SMART COOLING

# CASE STUDY

## Philip Morris factory

**Italy**

“

Electricity consumption decreased by **37%** and cooling capacity increased by **35%**, on average, after the installation of the intelligent adiabatic **Smart Cooling™** system at Philip Morris’ Intertaba plant.”


## SOLUTION

PMI trusted the intelligent adiabatic **Smart Cooling™** system to achieve their energy efficiency objectives. All PMI factories have electricity consumption monitoring installed in their production plants, which facilitated the assessment of the results granted by **Smart Cooling™**. In this case, it was PMI’s factory Intertaba in Italy that had the customized **Smart Cooling™** system installed in its York cooling units (models YCAS 0835EB and YAES 0785SA).

## RESULTS

The year-on-year data comparison, starting from when the intelligent adiabatic **Smart Cooling™** system was not installed on to after its implementation shows a massive distinction. The evidence states that, on average, electricity consumption was **37%** lower while cooling capacity increased by **35%**.

A staggeringly short return on investment period (ROI) was also one of the positive outcomes granted by the **Smart Cooling™** system: just 5 months.

Detailed measurement results are presented below.

**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

Philip Morris International or PMI, is one of the leading tobacco manufacturers in the world. With massive production capacity, a large component of PMI’s energy consumption is the electricity consumed by air-cooling and air conditioning equipment. One of PMI’s strategic goals is the reduction of energy consumption aiming at cost-savings but, most importantly, in reducing the environmental impact of its production processes.

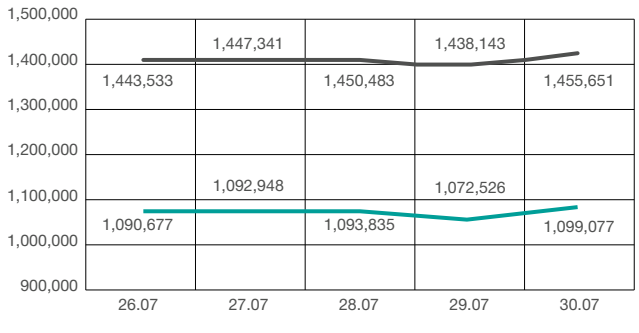
## CHALLENGE

Reducing electricity consumption of cooling equipment, particularly during increasingly frequent hot summers was PMI’s priority. As air temperature increases, the cooling equipment operates at peak levels, which negatively affects efficiency and longevity. The intelligent adiabatic **Smart Cooling™** system offered PMI the solution to reduce electricity consumption with the use of an environmentally friendly technology that boosts chiller efficiency, supports compressor operations and reduces compressor load.

COOLING CAPACITY INCREASED BY ↑35%

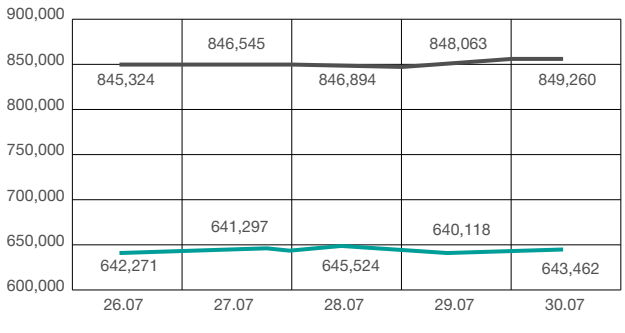
ELECTRIC ENERGY CONSUMPTION REDUCED BY ↓37%

**ROI 5 MONTHS**




York YCAS 0835EB chiller cooling capacity in KWh over an identical period and T, °C in regime Y2012/13 (five-day period measurements).

Y2012 kWh Y2012 kWh




York YAES 0785SA chiller cooling capacity in KWh over an identical period and T, °C regime Y2012/13 (five-day period measurements).

Y2012 kWh Y2012 kWh