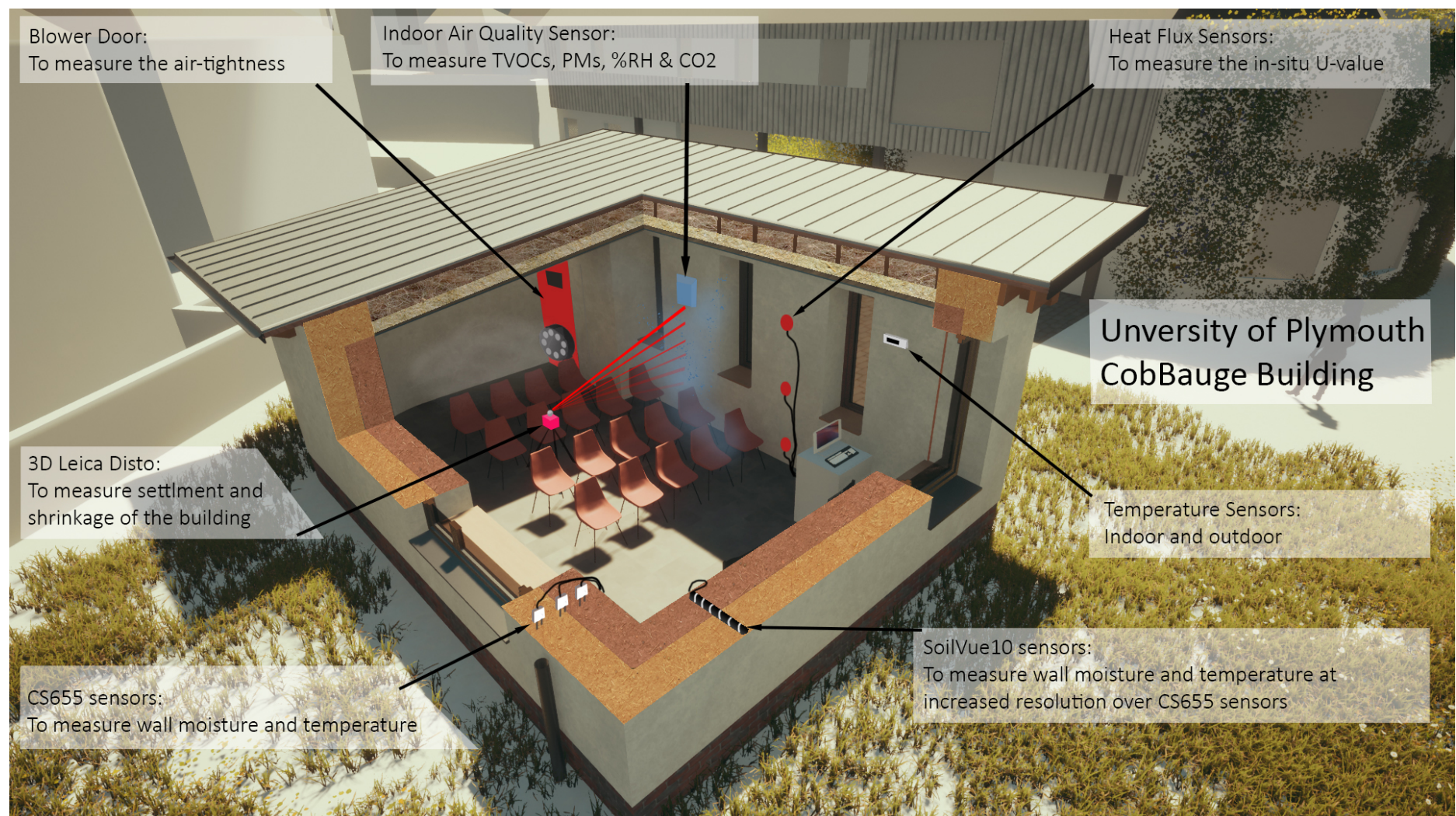
More detail on the performance and results from the building performance measurement system can be found in Output WPT 4.2

Sensors were installed in the building to gather data during two phases:

- The construction phase, where they were used to record the moisture content of the walls as they dried, and to record any associated movement in the walls.
- The occupation phase, where a variety of sensors were used to record the effects of human interaction with the building, and the buildings relationship with its own environment.

The sensors used for the occupation phase were:

- A blower door apparatus to measure the permeability of the building
- A Synetica Enlink IAQ-C indoor air quality sensor linked a LoRaWan network and pushing live data to a dashboard on the CobBauge website.
- Heat flux sensors to give a real time 'U value' measurement of the buildings insulation value
- A selection of data-logging sensors to measure temperature (inside and out), relative humidity, illuminance (light levels) and electrical power usage.



The sensors used during the construction phase were:

- Campbell Scientific CS655 sensors to measure the moisture and temperature at three depths through the wall
- Campbell Scientific SoilVue 10 sensors which also measure moisture and temperature but at a higher resolution than the CS655 sensors. These give us six sets of data through the wall
- A Leica 3D Disto laser measuring device that was used to accurately track the settlement and shrinkage of the CobBauge walls.