3DCIM   TECHACCESS
INTEGRITY · SERVICE · EXPERTISE   assetspire   Ekko Sense

Case Study

Africa
DataCentres

How Africa Data Centres has deployed next-generation DCIM to gain real-time visibility over its data centre operations
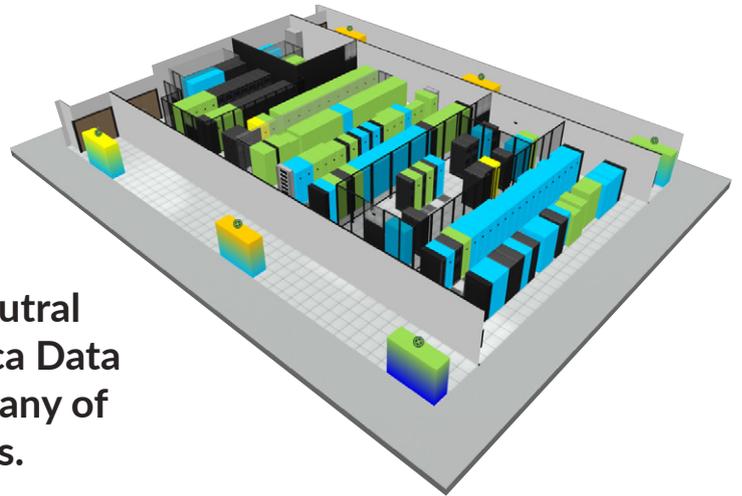
EkkoSense, Assetspire and TechAccess working together to deploy 3DCIM.

The 3DCIM Effect

Africa
DataCentres

Operating Africa's largest network of interconnected, carrier, and cloud-neutral data centre facilities means that Africa Data Centres increasingly compete with many of the world's leading hyperscale players.

To strengthen its operational competitiveness, the company worked with TechAccess, EkkoSense, and Assetspire to deploy 3DCIM – a next-generation Data Centre Infrastructure Management (DCIM) solution that equips the company with true real-time visibility over its extended data centre operations.

Dr. Angus Hay, Regional Executive for South Africa at Africa Data Centres, indicated that the 3DCIM solution provides comprehensive asset management and granular monitoring of rack space, data, power, and environmental data. Additionally, the solution offers relevant dashboards and reporting, equipping the company with the operational control necessary to compete with hyperscale competitors. He further noted that the solution also equips the team with tools and insights to improve the data centre experience for customers.

Africa Data Centres operates Africa's largest network of interconnected, carrier and cloud-neutral data centre facilities.

Africa Data Centres is a major hyperscale partner for the pan-African market. With facilities strategically located across South Africa, Kenya, and Nigeria, the business is a trusted partner for the provision of rapid and secure data centre services and interconnections across the African continent. Africa Data Centres is part of the pan-African technology leader, Cassava Technologies, which has a presence across 40 countries in Africa, the Middle East, Latin America, and the USA. Through its subsidiaries – Liquid, Liquid C2, Africa Data Centres, Sasai Fintech, and Vaya Technologies – the company drives its vision of a digitally-connected future that leaves no African behind.

Requirement for much greater levels of data centre management and control

Dr. Hay explained that as a data centre provider, Africa Data Centres is growing rapidly from a small base, but also has to compete head-to-head with global players. He pointed out that for the company to deliver its services efficiently, it is essential to collect and manage the latest information about data centre IT and facility assets, resource use, and operational status across its network of sites in Johannesburg, Cape Town, Nairobi, and Lagos.

Dr. Hay further elaborated that the company's goal is to become the infrastructure for the cloud across every market it touches and expressed pride in meeting global ISO standards for security, quality, health & safety, business continuity, and environmental management. However, to secure these certifications, it is imperative to have well-defined and repeatable processes. He acknowledged that they had been doing too much manual work to achieve those processes and needed a different approach, leading them to explore how DCIM could help.

