



# The EkkoSense® Effect

Data center optimization software providing  
the real-time operational visibility you need to:

Remove thermal and power risk

Optimize cooling capacity

Minimize energy waste

Lead the way to achieve net zero

across your critical M&E infrastructure



**EkkoSoft®**  
**Critical 8**

With embedded  
compliance ready  
ESG Reporting

# The data behind data centers

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...

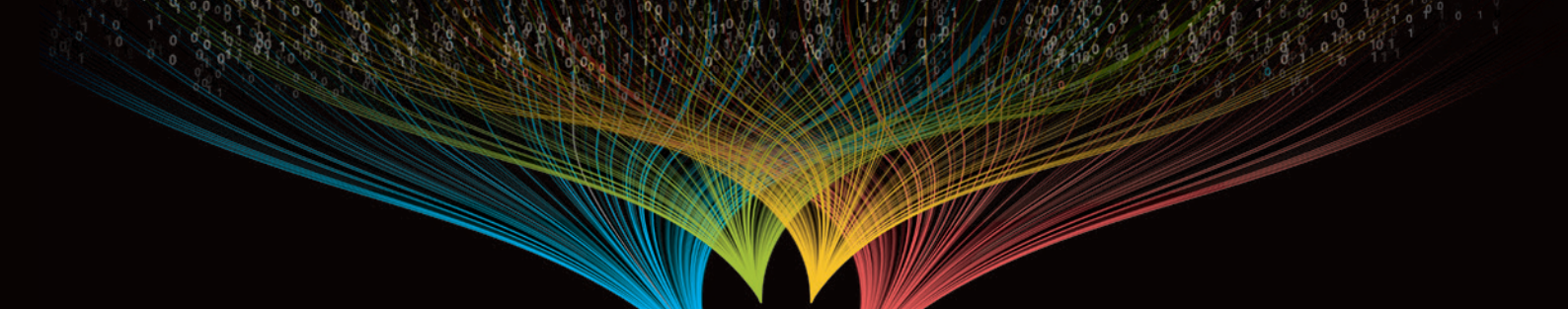
**16%** Capgemini Research

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...

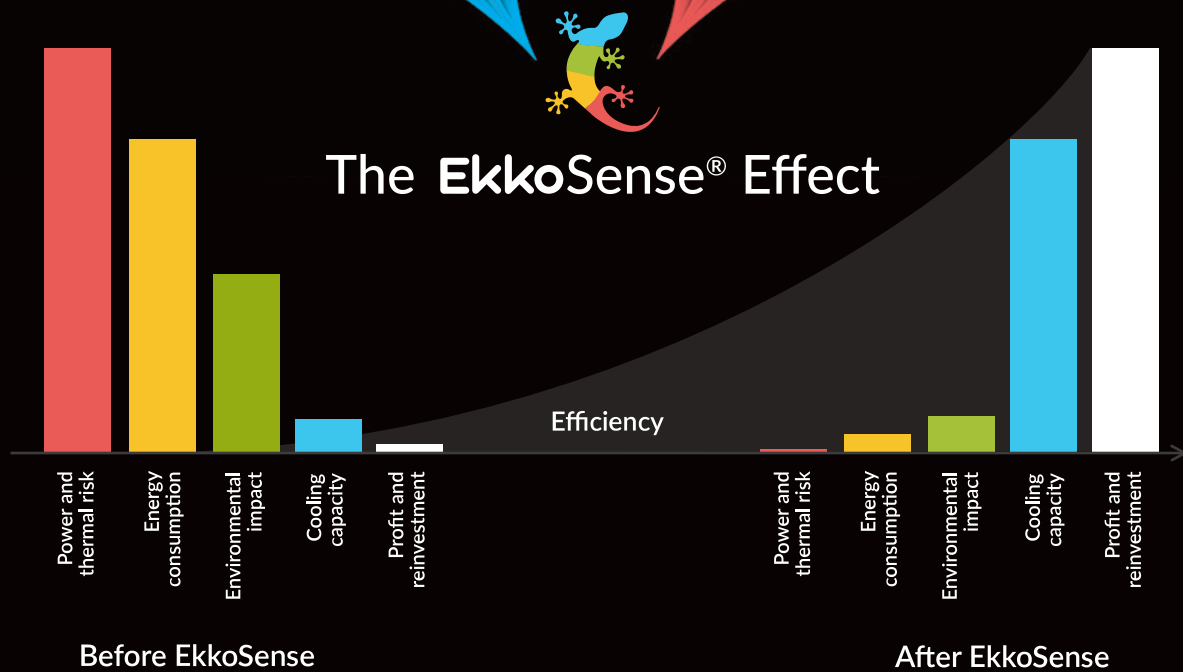
**35%**

Various

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

**\$18bn**

Uptime  
Institute





Reduce data center cooling energy costs by up to 30%



Remove thermal and power risk



Release up to 60% stranded cooling capacity



Reduce your carbon footprint on your journey towards net zero



Automatically generate full ESG reporting



Intuitive dashboard views across your entire global enterprise



Complete operational visibility in real-time



Achieve an ROI in 12 to 24 months



# The EkkoSense Approach

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



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.



