The EkkoSense® Effect

Next generation AI driven data center optimization software

Make the invisible visible

The data center industry challenge

Why data center optimization matters - the state of the industry at a glance.

% of global electricity demand used by data centers...

1-1.5% IEA

Potential energy savings possible by INCREASING server inlet temperature by just 1°F...

4% Energy Star

M&E teams currently monitoring and reporting equipment temperature on a rack-by-rack basis...

5% EkkoSense Research

Potential reduction in global greenhouse gases if innovative AI solutions employed...

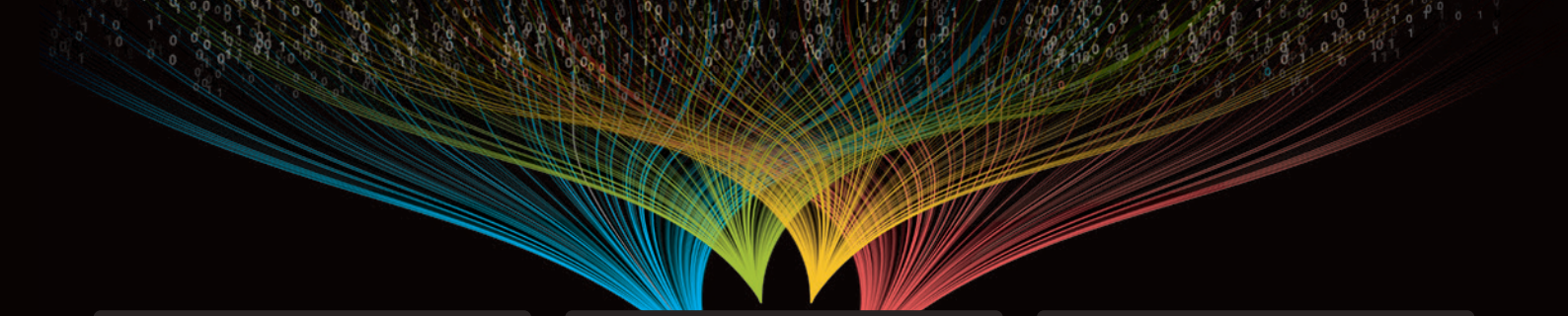
16% Capgemini Research

Potential savings missed on data center cooling energy consumption...

30% EkkoSense Research

Current average data center cooling utilization...

40% EkkoSense Research



Global data center CAGR through 2026...

4-21% Various

# of kilowat hours wasted globally by inefficient cooling and airflow management in data centers in 2020...

150bn Uptime Institute

% of unplanned data center outages that are caused by thermal issues...

33% EkkoSense Research

% of IT racks in the average data center that operate outside of ASHRAE's temperature guidelines...