DCIM software is used to measure, monitor, and manage all the IT equipment and supporting infrastructure positioned within data centres

The Africa Data Centres team engaged its solutions integration partner, TechAccess, to investigate a solution. Dr. Hay mentioned that global hyperscalers have large in-house development teams, but Africa Data Centres did not. As a result, they needed a flexible, easy-to-use software solution that could integrate with other systems. When TechAccess recommended the innovative 3DCIM solution from EkkoSense and Assetspire, Africa Data Centres recognised that this approach offered enterprise-class DCIM at a fraction of the cost of traditional and more complex DCIM alternatives.

3DCIM

3DCIM - AI-powered data centre optimisation and customisable asset control

3DCIM combines two intuitive, best-in-class SaaS-based data centre infrastructure optimisation and management solutions. Assetspire's highly-configurable SPIRE asset management platform enables the fast and accurate capture of any data centre asset, while EkkoSense's award-winning EkkoSoft Critical 3D visualisation and analysis software simplifies the process of collecting granular, real-time thermal, power, and capacity information for the operations teams. Both solutions are fully integrated within the 3DCIM solution.

As the solutions integrator for the project, TechAccess was responsible for the software, hardware, integrations, project management, professional services, and other project deliverables that comprise the DCIM platform. Dr. Hay stated that Africa Data Centres chose the 3DCIM approach because it combined two critical benefits: immediate visibility into all the data centre assets across the database and real-time information on capacity, power, and cooling.

Dr. Hay also explained that in selecting a DCIM solution, they knew they needed to start with a strong database of assets. This database would provide the central overlay allowing them to manage planning across all environments. They could then build on that with real-time monitoring and live optimisation. Africa Data Centres worked with TechAccess to find the best solution for their data centres, requiring a system capable of showing all their equipment and how it functions. 3DCIM was identified as the best option.

assetspire

Assetspire – the essential assets database

Africa Data Centres made it clear from the beginning that there would only ever be one database for asset management. Dr. Hay noted that in many organisations, the Finance team often builds its own asset register, which still looks different from the operations environment. To avoid this, the company worked hard to standardise critical components so that Assetspire could serve as the master source for both financial and operational assets. During deployment, the team thoroughly reviewed and ensured that everything was integrated with financial, maintenance, and task management systems. Dr. Hay mentioned that there were around 5,000 logged assets in the system, from generators to chairs, making Assetspire their essential assets database.

Ekko Sense

Optimising data centre performance with EkkoSense

EkkoSoft Critical's distinctive 3D visualisation and analysis software allows for simpler collection of granular, real-time thermal, power, and capacity data intended for the Africa Data Centres operations team. Dr. Hay explained that, because EkkoSense captures monitoring data in real-time, Africa Data Centres now has much greater data granularity. The team is able to monitor every single rack and every cooling unit, accurately determining the current status of the assets.

Dr. Hay mentioned that they were using machine learning across the environment to monitor conditions such as temperature in an aisle, track measured humidity, and see where the control systems are. Previously, Africa Data Centres had Building Management System (BMS) readings stored in a database, but they had no way of using them. EkkoSoft Critical now allows them to track data centre performance across all their sites via digital twin visualisations, optimising performance with the software's AI analytics. Dr. Hay highlighted that the accessible nature of the solution means they can continuously optimise, whether it involves releasing cooling capacity, identifying thermal or power risks, or cutting cooling energy to unlock carbon savings.

TECHACCESS
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Bringing it together with TechAccess

Africa Data Centres worked closely with its systems integration partner, TechAccess, to initially specify and deploy the 3DCIM solution. TechAccess brought the critical expertise that allowed the DCIM project to be delivered at scale – initially across six data centres in South Africa, Nigeria, and Kenya. The integration partner provided the necessary skills to deploy, implement, and manage the project, while also coordinating with Assetspire and EkkoSense teams.

