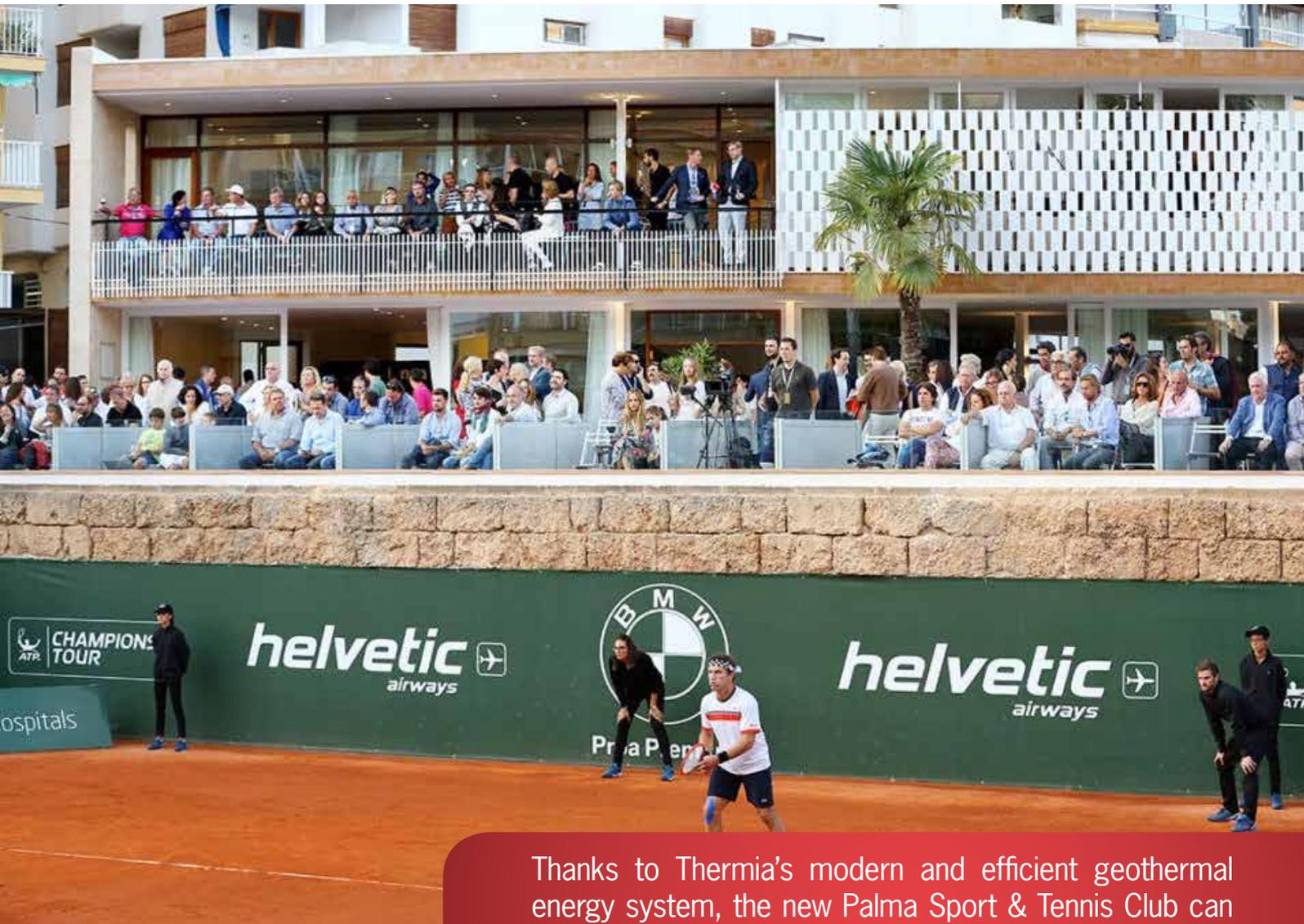




Palma Sport & Tennis Club benefit from a renewable heating and cooling solution from Thermia



Thanks to Thermia's modern and efficient geothermal energy system, the new Palma Sport & Tennis Club can entertain their guests in the knowledge that they are caring for the environment and saving money.

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The Palma Sport & Tennis Club – an iconic place for tennis fans in Mallorca

The Palma Sport & Tennis Club, formerly Mallorca Tennis, was originally founded in 1964. It was built by the renowned native Barcelona architect Francesc Mitjans, architect of the famous Camp Nou football stadium and other significant buildings in Spain. Today, totally refurbished, the club offers its local and international members a range of high quality services, varying from private tennis lessons and body building to hot yoga, cross training, a 25-meter pool, a gym, rooms for yoga, pilates, spinning, petanque, rock (climbing wall), spa, relaxation area, beauty rooms, meeting rooms and a restaurant.

Palma Sport & Tennis Club, has 4 clay courts & 1 center clay court, all complete with lighting for evening play. The center court can seat approximately 1 200 people and is perfectly prepared to hold tournaments. The 4 clay courts are situated next to each other embellished with charming mosaic details between each court. The club has preserved its charm from the 1960s, using more sustainable and modern techniques.