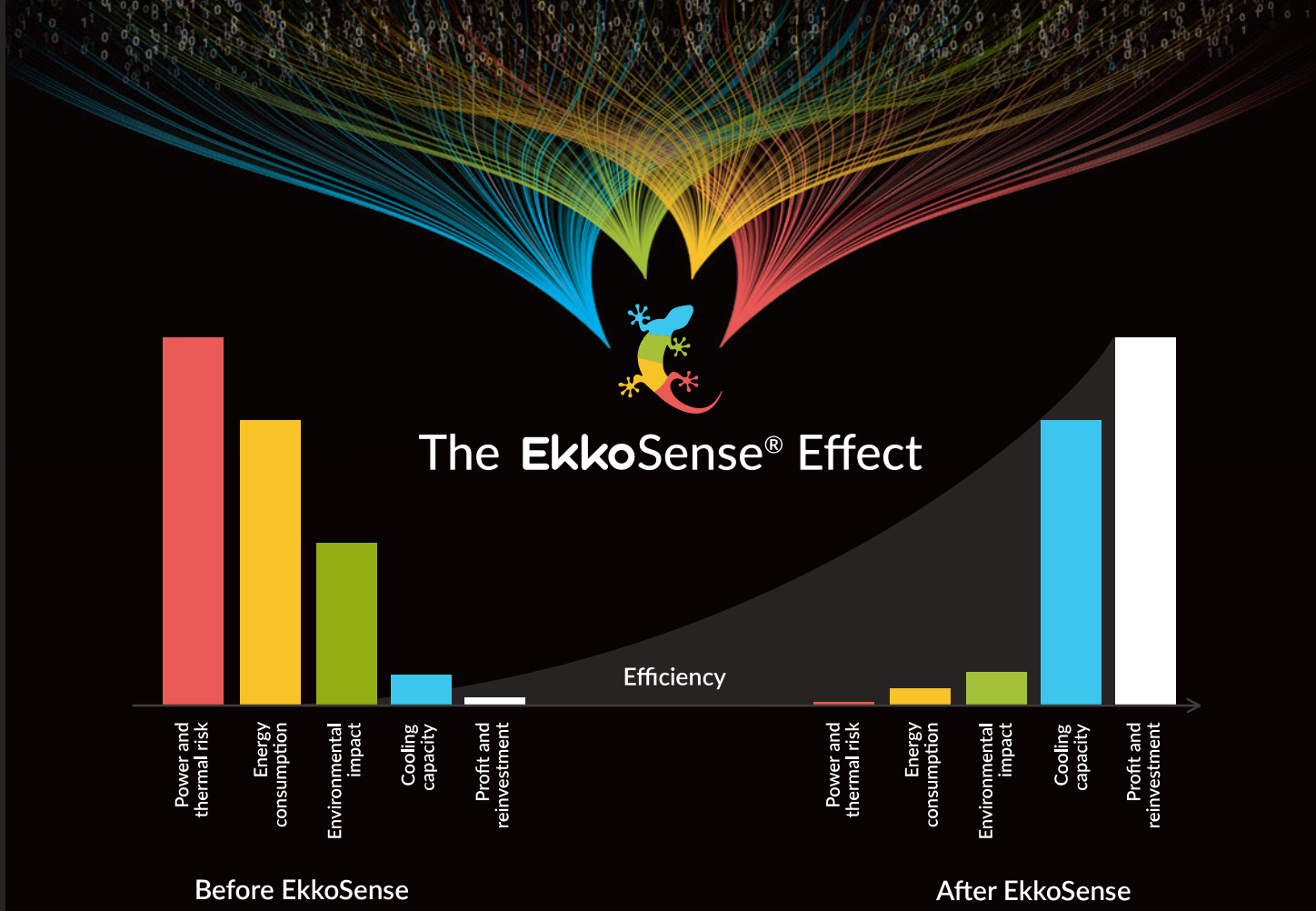
15% EkkoSense Research

% of the average data center's energy consumption that is attributed to cooling...

35% Various

Global $$$ loss attributed to inefficient cooling and airflow management in data centers in 2020...

$18bn Uptime Institute


The EkkoSense® Effect
Efficiency
Power and thermal risk
Energy consumption
Environmental impact
Cooling capacity
Profit and reinvestment
Power and thermal risk
Energy consumption
Environmental impact
Cooling capacity
Profit and reinvestment
Before EkkoSense
After EkkoSense

Reduce cooling energy costs

Release stranded cooling capacity

Remove thermal and power risk

Reduce your carbon footprint

Complete operational visibility in real-time

Achieve an ROI in < 12 months

Automatic full ESG reporting

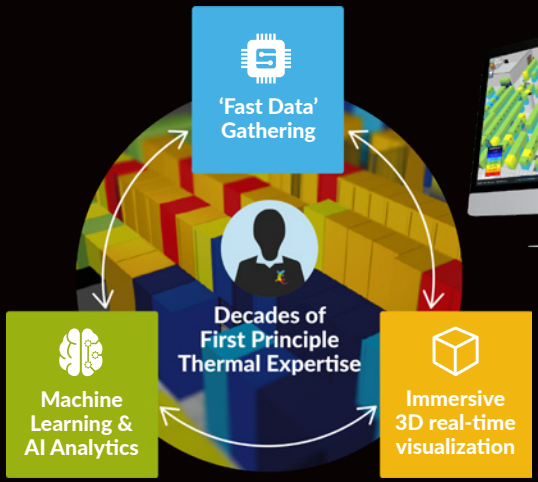
Intuitive global enterprise dashboard UX

The EkkoSense approach

Challenging traditional methods and incumbent software systems to redefine data center optimization.

Critical Things®

EkkoSense provides a unique SaaS platform for data centers that uses ML and AI analytics to provide real-time monitoring, capacity management and thermal optimization insights.



EkkoSoft® Critical 8

Using the latest gaming technologies to provide the most immersive, simple to use interface and quickest to deploy platform in the data center M&E space.

Discover more

Big Data. Fast Data. Smart Data.