A key requirement for the project was to choose a cloud-based solution that was highly customisable. Dr. Hay explained that Africa Data Centres had opted against a major commercial, off-the-shelf solution because they wanted to evolve the DCIM deployment to match their specific needs. The DCIM solution was integrated with various systems, including BMS, energy management, task management, and problem management systems. Both the Assetspire and EkkoSense systems proved customisable, and Dr. Hay anticipated further integration as they continue to leverage the full advantages of 3DCIM.

3DCIM

Integrating the best M&E platform with the best asset management platform for DCIM done right.

- **Next generation 3DCIM data centre optimisation and infrastructure management** enables asset management, real-time thermal optimisation and M&E capacity management integration in one single, intuitive solution.

- **Reduce cooling energy costs by up to 30%** – with clear recommendations that unlock energy savings and help reduce unnecessary spending on additional cooling systems.

- **Remove thermal and power risk** – ensure 100% ASHRAE thermal compliance, with comprehensive monitoring to prevent minor issues developing into serious outages.

- **Run your data centres much leaner** –manage allocated/reserved capacity, cooling and power enables teams to release previously unavailable stranded capacity.

- **Manage all your enterprise assets** – with the ability to control all your enterprise assets across all asset classes, wherever they are across your organisation.

- **Intuitive visual management** – 3DCIM features intuitive visualisations to provide teams with a single real-time overview of all their data centre assets and performance.

- **Provide a Digital Twin of your critical environments**, enabling remote management and minimalising site visits with accurate, trusted data.

- **Support for unlimited locations** – per user pricing gives you full cost control, no matter how many locations, how many asset classes, or how many assets you need to control.

Makes enterprise-class DCIM available at a fraction of the cost of traditional, outdated, overpriced and difficult to manage alternatives, with a genuine ROI of less than 12 months.

- **Full Remote Access and Visibility**
  3DCIM brings real-time visibility of both data centre cooling, power and capacity performance as well as comprehensive asset management, with full remote access via mobile devices for 24x7x365 peace of mind and reduced risk.

- **Enabling new levels of accuracy and granularity**
  3DCIM enables new levels of accuracy and granularity, with SPIRE's ease-of-use supporting 100% asset accuracy and EkkoSoft Critical's comprehensive sensing unlocking significantly greater granularity than legacy DCIM approaches.

- **Flexible SaaS architecture with full API integration**
  Both EkkoSoft Critical and SPIRE feature a SaaS delivery model, flexible architecture and API integration, ensuring a future-proof platform for 3DCIM integrations.

- **Highly Customisable Asset Control Platform**
  Assetspire's SPIRE customisable asset control platform enables the fast and accurate capture of any data centre asset, serving as a centralised data management solution across DCIM, CAFM and CMDB environments – all your assets in one place.

- **Facilities Management support**
  3DCIM's next generation infrastructure management offering extends beyond data centre white space to embrace key CAFM, CMDB, BMS and Mini-BMS environments – with full real-time visualisation making 3DCIM a perfect go-to optimisation and asset management solution for operations teams.
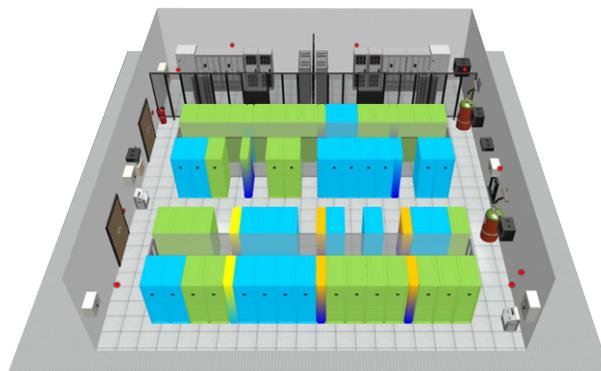
Unlocking key benefits for Africa Data Centres

Following the initial deployment of 3DCIM across Africa Data Centres, the team has identified a number of key benefits, including:

- **Raising operations staff productivity levels:** The deployment of 3DCIM has helped Africa Data Centres grow its operations engineering capability. Because 3DCIM is cloud-based and visible across the continent, each site has access to a centralised team and a senior mechanical engineer, effectively creating and optimising a network of interconnected data centres across Africa. Operations team members can transition from reactive maintenance to a more proactive role, analysing the Africa Data Centres environment and focusing on optimising specific performance aspects.

