Q3 2025

DATACENTRES Africa

For Data Centre directors, managers and engineers

Wired for change: data centres go green
The African code of conduct
Data centre neutrality

CUMMINS' CENTUM FORCE is redefining power in the Data Centre industry

Anirudh (Ani) Singhania

Director - Power Generation Business
Cummins Africa Middle East & Central Asia

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With a highly successful launch issue behind us, it's time to welcome you to the second issue of Data Centres Africa. Building on the foundations covered in Q2, this publication continues its deep dive into Africa's data centre ecosystem.

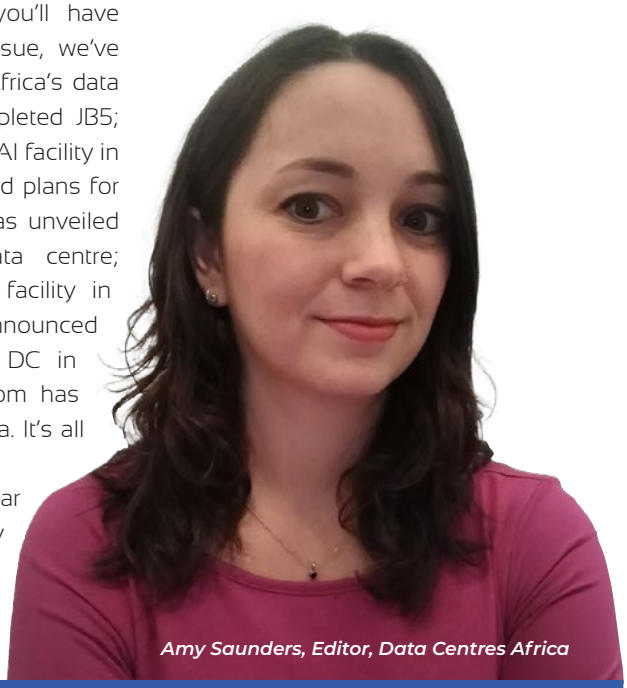
We've collaborated closely with industry experts active on the continent to bring you more in-depth features exploring the two big S-words in data centres – Security and Sustainability. With both physical and cyber threats gaining traction across digital infrastructure in the region, we find out how Africa's security pioneers are standing strong against theft, damage, and vandalism. Moreover, as sustainability, ESG and environmental responsibilities become an increasingly higher priority for data centre operators around the globe, we check in to examine the impact on Africa's operators.

On top of this, the Q3 issue contains the hottest thought leadership content on some of the industry's key issues. From data centre investments and planning and retrofitting facilities for AI, through to creating resilience through data centre neutrality, the delivery of infrastructure-as-a-service, and the import of early warning fire detection, we've got it all. We've also covered all the latest news and business activities from the data centre ecosystem – there's lots of catch up on, so check out page 6 to stay up to date.

If you're a follower of our website - www.datacentresafrica.com - you'll have noticed that, since the Q2 issue, we've seen huge developments for Africa's data infrastructure. Teraco has completed JB5; Naver is working on a next-gen AI facility in Morocco; Gabon has announced plans for a national data centre; MTN has unveiled Nigeria's largest modular data centre; Visa opened its first African facility in Johannesburg; Morocco has announced a 500MW renewable energy DC in Dakhla; and Kilimanjaro Telecom has opened a new facility in Uganda. It's all go on the continent!

As always, I'd love to hear from you personally with any feedback on our issues, or your queries, stories and ideas to share for future issues. Please contact me at amys@kadiumpublishing.com to start a conversation today.

We hope you enjoy this second issue of Data Centres Africa magazine - your top resource for news, trends, analysis and opinion for data centre professionals of African continent.



Amy Saunders, Editor, Data Centres Africa

in the TEAM

KADIUM

EDITORIAL

Editor: Amy Saunders **Designer:** Ian Curtis **Deputy editor:** Gerry Moynihan

Contributors: Mary Kariuki, Charlie Morgan, Stewart Payne, Dominic Jeff, Giovanni Da Costa, Craig Lowe

Editorial enquiries: amys@kadiumpublishing.com, Tel: +44 (0) 1932 481729

ADVERTISING

Advertisement sales: Kathy Moynihan, kathym@kadiumpublishing.com, +44 (0) 1932 481731

Production & circulation: Karen Bailey, karenb@kadiumpublishing.com, Tel: +44 (0) 1932 481728

Publishing director: Kathy Moynihan, kathym@kadiumpublishing.com, +44 (0) 1932 481730

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in this ISSUE

in this ISSUE

on the COVER

Data center operations are essential to business continuity, requiring reliable power solutions from trusted partners. Cummins, with over 100 years of experience and more than 33 gigawatts installed for 300+ data center customers, offers dependable, efficient power tailored for hyperscale, colocation, AI, and sustainable infrastructure facilities. Our generator solutions, from 15 kVA to 3750 kVA, cover every level of fail-safe power delivery. We manufacture and assemble all key components in-house, ensuring high standards of design and performance.

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GABON BREAKS GROUND ON ECO-FRIENDLY DATA CENTRE

Gabon is set to bolster its digital independence with the construction of a next-generation data centre within the Nkok Special Economic Zone. Launched at the end of July by ST Digital, this strategic infrastructure aims to support the country's emerging digital economy and reduce reliance on foreign data solutions.

The new data centre is expected to be operational within five months. It will feature an eco-responsible design incorporating solar energy, an adiabatic cooling system, and rainwater recycling to minimise environmental impact. Built to meet international standards, it will offer sovereign cloud services, colocation solutions for businesses, and digital services tailored for critical sectors such as healthcare, finance, education, and government.

This project aligns with the increasing demand for digital infrastructure across Africa. According to the 'Data Centres in Africa Focus Report 2024' by Oxford Business Group and the Africa Data Centres Association (ADCA), the continent needs to construct 700 new data centres and reach a total capacity of 1,000 MW to meet future growth needs.

Gabon's initiative is part of its broader digital sovereignty strategy, which gained momentum last June through an agreement with US-based Cybastion. The partnership focuses on developing a sovereign cloud platform and training young professionals in digital skills, aiming to build local capacity and reduce dependence on external infrastructure.

Beyond enhancing cybersecurity and data resilience, the new facility is expected to create skilled jobs, promote technological inclusion, and foster local talent development. Following similar investments in Côte d'Ivoire and Cameroon, ST Digital reaffirms its commitment to advancing African digital sovereignty through locally designed, financed, and operated infrastructure, supporting the continent's digital transformation journey.

KENGEN IMPLEMENTS BATTERY ENERGY STORAGE SYSTEM TO ENHANCE DATA CENTRE RESILIENCE

Kenya Electricity Generating Company (KenGen), the country's leading power producer, has announced the commissioning of a 1.16 MWh Battery Energy Storage System (BESS) at its headquarters in Nairobi. The new storage system is dedicated to powering KenGen's modular data centre, which comprises 356 U-spaces and has a capacity of 52 kW.

The primary goal of the BESS is to provide a reliable power supply during periods of low grid demand, thereby boosting the resilience and stability of the data centre's operations. In a statement, KenGen highlighted that integrating battery storage not only enhances operational stability but also aligns with its commitment to reducing carbon emissions and leading sustainable innovation within the energy sector.

KenGen's CEO, Peter Njenga, emphasised that this deployment serves as a pilot project for future adoption of energy storage systems across similar modular data centres nationwide. The initiative aims to demonstrate how energy utilities can leverage battery technology as a sustainable and efficient power solution.

Innovative applications are also emerging where BESS is considered a primary power source. Energy Vault, in collaboration with RackScale Data Centers (RSDC), has developed the B-Nest BESS — a modular, multistory lithium-ion energy storage solution capable of storing up to 1.6 GWh per acre. This technology aims to provide data centres with full primary power for over ten hours, signalling a potential shift toward more sustainable, self-sufficient data centre operations.

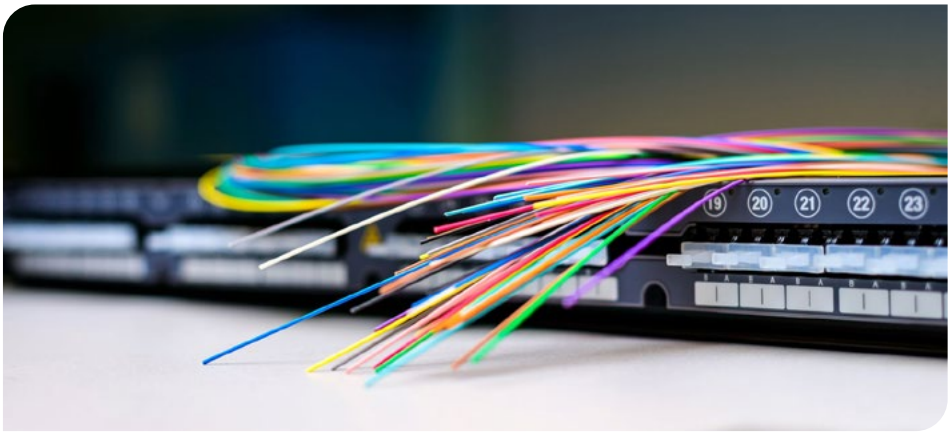
SAFARICOM ETHIOPIA BEGINS FIBRE DEPLOYMENT

Safaricom Telecommunications Ethiopia has commenced the installation of a new fibre optic network connecting Afdera to Mekelle, a move designed to bolster network resilience and accommodate increasing data needs in the region.

The project was officially launched in a ceremony attended by officials from the Afar Regional Administration, including Deputy Commissioner for Disaster and Risk Management, Mr. Ali Mohammed.

In line with its long-standing approach to infrastructure development combined with community support, Safaricom Ethiopia also provided emergency relief aid to residents affected by recent flooding in Afdera. The donation, valued at 500,000 Birr, included 1,000 square meters of tenting material, 200 litters of edible oil, 500 kilograms of rice, and 500 kilograms of white flour, aimed at assisting vulnerable communities during their recovery.

Deputy Commissioner Ali Mohammed praised the company's efforts, emphasising the importance of both improved connectivity and community resilience. Safaricom Ethiopia reaffirmed its dedication to expanding digital infrastructure nationwide while actively supporting communities facing environmental challenges, reflecting its commitment to fostering inclusive growth across Ethiopia.



NIGERIA'S DC MARKET TO EXPAND BY 15.82% CAGR BY 2030

According to Research And Markets, the Nigerian data centre market was valued at US$278 million in 2024 and is projected to reach US$671 million by 2030, growing at a compound annual growth rate (CAGR) of 15.82%.

As of December 2024, the combined core and shell power capacity of third-party data centres in Nigeria was approximately 65.8 MW. An additional roughly 327.8 MW is currently under construction or in the planning stages. Once these new data centres become operational over the next 4-5 years, the total power capacity is expected to increase fivefold.

The Nigerian government is actively supporting the advancement of digital infrastructure through initiatives like the National Digital Economy Policy and Strategy (NDEPS 2020-2030), aimed at transforming the country's digital landscape. There has been a marked shift from on-premises data centres toward cloud and colocation facilities, a trend accelerated over the past two years due to increased digitalization. Nigerian enterprises now favour managed services over standalone colocation offerings.

Over the next two to three years, substantial investments are anticipated in Nigeria's data centre sector, driven by the entry of multiple operators. Total investments in this market could exceed US$2.94 billion from 2025 to 2030.

Key players in Nigeria's data centre market include Africa Data Centres, Open Access Data Centres, 21st Century Technologies, Nxtra by Airtel, Equinix (via MainOne), Digital Realty, and Rack Centre. A potential new entrant is Kasi Cloud.

Several global colocation providers are expanding into Nigeria through strategic partnerships or acquisitions. For instance, in 2022, Equinix entered Nigeria by acquiring data centre facilities from MainOne. Similarly, Digital Realty acquired Medallion Data Centres to establish a local presence.

In March 2025, Open Access Data Centres announced plans to develop a new Lagos data centre with an estimated power capacity of 24 MW, to be executed in two phases — initially 12 MW expected to be operational by 2026.

In December 2024, Huawei Technologies launched a local cloud service in Nigeria, ensuring data residency within the country. This move complies with data protection regulations and reduces latency from over 80 milliseconds to approximately 15 milliseconds for local customers.

Major telecom operators such as MTN, Airtel Africa PLC, and Globacom have launched commercial 5G services across Nigeria, further fuelling the growth of digital infrastructure in the country.

SENEGAL AND ALIBABA CLOUD TO BUILD DIGITAL SOVEREIGNTY

Senegal has announced a strategic partnership with Alibaba Cloud to deliver a secure, high-performance cloud infrastructure for the upcoming Youth Olympic Games (JOJ) Dakar 2026.

With an initial investment of $5 million, this collaboration marks a major milestone in advancing Senegal's digital ambitions and aligns with the national vision for technological sovereignty championed by President Brice Clotaire Oligui Nguema. The partnership also follows Prime Minister Ousmane Sonko's recent visit to China in June 2025, highlighting the strengthening of Senegal-China tech ties.