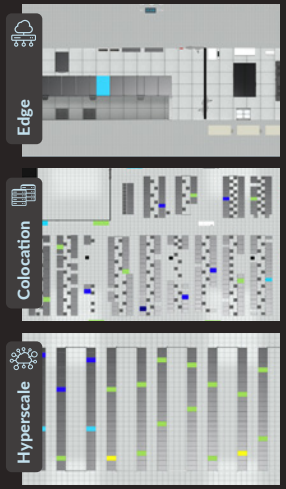
AI driven optimization for critical infrastructure combines complex data sets with the most intuitive 3D digital twin available.

Making the invisible visible

EkkoSense AI and Machine Learning are changing the game for data center operators.

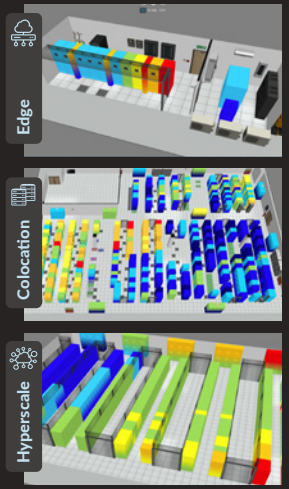
Typical BMS Views

Most data center teams see only the cooling unit temperatures. Rack inlet temperatures are not properly monitored and their true status is invisible.



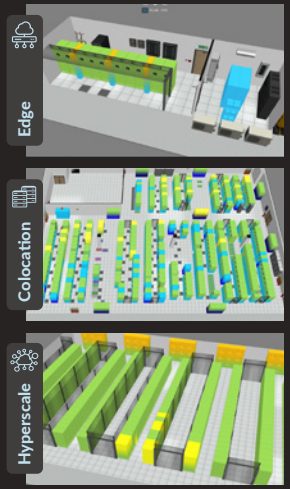
EkkoSense 3D Interactive Digital Twin

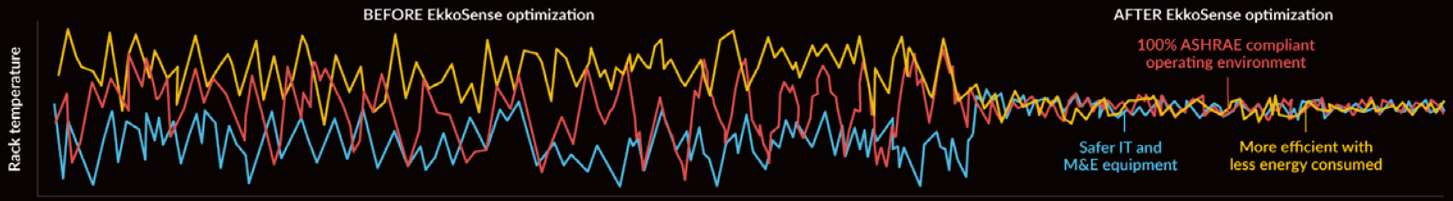
Comprehensive thermal data capture and monitoring gives full visibility and uncovers risk, predicts failures and provides opportunities for improvement.



EkkoSense AI and Machine Learning

AI powered software with Machine Learning allows operators to quickly and easily fine tune the data center to ensure maximum efficiency.

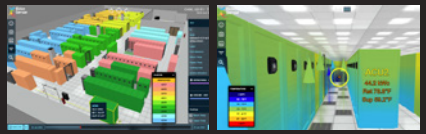




The power of EkkoSense AI

From edge to hyperscale, legacy to new build, from rack to floor to hall. EkkoSense AI provides comprehensive optimization insight and reporting outputs across your entire estate within weeks.

1 Application specific SaaS AI

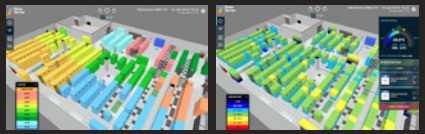


EkkoSense AI handles complex data sets, provides immersive 3D visualization and delivers insights and reporting outputs for you and your team - all in real-time.

2 Intelligent capacity planning

Do you have the capacity and power for current AI computing demands? EkkoSense AI uses innovative 'zones of influence' data analytics to identify true space, power and cooling capacity.

3 Continuous optimization



EkkoSense AI continuously learns about your specific cooling units operations and provides immediate advice on performance enhancements - cooling unit changes, floor grill layout, liquid cooling efficiency.

