Ekko Sense | AI

Make the invisible visible

From AI simulation to data center optimization

EXCELLENCE IN OPTIMIZATION 10 2013 - 2023

The data center industry challenge

Why data center optimization matters - the data behind operating data centers.

$73bn

2024 data center M&A deals smashed all records

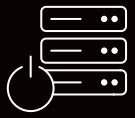
Synergy Research Group

$202bn

Spend on AI servers in 2025, with data centre systems experiencing 23.2% growth

Gartner

44.7%



Forecast CAGR on data centre energy consumption through 2027

IDC

x2+

European data center power consumption is set to more than double between now and 2030

McKinsey

160%

Growth in data center power demand by 2030

Goldman Sachs Research

33%

Forecast CAGR on data center energy consumption through 2027

Omdia Research

The EkkoSense Effect

Quantifiable benefits with the most immersive, intuitive, effective M&E software platform available.

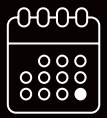
Reduce cooling energy costs by up to 30%

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

Automated full ESG reporting

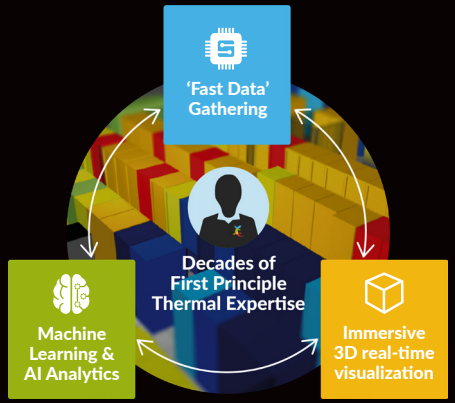
Intuitive global enterprise dashboard UX

The EkkoSense approach

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

Big Data. Fast Data. Smart Data.

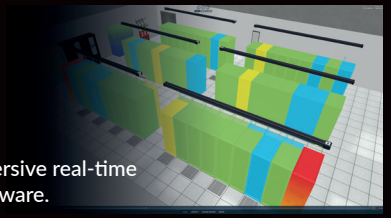
AI driven optimization for critical infrastructure combines complex data sets with the most intuitive 3D digital twin available.



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.

EkkoSoft® Critical



What Is

Intelligent, intuitive and immersive real-time data center management software.

EkkoSim

MODEL | PREDICT | DEPLOY

What If

Data center simulation, infrastructure and capacity planning modeling software.

Critical Things®

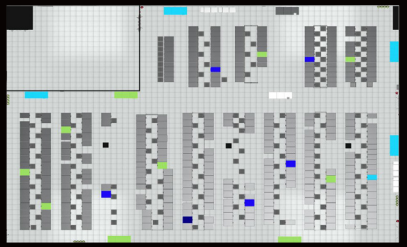
Accurate, granular data gathering

Low cost IoT sensors and flexible integration solutions.

Making the invisible visible

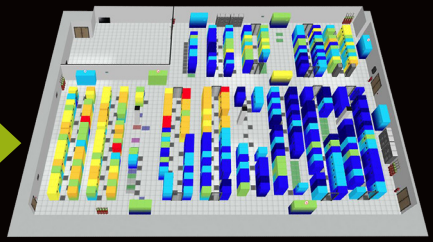
EkkoSense AI and Machine Learning are changing the game for data center operators.

Typical BMS View



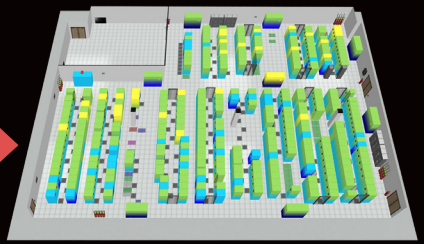
Most data center teams see only the cooling unit temperatures. Rack inlet temperatures are not properly monitored and their true status is invisible.