This initiative is central to Senegal's broader digital strategy, built around three core pillars. First, it aims to develop local cloud infrastructure through Alibaba Cloud's Apsara Stack, a hybrid cloud solution designed to meet international standards while ensuring Senegal retains control of its data. Second, the project emphasises inclusion and skills development, pledging to train 200 local cloud engineers and establish a Technology Excellence Centre in partnership with Senegal Digital SA (SENUM) and local private sector players. Third, the JOJ 2026 will serve as a catalyst for innovation, enabling deployment of advanced digital services such as ticketing, e-transportation, and real-time broadcasting solutions. It also offers a platform for Senegal's vibrant startup ecosystem to create and deploy local applications tailored to the Games' needs and broader societal benefits.

Beyond the event itself, the partnership envisions a sustainable digital future for Senegal. It includes a post-event transition plan to establish a national public cloud infrastructure, serving as a foundational digital resource for both public and private sectors across Senegal and the West African region. The collaboration features a dedicated technical support team based in Dakar, combining Alibaba's global expertise with local talent, and aims to train 1,000 young Senegalese professionals through Alibaba Cloud Academy.

This alliance promises to accelerate Senegal's digital transformation, creating skilled jobs, improving public services, and laying the groundwork for a resilient, sovereign digital economy. It fosters local expertise, enhances data sovereignty, and sets the stage for future innovation that will benefit generations of Senegalese citizens.

RAXIO CÔTE D'IVOIRE SIGNS MOU WITH TELECOM REGULATOR TO BOOST NATIONAL DIGITAL INFRASTRUCTURE

Raxio Côte d'Ivoire has announced the signing of a strategic Memorandum of Understanding (MoU) with the Autorité de Régulation des Télécommunications de Côte d'Ivoire (ARTCI), marking a significant milestone in the country's digital development.

The agreement facilitates the colocation of the third national Point of Presence (PoP), known as CIVIX, within Raxio's Tier III-certified, carrier-neutral data centre located in Grand Bassam, inside the VITIB technology park in the free zone — the first facility of its kind in Côte d'Ivoire. This partnership represents a major step forward in the nation's ongoing digital transformation efforts.

The deployment of the new Internet Exchange Point (IXP) aims to bolster the resilience and expansion of local traffic exchanges, improve latency, and reinforce digital resilience and data sovereignty across the country. It also opens new avenues for attracting international content providers and additional IXPs, while empowering startups, internet service providers, artificial intelligence initiatives, and the broader technology ecosystem.

The signing ceremony was attended by the CEOs of ARTCI and Raxio Côte d'Ivoire, both emphasising their shared commitment to developing a more efficient, secure, and high-performing internet infrastructure for the region. Robert Skjodt, CEO of Raxio Côte d'Ivoire, expressed pride in the partnership, stating that it adds significant value to the national and regional digital landscape. He highlighted Raxio's role in supporting Côte d'Ivoire's digital strategy and fostering an environment conducive to local innovation, connectivity, and economic growth.

Lakoun Ouattara, CEO of ARTCI, underscored the importance of deploying this new IXP within a world-class facility like Raxio's data centre, describing it as a crucial step towards achieving digital sovereignty and excellence. The localisation of internet traffic exchange reduces reliance on international bandwidth, increases the availability of local content and caching servers to ensure business continuity, and strengthens cybersecurity measures. Additionally, it enhances service quality for both users and businesses.

This milestone reinforces Raxio's mission to empower West Africa's digital future by providing vital infrastructure that supports regulatory priorities, private sector growth, and the region's broader digital ambitions.

NIGER ESTABLISHES NATIONAL COMMITTEE FOR CRITICAL DIGITAL INFRASTRUCTURE DEVELOPMENT IN JULY

Niger is taking significant steps to bolster its digital landscape with the official formation of the National Committee responsible for implementing and managing the country's critical digital infrastructure.

Announced on 23 July, the committee aims to coordinate efforts, ensure system interoperability, oversee deployment phases, and promote transparency among stakeholders.

According to the Ministry of Communication and New Information Technologies, the committee's responsibilities include establishing governance frameworks, developing performance dashboards, and producing quarterly progress reports. The ministry emphasised the importance of safeguarding infrastructure against cyber risks, noting that protecting digital components is essential for maintaining the resilience, security, and integrity of Niger's critical information systems.

This initiative aligns with Niger's broader strategy to develop its ICT sector as a driver of socioeconomic growth. Currently, the country is constructing a national data centre, scheduled for completion by September 2025, and deploying 1,031km of fibre optic cables as part of the Trans-Saharan Fiber Optic Backbone (DTS), which was 97% complete as of January. Other key projects include modernising infrastructure, expanding internet access, establishing an Internet Exchange Point (IXP) and Virtual Landing Point (VLP), creating a National Cybersecurity Centre, and setting up a Technology Monitoring Centre and an international communications gateway.

The success of the new committee will depend on its ability to effectively coordinate stakeholders, mobilise resources, and ensure the practical implementation of these strategic projects. Strengthening digital infrastructure is vital for Niger's socioeconomic progress, and the committee's leadership will be crucial in transforming digital ambitions into tangible results.

NVIDIA AND CASSAVA TECHNOLOGIES ANNOUNCE $700 MILLION INITIATIVE TO DEVELOP AI-READY DATA CENTRES

Nvidia has announced a strategic partnership with Cassava Technologies in a deal valued at US$700 million, aimed at establishing AI-ready data centres across multiple African nations.

This marks Nvidia's first direct infrastructure deployment on the continent and represents a significant step toward expanding access to advanced graphics processing units (GPUs) in regions historically lacking sufficient computational capacity.

The project exemplifies a departure from the predominantly state-led Chinese investments in Africa's digital infrastructure. Instead, Nvidia's approach emphasises private-sector-led development, with Cassava spearheading the design and construction of data centres tailored to support AI growth in sectors such as healthcare, agriculture, and financial technology.

Ziaad Suleman, CEO of Cassava Technologies, which operates in South Africa and Botswana, described the deal as a major milestone for African enterprise. He stated that Africa has often been limited to second-rate technology, but Nvidia's involvement will help transform this dynamic by bringing high-performance computing capabilities to the continent's burgeoning AI developers and data-driven industries.

The partnership's initial phase launched in June with the deployment of 3,000 Nvidia GPUs to a new facility in South Africa built by Cassava. Over the next three to four years, the plan is to develop additional AI factories equipped with a further 12,000 GPUs across Egypt, Nigeria, Kenya, and Morocco.

In addition to infrastructure development, Cassava has signed a memorandum of understanding with the South African AI Association. This collaboration will provide more than 3,000 AI professionals with direct access to Nvidia GPUs, supporting efforts to cultivate human resources alongside technological advancements.

The initiative directly addresses the stark AI infrastructure gap in Africa, where the UN Development Programme reports that only 5% of AI practitioners have access to the necessary computational resources. Of those, only a fraction has on-premises GPU access, with most relying heavily on limited cloud budgets. The new data centres will offer high-bandwidth, low-latency connections suited for model training and inference, enabling local developers to perform complex AI tasks within Africa's borders — a capability largely unavailable until now.

According to Omorogieva, access to Nvidia's advanced chips and dedicated infrastructure could enable African nations to move beyond being mere consumers of AI technology. Instead, they could foster the development of indigenous AI systems, unlocking new economic and technological potential across the continent.

NOKIA TO POWER MEDUSA SYSTEM

Nokia has announced it will provide the technology backbone for the Medusa submarine cable system, a major new project owned by AFR-IX Telecom.

This innovative subsea fibre-optic network aims to link the Atlantic coast, the Mediterranean Sea, and the Red Sea, establishing a high-capacity digital corridor that will boost connectivity, foster innovation, and support economic development across the region.

The Medusa cable represents a significant step towards bridging the digital divide between Europe and North Africa, connecting countries including Morocco, Tunisia, Libya, Algeria, and Egypt with high-speed fibre links. Designed as an open-access network, Medusa will enable telecom providers in the region to access advanced connectivity services, supporting the deployment of 5G, expanding cloud infrastructure, and accommodating the rising bandwidth needs driven by AI and other future technologies. Utilising Nokia's 1830 GX Series platform and ICE7 coherent optics technology — capable of transmitting tens of terabits per second per fibre pair — the system will deliver high-capacity, low-latency connectivity with optimal cost and energy efficiency.

Miguel Angel Acero, CTO and Founder of Medusa, highlighted the project's importance, stating that it lays the foundation for a more connected and inclusive digital future. He emphasised that Nokia's subsea optical solutions will enable Medusa to offer faster, more reliable connectivity at lower costs, with scalable capacity to meet evolving demands.

"This partnership ensures we can address today's needs while building a robust infrastructure for the future," said Acero.

DR CONGO SECURES $515 MILLION FOR DIGITAL TRANSFORMATION

The Democratic Republic of Congo (DRC) is set to advance its digital development with an anticipated $515 million in new loans aimed at supporting its ongoing digital transformation efforts.

Finance Minister Doudou Fwamba Likunde has signed a series of financing agreements with the World Bank, totalling $1.9 billion, which includes a dedicated $400 million allocation for the digital sector. The European Union also contributed €100 million, roughly equivalent to $115 million, to bolster the country's digital initiatives.

The plan aims to expand digital access and promote inclusion, support the development of digital services, enhance digital skills tailored to industry needs, and foster innovation. Key components include extending broadband connectivity to underserved regions, linking schools, hospitals, and universities, and supporting the National Research and Education Network.

The initiative further involves investments to establish a secure government intranet, develop a national data centre, and create shared digital platforms for public services and administrative tools. It also emphasizes training students, teachers, and civil servants in advanced digital skills, alongside funding innovation centres at universities and supporting local technology startups.

These agreements form part of Congolese President Félix Tshisekedi's vision to leverage digital technology as a catalyst for national integration, good governance, economic growth, and social progress.

NIGERIA REINFORCES PUSH FOR PUBLIC DATA HARMONISATION

The Director-General of Nigeria's National Information Technology Development Agency (NITDA), Kashifu Inuwa, has reignited discussions on the urgent need to harmonise public data across government agencies.

Inuwa emphasised that such efforts are vital to accelerating the digitisation of civil identity records and enhancing national planning processes. He highlighted that from birth registration to assigning legal identities, linking this information to broader national planning and budgeting is crucial.

The initiative aligns with President Bola Tinubu's 'Renewed Hope' programme, which prioritises data-driven governance as a core element of its development strategy.

For NITDA, integrating systems across agencies is expected to minimise administrative redundancies, improve the quality of public policies, and promote digital inclusion. The Ministry of Interior also expressed strong support for the initiative, with Minister Olubunmi Tunji-Ojo noting that data harmonisation would enable seamless data exchange between government entities. Citizens will benefit from the streamlined process whereby their National Identification Number (NIN) can be used to access services such as passport applications and Bank Verification Number (BVN) registration, eliminating the need for repeatedly providing the same information.

UN HIGHLIGHTS URGENT NEED FOR DIGITAL SKILLS DEVELOPMENT

During a high-level dialogue on African development at the United Nations Headquarters in New York in July, Deputy Secretary-General Amina J. Mohammed emphasised a critical challenge: Africa must invest heavily in developing digital skills among its youth to harness the continent's demographic growth for economic transformation.

With Africa's youth population projected to reach nearly 830 million by 2050, the continent faces an unprecedented opportunity — and a significant risk if this potential is not properly nurtured. Mohammed underscored that digital technology is a powerful lever for employment and economic growth, yet a large portion of young Africans remain excluded from this digital revolution.

A joint study by the African Union and UNESCO reveals only 10-15% of young Africans have access to structured digital education, and fewer than 5% are trained in advanced skills like programming, data analysis, or cybersecurity. This skills gap hampers the emergence of a talent pool capable of meeting the demands of the rapidly evolving tech sector.

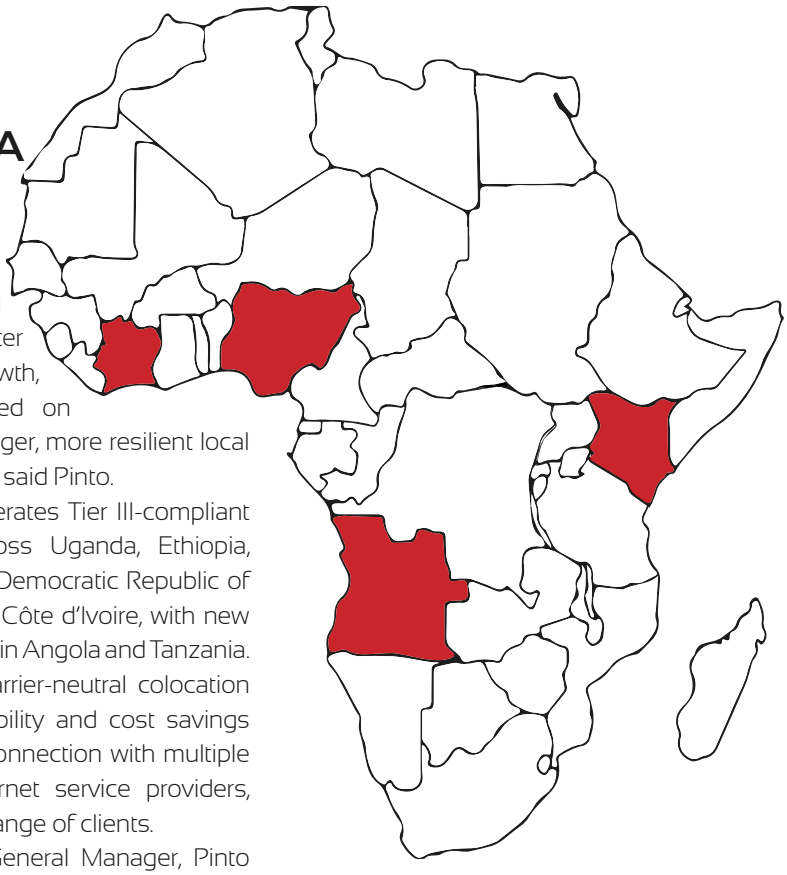
KENYAN GOVERNMENT AND MICROSOFT EXPLORE DIGITAL COLLABORATION

Kenya's Cabinet Secretary for Information, Communication, and the Digital Economy, Hon. William Kabogo, recently hosted a high-level meeting with representatives from Microsoft at the Ministry Headquarters.

