Our home is a 100% bioclimatic and sustainable building. Before the construction of the building, a geobiological study was carried out which helped us to decide the correct location of the building as well as the architectural location of the rooms.

After living in the house for more than a year we can say with certainty that KNX installation made the monitoring and control of the building easy and efficient, creating a fully sustainable home.

All interior and exterior lights are controlled with KNX switches but also with motion detectors, time programs, brightness, scenes and visualization. Different light scenes create the proper mood for every time of the day and night.

64 electric motors in total (Shutters, blinds and electric Windows) are all controlled from KNX using light scenes, time programs and automatic functions based upon the weather station.

22 thermostats control the underfloor heating for winter and cooling for summer. The building is constructed such a way that there is no need for fan coil or VRV during summer period. Although the temperature during a summer day in Greece may rise up to 39 or even more than 40 degrees Celsius, building a bioclimatic house and using only the underfloor cooling controlled by KNX is enough to create the perfect living environment.

A solar chimney using electric windows controlled from KNX, utilizes solar energy to enhance the natural stack ventilation through our building. The solar chimney has been in use for centuries, particularly in the Middle East and Near East by the Persians, as well as in Europe by the Romans.

Each floor and each area of the building is being monitored for temperature, humidity and CO_2 concentration, giving an overall image of air quality in the building. Different threshold values of humidity and CO_2 enables VAM units to create the perfect atmosphere.

All the electromechanical equipment is monitored with sensors and every time a fault occurs an alarm signal is generated and KNX notifies us through email.

All Access control doors can be controlled by KNX, giving us the opportunity to open doors remotely.

Pool is monitored and controlled by KNX including the electric pool cover. Temperature, PH, redox, filter pressure, circulation, water overflow, water level, alarms, pool lights, can be monitored and controlled remotely.

Energy meters monitor and record electricity quality and our overall electricity consumption. Monitoring our energy and using photovoltaic panels we managed to cover 80-85% of our energy consumption.

KNX is bi-directional connected with our Alarm system, CCTV, Intercom, Access control, Audio-Video system, Heating and ventilation system. If we add lighting and shutter control and all automation function KNX provides, we strongly believe that we managed to build a fully sustainable building.

All raw materials used are non-toxic and environmentally friendly. All cement used was free of commonly used ash. All cement reinforcement is painted to prevent corrosion from air humidity over time.

The house is insulated externally in the basement with blown glass and in the ground with hemp panels, internally additional insulation has been made with sheep's wool. All ceilings in the house are covered with 3 cm cork to limit heat and noise transmission between floors.

Rainwater is collected through natural filters in an underground tank to be used to irrigate the garden. Wastewater treatment also produces water which, after ultrafiltration, goes to another underground tank used for irrigation.

The heating and cooling of the building is carried out by heat pumps with water heated or cooled respectively by geothermal fields underground at a depth of 100 mt.

Drinking water is treated locally with proper water treatment, reverse osmosis and UV treatment, with all water levels monitored with KNX sensors.

Best Regards

The owner of the house