EkkoSense 3D Interactive Digital Twin

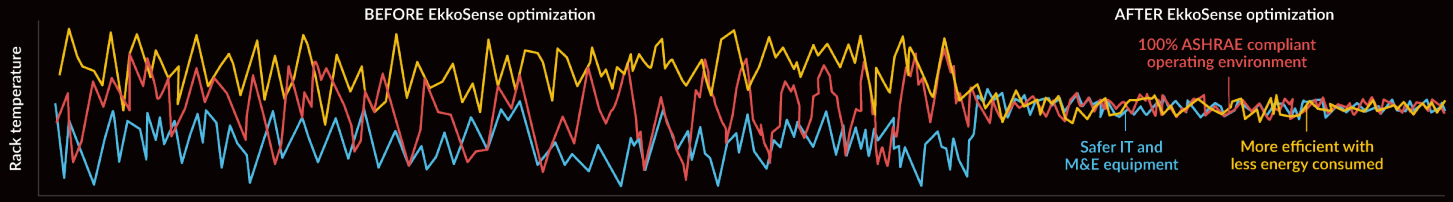


Comprehensive thermal data capture and monitoring gives full visibility and uncovers risk, predicts failures and provides opportunities for improvement.

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.

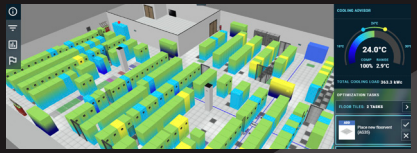


The power of EkkoSense AI

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.

EkkoSim

Precise data center infrastructure simulation models that let you test 'what-if?' scenarios, and take the guesswork out of data center planning.



Cooling Advisor

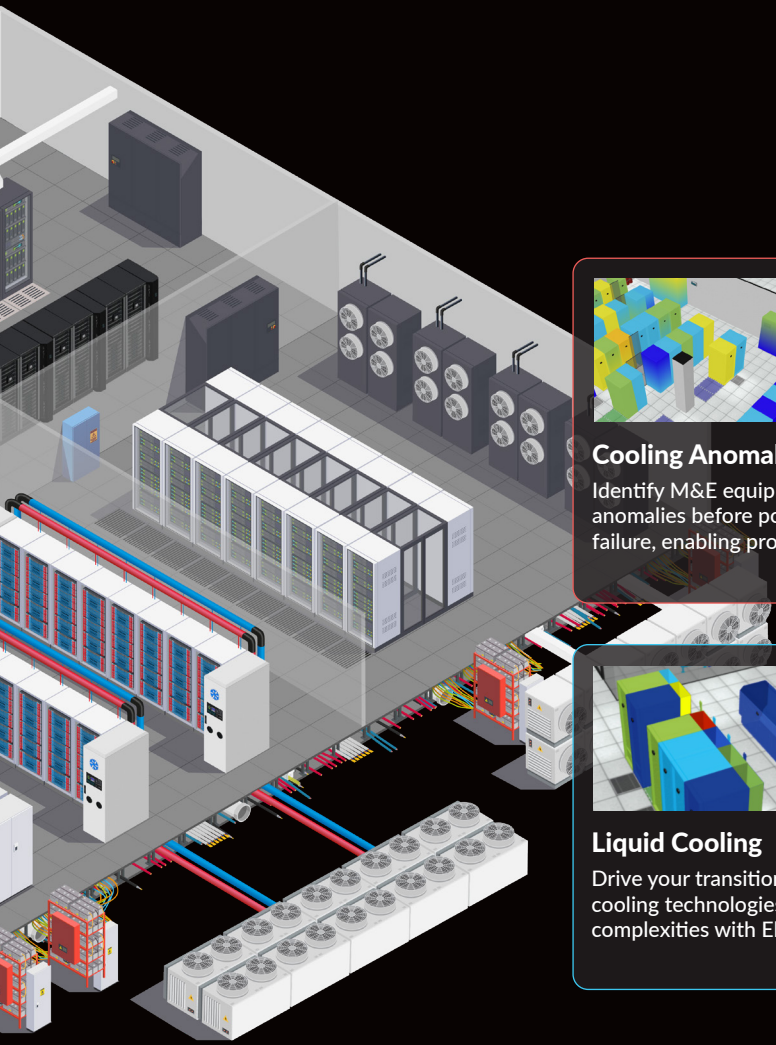
Actionable advice for continuous data center performance.

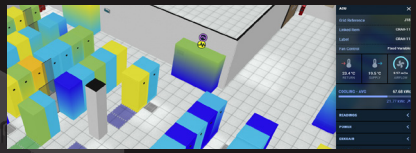
ESG Reporting

Collect, trend, analyze and report on ISO 30134 ESG Reporting requirements such as PUE, CER, CUE and WUE.

