

SYMPHONY ENERGY

Technology Stack

An overview of Symphony Energy's core technologies.

Overview

SYMPHONY ALGORITHMS

Symphony Algorithms

Mapping the Environmental Signature

By far the most significant part of building a Symphony Project is the comprehensive, first principles review of the building's architecture, HVAC system installation and BMS data coupled with new data streams installed by Symphony — followed by a rebuild of how the HVAC systems operate. Ultimately delivered through high performance algorithms injected into the BMS so the HVAC plant operates in symphony at system component level, to deliver a healthy and highly energy efficient building.



DELIVERY

Three Distinct Phases of Delivery

The Symphony build programme is structured across 12 stages within three sequenced phases, each building on the last to deliver a fully automated, self commissioning HVAC intelligence platform.

Phase 1 – Mechanics (Months 1–4)

Stages 1–7: Installation, cloud visualisation, engineering assessment, algorithm design and controlled deployment. Concurrent work across engineering, programming and site teams.

Phase 2 – Fine Tuning (Months 5–6)

Stage 8: Algorithm refinement and environmental signature capture after stabilisation.

Phase 3 – Seasonal Commissioning (Months 7–18)

Stages 9–12: Seasonal commissioning, auto self-commissioning activation, FM collaboration and predictive alerting.

The Build Process

Infrastructure Installation & Integration

Symphony installs and integrates the physical hardware layer that forms the foundation of the entire system — from sub-metering and automation servers to IoT gateways and WellTech IAQ sensors.

Seeing the Building as a Living System

With the physical layer in place, Symphony's cloud platform begins its deep observation of the building compiling data streams into a unique environmental signature that defines how the building breathes, heats, cools and responds.

From Environmental Signature to Precision Control Architecture

The environmental signature becomes the engineering brief. Symphony's team assesses the building's best operating combinations, then designs a unified control architecture that aligns every HVAC component with dynamic demand.

Bespoke Intelligence for Every Building

Symphony's project-specific algorithms create a custom closed-loop control sequence for each building, aligning every plant component to its environmental signature.

A Seamless Transition to High-Performance Operation

Symphony's deployment methodology ensures zero disruption a carefully staged transition from legacy control to the new high performance regime, followed by an intense stabilisation period to dynamically align plant output with the building's environmental signature.

Capturing Every Nuance for Ongoing Smooth Performance

After stabilisation, the algorithms are refined through continued observation capturing subtle environmental nuances visible only instable, high-performance operation.

A System That Learns, Adapts & Commissions Itself

Over 12 months, Symphony observes the building through every seasonal transition — completing the environmental signature and enabling autonomous self-commissioning so performance stays continuously optimised.

Predictive Alerting & Forensic-Level Plant Visibility

Symphony's intelligence layer changes how FM teams manage buildings — shifting from reactive maintenance to predictive insight, delivered directly to their devices.

