



# Modern IT services and modern renewable technology in one place

51%  
savings  
every year



## Delta Informatica supports renewable technology

Delta Informatica Spa has been operating for over twenty years in the field of information technology and management consulting offering different types of IT services from phone/online technical support to consulting and advance IBM AS 400 systems. Since 2012 Delta Informatica headquarters has been located in an industrial district Spini di Gardolo (the Trentino-Alto Adige) and operates in an office building that uses renewable technology. The office building is provided with underfloor heating and cooling. Training rooms are provided with additional ventilation units for the purpose of short-term meetings. The solution was designed as the only heating and cooling source for the entire building. Its power supply is ensured by a photovoltaic system.

## Thermia heat pumps – the solution for heating and cooling

Heating and cooling is provided by 4 independent ground source heat pumps operating in a master/slave mode. The boreholes were drilled with use of air pressure and water, without chemical additives. The average ground source temperature is 12.5°C.

During the summer the heat pump can remove heat surplus from the office rooms and transfer into the ground. It means that the summer heat can be used as ground source recovery before the winter season starts. The amount of heat transferred into the ground exceeds the heat extraction in wintertime. The ground temperature remains stable, under the fixed threshold value even through a 20-year perspective.

It is worth noticing that heating and cooling are provided through differing methods but from the same source – the ground. In the winter energy from the ground provides heating and in the summer “cold” ground provide passive cooling. Passive cooling is several time cheaper compared with traditional air-conditioning.

### Real life savings – empirical data speaks for itself!

No deviations from the planned mode of operation were shown when heating. The full capacity of the 4 heat pumps in place was not required beyond the start-up phase, with generally only 2 active heat pumps required for normal operation. When cooling, significant power savings were ensured by the natural cooling mode, which can be operated until August. For the purpose of full-capacity testing, the plant was switched to the active cooling mode in August. The 12-month power consumption of the whole heating and cooling unit was 65,960 kWh, of which 37,800 kWh was generated by the under-floor heating circulation pumps, 7,760 kWh by cooling, and 20,400 kWh by heating. Savings compared with natural gas and air-conditioning amount to ca. 51%.



Office interior

#### Characteristics of the building:

- heated office space: 3,000 sq m
- energy efficiency class: A, LEED Platinum
- heating energy demand: 95 MWh, cooling 128 MWh
- heat output: 140 kW
- cooling: natural cooling + active cooling

#### Applied solution:

- 28 boreholes, depth 90 m, type 4x40mm,
- Ground Response Test and operation planned for 20 years,
- 4 x Thermia Robust 35 kW heat pumps,
- natural cooling + active cooling



The heating room with Thermia Robust ground source heat pumps



Brine manifold

## Thermia and Geoliving partnership

Geoliving strives to provide quality heat pump solutions, with a focus on low operational costs, utmost comfort and durability of the installed systems. Our knowledge, expertise and customer oriented approach guarantees the quality and durability of our installations. Geoliving srl was found in 2006 by Wolfgang Holzfeind, with the aim of distributing and providing installations of top quality heat pump solutions. Numerous projects have been implemented to date, both domestic and commercial. Geoliving can support each and every part of the investment process: planning and ground source measuring, drilling, plumbing and installations works, including the heating room, delivery of heat pumps and boilers and finally commissioning. Normally geothermal installations do not need maintenance; nevertheless we offer maintenance contracts with after sales assistance. Geoliving has already built more than 240 geothermal plants in Italy and Switzerland.

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## 90 years of experience

With more than over 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 most 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.



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