Intelligent Energy Tracking

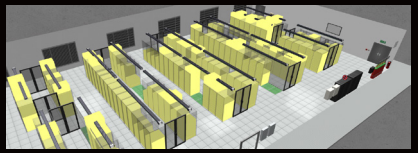
Using local weather data and actual site performance data against optimized state to identify performance divergence.





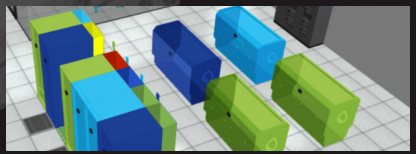
Cooling Anomalies Detection

Identify M&E equipment performance anomalies before potential equipment failure, enabling proactive maintenance.



Capacity Planning

Ongoing capacity management of site cooling, space and power for allocation and reservation across the full power chain.



Liquid Cooling

Drive your transition to hybrid air and liquid cooling technologies, while managing the complexities with EkkoSense.

Estate Dashboard Views

Optimize thermal, capacity and power performance across extended data center estates, with essential KPI data accessible in just seconds.

EkkoSoft® Critical

Providing the real-time visibility data center operators need

Our AI powered, 3D visualization and analytics software enables data center teams to remove thermal and power risk, minimize cooling energy usage and costs, release and manage cooling capacity, monitor and optimize today's increasingly complex hybrid liquid and air-cooled AI compute environments, and support ESG programs through quantifiable carbon savings.

- Simple, consolidated, UI/UX with key at-a-glance metrics
- Complex hybrid and liquid cooling management tools
- Robust capacity planning and power management
- Immersive 3D Digital Twins Deep ML driven analytics
- AI Driven Cooling Advisor and Cooling Anomaly functionality
- One-click and automated ESG reporting

Real-time dashboard overviews of 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 Corporate Sustainability Reporting Directive (CSRD) and the EC Energy Efficiency Directive (EED) and will enable the production of key ISO/IEC 30134 metrics.

Enterprise Dashboard

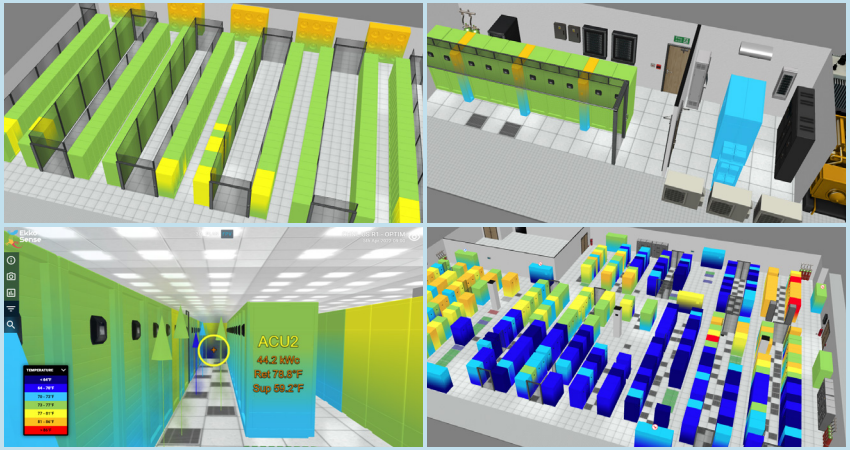
Consolidated interface for capacity, power, thermal performance management and reporting.

- 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.

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 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.

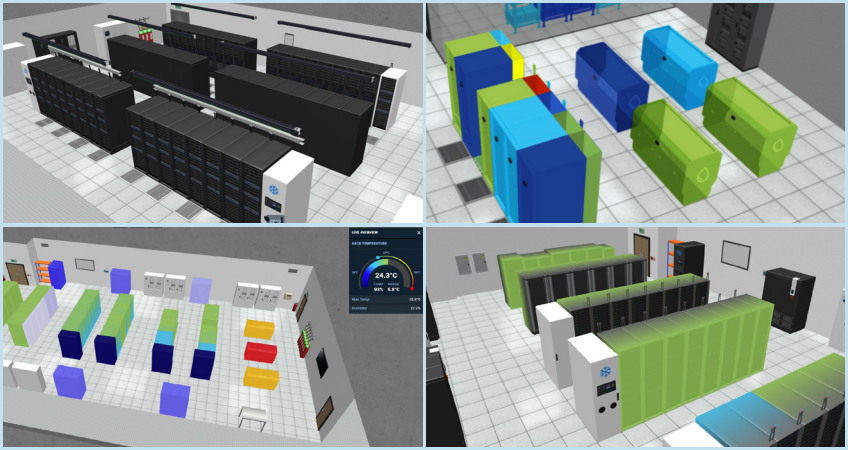


Intuitive Digital Twin approach for increased visibility.