4 Anomaly detection

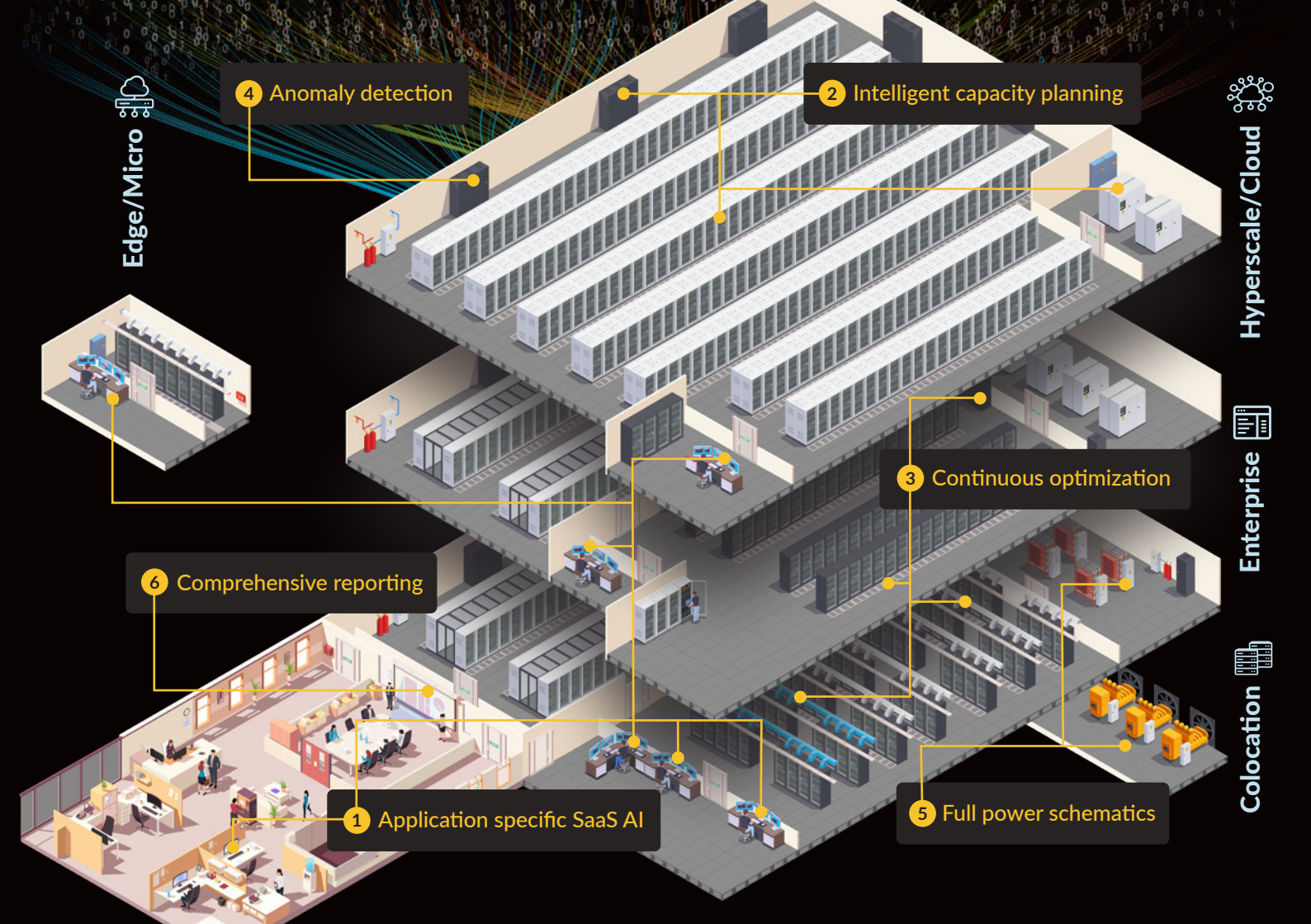
Be proactive rather than reactive. Use data analytics to identify M&E equipment (i.e CRAC) performance anomalies before an equipment failure gives you a downtime headache.

5 Full power schematics

Have you got the power? From site level to rack level, EkkoSense AI provides live insight into all upstream and downstream power usage and capacity planning performance data you need.

6 Comprehensive reporting

'Single pane of glass' enterprise dashboard allows you to quickly access energy tracking, full automatic ESG reporting and KPIs over time. That's presentations to the board sorted!