Energy efficiency and environmental footprint awareness

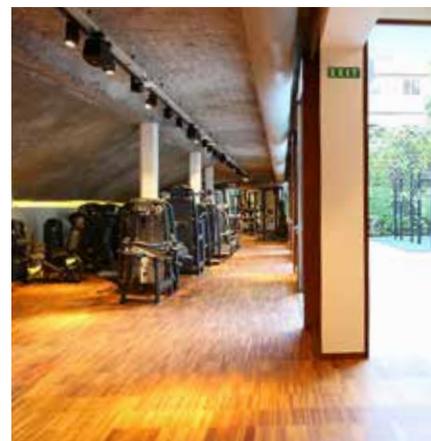
In 2015 the Palma Sport & Tennis Club was refurbished to accommodate the new facility. The promotor of the new stage of the Club, the Swedish Mikael Landström, bet from the beginning on the inclusion of renewable energy facilities that will provide the latest technologies in energy efficiency. Therefore, the HVAC system and hot water obtained by geothermal energy provided by Thermia ground source heat pumps, the ground source vertical boreholes are made by Muovitech turbo collectors. Although geothermal provides 100 % of the hot water needs, solar panels are installed



Swimming pool at The Palma Sport & Tennis Club



Sauna



Indoor gym

for additional heating of hot water and for the swimming pools. In addition to the traditional pool heating with solar panels on the roof, there are circuits of pipes laid under the tennis courts to provide additional heat to the outdoor pool.

Thermia heat pumps - the most efficient solution for heating and cooling

The main building has a floor space of 987 m² and the building gyms of 254 m². The heat distribution system

Characteristics of the building

- Heated and cooled area: 1 241 m²
- Hot water demand: 52 775 kWh/year

Performance of the heat pump:

- 17 boreholes, 130 meter deep each
- 3 Thermia Robust Eco 42
- 2 tanks WT-C 750
- tank WT-T 500

Energy savings: 170 936 kWh
Financial savings: 12 670 Euro/year



Center court



Thermia Robust Eco ground source heat pumps

is through floor heating and cooling with fan coil units. The geothermal installation consists of three ground source heat pumps Thermia Robust Eco 42 models where each provides 53.7 kW of heating capacity (B10W35) and 47.8 kW of cooling capacity (B35W5). The heat pump is based on ground source, vertical boreholes, 17 vertical boreholes each 130 meters deep.

For hot water production two tanks were installed, Thermia WT-C 750 models with a production capacity of 1.5 liters per second each. The advantage of this solution is that no static water accumulates, rather water is generated instantly (3 liters per second, 10 800 liters per hour). The hot water produced in these tanks is

transferred to a separate tank, Thermia WT-T 500, which is the receiver. This tank uses the hot gas technology heating for increased production of hot water. By not accumulating water and the use of hot gas technology there is no danger of legionella diseases, especially important in a facility for public use.

For the cooling system, the installation comprises of a storage tank of 1 500 liters. Thanks to this the cooling via fan convectors is instantaneous.

The cooling production transfers the domestic hot water tanks and heats the swimming pools as the Thermia heat pump can generate cooling and heating simultaneously. The Thermia solution allows us to remove energy

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**says Miguel Madero Wage,
General Director
at Girod Geotermia**

from one area of the building (like the restaurant) and uses this energy surplus to produce hot water for the SPA or pool. This means maximum utilization of the energy that we have, heating and cooling are provided in the most efficient way, in short, energy is transferred from one place to another at the lowest possible cost.

Thanks to the geothermal solution from Thermia, Palma Sport & Tennis Club has been able to maintain the essence of the original architecture and at the same time provide the highest standard in sports facilities with the most efficient and ecological solution available.

- Solution: Thermia Robust Eco ground source heat pumps
- Location: Palma de Mallorca, Mallorca, Spain

- Installing contractor: Cabot Energía Activa S.L.
- Completion date: September 2015

Girod Geotermia - experienced partner in renewable energy on the Spanish peninsula

GIROD
GEOTERMIA

Girod Geotermia is the distributor of Thermia in Spain with more than 600 installations since 2007 made in all types of climates and terrains on the Spanish peninsula. The highly qualified technical support and network of local installers guarantee the correct functionality of your Thermia installation. Girod Geotermia will design the best solution for your house or commercial property using the vast range of heat pumps offered by Thermia.

Ground source vertical or horizontal as well as air-to-water solutions delivering heat, cooling and hot water in the most efficient way. Girod Geotermia with the network of certified installers and drillers have successfully installed geothermal installations from 6 kW for small houses to office buildings with more than 350 kW. You can read more about Thermia projects in Spain and awards received for best installation in Spain at www.girodgeotermia.com



David Jimenez (left) and Miguel Madero Wage (right) from Girod Geotermia

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Thermia – heat pump manufacturer with 40 years of experience



With more than 90 years of history and experience in the energy sector, Thermia Heat Pumps offer renewable energy solutions for any climate, anywhere in the world. All Thermia heat pumps are designed, manufactured and rigorously tested in Sweden where one of the harshest European climates can be found.

Ever since the beginning, the driving force behind our business has been the philosophy of our founder, Per Anderson: "The products one releases must not only be the best of their time, but before their time, over time".

At Thermia we are driven by this philosophy and our passion to deliver. For us every day is a new opportunity to create, build and serve a bigger purpose, for a greener and healthier planet, not only for ourselves but for everybody around us. Every challenge is Thermia's opportunity to make life a little more comfortable for our customers.



Thermia Heat Pumps

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