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.



Support your transition to Liquid Cooling with EkkoSense.

Given that it's not possible to run completely liquid-cooled data centers, most data centre operators will have a mix of both liquid cooling and air cooling. Both have an important role to play – most likely as part of an evolving hybrid cooling approach.

However, key engineering questions need answering before simply deploying liquid cooling – including the exact blend of air and liquid cooling needed. Also we need to recognize the complexity of managing the operation of hybrid air and liquid cooling within the same room.

This increases the need for the kind of absolute real-time white space visibility made possible by EkkoSense Critical.

EkkoSoft Critical's 3D visualization and analytics software can accommodate multiple cooling architectures, allowing operations teams to monitor, visualize and optimize all cooling types. Because EkkoSoft Critical lets teams visualize cooling performance at a much more granular level, teams can ensure their environment remains fully optimized – particularly as workloads continue to scale upwards.

Liquid Cooling Support

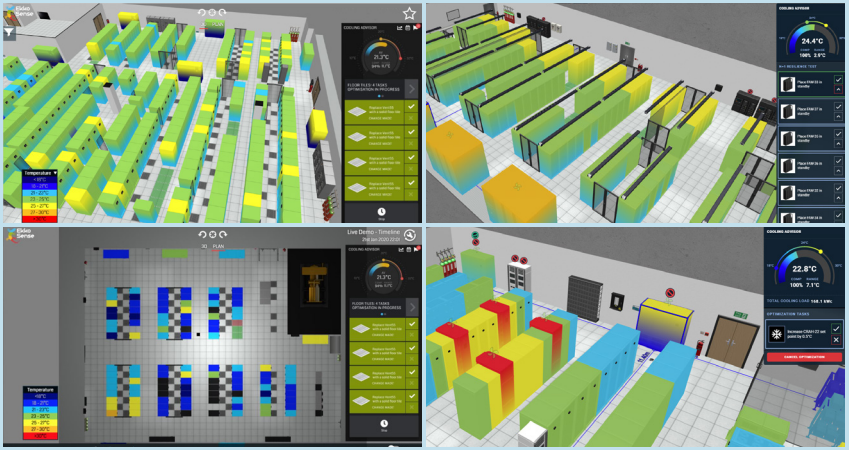
EkkoSense delivers the real-time operational visibility essential for managing today's complex hybrid air-cooled and liquid-cooled data center environments.

- EkkoSense is one of just four advanced liquid cooling technology providers selected for Telehouse's state-of-the-art liquid cooling lab in London Docklands.
- EkkoSoft Critical is the only AI-powered data center optimization platform that allows operations teams to manage the real-time performance of all their air-cooled, liquid-cooled, and hybrid-cooled environments.
- EkkoSense is ideally placed to equip data center teams with the absolute real-time white space visibility needed to optimize their hybrid cooling performance.
- Liquid Cooling support includes monitoring for direct-to-chip liquid cooling, EkkoFlow capabilities to track liquid flow rates within Coolant Distribution Units (CDUs), and Immersion Cooled Units support.

Cooling Advisor

The industry's first fully embedded AI driven cooling advisory tool. Just like having your own in-house consultant.

- 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 support 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 - A unique performance metric that brings together temperature and cooling load data to provide a true measure of data center cooling optimization.