Edge/Micro
4 Anomaly detection
2 Intelligent capacity planning
Hyperscale/Cloud
Enterprise
3 Continuous optimization
6 Comprehensive reporting
Colocation
1 Application specific SaaS AI
5 Full power schematics

EkkoSoft® Critical 8

Defining sustainable optimization for critical infrastructure

The most intelligent, intuitive and immersive AI driven self-optimization software tools for your data center.

Enterprise Dashboard

Consolidated interface for capacity, power, thermal performance management and reporting.

ESG Reporting

Automate production of key data center ESG reporting to meet the latest CSRD and EED guidance.

Digital Twins

Immersive real-time optimization of all your data center rooms from the smallest Edge site through to your largest facility.

Cooling Advisor

The industry's first fully embedded AI driven cooling advisory tool. It's just like having your own in-house optimization consultant – then some!

Capacity Planning and Power Management

Intuitive, real-time M&E Capacity Planning and Power Management for entire data center estates.

Enterprise Dashboard

Consolidated interface for capacity, power, thermal performance management and reporting.

Quickly navigate from estate to site to floor to room, with the ability to clearly differentiate between all data halls, plant rooms, and edge sites.

Performance trending and comparison tools support the analysis of any changes in thermal performance, site and room power usage and full capacity utilization updates.

Thermal, faults, alarms, sensor, and connectivity alerts help to keep teams aware of any potential operational issues that need addressing.

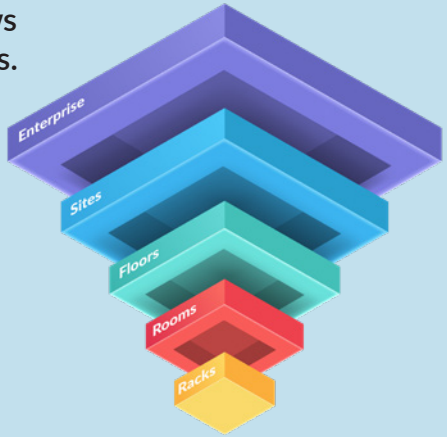
Embedded reporting capabilities enable data center operations teams to automate production of real-time ESG and sustainability reports.

Real-time dashboard overviews to your key data center metrics.

EkkoSense provides instant single pane of glass dashboard views for all of your critical data center metrics including capacity, power, thermal performance management and reporting.

Embedded real-time compliance reporting also delivers exactly the kind of evidence-based real-world sustainability and ESG metrics that the ISO has defined in its ISO/IEC 30134 series of standardized data center resource efficiency KPIs.

EkkoSense supports reporting regimes such as the EU's forthcoming Corporate Sustainability Reporting Directive (CSRD) and the EC Energy Efficiency Directive (EED) and will enable the production of key ISO/IEC 30134 metrics.



Discover more

ESG Reporting

Sustainability reporting requirements for data centers are changing. Get your operations on board for the CSRD and EED with The 'AAA' Standard in reporting.

Automated: The EkkoSense optimization solution is fully automated and easily integrates with your existing systems so there's no need for large teams of specialists to install and manually analyze out-of-date reporting spreadsheets. That keeps your operations lean and your HR overheads to a minimum.

Accurate: Whether you're a small, single-site data center or a large multi-site estate, EkkoSense AI and machine learning crunches information from billions of data points to deliver accurate, real-time optimization insights. Saving cooling energy, reducing emissions, mitigating risk, and generating full reporting on the latest ESG and sustainability KPIs.

Auditable: With organizations required to begin monitoring to the new ISO KPIs from January 2024, EkkoSense are ahead of the game when it comes to providing you with the reporting tools you need to stay compliant. And with little time to spare you can be up and running within a matter of weeks!

Ekkosoft Critical is ESG reporting ready.

Compliance with the EC Energy Efficiency Directive (EED) requires data centers operating in the EU to have been tracking their energy efficiency since May 2023. At the same time the data collection start point for the EU's Corporate Sustainability Reporting Directive (CSRD) is January 1st, 2024.

With many operations still relying on spreadsheets to track data center energy performance, reporting can be time-consuming and inaccurate. This presents a problem given that the new directives require fully auditable standards-based ESG reporting. Deviation from correct data collection and reporting methods is likely to be uncovered by an audit. Therefore a far greater degree of accuracy is now required.

This level of ESG reporting will take considerable operational support and time – imposing a significant resource burden. Many legacy DCIM and BMS tools don't even offer suitable reporting. This becomes more complex depending on room and site numbers and it can be hard to access the level of evidence-based real-world ESG performance data needed for CSRD and the revised EED.

