SMART COOLING

SIET SWISS INTEGRATED ENERGY TECHNOLOGIES AG

CASE STUDY
Humanitas Hospital – Bergamo, Italy

"During summer, the hospital's air conditioning and cooling equipment are the single largest consumers of electricity, responsible for a whopping 50% of the total electricity consumption."

SHAKED, TESTED AND PROVEN.
Efficacy results were tested, analyzed and validated. Tests were performed using **BTU** liquid flow and temperature meter **RIF600** and energy monitoring equipment **Eniscope** analytics.

CUSTOMER

Humanitas is a highly specialized hospital, research and teaching center. It is accredited by the National Healthcare System. Built around centers for the prevention and treatment of cancer, cardiovascular, neurological and orthopedic diseases – as well as an Ophthalmic Center and a Fertility Center – Humanitas also operates a highly specialized Emergency Department. One of the most advanced hospitals in Europe and located in the Italian city of Bergamo, Humanitas provides 672 patient rooms in a total area of 57,000m2.

CHALLENGE

During summer, the electricity consumption of the hospital's cooling equipment accounts for 52% of the total electricity consumption – a heavy strain on the operational budget of the hospital. During the region's hot summer, when outside temperatures can reach over 35°C, there is a sharp decrease of cooling capacity of around 19%. The responsible HVAC engineers recognized there was indeed a deficit of cooling capacity and overload of the chiller compressors.

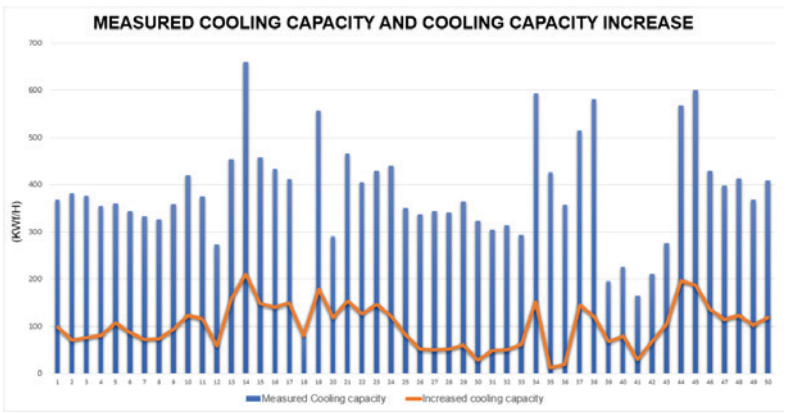
SOLUTION

In June 2019, the intelligent adiabatic **Smart Cooling™** system was installed on a TRANE RTAF 310 chiller.
Our solution considerably boosts cooling efficiency at INRIM, ensures more cooling power for the chiller and reduced electricity consumption.

Smart Cooling™ continues to equip new chillers with the new generation intelligent chiller-boosting PRO 10 device.

RESULTS

Test reports at INRIM indicate that after the installation of the intelligent adiabatic Smart Cooling™ system, the cooling equipment generated noticeably more cooling capacity with an average increase of 37%. Electricity consumption decreased by 27% at an average temperature of 35°C.
The Smart Cooling™ system allowed the TRANE RTAF 310 chiller to increase its cooling capacity and at the same time reduce electricity consumption, so as to achieve an above-5 COP level. The ROI (return on investment) period for this project is as low as six operating months.



COOLING CAPACITY INCREASED BY ↑37%

ELECTRIC ENERGY CONSUMPTION REDUCED BY ↓27%

ROI 6 MONTHS

The intelligent adiabatic Smart Cooling™ system is a proven, state-of-the-art cost-saving pre-cooling technology.

- Modular system
- Suitable for all types of dry coolers and chillers
- Easy and fast installation
- Certified system and approved by major cooling equipment manufactures
- Minimal maintenance

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