The discussions centred on critical digital initiatives, including digital transformation efforts, enhancing cybersecurity measures, and improving the security of public infrastructure and citizen data. Both parties considered the rollout of digital hubs across Kenya as a means to boost local digital ecosystems and foster innovation nationwide.

A significant focus was placed on integrating Artificial Intelligence (AI) into government operations to improve service delivery, support policymaking, and increase overall resilience. They also examined strategies to strengthen Data Governance and Compliance, emphasising the importance of trusted cloud partnerships and maintaining sovereign control over data.

RAXIO GROUP APPOINTS MARIA MIGUEL PINTO AS GENERAL MANAGER IN ANGOLA



Raxio Group has appointed Maria Miguel Pinto as the new General Manager of Raxio Angola. Her appointment strengthens Raxio's leadership team with one of Angola's most prominent digital industry executives.

Pinto joins Raxio from IBM, where she served as the Country General Manager for Angola. She has also held senior technology roles in the banking sector, notably as Chief Information Officer at Banco de Fomento Angola (BFA), one of the country's largest financial institutions. With over 15 years of experience delivering enterprise technology solutions across various sectors, she brings a valuable blend of strategic insight, operational expertise, and local knowledge to her new role.

"This is an exciting opportunity to contribute to Angola's digital future during a time of significant momentum. Raxio's mission to build world-class infrastructure across Africa aligns with my passion for leveraging technology to foster inclusive growth, and I am focused on developing a stronger, more resilient local digital ecosystem," said Pinto.

Raxio Group operates Tier III-compliant data centres across Uganda, Ethiopia, Mozambique, the Democratic Republic of Congo (DRC), and Côte d'Ivoire, with new facilities underway in Angola and Tanzania. The company's carrier-neutral colocation centres offer flexibility and cost savings by enabling interconnection with multiple network and internet service providers, serving a diverse range of clients.

As the new General Manager, Pinto will oversee all aspects of Raxio's Angola operations, including customer engagement, regulatory compliance, and strategic development. Her leadership comes as Raxio prepares to expand its infrastructure footprint in Angola, supporting the country's economic diversification away from oil dependence through digital infrastructure development.

"Maria combines technical expertise, business acumen, and a deep understanding of Angola's digital and economic landscape. Her leadership will be crucial as we scale our operations and support Angola's digital transformation journey," said Robert Skjødt, CEO of Raxio Group.

CÔTE D'IVOIRE REVEALS SIGNIFICANT PROGRESS IN DIGITAL SECTOR

By 2024, Côte d'Ivoire had invested over 250 billion CFA francs into the digital sector, generating nearly 3,000 direct jobs and tens of thousands of indirect employment opportunities, according to Prime Minister Robert Beugré Mambé.

These investments have propelled the country's digital development, notably increasing mobile phone subscriptions to 58.7 million, equating to a penetration rate of 185%, a record high, alongside notable growth in internet access and mobile money services. These achievements are credited to a strong partnership between the government and private sector operators committed to expanding connectivity nationwide.

These advancements are part of the broader National Digital Development Strategy 2021–2025, which encompasses 32 priority reforms and a total investment plan of 2,000 billion CFA francs (around USD 3.3 billion). For 2024 alone, the Ministry of Digital Transition and Digitisation has been allocated 55.6 billion CFA francs — a significant amount but still insufficient to meet the country's ambitious digital goals, reflecting the scale of the effort needed.

While progress has been made, challenges remain. The government aims to eliminate the remaining 550 'black spots' in network coverage by the end of 2025 to achieve universal digital access. Other key priorities include decreasing the cost of digital services, modernising technical training programmes, fostering local financing for innovation, and safeguarding digital sovereignty, rights, and freedoms.

KENYA FACES RECORD SURGE IN CYBER-ATTACKS

The Communications Authority of Kenya (CA) has highlighted in its latest report that, during the third quarter of the 2024/2025 financial year, the number of detected cyber-attacks soared to 2.54 billion in the, a 201.7% increase compared to the previous quarter's total of 840.9 million attacks.

The report highlights that system vulnerabilities were responsible for the majority of this surge, accounting for over 2.47 billion cases – a rise of 228.3%. Malware incidents declined by 27.6% to 24.5 million, and brute force attacks — attempts to guess passwords or encryption keys — fell by 2.8% to 33.79 million.

NCC AND REA TO CUT DIESEL GENERATOR RELIANCE

The Nigerian Communications Commission (NCC) and the Rural Electrification Agency (REA) have announced a strategic partnership aimed at reducing the telecommunications sector's heavy reliance on diesel generators.

Currently, telecom operators in Nigeria consume over 40 million litres of diesel monthly, incurring approximately $350 million annually to power infrastructure nationwide.

To address this challenge, the NCC-REA Collaboration Committee will focus on deploying renewable energy solutions — particularly solar and other sustainable sources — for telecom sites, especially in rural and underserved areas. The partnership also emphasises aligning funding mechanisms and establishing impact monitoring frameworks to ensure the success and sustainability of these initiatives.

"Whether powering a base station or enabling a child's access to digital learning, this partnership can fundamentally change realities and bring opportunities closer to communities," said Dr. Aminu Maida, NCC Executive Vice Chairman.

He stressed that beyond infrastructure, the initiative aims to promote digital inclusion, close existing gaps, and foster shared prosperity across Nigeria.

"Merging renewable energy infrastructure with digital connectivity can catalyse sustainable development in underprivileged areas, empowering communities and creating a more resilient telecom ecosystem," said Abba Aliyu, Managing Director of REA.

This collaboration signals Nigeria's commitment to building a greener, more inclusive digital economy, reducing operational costs for telecom providers, and extending reliable connectivity to all regions through sustainable energy innovations.

GOOGLE DELVES DEEPER INTO NIGERIA

Nigeria's National Information Technology Development Agency (NITDA) is intensifying its collaboration with Google as part of its broader efforts to accelerate the country's digital transformation and stimulate economic development.

Recently, Kashifu Inuwa Abdullahi, Director General of NITDA, led a high-level delegation on a series of strategic engagements with key Nigerian government officials, including the Honourable Minister of Interior, Olubunmi Tunji-Ojo; the Minister of Communication, Innovation and Digital Economy, Bosun Tijani; the Minister of Education, Maruf Olatunji Alausa; and the National Security Adviser, Mallam Nuhu Ribadu.

These meetings are aligned with President Bola Ahmed Tinubu's 'Renewed Hope Agenda,' which underscores the importance of leveraging digital technologies to foster societal progress and economic growth. The discussions focused on implementing initiatives that enhance public service delivery through smart digital solutions, strengthen the nation's digital education infrastructure, improve cybersecurity resilience, support cloud adoption, and reduce government technology costs.

Both NITDA and Google reaffirmed their shared ambition to position Nigeria as a regional leader in Artificial Intelligence and Cybersecurity within West Africa. This strategic alliance intends to lay a foundation for a secure, inclusive, and innovative digital economy, fostering sustainable growth and development.

WIRED FOR CHANGE:
DATA CENTRES GO GREEN

AFRICA'S DATA REVOLUTION IS UNFOLDING AT BREAKNECK SPEED. FROM MOBILE BANKING AND CLOUD COMPUTING TO AI AND SMART CITIES, THE DEMAND FOR DATA IS TRANSFORMING HOW THE CONTINENT WORKS, CONNECTS, AND COMPETES GLOBALLY. BUT THIS TRANSFORMATION CARRIES A CARBON COST.

Data centres, the silent workhorses of the digital age, consume enormous amounts of energy and water. In Africa, where electricity grids are often unstable and water resources scarce, this has prompted a fundamental question: how can the continent scale its digital backbone without undermining its sustainability goals?

DESIGNING FOR EFFICIENCY

Data centre sustainability in Africa begins with design. Modular structures, smart insulation, and passive architecture are no longer fringe concepts — they're foundational principles.

"Across the continent, I see operators becoming far more intentional about sustainable design and operations. We're seeing strategic deployments of modular data centre designs, advanced cooling techniques like cold aisle containment and liquid immersion, and a shift toward facilities that can achieve Power Usage Effectiveness (PUE) ratings below 1.5," notes Marshal Luusa, Partner, KPMG. "In places like South Africa, Kenya, and Nigeria, new builds are targeting global green building standards such as LEED and EDGE. Cooling remains a major focus, especially in water-scarce regions, where operators are replacing traditional water-intensive systems with direct air and closed-loop cooling technologies."

While Shaun Versfeld, data centre director Africa, Haskoning, agrees about an increasing focus on sustainability, he highlights that the extent of implementation varies by region and market maturity.

"A key strategy involves localising design and construction. By sourcing materials and labour locally, operators reduce emissions associated with global transport while supporting local economies," says Versfeld. "While green building certifications such as LEED and EDGE are becoming more common globally, their adoption in Africa remains limited. Most operators are still in the early stages of aligning with these standards, and regulatory or market-driven incentives are not yet widespread."

Luusa adds that "there's also a strong push to use sustainable construction materials and repurpose industrial infrastructure. It's about reimagining not just what we build, but how we build it."

Cooling systems, in particular — a major source of energy and water consumption — are being reimagined. Operators are deploying advanced technologies such as closed-loop systems.

"To further optimise operations, energy management systems are being implemented to monitor and reduce consumption. These systems help track key metrics like Power Usage Effectiveness (PUE) and Water Usage Effectiveness (WUE), which are increasingly used to benchmark performance," says Versfeld. "Although nature-based solutions such as green roofs or rain gardens are gaining attention globally, they are not yet widely adopted in African data centre design. The focus remains on core infrastructure efficiency rather than architectural greening."

Claudia Unterkircher, NTT Data

This sentiment is echoed by Werner Schneeberger, Director – Building Engineering, Africa, at AECOM, who adds that "water is a scarce resource in Africa, and evaporative cooling is seldom used; instead, data centre operators rely on closed loop air-cooled chillers, which uses virtually no water."

Claudia Unterkircher, Senior Director Global Sustainability, NTT Data, explains how NTT's Johannesburg 1 facility exemplifies this shift: "in our Johannesburg 1 Data Center, we prioritise energy efficiency through the use of highly redundant, state-of-the-art systems and are committed to achieving net-zero emissions across our operations by 2030, with a goal of sourcing 100% renewable and low-carbon energy. Water conservation is a critical focus, given South Africa's climate. We utilise a closed-loop chilled water system with air-cooled chillers, which keeps water circulating within the system and results in a water usage effectiveness (WUE) ratio close to zero — significantly reducing our reliance on municipal water supplies."

POWER STRUGGLES

As Africa's digital infrastructure scales, its sustainability hinges on access to clean energy. Countries like Kenya have a head start: around 90% of its electricity comes from renewables, primarily geothermal and hydro.

"Data centre operators are involved and investing in large scale renewable energy projects giving excess energy back to the national grid. Large industry players are ISO certified and control a strict regimen to maintain their certifications, with focus given to energy usage, water consumption and carbon footprint," explains William Myer, Sales Manager, STULZ.

"The integration of renewable energy into data centre operations is progressing across Africa, though unevenly. Kenya stands out as a continental leader, with approximately 90% of its electricity already sourced from renewables, primarily geothermal, hydro, and wind. The government has set an ambitious target to achieve 100% clean energy by 2030 and is actively expanding geothermal capacity through projects like the Olkaria field," says Stijn de Kruijf, lead data centre sustainability, Haskoning.

Luusa confirms that the adoption of renewables remains uneven: "in markets like Nigeria and parts of Central Africa, where national grids are either weak or carbon-intensive, operators are having to get more creative. We're seeing promising innovations: rooftop solar PV installations, battery storage systems for backup, and hybrid microgrids that combine solar, diesel, and battery technologies to reduce carbon intensity. Power Purchase Agreements (PPAs) are also gaining traction, allowing data centres to procure renewable energy directly from independent producers."

