

# CASE STUDY

## Vodafone data centers

### Portugal

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After the installation of the intelligent adiabatic Smart Cooling™ system at Vodafone's data center the air temperature into their Trane chiller dropped by 12°C, providing a greatly improved heat exchange.”



### SOLUTION

The intelligent adiabatic **Smart Cooling™** system was chosen by Vodafone to ensure its cooling facilities in Portugal deliver efficiency and lower electricity consumption. Installed on the site's two Trane chillers, **Smart Cooling™** ensures a boost on cooling capacity and prevents the cooling units from overloading during heat season.

Thanks to the excellent cooperation with Vodafone technical experts and modular and the flexible design of **Smart Cooling™**, the equipment was installed in only 3 days.

### RESULTS

After the installation of the intelligent adiabatic **Smart Cooling™** system the incoming air temperature flowing into Vodafone's condensers dropped by **12°C**, providing a greatly improved heat exchange.

Precise data regarding electricity savings and increase in cooling capacity will be ascertained after further monitoring of the data at a longer period of operation.

### 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

One of the world's largest telecom, Vodafone, is also one of the most valuable brands. Vodafone has over 400 million customers around the world, operates in over 30 nations and partners with networks in 50 other countries.

### CHALLENGE

As data usage continues to rise, more computing capacity is required. This trend directly affects data centers where large computing equipment operates and the need for cooling capacity has increased exponentially. Guaranteeing optimal climate conditions without generating further operational costs is vital for companies such as Vodafone.



COOLING CAPACITY  
INCREASED BY



ELECTRIC ENERGY  
CONSUMPTION  
REDUCED BY

↑ 21%

↓ 24%

ROI  
8  
MONTHS

| Temperature<br>°C | Date       | Time  | RH<br>% | Actual Data              |        |
|-------------------|------------|-------|---------|--------------------------|--------|
|                   |            |       |         | Energy absorption<br>kWh | Saving |
| 25                | 24/07/2017 | 18:00 | 53,3    | 104,15                   | 21,11% |
|                   | 29/07/2017 | 19:00 | 61,2    | 82,16                    |        |
| 30                | 25/07/2017 | 14:45 | 40,1    | 113,50                   | 27,10% |
|                   | 30/07/2017 | 15:00 | 40,6    | 82,74                    |        |
| 30                | 26/07/2017 | 13:15 | 41,3    | 111,95                   | 31,99% |
|                   | 31/07/2017 | 12:15 | 37,8    | 76,14                    |        |