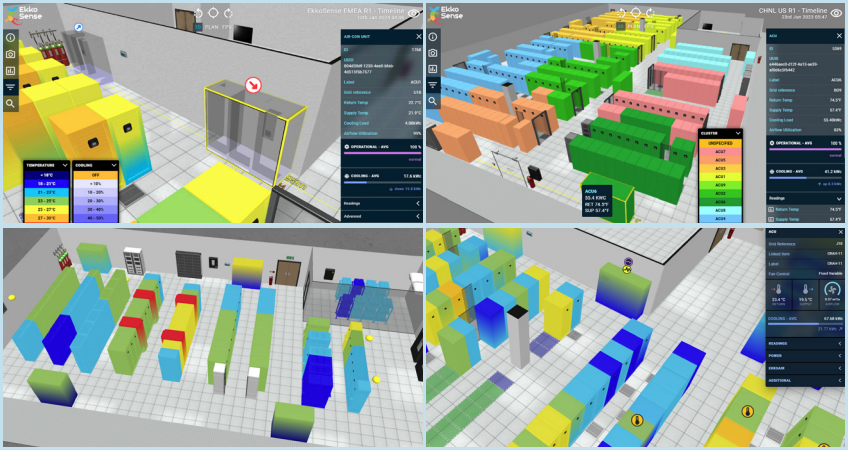


There's nothing like having your own smart Cooling Advisor.

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.



Identify performance anomalies ahead of time.

Where Cooling Anomalies Detection really delivers is in its ability to identify any units that are not operating as expected, but that haven't yet reached the threshold for generating alarms within BMS systems, or hit any temperature set points within the room. Cooling Anomalies Detection combines with the regression report in our Cooling Advisor or Reporting to help operations teams keep on top of this kind of optimization 'drift'.

Cooling Anomalies Detection provides a great way for data center engineers and managers to get ahead of potential issues.

Here's how it works:

- First inspect the room and identify any area with abnormal environmental conditions
- Select the data center cooling unit that appears to have abnormal readings in order to investigate further
- View the cooling anomaly that has been detected
- Dispatch help to fix the issue before an outage occurs
- Receive proactive alerts for cooling faults, airflow faults and high duty alarms

Cooling Anomalies Detection

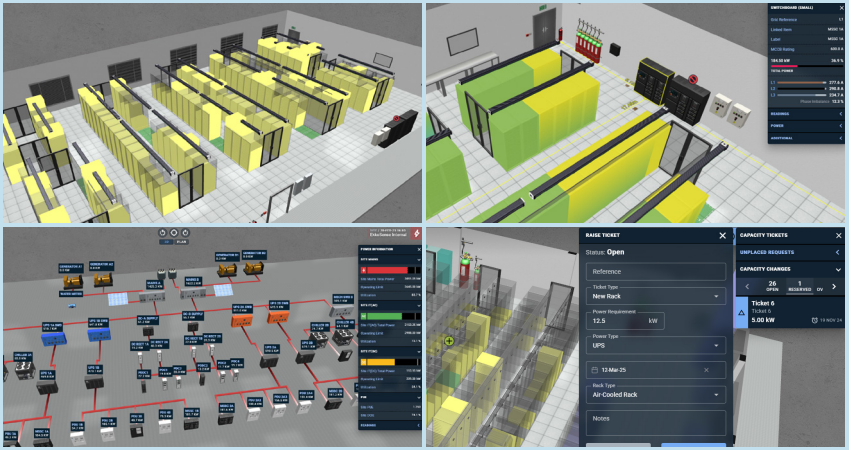
Data center operations teams can use our distinctive Cooling Anomalies Detection to identify any abnormal cooling performance – and signal users proactively before failure occurs.

- Cooling Anomalies Detection leverages data analytics functionality to identify performance anomalies ahead of a potential equipment failure.
- Focuses in on any drift from control set-points – such as a stuck valve or broken fan - providing the insight needed to a more proactive maintenance approach.
- Examples of Cooling Anomalies Detection issuest include: airflow/fan failures; cooling/refrigeration faults; machine faults; and cooling unit over- and under-loading.
- With Cooling Anomalies Detection, EkkoSense has identified thousands of cooling issues that were not identified by client BMS systems.

Capacity Planning

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 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.