"South Africa is undergoing a significant energy transition. The Integrated Resource Plan (IRP) and the South African Renewable Energy Masterplan (SAREM) aim to add up to 5GW of renewable capacity annually, focusing on solar, wind, and battery storage," says de Kruijf. "Nigeria is scaling up solar and mini-grid solutions through its Energy Transition Plan and the World Bank-supported DARES project, with a goal of achieving 30% renewable electricity by 2030. Small Modular Reactors (SMRs) are also being discussed as a potential long-term solution for clean, stable power. South Africa, which already operates the continent's only commercial nuclear power station (Koeberg), is best positioned to explore SMRs. However, adoption elsewhere in Africa is likely to be limited due to regulatory gaps and public perception challenges."

The challenges relating to the implementation of renewable energy, persisting across the continent, include high capital costs, intermittent grid performance and inconsistent regulatory support.

Moreover, Schneeberger highlights that

Stijn de Kruijf, Haskoning

"African data centre operators don't have much flexibility in setting the share of renewables in their utility supply, so they must make their own plans. Smaller operators install rooftop solar PV to provide some supply, but the bigger operators are limited by the space required for a solar installation large enough to make a difference. Even if adjacent land is available, the land cost would not make economic sense. This leaves the bigger operators to develop renewable projects where land is cheaper and then wheel the power to their facilities using the national grid. Wheeling policies are in place in Egypt, Kenya and South Africa, and other countries are working on implementing wheeling policies."

Grid instability remains the Achilles' heel of sustainable development across many African markets. In West Africa, power outages lasting days are not uncommon, forcing operators to rely on diesel generators — costly, carbon-intensive, and counterproductive to sustainability goals.

"Across all markets, not just in Africa, infrastructure reliability has a direct impact on the sustainability of data centres," asserts Cathy Granneman, Programme Manager, Innovation, GRESB. "When a grid is unstable or inconsistent, operators often need to build in layers of redundancy to guarantee uptime, which brings either additional costs or emissions — or both. These operational realities can limit the effectiveness of sustainability strategies, even when the intent is there."

"South Africa's Eskom-related load shedding has forced operators to invest heavily in diesel generators and battery backups, but it's also spurred innovation in energy storage and demand-side optimisation," says Luusa. "Meanwhile, Kenya's cleaner but aging grid enables greener operations, though redundancy planning remains essential. In Morocco and Egypt, substantial government investment in renewables is enabling green digital infrastructure almost by design. The key takeaway? Sustainability strategies must be context specific. They need to align with each country's energy landscape, regulatory readiness, and infrastructure maturity."

"Local infrastructure and energy grid stability have a significant impact on the sustainability practices of data centres across African regions," shares Unterkircher. "In areas where the grid is unstable or prone to outages, data centres are compelled to invest in backup power systems, advanced energy management, and renewable energy solutions to ensure continuous operation and reduce reliance on fossil fuels. This often leads to greater innovation in energy efficiency and the adoption of technologies like solar power, battery storage, and water-saving cooling systems. Ultimately, the reliability of local infrastructure shapes both the urgency and the feasibility of implementing green initiatives in African data centres."

REGULATORY REALITIES

Africa's regulatory landscape is as diverse as its energy mix. Some countries are racing ahead. Others are still drafting their playbooks.

de Kruijf outlines how Kenya's 2019 Energy Act and updated 2025 regulations mandate energy audits and efficiency investments; the government actively promotes geothermal energy and private sector participation in the grid. Nigeria's Environmental Impact Assessment Act requires sustainability considerations in new developments. The Energy Transition Plan and NREAP provide a roadmap for renewable integration. Meanwhile, in South Africa, The National Energy Efficiency Strategy and IRP support renewable growth, while green building policies and tax incentives encourage sustainable construction.

But de Kruijf sounds a note of caution: "bureaucratic red tape, corruption, and slow regulatory enforcement remain barriers in some regions."

Luusa believes that there are encouraging signs, with countries like Rwanda and Kenya actively promoting digital and green infrastructure through tax incentives, supportive energy policies, and regulatory sandboxes. South Africa recently introduced reforms that enable energy wheeling, opening new opportunities for off-site renewable energy procurement.

"Yet significant friction remains," observes Luusa. "Import duties on high-efficiency equipment, lengthy permitting processes, and the absence of cohesive national data strategies in some jurisdictions continue to slow progress. Regulators must develop a deeper understanding of the unique energy and sustainability profiles of digital infrastructure."

Schneeberger agrees that "policies can enable beneficial changes, like allowing more renewables and wheeling. On the other hand, policies can also limit undesired outcomes, such as air quality legislation calling for low emissions generators."

Unterkircher shares her experience with NTT Global Data Centers, stating that "supportive measures, such as clear regulatory frameworks, incentives for renewable energy adoption, and alignment with international standards, help us advance our ambitious sustainability goals, including achieving net-zero emissions in our operations by 2030 and using 100% renewable and low-carbon energy in our facilities. However, regulatory complexities, inconsistencies in policy implementation, and evolving compliance requirements can sometimes slow progress or add operational hurdles."

THE RISE OF SMART INFRASTRUCTURE

Artificial Intelligence and the Internet of Things aren't just tech buzzwords — they're operational game-changers, even for the smallest of data centre facilities.

"Globally, AI is playing a growing role in making data centres smarter, more efficient, and more sustainable," shares Granneman. "These technologies enable operators to optimise cooling systems, respond dynamically to changes in power availability, and anticipate maintenance needs before failures occur. In regions where power and water are constrained, these tools may be able to help maximise efficiency from limited resources."

Luusa agrees that AI is revolutionising how data centres are operated, predicting load spikes, dynamically adjusting cooling systems, and improving energy utilisation in real-time. Some facilities report energy savings of up to 30% through AI-powered optimisation algorithms alone.

"IoT sensors are also making infrastructure smarter, enabling predictive maintenance, identifying inefficiencies, and enhancing uptime. We're also witnessing the emergence of digital twins, virtual

Shaun Versfeld, Haskoning

Marshal Luusa, KPMG

replicas that simulate real-time performance and help guide more sustainable infrastructure decisions," says Luusa. "If Africa can leapfrog legacy systems in telecoms, we can do the same in digital infrastructure, leveraging AI, IoT, and blockchain to build intelligent, climate-conscious data ecosystems."

"AI and IoT enable predictive maintenance, real-time energy optimisation, and smarter cooling management," agrees Versfeld. "Although adoption is still in its early stages, these tools are increasingly seen as essential for achieving long-term sustainability goals and operational excellence. As digital infrastructure matures, the role of AI and IoT is expected to grow significantly."

At NTT Global Data Centers, AI and IoT are central to sustainability goals.

"By deploying AI-driven systems, we can optimise energy usage, predict maintenance needs, and manage workloads more intelligently, reducing both operational costs and environmental impact," describes Unterkircher. "IoT solutions provide real-time monitoring of energy, water, and environmental conditions, enabling us to detect anomalies, prevent waste, and ensure efficient resource utilisation. Through the integration of AI and IoT, we are building smarter, greener data centres that set new benchmarks for efficiency and environmental stewardship in Africa."

Myer, however, warns that "the evolution of IoT and AI have resulted in all future projects being placed on hold for re-engineering to facilitate emerging technologies, legacy or existing infrastructure is also being redesigned for limited implementation of new technologies but with the downside that facilities were not designed for operation, weight loads and power-hungry technologies."

ESG IS NO LONGER OPTIONAL

Sustainability isn't just a local consideration anymore. Investors and hyperscale clients — especially those headquartered in Europe or North America — are bringing global ESG standards to Africa's doorstep.

"Sustainability is not only relevant but increasingly strategic for data centres in Africa. As in other regions, energy and water are directly tied to operational costs and reliability," says Granneman. "More importantly, a strong sustainability approach positions operators to meet the expectations of international clients and investors, many of whom have made public net-zero commitments and apply sustainability standards across their supply chains and portfolios. Data centres that prioritise energy efficiency, renewable integration, and transparent emissions reporting are more resilient, more attractive to stakeholders, and better aligned with long-term value creation."

"Clients demand sustainable data centres, and sustainability leads to increased efficiency and reduced OPEX," adds Schneeberger.

Indeed, power costs can account for up to 50% of a data centre's operational budget, making sustainability a pragmatic choice.

"The relevance of sustainability is driven by high energy costs and unreliable grids, making energy efficiency and renewable integration economically essential. Broader energy efficiency legislation is beginning to include data centres as major energy consumers, while environmental impact assessments embed sustainability into the design phase of new projects," asserts de Kruijf. "Investor and customer expectations around ESG performance are also rising, pushing operators to demonstrate environmental responsibility. Even in the absence of local mandates, many African data centres are aligning with global best practices, such as those from the Uptime Institute and The Green Grid, to guide their sustainability efforts."

"Reducing energy use through efficient cooling, intelligent load management, and renewable integration isn't a public relations exercise, it's a profitability strategy," claims Luusa. "At the same time, international clients, particularly hyperscalers and global cloud service providers, are demanding strict ESG compliance. African operators must align with these expectations to remain globally competitive."

Yet, according to Luusa, beneath these strategic drivers lies a deeper, more uncomfortable paradox: as Africa builds data centres to train large language models, millions still lack electric light. This paradox must shape how we define digital progress.

"The reality is stark: in several African countries, more than half the population still lives without reliable access to electricity. National grids remain fragmented, unstable, or altogether absent in many rural areas. Against this backdrop, the rise of AI-ready data centres, power-hungry facilities designed to train and deploy large language models, presents a profound dilemma. How do we reconcile the pursuit of high-performance compute infrastructure with the lived experience of millions who remain off-grid?" asks Luusa. "This tension doesn't undermine the case for AI or digital expansion, it enhances it. AI holds the potential to transform African agriculture, education, healthcare, and governance. But its infrastructure must be developed with a mindset of shared value. That means investing in renewable microgrids that serve both data centres and local communities, enabling edge computing that decentralises power loads, and designing policies that link digital infrastructure growth to national electrification agendas. Sustainability, then, must be viewed not only through the lens of carbon reduction or green building practices, but also through equity and inclusivity. If we build with intentionality, data centres can become. catalysts, not competitors, for broader energy access. Africa's digital infrastructure future must be green, yes, but it must also be just."

A GREENER CONTINENT

Africa is digitising faster than many regions did during their industrialisation. This gives it a rare chance to leapfrog the environmental pitfalls of the past and set a new global standard for sustainable digital infrastructure.

"When I reflect on the evolution of data centres across Africa, it's clear that we're not merely building the physical backbone of the continent's digital economy, we're also laying the groundwork for a greener, more resilient future," concludes Luusa. "Over the past decade, data centres have emerged as essential infrastructure, supporting everything from mobile banking and e-commerce to cloud computing and AI. Yet, as demand for digital services surges, so does the responsibility to ensure that these facilities operate sustainably and efficiently."

By embracing energy-efficient technologies, renewable energy, supportive policy frameworks, and ethical design, the continent can ensure its digital transformation is both powerful and planetary-friendly. ●

Werner Schneeberger, AECOM

POWERING THE FUTURE:

HOW CUMMINS' CENTUM FORCE IS REDEFINING POWER IN THE DATA CENTER INDUSTRY

As the world becomes increasingly digital, the data center industry finds itself at the epicenter of a global energy transition. With the surge of artificial intelligence, cloud computing, and edge deployments, the demand for power-dense, scalable, and sustainable infrastructure is pushing boundaries like never before. Amid this transformation, Cummins has emerged as a pioneer-driving innovative solutions that not only meet today's power needs but also pave the way for a sustainable tomorrow.

Amidst this innovation is Centum Force, Cummins' next-generation power platform featuring a compact containerized solution direct from the Cummins Factory, designed to serve the high-performance, high-reliability demands of modern data centers. It's not just a product — it's a blueprint for the future of resilient and sustainable data center infrastructure.

MEETING THE MOMENT: WHY CENTUM FORCE MATTERS NOW

The launch of Centum Force comes at a pivotal time. Global power grids are under strain, and hyperscale and colocation data centers are racing to deploy faster while minimizing their carbon footprints. In many markets, particularly those with grid constraints or diesel dependency, there's a pressing need for advanced backup power solutions that combine performance with sustainability.

Centum Force addresses this with a containerized power system-compact, modular, and scalable-built for the evolving needs of hyperscale and edge data centers. With single and twin pack solutions, and power ratings from 1.5 MW to 3.5 MW, Centum Force delivers industry-leading reliability and performance, while integrating advanced controls, digital connectivity, and lower-emission technologies.

Key Features & Value Propositions of Centum Force:

- Compact, modular and scalable: Ideal for rapid deployment, space-constrained environments, and phased buildouts.
- Fuel flexibility and lower emissions: Designed to run on conventional diesel, renewable diesel, and HVO (Hydrotreated Vegetable Oil), offering up to 90% lifecycle CO^2 reduction.
- Digital intelligence: Integrated controls and remote monitoring via Cummins' PowerCommand® Cloud provide proactive diagnostics and system optimization.
- Serviceability and Reliability: Backed by Cummins' global support network with advanced predictive maintenance features, ensuring peace of mind for mission-critical applications.

SUSTAINABILITY AT THE CORE OF INNOVATION

Centum Force doesn't just address operational concerns — it also positions data center operators to meet their Environmental, Social, and Governance (ESG) goals with confidence.