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.**

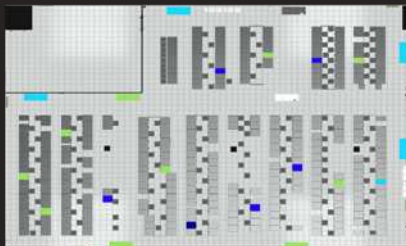
AI driven optimization for critical infrastructure with the most intuitive 3D digital twin available.



# The power of EkkoSense AI

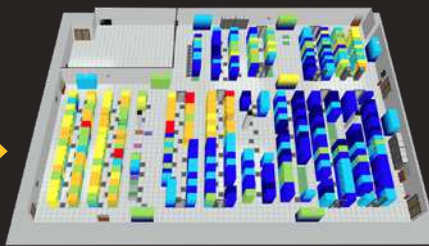
EkkoSense AI and Machine Learning are changing the game for data center operators.

## Typical BMS View



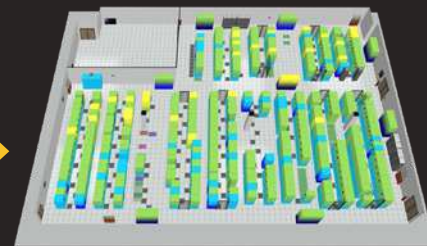
Most data center teams see only the cooling unit temperatures. Rack inlet temperatures are not properly monitored and their true status is invisible.

## EkkoSense 3D Interactive Digital Twin

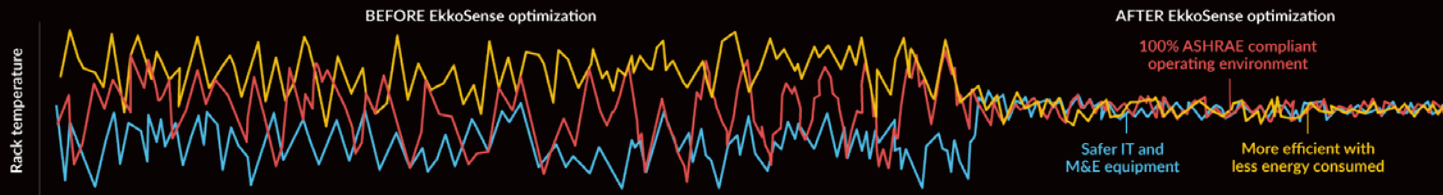


Comprehensive thermal data capture and monitoring gives full visibility and uncovers risk, predicts failures and provides opportunities for improvement.

## 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.





# 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.

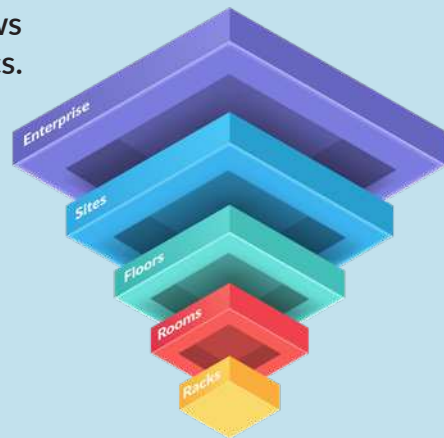
Embedded reporting capabilities enable data center operations teams to automate production of real-time ESG and sustainability reports.

## 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





## 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.

## 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.

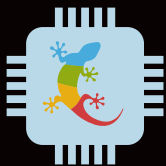
EkkoSense's innovative 3D visualization and analytics capabilities take data center Capacity Planning and Power Management to the next level – allowing organizations to run leaner data center enterprise estates.

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®

Discover more



## Disrupt traditional data gathering cost models with our IoT suite of sensors and 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.



**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.





### EkkoSensor

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



### 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**

# Bring the power of EkkoSense AI to your critical facilities

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

Watch our video



Book a demo



Used and trusted by the largest global operators.



North America: 1-833-921-3335  
UK Headquarters: +44 (0) 115 678 1234  
[info@ekkosense.com](mailto:info@ekkosense.com) [www.ekkosense.com](http://www.ekkosense.com)