SYMPHONY CYCLE

Symphony Cycle

Patented waste heat recycling process

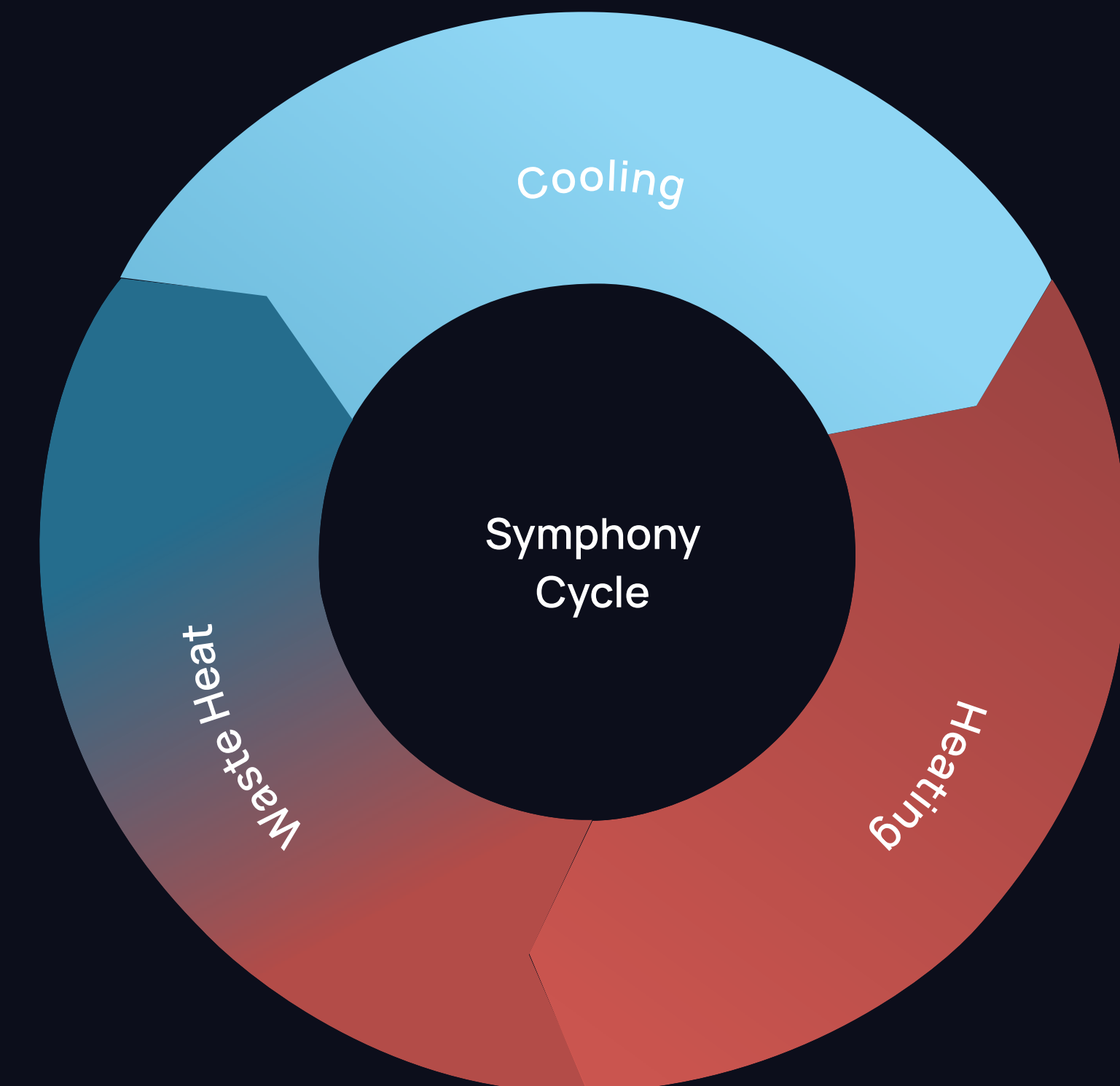
Overview

Symphony Cycle releases significant, deeply locked energy wastage that cannot be reached through any other process or technology.

It is a patented process that captures and reuses waste heat from your HVAC system to simultaneously deliver free chilled water cooling and heating—reducing energy use without altering comfort or disrupting operations.

Symphony Cycle is a game changer for achieving 2050 energy efficiency targets, today. It can be applied to new or older buildings with central chilled water cooling systems that interconnect secondary plant such as fan coil units with air handler cooling coils.

This non-invasive, counter intuitive, patented process can be implemented without any physical works applied to the HVAC systems.



Unlock the Power of Energy Recycling

Symphony Cycle is a cutting-edge solution designed to convert HVAC waste heat into reusable energy, delivering substantial cost savings and enhancing sustainability.

By harnessing otherwise lost energy, this system provides a quick-win solution for businesses looking to cut costs, improve efficiency, and reduce their carbon footprint.

Key Benefits

Seamless Integration

Symphony Cycle is engineered for effortless rollout, allowing for seamless integration into existing HVAC systems without any infrastructure changes.

Significant Cost Savings

By recycling waste heat, buildings can achieve substantial reductions in energy expenses, lowering operational costs by up to 30% while optimising efficiency. For maximum savings impact, integrate Symphony Cycle with Symphony Algorithms.