Without access to granular level sustainability reporting data, it's going to be very difficult to answer questions about rack density, power usage, PUE measurements, and any inevitable data center changes.

The good news is that Ekkosoft Critical delivers the real-time granular performance data you need, with the tool set for analysis and reporting built in.

Discover more

Digital Twins

Immersive real-time optimization of all your data center rooms from the smallest Edge site through to your largest facility.

Comprehensive real-time visibility across your entire data center enterprise estate.

Intuitive interaction, with accessible 3D visualizations and a simple drag-and-drop interface providing access to a broad range of M&E functionality.

Clear visualizations that help to successfully communicate complex data – making it easier to compare changes and highlight potential anomalies.

Support for ongoing data center optimization through the active display of suggested airflow and cooling improvements.

Removes the requirement for over-complex DCIM suites or expensive, non real-time external CFD consultancy.

Real-time visualizations based on latest monitoring results, with Digital Twins refreshed to reflect updates.

Intuitive Digital Twin approach for increased visibility.

One of the main barriers to data center optimization has always been the complexity of traditional DCIM tools and CFD solutions.

EkkoSense solves this challenge by creating a concise Digital Twin of your data center environment. We draw on new levels of sensing granularity, real-time analytics and innovative gaming software techniques. This makes immersive real-time optimization of all your data center rooms a reality – from the smallest Edge site through to your largest facility.

Our powerful 3D visualization and analytics platform makes data center optimization far more accessible. The intuitive Digital Twin models take things to the next level. Digital Twins not only keep things simple by visually representing all your current cooling, power and thermal conditions, but also offer immediate tangible recommendations for continuous optimization.

Discover more

EkkoSoft Critical

Cooling Advisor

The industry's first fully embedded AI driven cooling advisory tool. It's like having your own in-house optimization consultant - and then some!

Intuitive process specifically designed to provide operations teams with clear recommendations of next best action to undertake to step towards maximal optimization efficiency.

Users can progress towards optimization goals at their own pace, taking advantage of Cooling Advisor recommendations to reach and maintain best practice operations.

Advisory actions are all structured to ensure support for 100% ASHRAE rack thermal compliance – ensuring protection from thermal risk across your data centers.

Active risk mitigation is in-built – with clearly defined steps, back-out mechanisms and logging of all user inputs and activities available within the module.

EkkoScore Optimization Rating. An entirely new performance metric that brings together temperature and cooling load data to provide a true measure of data center cooling optimization.

ekkosense.com

There's nothing like having your own smart Cooling Advisor.

Cooling Advisor applies powerful machine learning and AI technology to provide valuable, proactive thermal advice. This helps facilities managers, energy managers and data center operations teams ensure their data center's thermal performance stays optimized.

Built right into the heart of the EkkoSoft Critical SaaS 3D visualization and analytics software, Cooling Advisor is the industry's first process-driven advisory capability available as part of a thermal optimization solution. By following the clear recommendations offered by Cooling Advisor's algorithms, data center teams can independently keep on track in their journey to secure up to 30% cooling energy savings.

Powered by machine learning insights from over 50 million EkkoSoft Critical data points, Cooling Advisor also draws on the deep cooling optimization best practice expertise of EkkoSense's team of PhD-level thermal, software and electronics engineers. Cooling Advisor keeps on learning – both from the success of its own recommendations as well as broader EkkoSense optimization insights.

Discover more

Capacity Planning and Power Management

Intuitive, real-time M&E Capacity Planning and Power Management for entire data center estates.

Track and manage your data center capacity changes in real-time, with the ability to make immediate capacity decisions across connected rooms.

Manage all your current and future cooling, space and power demands within a single, intuitive system.

Highlight and release previously unidentified stranded M&E capacity, avoiding potential additional capital investment.

Actively manage all your rack power usage and associated PDU utilization across your estate, ensuring precise control as you work. Reduce overall data center energy usage.

Replace unwieldy capacity and power spreadsheets with comprehensive power usage and capacity reporting.

Custom rack-level power reporting ensures new levels of support for colocation customers.

Taking data center management to the next level.

EkkoSense's distinctive software optimization model lets data center teams gather and visualize capacity, power and cooling performance at a much more granular level. This goes beyond traditional DCIM reporting tools to provide tangible M&E insights that – in turn – enable data centers to be run much leaner.

