



Data Center Solutions

Increase reliability, control costs and maximize uptime



Begin with industry-leading cooling

Meeting the increasing heat loads associated with growing computing needs requires specialized, scalable and reliable heat management strategies. Hot spots and inadequate cooling cause costly disruptions and are daily concerns for data center owners and operators. As the modern data center evolves, so do the demands on airflow, cooling, and humidity control.

Server density in existing and newly constructed data centers is increasing to meet the surging demand for Internet, business applications, cloud computing and data storage requirements. These challenges are compounded by the trend toward facility consolidation. As power densities grow, thermal management is critical to optimize data center performance.



Maintain the best cost of ownership

Outlining the Code of Conduct on Data Centers Energy Efficiency, the European Commission Joint Research Centre (EC JRC) anticipates that data centers will contribute substantially to the UK and European Union (EU) commercial sector consumption in the coming years.

The EC JRC reports that the electricity consumption of data centers in Western Europe alone totaled 56 TWh in 2007 and this is projected to rise to 104 TWh in 2020. Based on recent research conducted by Gartner, Inc. information technology advisory, servers consume only about 15% of the direct energy in data centers. Cooling constitutes an average of 40 to 45% of total operating costs for many data centers.

While efficient design approaches and reliable cooling equipment will keep servers up and running, effective system life cycle management strategies are essential to continuously improve performance and uncover potential cost savings.

Keep your cool with Trane expertise

A data center requires system know-how to ensure adequate, energy efficient on-demand cooling. Trane has delivered reliable, cost-effective HVAC solutions for different types of businesses. We understand that every data center is unique and that cooling strategies vary. Our comprehensive approach considers design, installation, commissioning, and operations to help you realize your business objectives.

and operate at maximum efficiency

HVAC systems

- Modular and scalable systems including chilled water, airside, controls, and hybrid solutions
- HVAC system controls for reduced energy consumption
- Environmentally responsible solutions

Integrated monitoring and control

- Monitor and control critical subsystems, including HVAC, power, lighting and access control through Trane Tracer Summit™ Building Automation System
- Measure and manage energy consumption with Trane eView™ analysis and predictive management
- Real-time visualization, trending and historical data
- Perform calculations to measure your Power Usage Effectiveness (PUE)

Services

- Prolong system life with Trane Select™ comprehensive service contracts
- Upgrade system performance with Trane Care™ Reliability, Energy and Environment service offerings
- Reduce risks through remote building system monitoring with Trane Intelligent Services
- Keep your business operational in an emergency or during planned shut-down with contingency cooling



Optimized Chiller plant control to reduce energy consumption

Trane recently worked together with Italy's biggest banking group to optimize their 25,000 sqm data center and building chiller plant operations in Parma. Faced with increasing energy costs, the customer sought Trane expertise.

The Solution:

Trane experts monitored the temperatures and chiller load for two months and concluded that poor chiller plant control was leading to chillers operating at 50% load.

Trane proposed Tracer Summit™ chiller plant management to control 7500kW of cooling production and distribution. Our efficient control system reduced the number of chillers required to operate and optimized efficiency of the chiller plant. Since commissioning, the customer continues to reap significant savings in monthly energy consumption. Trane Care™ Energy services maximize the system performance.

The Proof is in the Savings

Trane has analyzed, optimized, designed and delivered high performance systems for data centers across industries. These projects have proven to deliver the best overall efficiency and high-end reliability in the market.

Simplified hydraulic system to minimize energy costs

Trane helped set up a 12MW, 6000 square meter raised floor data center for a major Dutch telecommunications company in Almere, Netherlands.

The Solution:

Trane optimized the design of the hydraulic system to deliver high efficiency, reliability and controls capability. Trane delivered a system with 15MW cooling capacity that included:

- System design and analysis
- Ten RTHC chillers
- Ten closed cooling towers including free cooling
- Trane Select™ all inclusive service contract for best cost of ownership

Talk to Trane about your data center needs

If your goal is reliable uptime and lower operating costs, it's time to talk to Trane. To learn more or to find your local Trane representative, visit us online at www.trane.com

Specialized systems for superior performance

Trane assisted a major real estate investment company in Northern Netherlands to build a 28MW ultra-high density data center used by one of the biggest Internet search and advertising technology company.

The Solution:

Trane delivered an optimized cooling system within ten months from design to operation that included:

- Ten Centrifugal chillers (CVGF 1000)
- Twelve closed cooling towers including free cooling
- Tracer Summit™ Building Management System

The system achieved a lower PUE than the original project goal. Trane Care™ Environment services and planned maintenance enhance the system performance.

Replacement of cooling system for improved efficiency

Trane supported one of the biggest data center operators in Europe to replace the cooling system of a 1.8 MW, 1200 square meter raised floor data center in Amsterdam.

The Solution:

Trane refreshed the cooling system to improve efficiency and reliability of the operation. The system with cooling capacity of 3.6MW included:

- Four RTHC chillers
- Ten dry coolers including free cooling
- Tracer Summit™ chiller plant management with redundant control system

Trane Care™ Reliability, Energy and Environment services sustain the overall investment.



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Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.
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