



CASE STUDY

BIOSPHERA GENESIS
ITALY

2021

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Sint-Niklaas, Belgium



ABOUT

Biosphera is the name of a project conceived by Aktivhaus and focused on the construction of houses capable of bringing real well-being to the inhabitants. Biosphera project has developed in three progressive phases, pursuing increasingly complex objectives, three itinerant and energetically autonomous housing units by adopting the most advanced and innovative technologies available today.

CHALLENGE

Aiming to increase attention on environment sustainable solutions, wherever applicable, and motivate people to become active in this sector, with over 12 years of experimentation and scientific research, Biosphera Genesis is an eco-sustainable and self-sufficient housing module that produces 8 times the energy consumed and employs 95% less energy than a traditional home. This biophilic building project, inspired by Sense Design, was conceived by Mirko Taglietti, CEO of Aktivhaus - Nexlogic Group, in collaboration with numerous institutions, universities and companies, including Sto Italia from the energy efficiency buildings sector. The project boasts the most prestigious certifications in the sector and it's an economically accessible construction model created for the hotel industry, but applicable to any other segment in the tertiary, private, and commercial sectors.

SOLUTION

Spending time in this 40 square meters housing module does not only mean having an all-round sensory experience that favors the human-nature interaction generated through the technologies used, but also having all those modern, eco-compatible and highly efficient installations that make it unique and comfortable to the maximum to live in. Here's where Legrand Integrated Solutions has added value to this installation by offering the best solutions to meet the customer needs. All the technological systems within Biosphera are supervised by the ultimate ICALIS release, which manages all the inside equipment so that one can take advantage of all various functions of this housing module installation.



Special attention has been paid to the light on the inside, therefore various technologies have been specifically studied, such as the one that allows to recreate the natural light conditions that respect the human circadian rhythm. In terms of lights system, this is controlled by the DALI 2.0 GW controller that allows a correct light level diming while shutters are coordinated by the BTicino MyHome SCS system. ICALIS synchronizes the correct position of the shades to maximize/reduce the solar influence depending on the season. A specific HVAC driver allows to communicate to a GSI heat pump which retrieves thermo data from MyHome to maximize the comfort and reduce the energy consumption.

To help create a truly healthy environment also the air inside this housing module is constantly monitored and fully automated.

All the above-mentioned functions can be controlled by the Alexa voice assistant which also guides you into Biosphera while the Vantage controller provides seamless integration of all subsystems within this housing module installation to enhance the entire control experience. Even the external casing has been very well taken care of, made of rock wool, a versatile insulating material with excellent thermal and acoustic protection properties that allow this housing module to be positioned even in particularly delicate climatic environments.



BENEFITS

Modern, technological, eco-compatible and highly efficient installation
Unique and comfortable
Fully enhanced system supervision experience
Reduced energy consumption

PRODUCTS

1 ICALIS Controller
1 DALI 2.0 GW Controller
1 Vantage Controller
12 Dali dimmed light points
6 On/Off relays light points (MyHome)
1 GSI Heat Pump
1 GSI VMC unit
1 BTicino Living Now with Alexa