One of the main barriers to data center optimization is the complexity of traditional DCIM tools and CFD solutions.

EkkoSense's innovative 3D visualization and analytics capabilities take data center Capacity Planning and Power Management to the next level – allowing organizations to run leaner data center enterprise estates.

Traditional legacy DCIM tools typically offer limited M&E capacity and power reporting, and - because of this – continually fail to deliver aside from their core IT-based management strengths.

EkkoSense offers comprehensive capacity planning and power management functionality to provide true real-time space, power and cooling support. All of this at a fraction of the cost of traditional DCIM solutions.

Discover more

Critical Things®

Disrupt traditional data gathering cost models with our IoT suite of sensors an flexible integration solutions

Support your transition towards a 'fully-sensed' data center environment. Designed for simple, rapid installation.

Secure 128-bit AES encryption

Communication between all hardware and EkkoSoft Critical secured with 128-bit AES encryption. Wired interfaces protected with TLS.

Direct mode for Edge support

Enables the EkkoHub to connect directly with EkkoSoft Critical, making it an ideal monitoring and alarming solution for an organization's many smaller Edge sites.

Accelerating data center optimization through integration

EkkoSense is committed to supporting its data center customers with extensive integration opportunities. Our EkkoSoft Critical SaaS platform solution is vendor-agnostic, encouraging integration with multiple sensor offerings, asset management systems and existing BMS, EPMS and other logging systems.

EkkoSoft Critical's Public API server ensures our software can publish and ingest data to and from third parties. This encourages the collection of daily aggregate data at room and individual item levels, as well as gathering metadata to manage layouts in third party applications such as AssetSpire's DCIM asset management platform. EkkoSense also works with sensor vendors such as Packet Power to broaden monitoring options for customers. Modbus, BACnet, oBIX and SNMP devices can be configured, enabling the sharing of critical power and environmental data.

Comprehensive data center coverage

EkkoLink data aggregator can retrieve data from other on-site third party devices and networks using Modbus, OBIX or SNMP connectivity.

Integration with existing 3rd Party systems

The Critical Things® family is also able to access data from existing 3rd party systems such as BMS, EPMS and other logging platforms.

Discover more

EkkoSensor

Monitor rack temperature and humidity. Can be placed on rack inlet and outlet.

Modbus
BACnet
oBIX SNMP

3rd party integration

Eg: power, UPS.

EkkoAir

Monitor cooling duty and performance of cooling units AHUs/CRAH/CRACs.

EkkoHub

Receives data wirelessly from sensors and transmits to EkkoLink aggregator.

PoE Switch

Provides networking and power to EkkoHubs.

EkkoLink

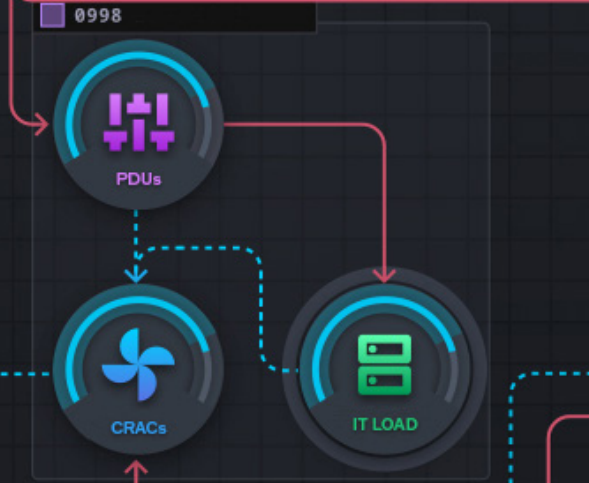
Site data aggregator device takes data from EkkoSensors and 3rd party integration and transmits securely to the cloud.

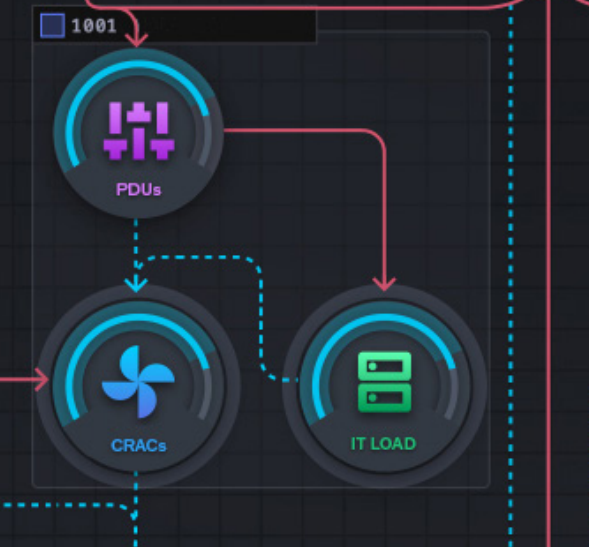
EkkoSoft® Critical 8

EkkoSim 1.0

MODEL | PREDICT | DEPLOY

Introducing precision power, capacity and cooling simulation for data center infrastructure





Predict and maintain optimal performance across the full data center infrastructure.

