SMART COOLING

SIET SWISS INTEGRATED ENERGY TECHNOLOGIES AG

CASE STUDY

Telecom Italia Mobile site Milano - Limbiate, Italy

"The intelligent adiabatic Smart Cooling™ system reduced electricity consumption by 11% and boosted cooling capacity by 10% on average at the TIM site in Limbiate, Italy.

CHECKED AND TESTED FOR PROVEN RESULTS.
Efficacy assessment has been conducted and validated. Testing was performed with a **BTU** liquid flow and temperature meter **RIF600** and **Eniscope** energy monitoring equipment.

CUSTOMER

Telecom Italia Mobile or simply TIM is the largest telecoms provider in Italy and TIM Retail is the group's chain of stores specializing in devices and gadgets and part of the TIM Group since 2011.
The company's core business consists of the sale of mobile and fixed telephone products, services, and accessories. TIM Retail is present throughout Italy thanks to the wide network of over 230 shops and 14,000 square meters of exhibition spaces located mainly in shopping centers.

CHALLENGE

In Milan, the capital of the Italian region of Lombardy, the climate is moderately continental, with cold, damp winters and hot summers.

Summers in Milan are hot and muggy, with many cloudless days. High humidity and low to no wind are conditions typical of the Po River Valley and tend to exacerbate the heat.
The challenge was to reduce electricity consumption of the chiller during heat season, extend the life of the equipment and boost its efficiency and ensure a constant, stable operating mode.

SOLUTION

To prevent the overloading of the plant's cooling equipment, installing the Smart Cooling™ PRO 10 system was a pressing need. Smart Cooling™ would allow the Climaveneta NECS 0452T chiller to produce more cooling capacity and operate more efficiently, even in extreme heat.
In 2021, TIM site equipped their cooling facilities with the intelligent adiabatic Smart Cooling™ system. Smart Cooling™ lowered the air temperature flowing into the chiller, boosting its cooling capacity and significantly reducing its electricity consumption.

RESULTS

Testing was conducted in July of 2021. The Smart Cooling™ system equipment produced noticeably more cooling capacity: 10% on average. Electricity consumption dropped to around 11% on average. During the test, the chiller was working at 50% capacity and average air temperature was 20°C.
The return on investment (ROI) period of the Smart Cooling™ system for this project is of only 24 months.

Another indirect advantage of the Smart Cooling™ system is the capability of operating the chiller even if the air temperature near the chiller crosses 50°C, thanks to the ability of the Smart Cooling™ system to decrease the air temperature by around 15°C during operational hours.

COOLING CAPACITY INCEASED BY ↑10%

ELECTRIC ENERGY CONSUMPTION REDUCED BY ↓11%

ROI 24 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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