- **Identifying cooling energy reduction opportunities:** Identifying cooling energy reduction opportunities: Initial data centre optimisation has identified early opportunities to reduce data centre cooling costs and deliver carbon reduction savings.

- **Digital twin accessibility:** Early results suggest that operations staff have been able to interact far more productively with EkkoSoft Critical's digital twin 3D visualisations, eliminating the need for spreadsheet navigation. The process of adding a rack has been simplified, involving selecting, positioning, and configuring the rack within the 3D software, providing immediate visualization of its compatibility.

- **Tracking capacity planning in colocation data centres:** Through collaboration with TechAccess, Assetspire, and EkkoSense, Africa Data Centres has significantly enhanced the 3DCIM tool's capacity for managing colocation space allocation, accelerating its ability to compete effectively with larger global competitors.

Next steps

In the first phase of the project, Africa Data Centres has worked with TechAccess, Assetspire and EkkoSense to deploy 3DCIM – a single DCIM cloud-based asset management and data centre optimisation tool that is now deployed in multiple sites across Africa. In a short space of time, they have leveraged this cloud-based solution to effectively embark on what competitors have taken years to achieve with legacy DCIM tools. The solution gives Africa Data Centres complete visibility of each of their sites in a single view based on a core, centralised platform. "The result is a solution that means any user on the continent, has the ability to log onto the 3DCIM and instantly monitor live conditions." said Dr. Angus Hay. "For Africa Data Centres this will be a powerful differentiator, and one that we can transition into a compelling 3DCIM-as-a-service offering for our colocation customers, giving them new levels of insight into their multiple colocation deployments."
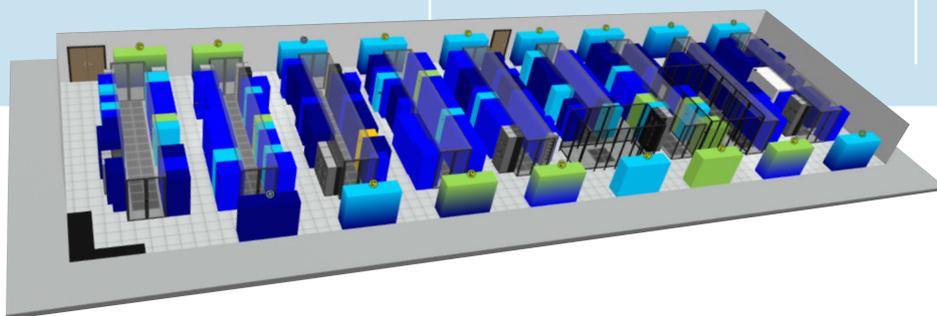

3DCIM Deployment

- Deployed across Africa Data Centre sites in Cape Town, Johannesburg, Lagos and Nairobi
- 3DCIM project supported by TechAccess
- EkkoSoft Critical management

3DCIM Deliverables

- EkkoSensor wireless sensors
- EkkoSoft Critical AI-powered 3D visualisation and analytics software
- EkkoAir wireless cooling duty sensors
- EkkoSense Data Centre Performance Optimisation Managed Service
- Assetspire SPIRE asset management platform

Target Benefits

- Control all your enterprise assets in one place
- Reductions in data centre cooling energy costs
- Release stranded cooling capacity
- Quantifiable carbon savings
- Remove thermal and power risk
- Automated ESG Reporting
- Unlock added value benefits for colocation customers
- Complete operational visibility across all data centres

Bring the power of 3DCIM AI to your critical facilities.

Ekko Sense
ekkosense.com

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