Sustainable Impact

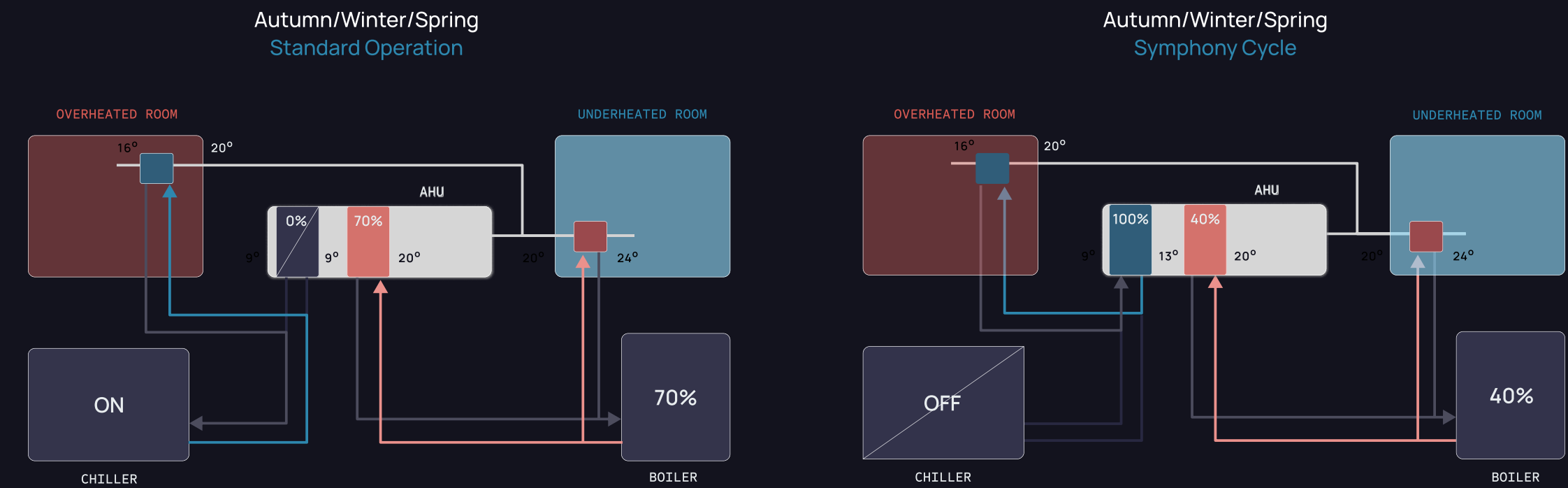
Reduce carbon emissions and contribute to environmental sustainability by maximising energy reuse and minimising waste.

How It Works

Symphony Cycle captures and repurposes waste heat generated by HVAC operations, transforming it into usable energy to power both heating and cooling. This optimised operation delivers energy savings that otherwise would be unobtainable.

A Low-Cost, High-Impact Solution

With its straightforward implementation and immediate benefits, Symphony Cycle is a game-changer for buildings seeking cost effective energy saving solutions.



SYMPHONY WELLTECH

Symphony WellTech

Unique tech for precise demand control ventilation

Overview

Symphony WellTech sets a new benchmark in environmental management. More advanced than any comparable solution on the market, it goes beyond simple air quality measurement to actively optimise indoor conditions. The air follows the people – precisely delivering fresh air to where it's needed while avoiding over ventilation.

Capable of tracking up to 10 key metrics – including CO₂, occupancy, TVOC, PM, RH and temperature – it delivers both real-time insights and automated control that enhance energy efficiency and occupant wellbeing.



A Smarter Approach to Building Wellness

Symphony WellTech is more than just an air quality sensor — it's a comprehensive environmental monitoring solution designed to optimise indoor conditions, enhance occupant well-being, and improve energy efficiency.

By integrating advanced control technology with real-time data, Symphony WellTech provides intelligent demand automation that results in smarter, healthier, and more sustainable buildings.

Key Features



Complete Control

Customise Symphony WellTech to fit your building's unique needs with up to ten fully configurable sensor metrics, ensuring precise environmental management.



Balanced Energy and Comfort

Achieve the perfect equilibrium between energy efficiency and occupant comfort by continuously monitoring and automatically adjusting indoor conditions.



Optimised Space Utilisation

Leverage real-time presence detection to dynamically control environmental conditions in specific building areas, reducing unnecessary energy use while enhancing occupant comfort.



Advanced Air Quality Management

Monitor and mitigate the presence of particulate matter and airborne contaminants to maintain a healthier indoor atmosphere.

Managing the New Normal

Indoor air quality is a critical factor in today's workplaces, especially in the wake of COVID-19. Symphony WellTech seamlessly integrates with Symphony Algorithms to reduce airborne transmission risks and optimise energy consumption by automatically regulating central and local ventilation plant.