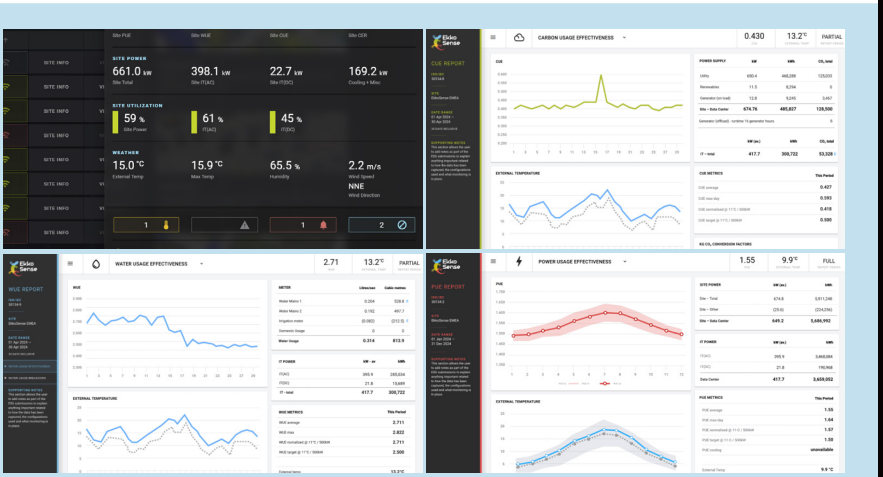
EkkoSense's distinctive software optimization model lets data center teams gather and visualize capacity, power and cooling performance at a much more granular level. This goes beyond traditional DCIM reporting tools to provide tangible M&E insights that – in turn – enable data centers to be run much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



Data Center ESG Reporting made easy.

With increased pressure in many regions for data centers to track and report on their energy efficiency, there's no doubt that operations teams will need to take steps to improve their reporting processes if they are to keep pace with the growing range of energy efficiency and sustainability reporting initiatives.

These regulatory regimes, including the EU's CSRD Corporate Sustainability Reporting Directive (CSRD), the EC Energy Efficiency Directive (EED), and California's Senate Bill SB 253 and SB 219, are transforming ESG from being primarily a social and corporate responsibility into a crucial aspect of compliance.

EkkoSense solves this problem by embedding ESG Reporting within EkkoSoft Critical – and it really couldn't be any easier to use. ESG Reporting is embedded within EkkoSoft Critical as an automated process, and is a great way for operations teams to present their sustainability and ESG metrics. The whole process takes just a few minutes, rather that the multiple hours, if not days, needed to generate this information manually. And if you're a colocation service provider, the benefits are even more compelling.