According to the US Department of Energy 2024 Report on U.S. Data Center Energy Use, the data center industry consumes 4.4% of global electricity consumption today. As more AI workloads and high-density computers come online, that figure could rise up to 12% by 2030. Operators are under increasing scrutiny to decarbonize their infrastructure, reduce reliance on fossil fuels, and adopt cleaner, more efficient technologies.

Cummins has long been committed to engineering solutions that are not only powerful but also responsible. Through our PLANET 2050 sustainability strategy, Cummins is working toward:

- Net-zero emissions by 2050
- Reducing greenhouse gas emissions from newly sold products by 25% by 2030
- Partnering with customers to lower Scope 3 emissions across product use

Centum Force is evidence of these goals in action. Its compatibility with low-carbon fuels like HVO and renewable diesel ensures reduced well-to-wheel emissions without requiring major infrastructure changes.

Additionally, by integrating digital technologies for performance monitoring, predictive maintenance, and remote control, Centum Force enables optimized fuel usage, reduced downtime, and proactive

ANIRUDH (ANI) SINGHANIA
DIRECTOR - POWER GENERATION BUSINESS
CUMMINS AFRICA MIDDLE EAST & CENTRAL ASIA

service interventions, all of which contribute to lower operational emissions and a lower carbon footprint.

CUMMINS' ROLE IN SHAPING THE FUTURE OF SUSTAINABLE DATA CENTERS

For over 100 years, Cummins has been at the forefront of innovation in power systems. Today, the company is leading the charge in transforming the energy landscape for mission-critical infrastructure — including data centers.

Cummins is building a comprehensive ecosystem that supports data centers through every stage of their energy transition. Our approach is technology-agnostic, ensuring that customers can choose the right solution for their application, geography, regulatory environment, and sustainability goals. Whether it's powering a hyperscale facility in North America, a colocation hub in the Middle East, or an edge node in Africa, Cummins is ready with robust, reliable, and responsible power solutions.

LOCAL COMMITMENT, GLOBAL SCALE: CUMMINS IN AFRICA & THE MIDDLE EAST

At Cummins, our commitment to customer success goes beyond delivering exceptional products — we ensure world-class support is available where and when it's needed most. In the Africa and Middle East region, we've built a robust, multi-tiered support structure that operates within the same time zone as our customers, enabling faster response times and more personalized service.

Our first line of support is delivered through 24 Cummins Distribution entities strategically located across the region. These local teams provide immediate, on-the-ground assistance and are deeply familiar with the unique needs of their markets.

Backing this network is our regional factory support team, based in Dubai and Johannesburg. This team comprises senior technical application specialists and engineering leaders who are equipped to handle complex technical queries and deliver customized solutions with agility. Their proximity to customers ensures rapid turnaround and a deep understanding of regional requirements.

Crucially, the regional team maintains direct access to Cummins' global product chief engineers, enabling seamless escalation and resolution of advanced engineering challenges.

In addition to technical expertise, Cummins offers exceptional aftermarket and commissioning support, helping customers optimize performance from day one. This proactive approach not only enhances reliability and uptime but also contributes significantly to reducing Total Cost of Ownership over the lifecycle of the equipment.

This three-tiered support model — local distribution, regional factory expertise, and global engineering access — ensures that our customers receive the highest quality of pre-sales and after-sales support, all within their time zone. It's a testament to Cummins' unwavering focus on being close to our customers, both geographically and operationally.

LOOKING AHEAD: INNOVATION, RESPONSIBILITY, AND GROWTH

As the data center industry expands into new geographies, embraces new workloads, and navigates new regulations, its power infrastructure must evolve in tandem.

Cummins, through Centum Force and its broader portfolio, is helping shape a future where performance and sustainability go hand-in-hand. A future where data center operators don't have to choose between uptime and environmental responsibility. A future where global expertise meets local commitment.

Whether it's in Johannesburg, Dubai, Riyadh, Nairobi, Lagos or Cairo, Cummins is powering the digital economy with solutions that are innovative, impactful, and built to last.

FINAL THOUGHTS

Centum Force is more than a product — it's a testament to the commitment Cummins is making to shape and power the future of data centers.

With over a century of engineering leadership, a proven track record in mission- critical applications, a bold sustainability vision, and strong local support for application and after market service Cummins is positioned as a trusted partner for the data centers of tomorrow.

Centum Force is "Power that moves with purpose." and that purpose is crystal clear: Delivering resilient, scalable, and sustainable power for our digital world. ●

FORTRESSES OF THE FUTURE:

THE EVOLUTION OF DATA CENTRE SECURITY

AS AFRICA'S DIGITAL ECONOMY RAPIDLY EXPANDS, THE CONTINENT'S DATA CENTRES FACE A UNIQUE COCKTAIL OF CHALLENGES: FROM SOCIO-POLITICAL INSTABILITY AND CRIME TO CLIMATE EXTREMES AND POWER RELIABILITY. BUT AMID THESE RISKS LIES AN OPPORTUNITY — TO BUILD SECURITY FRAMEWORKS THAT ARE NOT ONLY ROBUST BUT FUTUREPROOFED. INDUSTRY EXPERTS WARREN TILBROOK OF ARUP, CHALON DILBER OF VCA TECHNOLOGY, AND NICO SMIT OF GALLAGHER SECURITY SHED LIGHT ON WHAT IT TAKES TO SECURE THE DIGITAL VAULTS OF AFRICA.

Chalon Dilber, VCA Technology

Nico Smit, Gallagher Security

Warren Tilbrook, Arup

A HIGH-RISK LANDSCAPE

Across the globe, physical data centre security must operate as a multilayered defence system, designed to address both conventional threats and region-specific risks such as theft, vandalism, and political instability.

"There may be a higher risk of physical intrusion and theft in some regions, higher crime rates or socio-economic instability which can translate to an increased risk of physical breaches, theft of equipment (such as copper, diesel for generators), or vandalism," notes Warren Tilbrook, Senior Engineer at Arup. "Political instability and civil unrest in some regions can also pose direct threats to data centre operations and personnel, requiring enhanced physical security measures."

As such, Tilbrook advocates for a Threat and Vulnerability Risk Assessment (TVRA) as a foundational step, which should be used to identify the specific threats to the facility and its associated data assets and set out the security measures required to mitigate the risks to the data centre.

The security perimeter forms the first critical barrier, typically enforced through high-security fencing topped with razor wire, vehicle crash barriers, and controlled pedestrian access points equipped with surveillance and intrusion detection systems. Adequate lighting and Perimeter Intrusion Detection Systems (PIDS) — including fibre-optic sensors and radar — enable early threat detection, while 24/7 surveillance with high-resolution, night-vision-enabled CCTV ensures continuous monitoring.

"A comprehensive network of high-resolution surveillance cameras with night vision capabilities should cover all critical areas, including entrances, exits, data halls, and perimeter fencing, ensuring 24/7 monitoring," says Tilbrook.

Chalon Dilber, EMEA Sales Manager, VCA Technology, adds that, "beyond basic perimeter monitoring, intelligent video analytics offer a more effective first line of defense. Intrusion detection features, utilising virtual tripwires and sophisticated object classification, can differentiate between genuine threats and environmental factors, drastically reducing false alarms. This allows security personnel to focus on real breaches, providing a more effective and efficient response."

Meanwhile, Nico Smit, Sales Manager for Africa, Gallagher Security, advises a thorough perimeter security system complete with barriers, 24/7 on-site guards, and vehicle access control.

"CCTV systems with high-resolution, night-vision-enabled cameras with 360° coverage; video analytics with AI-powered motion detection, facial recognition, and anomaly detection, and remote monitoring with centralised security operations centers (SOCs) for real-time oversight," are also recommended by Smit.

Internally, access control is enforced through biometric systems, mantraps, and role-based restrictions, all of which are logged for auditing and forensic investigation.

"Biometric authentication with fingerprint, iris, or facial recognition for staff entry; Multi-Factor Authentication (MFA) combining ID cards, PINs, and biometrics; and mantraps and airlocks to prevent tailgating and unauthorised piggybacking are also essential for through security," says Smit.

"Implementing strict control over who can enter the facility and specific areas using an enterprise level access control system is essential," agrees Tilbrook. "Using fingerprint scanners, iris scanners, or facial recognition can ensure highly secure access to critical areas like server rooms. Installing mantraps (interlocking doors or secure portals) at critical entry points ensures only one authorised person can enter at a time while implementing programmed access cards that restrict access can do so based on role, time, and area. All access attempts (successful or failed) should be logged."

This layered, proactive approach is essential to safeguard the facility against both opportunistic and orchestrated physical intrusions.

THE THREAT COMES FROM WITHIN

Physical barriers are not enough when the risks are internal. Insider threats, often overlooked, are exacerbated by socio-economic pressures and a diverse workforce.

"While insider threats are a global concern, socio-economic pressures in some African contexts could potentially heighten the risk of employees being coerced or tempted into malicious activities," says Tilbrook. "Managing physical access for a workforce that may include expatriates, local staff, and various contractors requires robust and consistently enforced access control protocols, mindful of diverse cultural backgrounds."

Key to this is multi-factor authentication: something you have (smart cards), something you know (passwords), and something you are (biometric scans).

Smit agrees and suggests that Zero-Trust architecture should be in place even for internal users: "least privilege access, which grant users only the access necessary for their roles, and behavioral analytics that monitor user behavior to detect anomalies (e.g., accessing systems at odd hours)," can all be used to tackle insider threats.

Strict role-based access is essential, alongside anti-tailgating mechanisms such as interlocking doors. Surveillance reinforces these measures: "access control in conjunction with surveillance at all high security transition points ensures that security teams can monitor activity, and forensic evidence is available," adds Tilbrook.

"Identifying and mitigating insider threats requires more than just access logs," asserts Dilber. "Behavioural analysis tools within video analytics can learn typical movement patterns and flag anomalies such as unusual access times or prolonged presence in sensitive areas by authorised personnel. Furthermore, integrating facial recognition analytics with access control systems provides an added layer of verification, ensuring the right person is accessing the right zone at the right time and deterring potential misuse."

KEEPING TENANTS IN THEIR LANE

Africa's growing cloud adoption is driving up demand for multi-tenant data centres (MTDCs), where co-location introduces the risk of cross-tenant breaches.

"In multi-tenant environments, maintaining strict segregation is crucial," outlines Dilber. "Video analytics can enhance access control by using tailgating detection analytics to ensure only authorised individuals enter secure areas."

"Managing access in multi-tenant data centres (MTDCs) is a challenging security environment that requires physical and technical solutions that ensure strict isolation and control for each

tenant to maintain segregation and ensure the security integrity of each tenant," warns Tilbrook.

In addition to the security layers for the facility as a whole, physical segregation and access control within co-location spaces is paramount. Dedicated, physically secured cages or private suites for each tenant within the data hall allow tenants to implement their own electronic security measures such as access control and video surveillance that are independent of the main facility security systems. Access to these areas must be restricted to authorised personnel of that specific tenant, says Tilbrook, enforced through individual locks, card readers, and potentially biometric scanners specific to the cage/suite.

Smit calls for local segmentation: "virtual LANs (VLANs) and Software-Defined Networking (SDN) to isolate tenant traffic, and microsegmentation to enforce granular security policies. For physical segmentation, dedicated racks or cages for each tenant and separate biometric access zones for different tenants are effective."

"For physical keys to racks, using smart key cabinets that log who takes a key, when, and for which rack, often requiring authentication can restrict rack access," Tilbrook. "This can also be controlled using specialist rack access control hardware; compartmentalised racks are also available giving further granular control over access to equipment."

Moreover, video analytics steps in again to address potential slip-ups. "By integrating video verification and/or facial recognition with access logs, data centres can create a robust audit trail of entries and exits, providing granular control and preventing unauthorised cross-tenant access to sensitive infrastructure." These tools offer instant video verification — making it clear who entered, when, and whether they were allowed to.

EARLY THREAT DETECTION

Security today isn't just about locking doors — it's about being everywhere, all the time.

"Integrating real-time system monitoring and early fault detection into security protocols is critical for rapid response and minimal disruption. Unified Monitoring Systems - a centralised platform for monitoring both physical and cybersecurity events - provide a holistic view of the data centre's security posture and allows rapid response to security events in real time," explains Tilbrook.

Video analytics is the ultimate enabler in this environment.

"Minimising downtime requires proactive security measures. Real-time event detection capabilities within video analytics can identify security-related events as they happen – from unauthorised entry attempts to suspicious object placement," agrees Dilber. "Immediate alerts allow security teams to respond swiftly, potentially preventing a minor breach from escalating into a system-wide failure and significantly minimising operational disruptions."

According to Tilbrook, deploying advanced DCIM solutions provides real-time visibility into power, cooling, environmental conditions (temperature, humidity), and asset status. Security Information and Event Management (SIEM) systems collect and correlate log data from various security devices (firewalls, IDS/IPS, access control systems) and IT infrastructure (servers, network devices). Real-time analysis can detect patterns indicative of a security breach in its early stages.

At the heart of it all is the Security Operations Centre (SOC) — a mission-control hub for physical and cyber defence.

