

## Smart and sustainable buildings: GREEN PEA in Turin

Green Pea is the world's first green retail park. Built in Turin around a year ago, it is an excellent example of how smart buildings can be used for retail, showcasing exceptional aspects of energy efficiency and environmental sustainability.



It is, therefore, hardly surprising that the building won the 2021 Innova Retail Award, a prize dedicated to innovative projects in the retail sector.

Green Pea was instantly seen as the industry gold standard thanks to its commitment to having a minimal impact on the environment. The building is characterised by its use of various forms of renewable energy, generated through geothermal wells, photovoltaic and solar panels, wind energy collectors and kinetic energy recovery systems.

Another highly innovative aspect of the project is the type of paving used at the entrance, which can produce energy simply by being stepped on.

### Green Pea: BEMS at the service of a NZEB building

At structural level, the building's façade consists of a network of steel ribs and wooden louvres, interwoven with plants and greenery. This is an integral part of the building, constituting another key aspect of

environmental sustainability.

Green Pea covers a vast area of 15,000 square metres and has five floors, all of which are managed, including aspects of air quality and optimisation of heating and cooling systems, through an innovative Building Energy Management System (BEMS), capable of managing the various installations in a coordinated and efficient manner.

The BEMS itself, responsible for reducing the building's energy consumption by 30% and providing more efficient management, is the product of a cooperation between Alca Building Solution S.r.l., a Turin-based system integrator and Trend Technology Partner.

The building is also classified as an NZEB nearly zero-energy building – and was awarded a score of 3.2 by the ITACA 2012 Protocol of the Piedmont Region for commercial buildings.



In order to coordinate all the systems in this architectural complex, Alca Building Solution opted to install a Trend solution, part of Honeywell Building Technologies to manage energy and water consumption and maintain a constant overview of indoor air quality for improved energy efficiency and environmental quality.

### The green retail park that combines technology and the environment

*“As a design, Green Pea was born in 2018” - said Alberto Cacace, owner of Alca Building Solution. The project commissioned by Oscar Farinetti, creator of Eataly, is characterised by its low environmental impact. As the system integrator explains, “the building spans several floors – the first focuses on energy and e-mobility, and each floor is dedicated to a specific theme, while demonstrating a strong focus on the environment”.*

From the outset, Alca Building Solution has been involved in the management of all of the building's technological installations, every aspect of which had to be smart and green, from thermal management to safety.

*“The purpose of the BEMS is to control every system as effectively as possible, and monitor all parameters in order to provide the building's energy manager with the data they need to operate it.”*

In addition to Green Pea, Alca Building Solution has worked on the construction of J|Medical, the medical centre of excellence of Juventus FC, and the Eataly chain of restaurants, based in Milan, both of which use Trend solutions.



### Putting the spotlight on comfort, safety and indoor air quality

This complex building was created to meet all the energy needs and environmental requirements of the highly demanding retail sector.

This prompted the system integrator to use the IQ™VISION Supervisor provided by Trend Control Systems. This building monitoring and management solution is capable of integrating controllers, third-party devices and Internet protocols into a centralised software platform.

*“The ideal tool to deliver efficient results in terms of energy profile and environmental comfort”*

Cacace points out.



The geothermal system (which draws on three wells set 30 metres below ground level) and its heat pumps are also managed by the Trend BEMS. Each floor is equipped with AHUs (air handling units), with a total of 60 throughout the building. There are also around 9,000 smoke detectors to provide sufficient protection against fires and to ensure healthy environments and indoor air quality, using dedicated sensors to detect the quantity of CO<sub>2</sub> and the presence of pollutants.

***IQ™VISION is supervisory software designed to manage buildings of all sizes. It delivers a wide range of useful features, such as centralised data recording, archiving, alarm display, profiles, scheduling, system-wide database management and integration with enterprise software applications. IQ™VISION is an entirely OPEN, extendable and scalable platform for any application. It is configured using the state-of-the-art Niagara 4 interface, which is not only powerful, intuitive and easy to use, but also uses HTML5 to provide an extensive range of features perfectly tuned to the needs of IoT.***



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