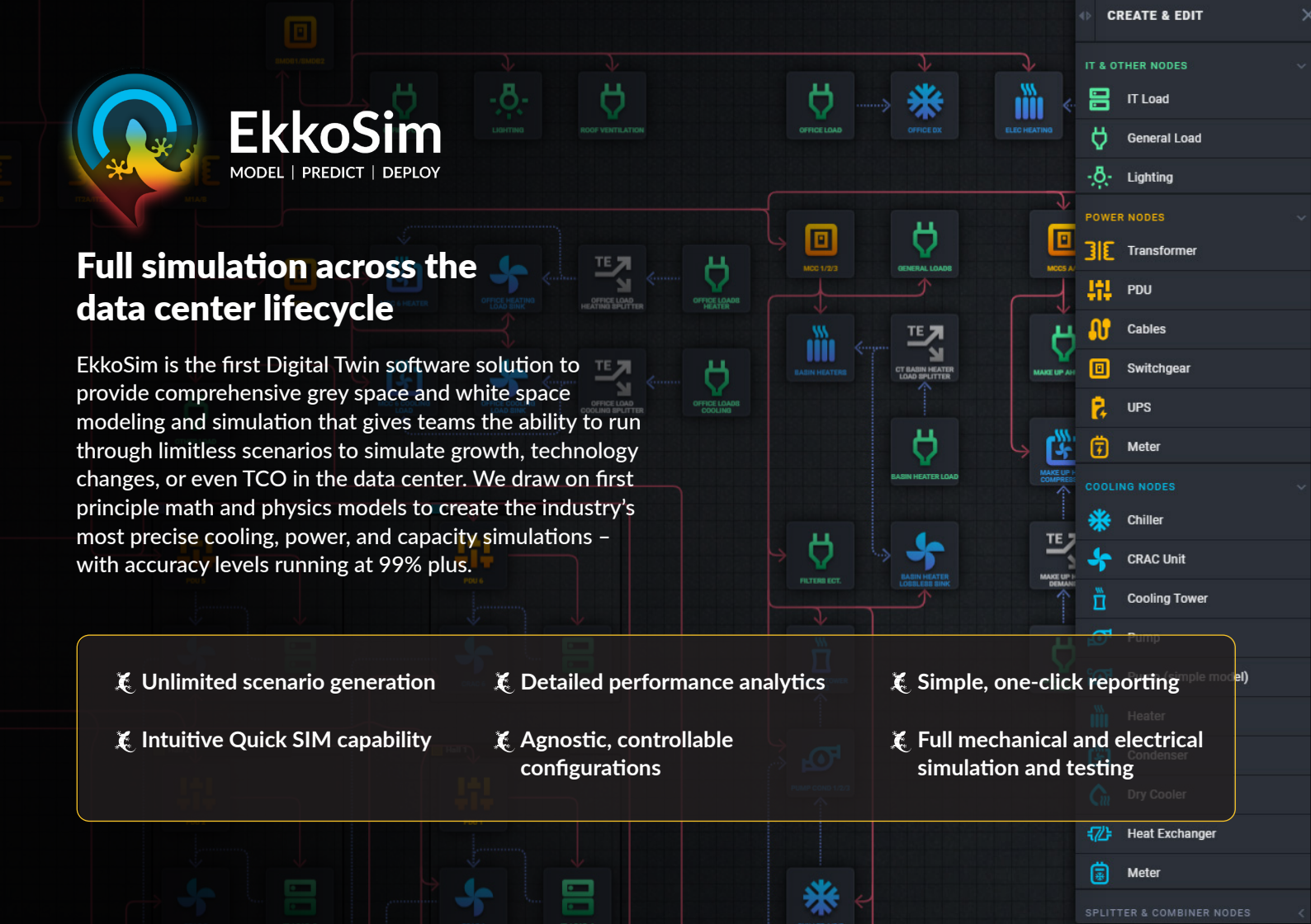
ESG Reporting

Sustainability reporting requirements for data centers are changing. Ensure CSRD and EED compliance with The 'AAA' Standard in reporting.

Automated
EkkoSense's optimization solution is fully automated, integrates easily with your existing system, with no need for specialist analyst teams.

Accurate
EkkoSense AI and machine learning crunches information from billions of data points to generate full PUE, CUE. WUE and CER reporting.

Auditable
EkkoSoft Critical gives you the reporting framework you need to stay compliant, and you can be up and running with ESG Reporting in just weeks!


EkkoSim
MODEL | PREDICT | DEPLOY
Full simulation across the data center lifecycle
EkkoSim is the first Digital Twin software solution to provide comprehensive grey space and white space modeling and simulation that gives teams the ability to run through limitless scenarios to simulate growth, technology changes, or even TCO in the data center. We draw on first principle math and physics models to create the industry's most precise cooling, power, and capacity simulations – with accuracy levels running at 99% plus.
Unlimited scenario generation
Detailed performance analytics
Simple, one-click reporting
Intuitive Quick SIM capability
Agnostic, controllable configurations
Full mechanical and electrical simulation and testing
CREATE & EDIT
IT & OTHER NODES
IT Load
General Load
Lighting
POWER NODES
Transformer
PDU
Cables
Switchgear
UPS
Meter
COOLING NODES
Chiller
CRAC Unit
Cooling Tower
Heater
Condenser
Dry Cooler
Heat Exchanger
Meter
SPLITTER & COMBINER NODES

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.

Model, Predict, Deploy

Data center simulation, infrastructure and capacity planning modeling.

- 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.
- 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.
- Plan and simulate performance for data center extension projects or for entire new build.
- Calculate the PUE of the data center and the pPUE of each component.

Critical Things®

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.

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.