"The data centre Security Operations Centre (SOC) is a centralised command unit responsible for the ongoing monitoring, detection, analysis, and response to cybersecurity threats and incidents targeting a data centre's infrastructure and the information it houses. It serves as the hub for all security-related activities, ensuring the confidentiality, integrity and forms an essential part of the security apparatus," asserts Tilbrook.

EFFICIENCY VS. SECURITY

Building a secure data centre without crippling operational efficiency is possible — if smart automation is in place.

"Achieving a balance between operational efficiency and robust security hinges on intelligent automation. A suite of video analytic tools, including loitering detection, object classification, and people counting, automates the monitoring process, freeing up security personnel to focus on higher-level tasks and incident response. This intelligent surveillance optimises resource allocation while simultaneously enhancing security posture, creating a more resilient and efficient operation against evolving threats," says Dilber.

Tilbrook agrees that efficiency and resilience go hand-in-hand with planning. "A risk-based approach to security is the foundation of implementing a robust and cost-effective set of security measures that protect the data assets of customers and ensure resilience and reliability."

According to Smit, best practices include:

- Security by design: integrate security into the architecture from the ground up.
- Regular audits and penetration testing: identify and fix vulnerabilities proactively.
- Staff training and awareness: educate employees on security protocols and social engineering threats.
- Redundancy and failover systems: ensure uptime even during attacks or failures.
- Compliance with standards: align with ISO/IEC 27001, Uptime Institute, and local regulations.

Finally, Tilbrook reminds us that human readiness is still paramount: "in addition to physical protection measures data centre operators must ensure that there is a highly effective operational security presence on site and an emergency response plan that works alongside local law enforcement and emergency first response agencies. Having a 24hr security presence on site with well trained and well-paid security personnel with the well-designed security measures are the best protection against these risks."

AFRICA'S DIGITAL BACKBONE

As Africa's data economy continues to thrive, so too does the need for vigilant, adaptive security strategies. From robust fences and biometric locks to AI-powered surveillance and predictive analytics, the battle for data security is increasingly fought on multiple fronts.

Africa's data centres aren't just building for scale — they're building for resilience. And if experts like Tilbrook and Dilber are any indication, the future of data in Africa may well be one of the most secure on the planet. ●

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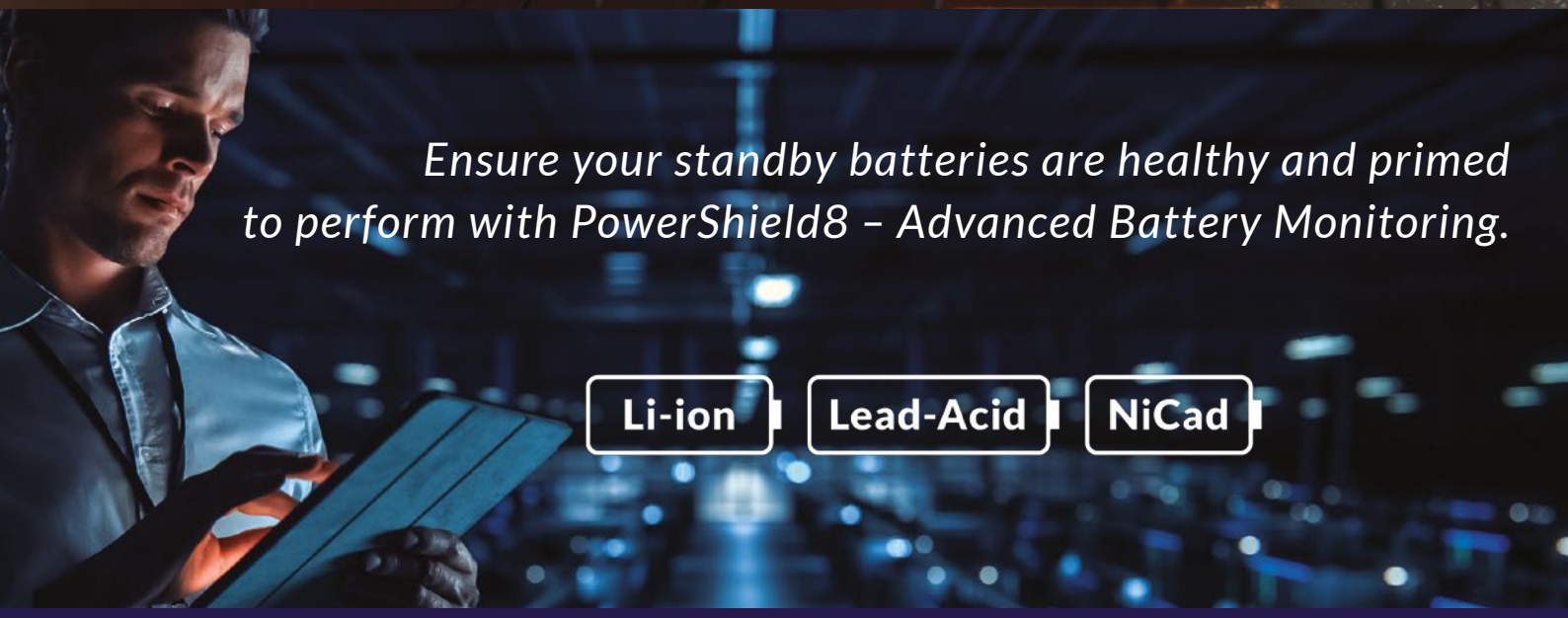

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Dominic Jeff, International Communications Professional Securiton International

ADVANCED FIRE PROTECTION IS ESSENTIAL TO KEEP AFRICA'S DATA FLOWING

As economies across Africa continue to realign to a modern, sustainable and digital outlook, Dominic Jeff of Securiton International argues that the data centres underpinning this transformation require the highest standard of Early Warning Fire Detection. However, data centres present a number of unique fire safety challenges.

Data centres and telecommunications hubs are nowadays as crucial as electricity and transport infrastructure, but arguably they are much more fragile and time sensitive. A train can be five minutes late without serious knock-on effects, but even a brief data outage can have wide-ranging and unpredictable consequences.

The cost of a data centre outage is not just financial: business and transactions grind to a halt, connected appliances fail and even life-saving operations may be interrupted. Data centre operators therefore adopt a series of stringent contingency measures to ensure they can keep the servers working in the event of power outages, cyberattack or intruder threats. The very real and physical threat of a fire in the building should be no different – especially given that fire could destroy data centre infrastructure completely.

What this means in terms of fire protection is that data centre providers must go much further than is currently stipulated by regulations, which are generally concerned with preserving life. In this industry, sounding an alarm once flames are visible and having staff calmly walk to the exits while critical economic infrastructure goes up in flames is just not good enough.

MULTIPLE FIRE RISKS AND CHALLENGES

Data centres are a complex area for fire detection, and yet the very highest standard of early detection is required if an operator is to avoid lengthy interruptions. No single technology can achieve this, but a comprehensive package of the best detection and suppression methods can tackle all the key danger areas and provide something close to peace of mind. This is why Securiton has adopted a holistic approach to this industry. For the first time, all of our key technologies are deployed in tandem, offering an unprecedented combination of early and reliable fire detection.

At the heart of a data centre are banks of servers and related networking equipment, stacked together in aisles where they give off a significant amount of heat as a side effect to their furious electronic activity. They are, effectively, a giant fire hazard that requires continuous cooling and monitoring. Additionally, they are often sited at remote locations and even when not, human access is generally kept to a bare minimum. This makes both fire detection, device maintenance, and tackling a blaze, more difficult.

And it's not just a large blaze that data centre operators need to fear. On the one hand, even the smoke from a smouldering electrical element within a data cabinet can damage many other delicate components, especially due to the rapid airflow characteristics of the HVAC system. On the other hand, uncontrolled, wide-ranging shut-downs or suppression activation due to false alarms will also have a serious effect on data availability. Planners therefore need to find a way of offering both very early and exceptionally reliable fire detection – ideally with easy maintenance. And the server racks are just one of many fire hazards in a data centre.

Further areas of concern are the very back-up systems designed to ensure continued operation in a power outage: generators and battery banks. Additionally, the power distribution network, the HVAC system and cabling in suspended ceilings and raised floors are all hazards posing challenges to early and reliable detection.

PERFORMANCE-BASED DESIGN FOR A HOLISTIC SOLUTION

Fire regulations generally aim to protect lives first and foremost – and that's as it should be. However, businesses, especially

those providing a critical service, should be aware that fire protection designed to meet regulations is often not enough to save their premises and equipment. When designing an advanced fire safety system to protect mission-critical facilities in the datacom industry, planners therefore need to go beyond prescriptive building and fire codes. This means applying Performance-based Design (PBD) methodologies to safeguard business continuity through bespoke risk and situational assessment.

"Data centre providers must go much further than is currently stipulated by regulations, which are generally concerned with preserving life. In this industry, sounding an alarm once flames are visible and having staff calmly walk to the exits while critical economic infrastructure goes up in flames is just not good enough."

For example, powerful smoke detection using aspirating smoke detectors (ASD) can be designed to work with the airflow in the server aisles, detecting the earliest traces of smoke from a smoldering element to activate suppression systems and launch an integrated site incident and emergency response. The ability of ASD to sample the airflow from the cooling system turns a fire detection challenge into a strength: conventional point type detectors are simply not able to detect smoke that is rapidly diffusing in the forced air flow; while heat detection methods will naturally flounder as the servers will undoubtedly be generating heat.

Aspirating smoke detectors are amongst the most effective methods for reliable early detection of a fire, and because a single unit can draw air for sampling from a wide area via a tube system, they don't require access to difficult locations for testing and maintenance. In data centres, they are also ideal for monitoring cabling in concealed floor spaces or suspended ceilings; and for return air grilles.

However, heat detection is more effective around generators, and in power distribution cabinets where heat can manifest a problem before smoke forms. Battery rooms are a hot topic because of the use of lithium-ion technology and its potential to ignite: a combined of off-gas and heat detection in the battery racks, and ASD in the room potentially creating an airflow that can also be utilised by the off-gas detector, is the optimal solution. That's a lot of detection power, but it's worth it to stand a chance of controlling and containing a battery room fire that would otherwise devastate the entire facility.

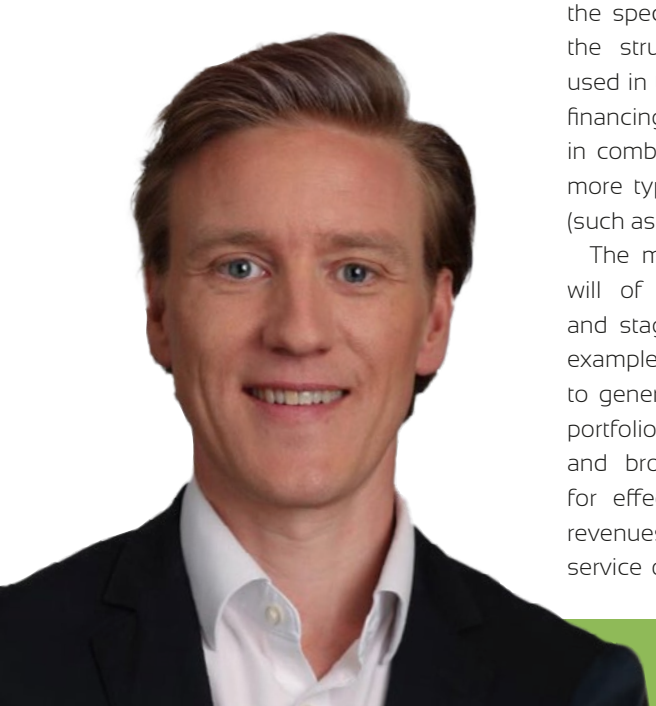
This holistic approach using multiple state-of-the-art technologies offers the best guarantee against a fire incident getting out of hand and causing a lengthy and very expensive service interruption, with all the consequences that entails. They can naturally be linked together with a modern fire alarm control panel which will also provide suitable suppression activation.

The data centre boom is showing no signs of easing, with especially high growth is expected in parts of Africa where the economy is rapidly modernising and digitising. Fire safety consultants and contractors who can offer a complete fire safety solution to this industry and have a valuable opportunity to establish themselves as a major supplier of a key safety feature which helps guarantee the smooth running of critical infrastructure. ●

BUILDING THE DIGITAL BACKBONE: KEY CONSIDERATIONS FOR DATA CENTRE INVESTMENTS IN AFRICA

CHARLIE MORGAN, PARTNER (DISPUTES, LONDON); STEWART PAYNE, DIRECTOR (COMPETITION, TRADE & REGULATION, JOHANNESBURG), HERBERT SMITH FREEHILLS KRAMER

As Africa's digital economy accelerates, the demand for data centres is surging, unlocking a wave of investment opportunities across the continent. With significant capital needed to build and scale these facilities, both seasoned players and new investors are eyeing the region as a frontier for digital infrastructure growth. As is often the case, Africa presents both unique challenges and opportunities for these players – although lessons can be drawn from experiences in other regions, where the operating environment is not as dissimilar as one might at first think. Even for seasoned data centre operators and investors, the African landscape continues to evolve, presenting novel challenges and requiring innovative solutions.



This article addresses key considerations for funders and operators alike when establishing data centres on the African continent.

