SMART COOLING

# CASE STUDY
## *Banks*

SEB

*“After installation of intelligent adiabatic pre-cooling system “Smart Cooling™” on SEB Bank cooling equipment electrical energy consumption dropped by 25% and cooling capacity produced increased by 23% on average.”*

### CUSTOMER

SEB bank is one of the largest Scandinavian banks. Its main office consists of two buildings and has ten storeys. The total area of building is 14,340 m2.
Two chillers Airwell were installed to ensure the cooling of banks data center.

### CHALLENGE

Airwell facilities needed additional cooling capacity in the hot period to ensure the cooling of data center. In the hot period, when the air temperature exceeded +30°C, the equipment was overloaded and periodically switched off. The electrical energy consumption increased considerably, the same happening to the costs.

Therefore, it was necessary to provide a solution for ensuring additional cooling capacity in the hot period and to reduce the electrical energy consumption.

### SOLUTION

Equip the cooling facilities with intelligent adiabatic pre-cooling system “Smart Cooling™”. In the hot period, when the air temperature reaches +30°C, due to the adiabatic system, the facilities will operate in a lower outdoor temperature mode because the temperature of the air that flows into the cooling equipment condenser will be lowered by 10 - 15°C. In such a mode the equipment can produce considerably more cooling capacity and consumes less electrical energy. Adiabatic panels were installed on both cooling facilities of bank data center: chillers Airwell with the total cooling capacity 1120 kw. The aforementioned facilities were on the rooftop and equip- ment condensers were subject to direct sunlight. After the installation of “Smart Cooling™” pre-cooling system and its special material membranes also ensure additional shading to the condensers.

### RESULTS

SEB banks Engineering department informed that, after the installation of adiabatic pre-cooling system “Smart Cooling™”, the cooling equipment of bank has been able to produce the required cool- ing capacity and the heat exchange has improved. Obtained results: cooling capacity raised on aver- age by 23%, electrical energy consumption diminished by 25%. The return on investment period (ROI) of installed adiabatic pre-cooling system “Smart Cooling™” – 7 months. The operating cycles of compressors have become shorter and electrical energy consumption in the hot period has considerably diminished.

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| COOLING CAPACITY INCEASED BY | ↑ 23% |
| ELECTRIC ENERGY CONSUMPTION REDUCED BY | ↓ 25% |

ROI 9 MONTHS