GEOTHERMAL SNOW MELTING AND DE-ICING

With the coming of winter, snow and ice can cause delays and disruptions of private and public traffic. In particular, delayed or cancelled flights and trains due to snow or ice at airports and on railways or on runways can lead to a complete breakdown of air & rail traffics. Winter maintenance, snow melting and de-icing “from the bottom” using geothermal heat is an obvious and cost-effective solution.

❄️ WHAT IS IT?

Geothermally heated outside surface are typically based on hydronic heat exchanger installations in the pavement. Various system designs are available: use of warm or cold groundwater; use of borehole heat exchangers or energy piles. A combination with heat pumps can also be considered, while underground thermal energy storage is suitable.

❄️ ADVANTAGES

A geothermal snow-melting or de-icing system is a smart, local, cost efficient and environmentally-friendly alternative to the common mechanical and/or chemical winter maintenance and is always available without a costly stand-by emergency organisation. Furthermore, with heavy snow-fall, the geothermal heating prevents the freezing of the surface even with low system temperatures.

❄️ BEST PRACTICES

Geothermal snow melting and/or de-icing plants are being used all over the world, from the US to Japan, while in Europe the most notable examples are Switzerland, Germany and Iceland. Application in Airports for terminal heating and/or runway de-icing include notably:

• Nashville International Airport
• Greater Binghamton Airport
• Zurich Airport