FINANCING DC ESTABLISHMENT

The financing mechanisms used to fund data centres in Africa are not new or unique to data centres. However, the application of these structures to data centre projects is evolving and can vary depending on the specific nature of a project. Many of the structures apply familiar principles used in traditional infrastructure or project financing – although often alongside or in combination with concepts that would more typically be seen in other contexts (such as leveraged finance).

The most appropriate financing option will of course depend on the nature and stage of the particular project – for example: corporate borrowers might stick to general corporate debt facilities; asset portfolios with a combination of greenfield and brownfield operations might allow for effective cross-collateralisation (with revenues derived from some used to service overall financing of others); green bonds where this is an option based on the relevant criteria; or trade receivables financing in the case of a DCaaS model.

ANTICIPATING POTENTIAL DISPUTES

Seizing investment opportunities in African data centres requires proactive risk management and strategies for disputes avoidance and resolution. Anticipating potential disputes and implementing measures to avoid them are critical for a successful outcome.

To mitigate the likelihood of disputes, it is essential to carefully craft your enforcement rights during a transaction process, as well as establishing clear and workable governance structures and change mechanisms that will stand the test of time. Comprehensive due diligence, clear and precise drafting of contractual terms, and a strong understanding of local contexts are crucial.

Precision must be deployed in drafting key deal terms. Clear valuation methodologies, in purchase price adjustment mechanisms and put/call option clauses can materially mitigate the risk of disputes post-completion.

Getting dispute resolution clauses right from the start is crucial: they can make or break your ability to bring claims or enforce

decisions down the line. Arbitration remains the go-to choice for cross-border deals, offering a neutral forum, international enforceability and privacy. But arbitration is not always an option. Local laws or uneven bargaining power can limit access to arbitration, especially for certain types of disputes. When that happens, the added enforcement risk may need to be factored into the deal's pricing and structure.

KEY OPERATIONAL CONSIDERATIONS – LOCATION AND POWER SUPPLY

Securing a suitable location and land use rights has always been a critical factor in the establishment of new data centres. When it comes to securing land use rights, operators and investors require certainty on what rights have been granted, and that these will not change. The clearer and more certain a country's land use permitting regime, the more attractive a destination it will be.

Successfully navigating the relevant consenting processes for data centres often involves a delicate balancing of interests in what can be a highly political climate. In support of new development applications, we have seen operators successfully rely on demonstrating the benefits of 'agglomeration effects' which can result from data centre developments, including positive socio-economic impacts resulting from the data centre project. Consenting authorities are increasingly focussed on sustainability, and any sustainability synergies resulting from a new development can prove to be significant in the consenting process – for example, connecting the data centre to local district heating networks in order to deliver waste heat as a heating source for surrounding communities.

Data centres have historically been located nearer to the large urban hubs, leveraging the advantages of robust telecom connectivity and target client demographics. However, this presents constraints on land availability. We now see a developing trend of exploring opportunities outside of these traditional hubs, with a focus on smaller cities where land is usually more available and cheaper, power constraints can be less of an issue, and the requisite permits can be easier to obtain.

Access to power is possibly the most critical issue for the success of any data centre business. This issue has always been front of mind for operators on the African continent, given the well-known power supply challenges faced in countries like South Africa, Nigeria and Zambia. But power supply is increasingly become the key focus for data centre businesses globally as well, overtaking issues of land availability.

Reducing exposure to national supply grids has become an imperative to ensure sustainable operations. This is also being written into policy: South Africa's National Data and Cloud Policy (2024), for example, states that priority should be given to the self-provision of electricity and water for the operations of data centres to ensure continuous operation and reduce dependency on the national grids. For this reason, there is increasing interest in integration or co-location of private power generation with data centre facilities – often with a view to renewable power production, given ESG imperatives. Movement away from urban hubs to larger sites, together with liberalisation of electricity generation and transmissions in a number of African countries, will render these opportunities increasingly attractive.

Almost equally as important is making use of the available resources efficiently. Flexibility in design and construction will be important given technology (such as liquid cooling) can change quickly. Innovative approaches, such as modular data centre

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deployment, avoid inefficient use of resources but allows for easy scalability as and when demand arises.

OTHER REGULATORY CONSIDERATIONS

Another key issue is data sovereignty and data localisation requirements. Governments are increasingly concerned about maintaining control over data that belongs to their citizens, which may include ensuring that it is stored locally. Some countries also restrict the extent to which data centres within their borders can interconnect with data centres and users located outside the country. Since many smaller economies in Africa lack the scale required to achieve efficient data centre usage based on local demand only, a country that is "cloud friendly" and can be used as a base to serve customers in neighbouring countries is a much more attractive proposition for operators and investors.

Data centres are increasingly seen as critical infrastructure that may warrant special protection alongside other key infrastructure under national security or foreign direct investment (FDI) regulations. For several FDI regimes (including in Australia, the United Kingdom, the United States and many European Union member states), the processing and storage of data – particularly governmental or sensitive personal data – is deemed to be critical infrastructure, meaning that a potential investor is required in many cases to obtain mandatory pre-completion clearance from the relevant FDI agency. Significant sanctions can be imposed for any failure to file.

While such (formalised) FDI regimes are not currently prevalent in Africa, some countries do have sector-specific licensing regimes which can provide an alternative means by which to protect the national interest in these operations, for example by requiring a certain proportion of local ownership or control. The more onerous these requirements, the less attractive a destination for data centre investment.

Regional harmonisation can play a role in facilitating further data centre investment in Africa, including through regulatory alignment. COMESA has already made efforts towards African data centre standardisation, and there is likely scope to expand this further under the African Continental Free Trade Area.

Finally, in addition to assessing how contractual rights can be enforced, investors should also consider the non-contractual protections that may be available to them and their investments, such as those offered under bilateral investment treaties or other international agreements. These protections can provide an added layer of security, particularly in jurisdictions where reliance on local courts may be uncertain.

CONCLUSION

There is no doubt a need (and investor appetite) for the establishment of significant additional data centre capacity on the continent. These factors are all material considerations for data centre operators and investors looking to pursue these opportunities. Successful outcomes require a considered approach, and each country's attitude towards these issues will have a significant impact on the extent to which they are able to attract such investment and position themselves as an important player in Africa's digital future.

DATA CENTRE NEUTRALITY – THE ANSWER TO AFRICA'S NEXT DIGITAL TRANSFORMATION

Giovanni Da Costa, Managing Director, SEACOM Digital Infrastructure South Africa

Network architecture requirements have shifted drastically over the last few years. As our reliance on always-on, always available connections has accelerated, so too has the need for data centre neutral carrier networks that make it possible to create global reach, ensure resilience and redundancy while ensuring seamless interconnectivity.

Content providers, hyperscalers and over-the-top players are expanding at an unprecedented rate, pushing infrastructure limits to bring workloads closer to end users as they look to deliver vast amount of data traffic without compromising the user experience. However, scaling is not as simple as flipping a switch. Data centres are finite, and traditional models pose constraints. This is where data centre neutrality becomes critical, not just as a concept but as an operational reality.

A carrier-driven, data centre-neutral approach to digital infrastructure is a game-changer for Africa's digital future. because it takes away exclusivity, allowing hyperscalers, OTTs (Over-the-Top services), and global network carriers to scale across multiple facilities without constraint.

THE VALUE CHAIN

Africa's digital ecosystem relies on high-capacity interconnectivity across multiple facilities. Hyperscalers and content providers must move workloads across regions without re-architecting networks or facing latency issues. Network infrastructure providers that offer wholesale connectivity services to other carriers and service providers, are an invisible yet critical link in the digital economy. Whether it's a regional carrier in Botswana trying to access Microsoft's cloud infrastructure in South Africa or a new OTT entering a market like Uganda, such network infrastructure providers, are the gateway.

Historically, data centre operators emphasised carrier neutrality, allowing businesses to choose from multiple network providers. However, today, true flexibility requires data centre neutrality – a model where no single data centre becomes a constraint.

Key trends shaping this shift include multi-data centre strategies to enable flexible workload movement; the emergence of new digital hubs; infrastructure strategies focused on speed to market and hyperscaler; and a shift in the infrastructure value chain to a focus on resilience, redundancy and robustness.

A NEW APPROACH

Unlike legacy infrastructure models, today's approach is driven by the need to provide speed, scale, and strategic market access. One of the key requirements for clients is to reach the target market much quicker. The opportunity cost of delay is just too high and data centre neutral carrier networks enable them to do so.

When capacity is constrained at one data centre, clients need the flexibility to shift workloads seamlessly to another. While some networks are locked into specific facilities or regional monopolies, neutral infrastructure enables effortless movement between data centres.

By removing the need for exclusivity agreements and unlocking cross-border capacity with pre-deployed connectivity, carrier networks that are data centre neutral allow hyperscalers and content providers to reach new markets quickly – delivering digital services directly to consumers and businesses alike with minimal friction. Deployment into emerging markets becomes more effortless, allowing global providers to land, expand, and scale within weeks.

A 'CARRIER OF CARRIERS'

Ultimately, the biggest winners are the end users, thanks to data centre neutral carrier networks, that help reduce latency, improve reliability, and enhance the digital experience by bringing hyperscaler and content provider networks closer to end-users via multiple neutral data centres.

Data centre neutral carrier networks play an important role in connecting the dots across Africa, making it easier for hyperscalers, OTTs and global carriers to scale, reach users, and create inclusive digital ecosystems.

By leveraging high-capacity fibre networks and strategic interconnections, these carrier networks are driving Africa's next wave of digital transformation. In this ecosystem:

- Carriers enable interconnection.
- Hyperscalers drive digital expansion.
- Data centre neutral carrier networks provide the backbone.

Africa's digital future, aftercall, depends on agile, scalable infrastructure and true data centre neutrality. Data centre neutral carrier networks are making this a reality.

THE AFRICAN CODE OF CONDUCT: LEADING AFRICA TOWARDS SUSTAINABLE DATA CENTRE GROWTH

MARY KARIUKI, DIGITAL INFRASTRUCTURE CONSULTANT, AFRICA DATA CENTRES ASSOCIATION

As digital transformation accelerates across the continent, Africa's data centres are emerging as critical infrastructure hubs fuelling economic growth, innovation, and connectivity. However, this rapid expansion brings with it significant challenges — most notably the rising energy consumption and environmental impacts associated with data centre operations.

Recognising these issues, the African Data Centre Association (ADCA), in collaboration with regional stakeholders and under the auspices of Smart Africa, is pioneering an ambitious initiative: the development of a regionally tailored African Code of Conduct (CoC) for data centres.

ADDRESSING CRITICAL CHALLENGES

The primary motivation behind the African CoC is to manage and mitigate the increasing energy demands of data centres — a concern that not only affects environmental sustainability but also economic efficiency and energy security.

"The Africa Code of Conduct Plan is a cornerstone of our commitment to sustainable digital growth. By empowering data centre operators and suppliers to voluntarily improve energy efficiency, we're not only reducing emissions — we're building a resilient, future-ready infrastructure that attracts green investment and drives inclusive development across the continent," says Paul-Francois Cattier, Managing Director, Africa Data Centres Association.

"As Marketing Manager, I'm proud to amplify the vision of the Africa Code of Conduct Plan. My mission is to connect, engage, and inspire our industry to embrace voluntary energy efficiency — not just for sustainability, but for economic strength and global recognition. Together, we're turning responsible operations into green opportunities," adds Mary Kariuki, Digital Infrastructure Consultant, Africa Data Centres Association.

By establishing a set of best practices specific to Africa's unique environmental and market conditions, the initiative aims to reduce environmental impacts through energy-efficient operations; enhance economic sustainability by promoting cost-effective energy management; strengthen energy supply security amidst fluctuating regional power availability; and position Africa as a leader in green, energy-efficient data centre solutions, leveraging its potential to 'leapfrog' traditional development pathways and adopt cutting-edge, sustainable technologies.

The African CoC aspires to be more than a regional guideline; it aims to inform, stimulate, and elevate the standards of data centre operations across Africa. Its core objectives include driving energy efficiency in data centres without compromising their mission-critical functions; creating a performance benchmarking framework that enables operators to gauge and improve their practices; and fostering innovation in green energy solutions, positioning Africa as a pioneer in sustainable data centre infrastructure.

To ensure the relevance and effectiveness of the African CoC, the initiative will draw heavily on the EU Code of Conduct (EU CoC) for data centres — an established, voluntary framework that offers a comprehensive set of best practices, metrics, and reporting standards. The EU CoC has been instrumental in promoting sustainable practices across Europe, and its principles will serve as a guiding template, adapted to African realities through a collaborative and iterative process.

"As Global Data Centre Market SVP at Schneider Electric from 2010-2015, we fully embrace the European code of Conduct as an endorser. Promoting the EU DC CoC and helps our data centre operators customers to improve the energy efficiency of their facilities year-on-year, generating substantial gain on energy costs as well as limiting the CO2 emissions impact on the planet," says Cattier. "Developing a similar DC code of conduct in Africa will help African DC Operators, in training, Improvement processes, and certifications will push dramatically the African Data centres competitiveness."

