

EXCHANGABLE
MODULES



EXPERIMENTAL
FACADE

Eurecat Amposta Living Lab is a new facility building specialized in creating strategies to fight climate change by developing and testing sustainable practices. The location of the **building is near Delta de l'Ebre, (Tarragona, Spain)** a biosphere reserve singular for its rich landscapes, the representativeness of its Mediterranean ecosystems and its biodiversity preservation model. The living lab facility is located a Mediterranean climate (Csa according to Köppen-Geiger classification and zone 1&2 according nZEB chart classification).

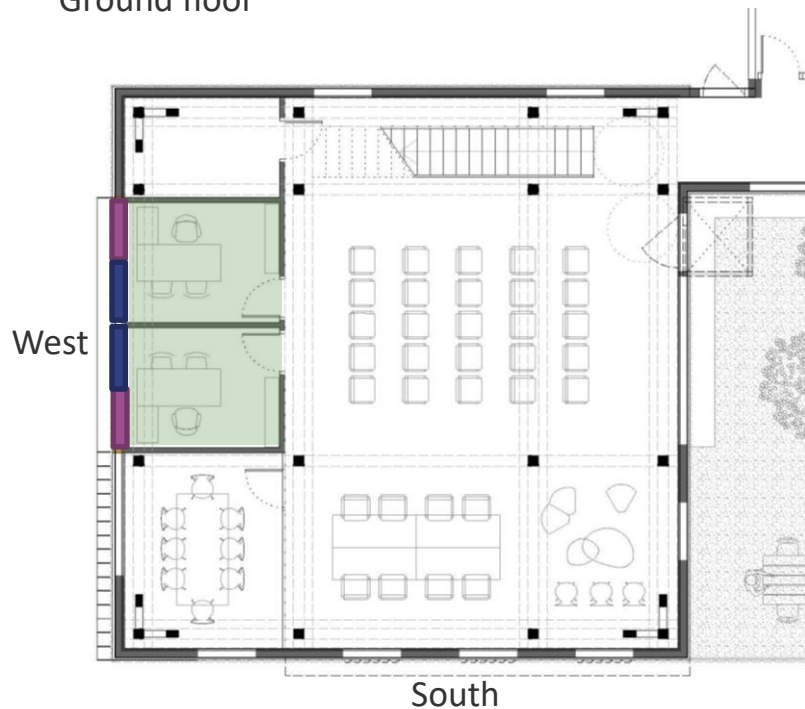
The building has been designed following a **circular approach** such as **carbon positive materials, modular systems, design for disassembly strategies** among others and will allow testing passive and active technologies for the **Architecture, Engineering and Construction (AEC) sector**. The building is divided by **2 floors of 145 m2** each floor area, and a gross volume of approximately 1000 m3 for the whole building. The main service as a Living Laboratory is focused **on testing different façade elements** and how its configuration affects the final performance of the building in different levels such as indoor and user comfort, energy performance of the building.

The testing strategy of the building is by **comparing the performance of two rooms located in the same orientation**. Two test cells and two reference rooms of 8.60 m² useful floor area in South and West orientation could be taken as the living lab testing. The tentative dimensions for the **test samples are 1250 mm (width) x 3000 mm (height)**, with a depth of up to 150 -400 mm, with a fixation frame between 50 and 100 mm all around the testing module. The elements for fixing and anchoring the test cases samples to the supporting structure will be based on standard solutions for façade/window construction. The building structure will be mainly timber-frame and the facades of the test cells allows the installation of different modules opaque and transparent . The Eurecat Amposta Living Lab is designed to be a Nearly Zero Energy Building (nZEB); to minimize energy demand for its operation and to use solar panels. It is designed to use LED technology for its lighting demand. Regarding This small office building equipped with a **modular SCADA system**, permitting to **monitor and control the building's consumptions, operating conditions, and meteorological data**. The site also allows to monitor indoor air quality performance. The building allows testing different façade systems and study their behaviour through data collection



Amposta Living Lab - Lay Out

Ground floor



First floor