The result is consistently well-ventilated workspaces tailored to your predefined environmental safety parameters.

Key Benefits

Automated air quality monitoring

that responds dynamically to real-time conditions.

Transparent, data-driven insights

displayed through intuitive dashboards.

Visible sensors

that reassure occupants and enhance confidence in building safety.

Intelligent Demand Automation

Symphony WellTech plays a vital role in achieving net-zero energy goals by transforming your building into a smart, self-regulating environment. Beyond air quality, it provides deep insights into IAQ, temperature, and occupancy patterns, driving intelligent energy use without compromising comfort.

Seamless Integration with Symphony Cloud

When paired with [Symphony Cloud](#), Symphony WellTech unlocks deeper analytics and full-scale control capabilities, ensuring optimal performance across your building portfolio. From real-time alerts to historical trend analysis, this powerful integration helps you make informed decisions that lead to greater energy savings and improved occupant experience.

A Future-Ready Solution

Symphony WellTech is not just about monitoring; it's about taking proactive action. With cutting-edge technology and a focus on both sustainability and occupant well-being, it redefines what it means to manage a smart building.

WELLTECH CAPABILITIES

Comprehensive Environmental Monitoring

Tracks air quality, CO₂ levels, temperature, humidity, and more.

Real-Time Air Quality Control

Automatically adjusts ventilation to maintain a healthier indoor atmosphere.

Intelligent Demand Automation

Reduces energy waste by dynamically adapting to occupancy levels.

Customisable Sensor Inputs

Configurable to monitor up to 10 different environmental metrics.

Advanced Airborne Contaminant Detection

Identifies and mitigates particulate matter for cleaner air.



Optimised Space Utilisation

Uses presence detection to adjust conditions in specific areas.

Seamless Integration with Symphony Cloud

Enables deeper analytics and full-scale building automation.

Transparent Data Insights

Provides intuitive dashboards for real-time monitoring and decision-making.

Automated Compliance & Reporting

Ensures air quality aligns with health and safety standards.

Low-Maintenance, High-Impact

Self-regulating system that improves efficiency without manual intervention.

SYMPHONY CLOUD

Symphony Cloud

Powerful user interface with integrated BMS, sub-metering, IoT & IAQ data, analytics & more

