

# CASE STUDY

## Orange S.A.

### France

“

The intelligent adiabatic **Smart Cooling™** system reduced electricity consumption by **17%** and boosted cooling capacity by **21%** on average at Orange S.A. data center, Paris.”



#### SOLUTION

With a total cooling capacity of 1200 kW, the facility has been equipped with TRANE RTAC 375 chillers, which began providing energy efficiency improvements to Orange S.A. data center in Paris, France. Our solution will boost Orange S.A. data center equipment efficiency. That means more cooling power ensured and minimized electric energy consumption.

**Smart Cooling™** continues to equip new chillers with the new generation adiabatic pre-cooling chiller booster system **PRO 10** complete with condenser protection membranes.

#### RESULTS

Testing was conducted in September 2016. After the installation of the **Smart Cooling™** system, the cooling equipment produced noticeably more cooling capacity: **21%** on average. Electricity consumption dropped to around **17%** on average.

The return on investment (ROI) period of the **Smart Cooling™** system for this project is of only 14 months.

Additionally, cooling equipment operates under the circumstances of normal load, the operating cycle of compressors is shorter and the equipment does not become overloaded.

#### CHECKED AND TESTED FOR PROVEN RESULTS

Efficacy assessment has been conducted and validated. Testing was performed with BTU liquid flow and temperature meter RIF600 and Eniscope energy monitoring equipment.

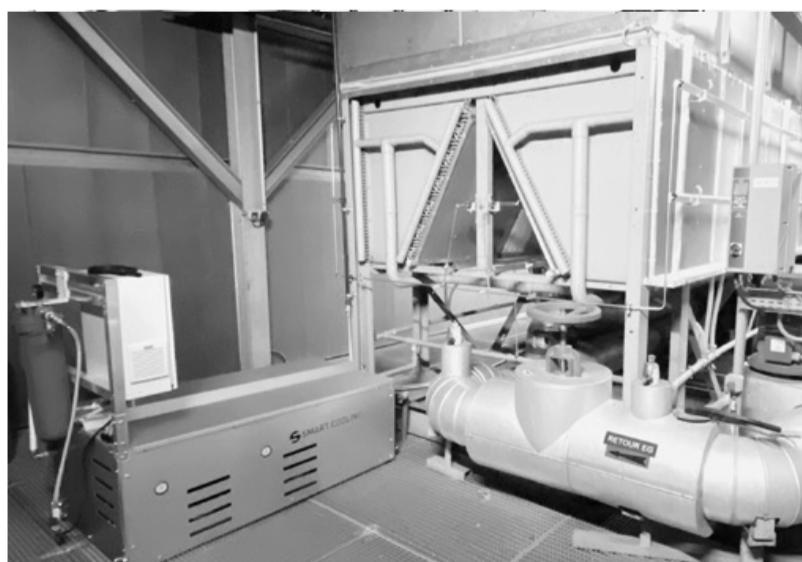
#### CUSTOMER

Orange is one of the world's leading telecommunications operators with sales of 40,9 billion euros in 2016 and 152,000 employees worldwide at 30 September 2017, including 93,000 employees in France. Present in 29 countries, the Group has a total customer base of 269 million customers worldwide at 30 September 2017, including 208 million mobile customers and 19 million fixed broadband customers. Orange is also a leading provider of global IT and telecommunication services to multinational companies, under the brand Orange Business Services.

#### CHALLENGE

Summers in Paris are very similar to those in London. From June to September, the average temperatures are minimum **13°C** and maximum **25°C**. Sometimes it can get up to **45°C**, but rarely. However, the heat in this city is humid and it can be oppressive to wander the streets of Paris during the hottest days.

To improve the effectiveness of chillers COP and ensure the safety of additional chillers in the hot summer season - Orange S.A. starts equipping chillers with **Smart Cooling™** adiabatic cooling system **PRO 10**.



COOLING CAPACITY  
INCREASED BY

↑ 21 %



ELECTRIC ENERGY  
CONSUMPTION  
REDUCED BY

↓ 17 %

ROI  
14  
MONTHS