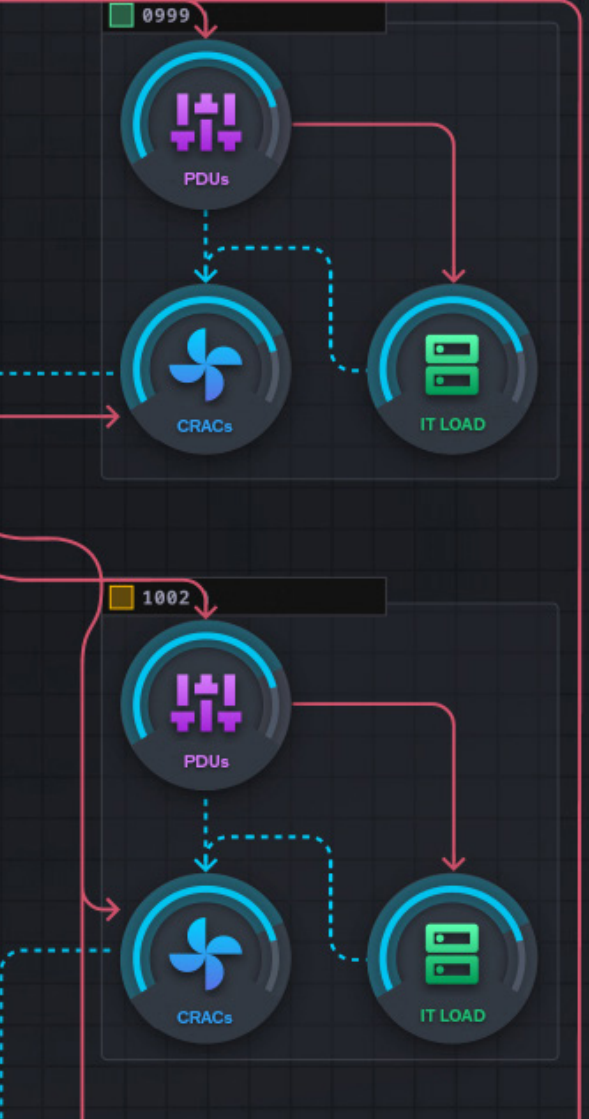
EkkoSense has introduced EkkoSim - full simulation capabilities extending beyond the white space to incorporate full site power and cooling distribution systems.

Reduce capital investments by accurately analysing and predicting the most suitable design.

Decrease operating expenses by continually analysing metered data against predictive models.

Track the performance of critical capital purchases effectively and triage assets which would benefit most significantly from configuration assessments.

Calculate the equipment and power Total Cost of Ownership (TCO) of the data center.



Unlimited simulation scenario creation.

EkkoSim allows for multiple scenarios to be created, tested and analysed in the platform such as; addition of new plant, increase of IT load, failover scenarios, reconfiguration of cooling systems, viability of new power distribution systems and many more.

The interface clearly displays capacity for each unique asset class based on the provisioned (maximum) and utilized (existing) site loads.

Furthermore, integration with EkkoSoft provides 'live' Actual v Expected performance data within the platform in order to review operating performance against OEM specifications to identify inefficiencies.

- Calculate expected power use throughout the data center from IT load provisioning up to the incoming transformers.
- Perform 'what if' analysis to simulate data center performance in a variety of ambient conditions for both power and cooling distribution networks.
- Calculate the PUE of the data center and the pPUE of each component.
- Plan and simulate performance for data center extension projects or for entire new build.
- Select from a large range of asset models and quickly create scenarios, with the ability to combine assets to model a large variety of systems.

Bring the power of EkkoSense AI to your critical facilities

Request your free demonstration and experience the future of data center optimization, today.

Used and trusted by the largest global operators.

Watch our video

Book a demo

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