Overview

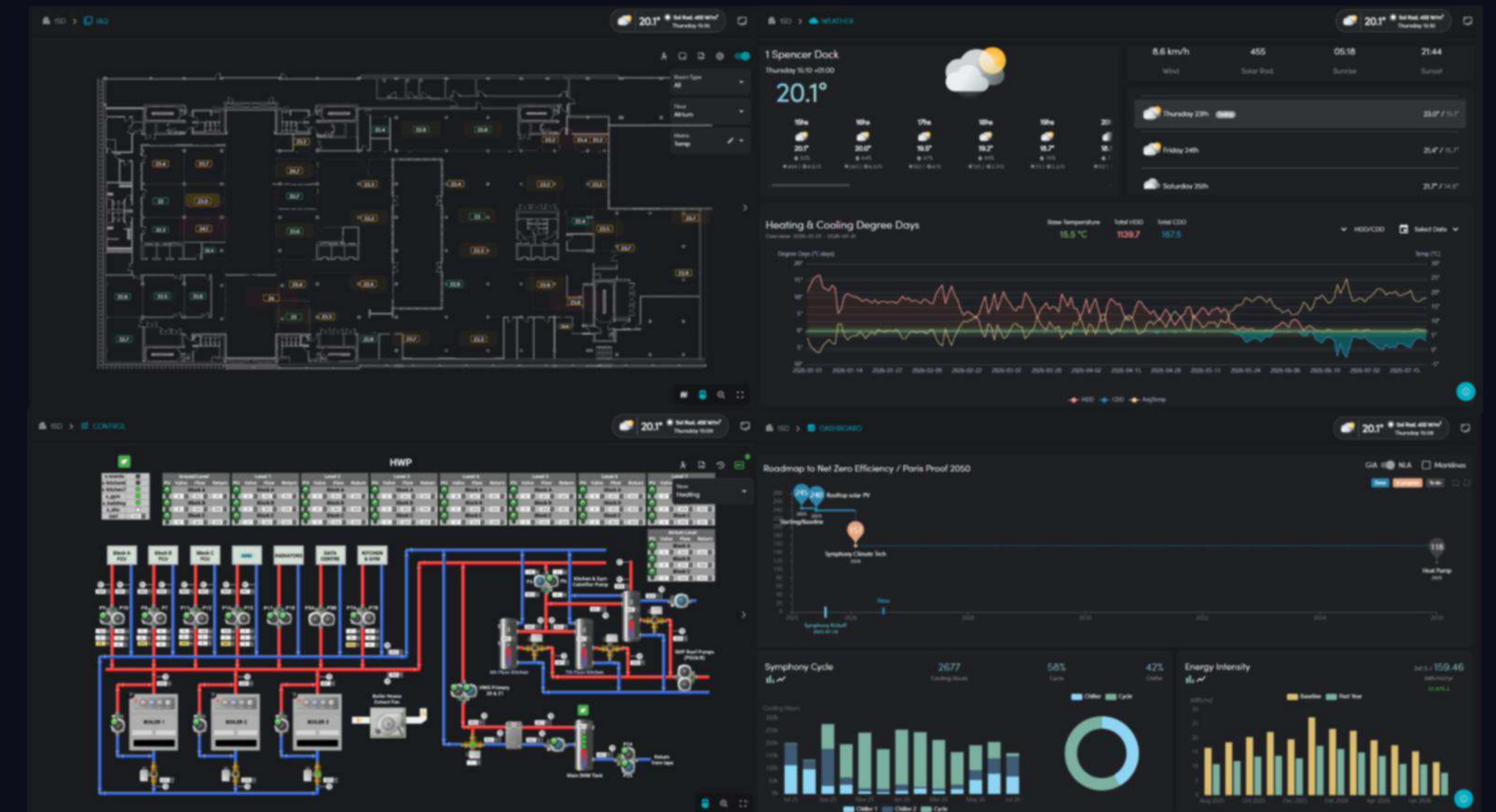
Symphony Cloud is the single point of truth for the HVAC system trusted data layer and back-end data.

It is more than data visualisation - it also allows user intervention for setpoint adjustments, provides data analytics along with IoT, IAQ and sub-metering data integration.

It hosts the richest source of data in the building and connects with plant that is ultimately controlled by that data – making it the ideal data hub for any CRE software or AI tools.

Designed to unify every strand of building data—from energy consumption and occupancy to ventilation and climate—it brings clarity and complexity to building energy management.

Whether you're managing a single site or an entire portfolio, Symphony Cloud gives you a powerful interface that translates raw data into meaningful action—backed by automation, alerts, and predictive insights that help you stay ahead of inefficiencies.



Real-Time Insights, Smarter Decisions

Symphony Cloud is a state-of-the-art building energy management platform designed to give facility managers complete control over building conditions, energy performance, and operational efficiency.

By consolidating real-time data into a single intuitive interface, Symphony Cloud transforms the way buildings are monitored and managed.

Key Benefits

-  **Real-Time Environmental Control**
Monitor and adjust building conditions instantly, ensuring optimal comfort, efficiency, and sustainability at all times.
-  **Unmatched Energy Insights**
Gain a granular understanding of energy performance, identifying inefficiencies and opportunities for cost savings with precision.
-  **Intuitive Dashboards**
Clear, user-friendly interfaces provide actionable insights, enabling swift decision-making and proactive facility management.

-  **Multifunctional Focus**
From HVAC and air quality to occupancy and temperature, Symphony Cloud integrates multiple building management functions into one seamless system.
-  **Effortless Operation**
Designed for ease of use, Symphony Cloud enables hands-free automation and simple operation, reducing the complexity of facility management.
-  **Precision Control**
Implement precise, data-driven protocols that enhance operational efficiency and create healthier, more sustainable indoor environments.

Why Symphony Cloud?

With its advanced analytics, automation capabilities, and intuitive design, Symphony Cloud empowers building managers to make smarter, data-backed decisions.

Whether improving occupant comfort, reducing energy costs, or streamlining operations, Symphony Cloud is the intelligent solution for modern building management.

Symphony Cloud can connect to other data platforms over API. Conversely, Symphony Cloud can be built out to include new features from incoming API data or combined data.

The greenest energy is
the energy we don't use.