



# Tracer<sup>®</sup> chiller plant control

The expert approach to greater chiller efficiency and reliability.

Inside central chiller plants, lines are blurring between equipment and controls: You purchase the equipment to be reliable and efficient. However, the actual performance depends heavily on the control system — and the operator’s skillset. As an equipment manufacturer, building controls company and HVAC system expert, no one is more qualified than Trane to optimize chiller plant performance.

### Team Up with the Real Chiller Plant Pros

Chiller plants are complicated, with complex technologies in play. Chillers themselves are evolving to serve the shift to decarbonization. Optimization is critical to avoiding high energy costs and excessive emissions. Programming a chiller plant today is a unique area of specialization, and it can be critically important to do it right.

Chiller plant control is an application embedded within Tracer® SC+, programmed to your building’s needs based on Trane’s extensive expertise and experience. We establish and maintain plant performance through a seamless combination of controls optimization strategies and data-driven services. Trane gives you peace of mind that your chiller plant is set to operate at its best.



### Any chiller plant can benefit.

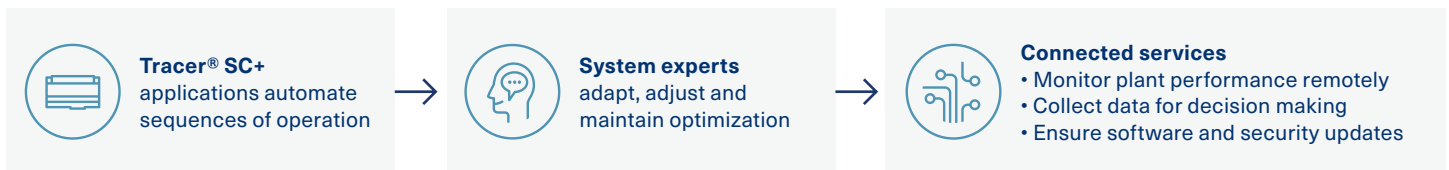
Regardless of the age and equipment manufacturer, comfort systems or process cooling, virtually every chiller plant can operate better under Trane’s expert guidance. Chiller plant control is part of your mission-critical solution when:

- You want to improve the reliability of your chiller plant
- You need to get a better handle on energy cost management
- Operating a sustainable building is becoming a bigger priority
- You are struggling to operate with reduced staff

Chiller plant control offers an easy, single-source solution to optimizing chiller plant performance.

### Our Total Approach to Chiller Plant Optimization

Chiller plant performance combines our insights as an equipment manufacturer, technical skills as a controls company and systems knowledge gained through our experience in thousands of buildings.



## What can you expect?



### Energy improvements.

The average commercial building wastes about a third of the energy it consumes.<sup>1</sup> An optimized chiller plant can lower energy costs and reduce carbon emissions.



### Less stress.

Downtime is a risk to your business. Connectivity and data enable Trane to see the warning signs. Chiller plant control gives you added peace of mind.



### Performance assurance.

Our engineered sequences and intuitive user interface help to ensure the system continuously operates close to the original design. Trane's approach is based on knowledge and best practices gained through over 45 years of experience in chiller plant installations worldwide.



### Improved productivity.

Proven applications and Trane service take most chiller plant management tasks off your staff's to-do list. Your employees can work more efficiently and focus on other tasks.



### Readymade compliance.

Achieve and maintain industry standards effortlessly. Engineered applications automate the implementation of ASHRAE 36 Guidelines for high-performance sequences of operation and programming logic for HVAC. It simplifies compliance with ASHRAE Standard 90.1 minimum efficiency requirements. Chiller plant control follows ASHRAE Guideline 22 recommendations for monitoring chilled water plant efficiency.

