OptimumLOOP®

OptimumLOOP® is patented, state-of-the-art configurable control software that forms one operational module of the Optimum Energy optimization platform, the OptiCx® platform. OptimumLOOP® provides continuous, system-level optimization of centrifugal chilled water plants. Its patented relational control algorithms calculate the most efficient operation of an entire chilled water system and automatically and continuously optimize plant performance in real time. The technology continuously and dynamically adapts to fluctuating load, weather, and occupancy conditions to yield the lowest possible kW/ton—and the greatest energy and cost savings—while maintaining superior occupant comfort. OptimumLOOP efficiency savings of up to 50%.

HOLISTIC, SYSTEMS-LEVEL OPTIMIZATION VIA PATENTED, RELATIONAL CONTROL ALGORITHMS

The patented, relational control algorithms of OptimumLOOP® automatically optimize all variable-speed chilled water plant components in relation to one another—in response to real-time building loads and changing ambient and occupancy conditions. Conventional optimization methodologies, by contrast, adjust plant operations with respect to controlled setpoints, which significantly reduces operating efficiency. Our demand-based, relational control algorithms holistically determine the most efficient operation of the entire plant and continuously, at 30-second intervals, advise the building automation system (BAS) precisely how to tune and optimize the plant to minimize energy use across the system.

The OptiCx® Platform

1. Design
2. Implement
3. Optimize

Optimization Services
- Reporting Services
- Technical Support

Platform Enhancements
- Predictive Free Cooling
- Chiller Diagnostics

Visualization Tools

Operational Modules
- OptimumLOOP®
- OptimumAIR®
- OptimumHEAT®

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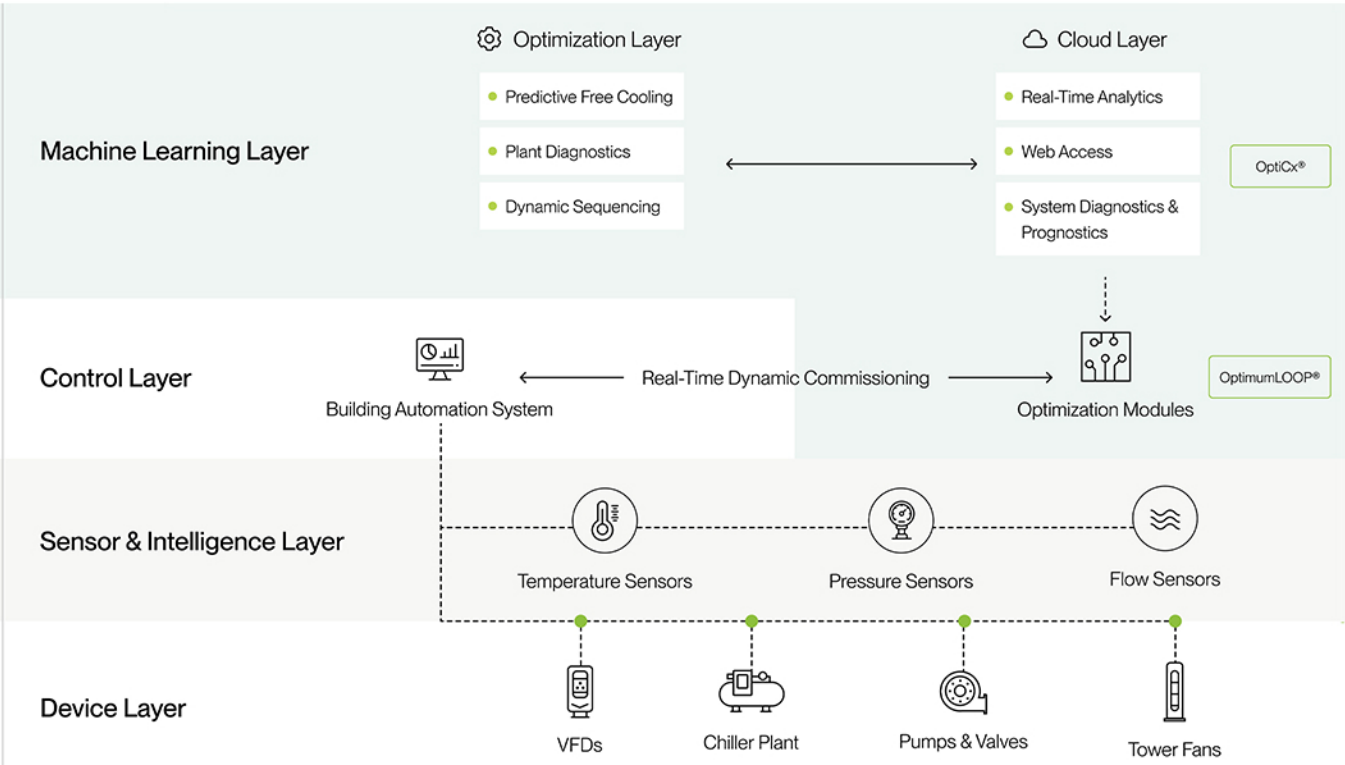
OptimumLOOP® Technical Architecture



METICULOUS MEASUREMENT AND VERIFICATION

OptimumLOOP collects data from each part of the networked system in time-stamped 5-minute intervals and uses actual kW meters to calculate energy usage. At each time stamp, the system calculates total plant cooling tons, total chilled water plant kW/ton, chiller kW/ton, and kW/ton for each set of chilled water pumps, condenser pumps, and cooling towers.

Extensive, accurate real-time measurement ensures maximum operational agility and verification of long-term performance, efficiency, and savings. Our system complies with the International Performance Measurement and Verification Protocol (IPMVP)—Option B. This method measures and verifies the full impact of the optimization project and documents savings at both component and systems levels.

MAXIMUM OPERATIONAL FLEXIBILITY WITH ON, OFF & PARTIAL OPTIMIZATION MODES

Because OptimumLOOP runs on top of your BAS, it does not change your BAS in any way. This gives you maximum operational freedom and flexibility. Uniquely, our system makes it easy to engage or disengage optimization as you see fit. Resume operation of your pre-optimization control systems and sequences at any time and for any reason. Having full control over your optimization mode at all times—you can choose ON, OFF, and PARTIAL optimization modes—minimizes operational risk and maximizes flexibility.

24/7 ACCESS TO OPTIMUMLOOP VIA WEB & MOBILE APPS

OptimumLOOP, like all of our platform modules, pairs with our cloud-based performance and energy management platform—accessible anytime, anywhere via Web and mobile app (iOS and Android).

- Continuously monitor organizational energy, carbon, and dollar savings in real time or historically.
- See precisely how efficiently your plant is performing and how much energy it is using, any given moment, week, month, or year.
- Configure or customize your app or Web experience for fast access to the unique trends and information you need.
- Verify performance against forecasted and pre-optimization levels.
- Ensure progress toward sustainability goals. Share status with others in one click.

OPTIMUMLOOP® BENEFITS

Automatically, continuously optimizes chilled water systems in the most holistic, intelligent manner

Adapts and responds to real-time building loads and changing ambient and occupancy conditions

Delivers consistent savings across industries, settings, and control systems

Streamlines operations and lengthens equipment life

Increases productivity of facility support, personnel

Ensures maximum flexibility and control with ON, OFF, and PARTIAL optimization modes

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