



hybrid GEOTABS

Controlling the power of the ground by integration

GEOTABS is an acronym for a GEOthermal heat pump combined with a Thermally Activated Building System (TABS). GEOTABS systems combine the use of geothermal energy, which is an almost limitless and ubiquitous energy source, with radiant heating and cooling systems, that can provide very comfortable conditioning of the indoor space. **GEOTABS hybrid** refers to the integration of GEOTABS with secondary heating and cooling systems and other renewables, offering huge potential to meet

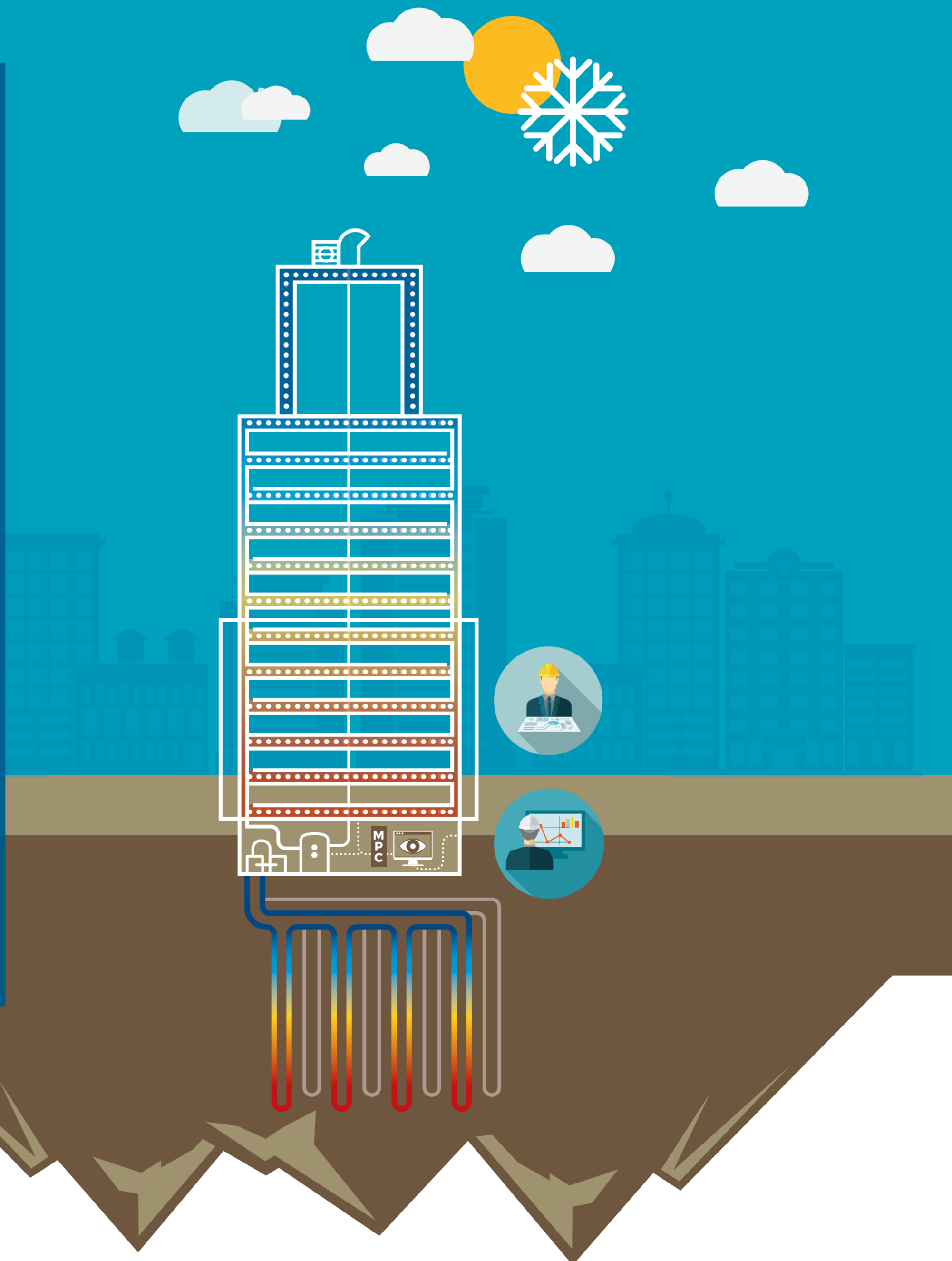
heating and cooling needs in office buildings, care homes, schools and multi-family buildings throughout Europe in a sustainable way. By use of Model Predictive Control (MPC), a new control-integrated building design procedure and a readily applicable commercial system solution in **GEOTABS hybrid**, the overall efficiency of heating and cooling will be significantly improved in comparison to current best practice GEOTABS systems and its competitiveness will be strengthened.

BENEFITS OF HYBRIDGEOTABS

- Suited to offices, apartment blocks, care homes and schools
- Radiant heating/cooling with other systems increase thermal comfort
- Flexible heating and cooling period avoiding the peak electricity cost of using other systems
- Competitive life cycle cost and reduced investment cost compared with air conditioning
- Reduced building height compared to non-TABS buildings
- Reduced need for radiators improves internal building aesthetics


FEATURES OF HYBRIDGEOTABS

- Average thermal power output of 40-50 W/m²
- ANOTHER TECHNICAL FACT ABOUT POWER OUTPUT
- Suitable for low and zero energy buildings
- Supplemented by a secondary heating / cooling systems for less efficiency buildings
- Best used for zone control, rather than individual room control.
- Careful system and control strategies design are required



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