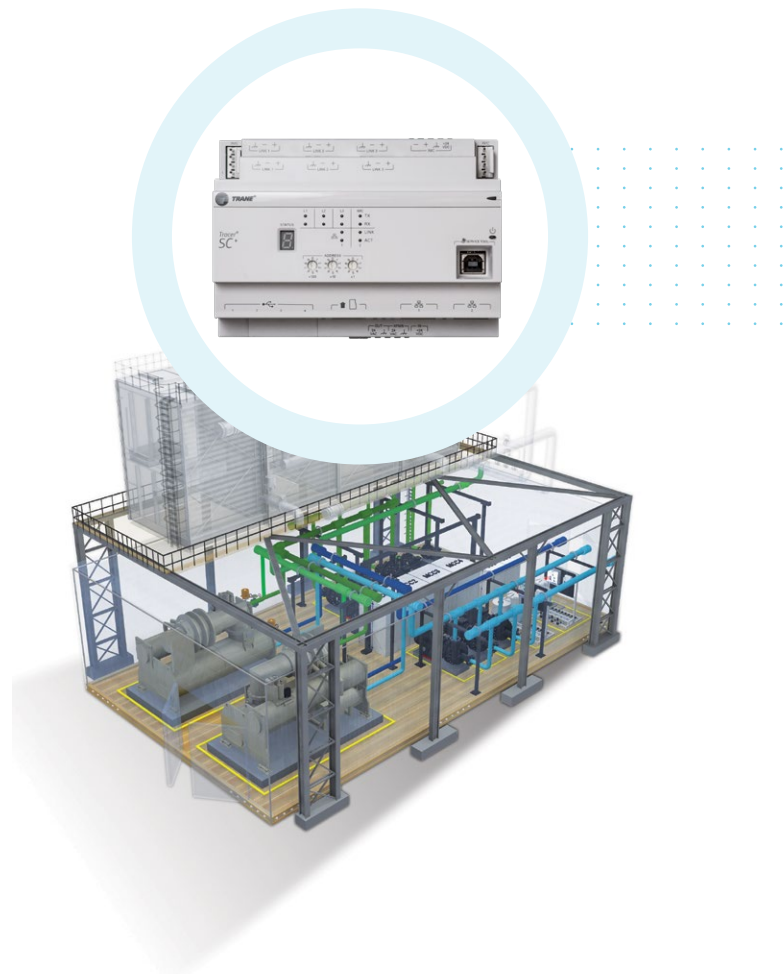
<sup>1</sup> <https://www.epa.gov/statelocalenergy/local-topics-energy-efficiency-non-governmental-buildings>

## Chiller Plant Optimization Functions

### Engineered Performance within Tracer® SC+

Tracer chiller plant control strategically manages the rotation, staging and sequencing of multiple chillers. Many proven functions are natively included, while custom sequencing can be used to round out job-specific needs. This approach can help deliver the perfect balance of proven sequences with job-specific customization, ultimately delivering sustainable results well after the initial commissioning of the plant. Explore the functions that make it possible for Trane to maximize equipment life and optimize energy use.

- ✓ **Chiller staging** — Defining the ideal number, combination and order of chillers to balance run time and efficiency across multiple units.
- ✓ **Pump pressure reset** — Minimizing pumping energy and improving valve control by properly controlling pump pressure.
- ✓ **Chilled water reset** — Establishing rules for when chillers can use warmer water to achieve the desired temperature settings to save energy.
- ✓ **Free cooling** — Running energy-consuming compressors less by using only the cooling towers when indoor and outdoor conditions are favorable.
- ✓ **Heat recovery integration** — Repurposing energy during periods of simultaneous heating and cooling by using heat recovery chillers to move waste heat from cooling spaces to areas that need heating.
- ✓ **Enhanced cooling tower staging** — Determining the right number of cooling towers to operate most efficiently under any circumstance.
- ✓ **Chiller/tower optimization** — Maintaining the optimal tower water setpoint to balance energy use between cooling towers and chiller compressors.
- ✓ **Thermal storage integration** — Leveraging installed Thermal Battery® ice storage systems to avoid high-cost, peak-demand energy use, and storing waste energy for use later.



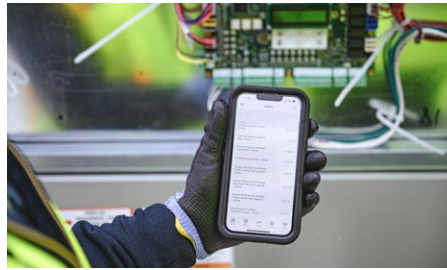
## Beyond the chiller — total building optimization

Optimizing your chiller plant for efficient electrified heating and cooling can play a major role in your building decarbonization plans. Tracer chiller plant control is part of our full-service approach for achieving and maintaining efficient and effective building heating and cooling. Related products and services include:



### Tracer® SC+

Trane's powerful building automation system integrates systems to provide better control over comfort and energy efficiency. Proven Tracer System Applications ensure best-possible performance while making it incredibly easy for operators to use.



### Symbio® Unit Controls

Tracer SC+ is fed data through unit level controls. Symbio controls capture and translate a broad range of equipment-based points into the Tracer SC+ system controls, providing the basis for data-driven service.



### Connected Services

Smart building technology allows us to monitor your chiller plant remotely. We can identify emerging equipment problems faster and notice unauthorized changes to controls programming. This is how Trane delivers system and security upgrades to your chiller plant, too.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.com](https://trane.com) or [tranetechnologies.com](https://tranetechnologies.com).

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