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

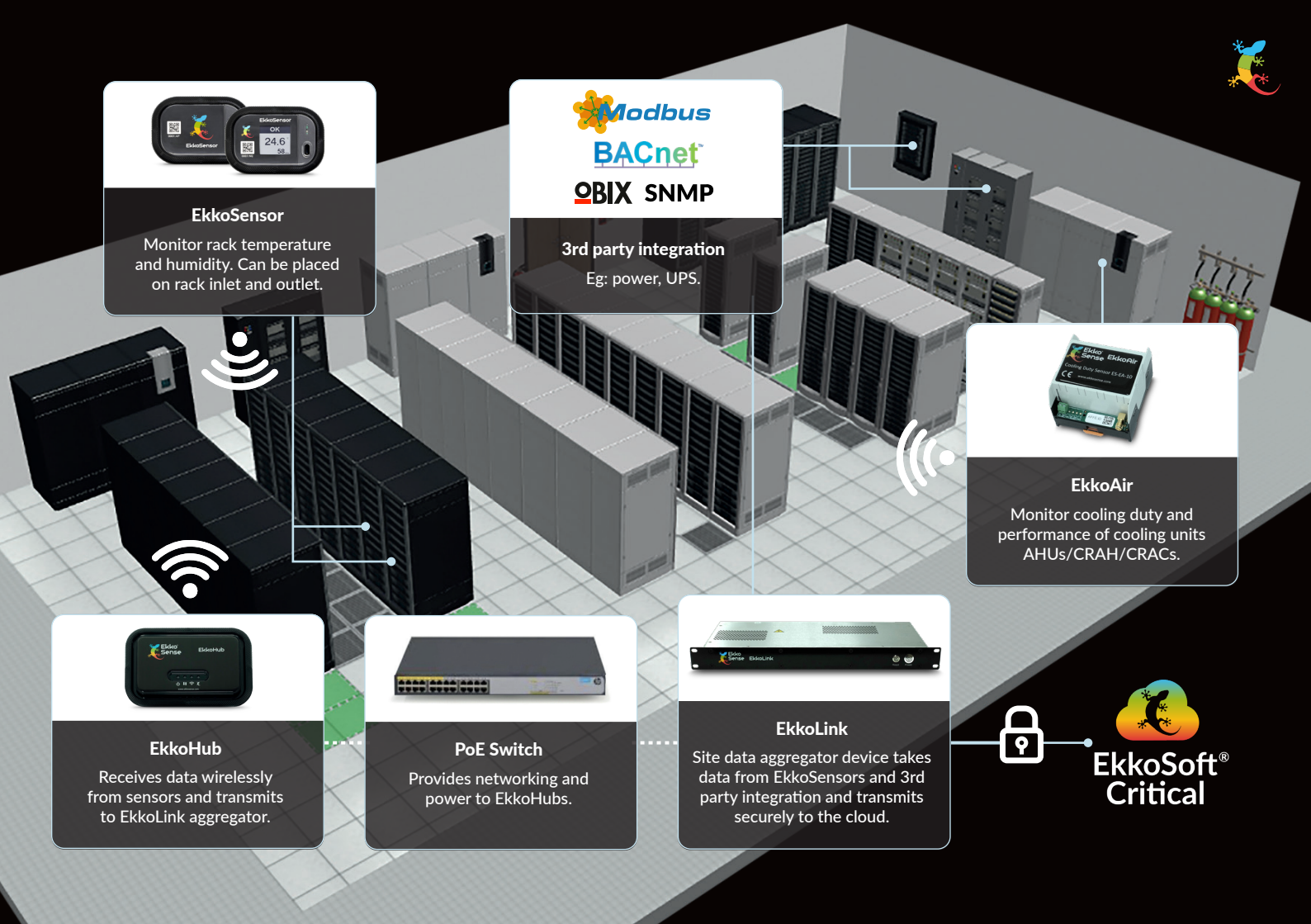
Enables the EkkoHub to connect directly with EkkoSoft Critical, making it an ideal monitoring and alarming solution for an organization's many smaller Edge sites.

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.
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

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.

CBRE · Cigna · gsk · citibank · daisy. · DIGITAL REALTY · interxion A DIGITAL REALTY COMPANY · BT · TELEHOUSE · servicenow · BRITISH AIRWAYS · sky · Virgin media O2 · 3 · VISA · Fidelity INTERNATIONAL · Santander · Telefónica

Part of the

TELEHOUSE
LIQUID COOLING LAB

We're recognised as one "of the world's most advanced liquid cooling technology providers"

Ranked in the top 3 for DCIM

DataCentre MAGAZINE

Ranked 3rd by Data Centre Magazine for leading providers of DCIM solutions

February 2025

DATA CENTRE WORLD AWARDS 2025 WINNER Special Contribution to Improving Energy Efficiency

DCS AWARDS 2024 WINNER

The CLOUD Awards WINNER 2023-24

BusinessGreen UK Green Business Awards 2024 WINNER

DATACLOUD GLOBAL AWARDS 2024 WINNER

Ekko Sense | AI

UK Headquarters: +44 (0) 115 678 1234
North America: 1-833-921-3335
Germany: +49 89262025276
Australia: +61 2 8358 0031
info@ekkosense.com www.ekkosense.com