"As Managing Director of TelecityGroup at the time, I was among the first to become a Participant in the European Code of Conduct," notes Stephane Duproz, Board Member, Africa Data Centre Association. "The benefits far exceeded our expectations: we achieved significant financial savings with returns on investment in under a year. Moreover, by encouraging our suppliers to become Endorsers, we created a virtuous circle, fostering a more conscious and

resilient ecosystem around us. The upcoming Africa Code of Conduct — developed by the African data centre industry community — will help us save years in building the modern, responsible, and future-ready data centre capacity that Africa needs for its digital development."

IMPLEMENTATION ROADMAP

The development of the African Code of Conduct (CoC) will unfold through a structured, multi-phase approach marked by several key milestones.

Initially, during the first quarter of 2025, the project focused on securing official endorsement from the European Commission's Joint Research Centre (JRC), which will provide vital validation and support. Concurrently, governance structures will be established, led by Smart Africa and supported by the African Data Centre Association (ADCA), to oversee the project's strategic direction and implementation.

The project moves into the pilot stage in June. During this period, pilot initiatives were launched across four African data centres, carefully selected to represent both French-speaking and English-speaking regions. These sites include Digital Parks Africa, Africa Data Centre in South Africa and Kenya, PAIX Data Centre in Ghana and Kenya, and Sin Togo. The purpose of these pilots is to evaluate how existing EU CoC best practices — covering metrics, data collection, and governance — can be adapted and tested within the African context.

As the pilots progress, from the second quarter through the fourth quarter of 2025, a Stakeholder Working Group will be formed. This group will comprise local industry players, regulators, and technical experts, working collaboratively to analyse pilot data. Their aim will be to refine and tailor best practices, metrics, and reporting schemes specifically suited to Africa's unique environmental conditions, energy sources, and market dynamics. The insights gained will directly inform the development of an Africa-specific version of the CoC, ensuring relevance and practicality.

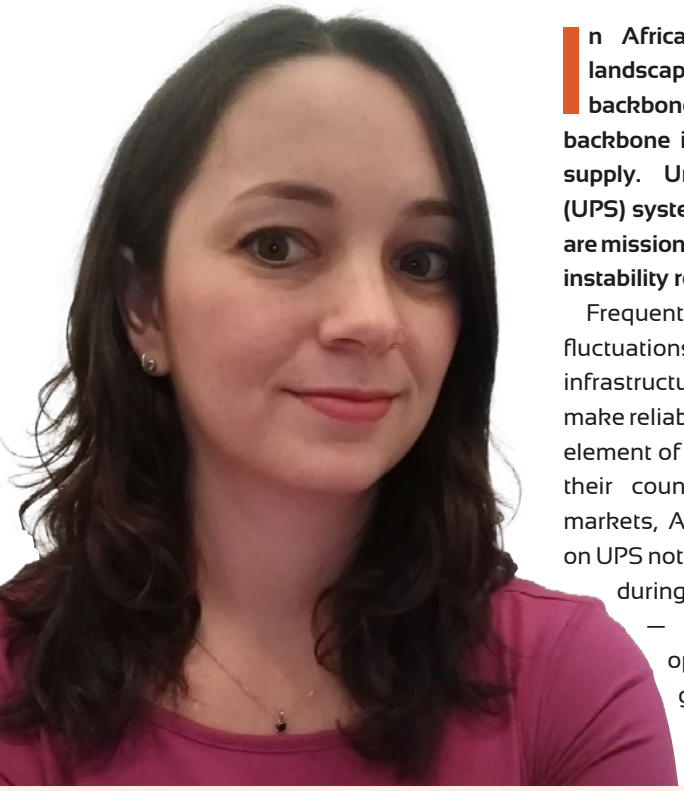
The culmination of these efforts will be the official launch of the African CoC in November 2025, which will take place at the Africa Tech Festival in Cape Town. This event will mark the formal adoption of the region-specific guidelines, signalling a significant step forward in Africa's pursuit of sustainable, energy-efficient data centre operations.

Throughout this process, testing and evaluation will serve as a continuous feedback loop, allowing the project team to assess the effectiveness of the pilot projects. These evaluations will focus on metrics, data collection processes, and governance models, with the goal of creating a comprehensive governance framework and reporting scheme that align with regional needs. This framework will emphasise transparency, accountability, and ongoing improvement, laying the groundwork for sustained progress in energy efficiency and environmental stewardship across Africa's data centre industry.

THE BROADER VISION

The African Code of Conduct for data centres is more than a regulatory document; it is a strategic blueprint designed to steer the continent toward a sustainable, energy-efficient digital future.

Through collaborative effort, regional customisation, and a forward-looking approach, Africa is poised to become a trailblazer in green data centre innovation — driving economic growth, environmental stewardship, and technological leadership for years to come.



In Africa's rapidly expanding digital landscape, data centres are the backbone of progress — but that backbone is only as strong as its power supply. Uninterruptible Power Supply (UPS) systems are not just essential; they are mission-critical in a region where power instability remains a persistent challenge.

Frequent grid outages, voltage fluctuations, and limited energy infrastructure in parts of the continent make reliable UPS systems a foundational element of any data centre design. Unlike their counterparts in more developed markets, African data centres often rely on UPS not just for milliseconds of backup during switchover to generators — but for extended, stabilised operation that bridges longer gaps in power continuity.

There's also growing variation in UPS technologies deployed. Traditional double-conversion systems remain widespread, but modular and lithium-ion UPS solutions are gaining traction due to their scalability, energy efficiency, and reduced maintenance requirements. Some operators are also integrating UPS with renewable energy sources, like solar, to support green ambitions and reduce diesel dependency — particularly in remote or off-grid locations.

As Africa continues to attract cloud investment and support burgeoning digital economies, the humble UPS plays an outsized role in enabling uptime, protecting data, and maintaining trust. In a region where 'always on' isn't guaranteed by the grid, UPS systems are quietly keeping Africa's digital future switched on.

EATON'S 9395X UPS CUTS COOLING COSTS AND FLOOR SPACE NEEDS BY 30%

Eaton Africa's 9395X UPS is a high-performance, compact power solution tailored for hyperscale and co-location data centres.

With a size up to 30% smaller than similar models, it optimises space and reduces operational costs. The 9395X supports power ratings up to 1,700 kVA, with scalable expansion options. Incorporating silicon carbide (SiC) converters, it achieves an impressive 97.5% efficiency in double-conversion mode, lowering energy consumption and cooling requirements.

Its innovative design features top exhaust and no rear clearance, simplifying installation. The UPS is equipped with ready-built sub-assemblies and an inter-cabinet busbar system for quick deployment. Self-configuring power modules and HotSync technology facilitate reliable parallel operation without communication links. Advanced monitoring provides real-time system insights, improving maintenance and reliability.

Additionally, the 9395X emphasises sustainability with a full life-cycle analysis and eco passport. Cybersecurity measures ensure protection against evolving threats, making it a secure, efficient, and space-saving power solution for modern data centres.

"We designed silicon carbide-based converters into the Eaton 9395X, so that it brings to market an efficiency of 97.5% in double-conversion mode," said Joel Kärkkäinen, product manager of large 3phase UPS, Critical Power Solutions at Eaton. "The fact that it needs up to 30% less cooling, and up to 30% less floor space than similar UPS models, means that this UPS leaves more room for revenue-generating IT equipment. It has top exhaust, with no rear clearance required, which means a further saving on space and lower installation costs."

ULTRON DPS SERIES 300-1200 KVA - DESIGNED WITH MULTILAYERED REDUNDANCY

Delta's Ultron DPS Series 300-1200 kVA UPS provides a robust solution for large-scale data centres and colocation facilities, supporting a unity output power factor to deliver up to 10 MW of power capacity.

Designed for high reliability and resilience, the series features self-detection of critical components with pre-warning alerts, multilayered redundancy, and full power rating coverage to ensure continuous operation even in fault conditions.

The system supports advanced manageability through a built-in 10-inch LCD monitor for local monitoring and remote access capabilities for centralised management. Optional battery management software enhances predictive maintenance, reducing system downtime and optimising performance.

The Ultron DPS Series is engineered to lower total cost of ownership (TCO) by improving operational efficiency and simplifying maintenance. Its scalable architecture and comprehensive protection features make it ideal for high-demand environments requiring dependable, high-capacity power solutions.

UPS FOR SUSTAINABLE FACILITIES

ABB's DPA 250 S4 is a high-efficiency, modular UPS designed for environmentally conscious organisations requiring zero downtime and low total cost of ownership.

Tailored for critical, high-density computing environments such as small- to medium-sized data centres, it features a transformer-free IGBT converter with a three-level topology and interleaving controls, achieving a market-leading efficiency of 97.6%. This advanced efficiency reduces energy consumption and operational costs while minimising environmental impact.

Built on a decentralised parallel architecture (DPA™), each module functions independently, enhancing overall system reliability and availability through inherent redundancy at all functional levels. The DPA 250 S4 supports online double conversion operation, ensuring continuous power quality and protection for sensitive equipment.

Its modular design simplifies installation, maintenance, and scalability, making it an ideal solution for organisations seeking a resilient, future-proof power infrastructure.

SEAMLESS POWER CONTINUITY FOR AFRICA'S DATA CENTRES

The APC Easy UPS 3S 30 kVA 208V 3:3 UPS delivers reliable power with advanced features and a robust electrical design, ensuring seamless business continuity in data centres or electrical rooms.

Rated at 30 kVA, it is ideal for small to medium-sized businesses seeking an easy-to-install, operate, and maintain power solution. Designed for versatility, this UPS supports internal batteries but is supplied without batteries, allowing users to customise runtime based on their specific needs. Its construction includes a dust filter and conformal-coated boards, making it suitable for harsh environments.

The unit's modular design simplifies installation and servicing, reducing downtime and maintenance costs. Additionally, it features a competitive specification profile with high efficiency to minimise energy consumption.

The package includes a 5x8 start-up service, ensuring smooth commissioning and ongoing support. Overall, this UPS combines efficiency, durability, and flexibility, making it a dependable choice for protecting critical business infrastructure.

ADAPTABLE UPS FOR CRITICAL DATA APPLICATIONS

The Axil RT3300 UPS is a versatile and robust power protection solution designed for critical applications. With a capacity range of 15kVA to 20kVA, it supports both rack and tower mounting options, making it adaptable to various installation environments.

The RT3300 offers configurable multiple phase outputs, including 1:1, 3:1, or 3:3 phase configurations, ensuring optimal power distribution. It features a 5 to 20 Amp charger setting for flexible battery management.

The UPS supports parallel operation, allowing scalability and redundancy for mission-critical systems. Dual input capability enhances reliability by providing alternative power sources. A built-in bypass ensures seamless maintenance without power disruption. Its user-friendly colour touch screen interface simplifies monitoring and control.

The system is compatible with a single battery pack, offering efficient backup power. Overall, the Axil RT3300 combines advanced features with flexibility to meet demanding power protection needs.

CO-CREATING THE FUTURE

CRAIG LOWE, CHIEF GROWTH OFFICER, PHASE3

Is 'digital transformation' an overused cliché, or a genuine descriptor of what's happening across Africa right now?

While 'digital transformation' is a buzzword globally, in Africa it's a genuine and pressing reality. The continent is building digital infrastructure from scratch, often leapfrogging legacy systems — mobile money replacing banks and Starlink lowering broadband costs are prime examples. Thus, in Africa, the term accurately describes a tectonic shift akin to the Nubian or Western African Plate, signalling profound changes.

What opportunities do you see in underserved markets like the Accra-Lagos route – and how should digital demand be met?

The Accra-Lagos corridor links two key West African economies that suffer from limited capacity, high latency, and unreliable terrestrial connectivity. The collaboration between Phase3, SBIN, and CSquared aims to unlock a digital corridor with significant potential. Opportunities include enabling cross-border fintech transactions, fostering cloud and SaaS adoption by improving latency and bandwidth, enhancing media and content delivery through local caching, and supporting enterprise and e-commerce growth with resilient infrastructure. This demand will be met through establishing local peering points and IXPs, as well as fibre densification in underserved districts beyond urban centres.

How important is data localisation for African countries, and how does this vary across regions and individual countries?

Data localisation is increasingly critical, but approaches differ by country. Nigeria and South Africa are leading with strict data protection laws focused on digital sovereignty. Kenya and Ghana adopt more moderate, incentive-driven policies rather than rigid mandates.

Francophone African countries are aligning with EU-style regulations due to historical ties. Some nations enforce strict residency laws; others permit conditional cross-border data flows. Balancing localisation with openness is vital, and efforts like the African Continental Free Trade Area (AfCFTA) aim to harmonize data governance to support security and economic growth.

What impact will the AWS Wavelength infrastructure you've recently launched in Dakar have on local users?

AWS Wavelength embeds cloud infrastructure within telecom networks, bringing ultra-low latency to end users. Its launch in Dakar is significant because

it enables real-time applications such as gaming, AR/VR, IoT, and telemedicine. It also empowers local developers to build high-performance services without relying on Europe, and encourages innovation among local carriers like Sonatel. Overall, it levels the playing field between West Africa and more developed regions, fostering a new foundation for technological advancement.

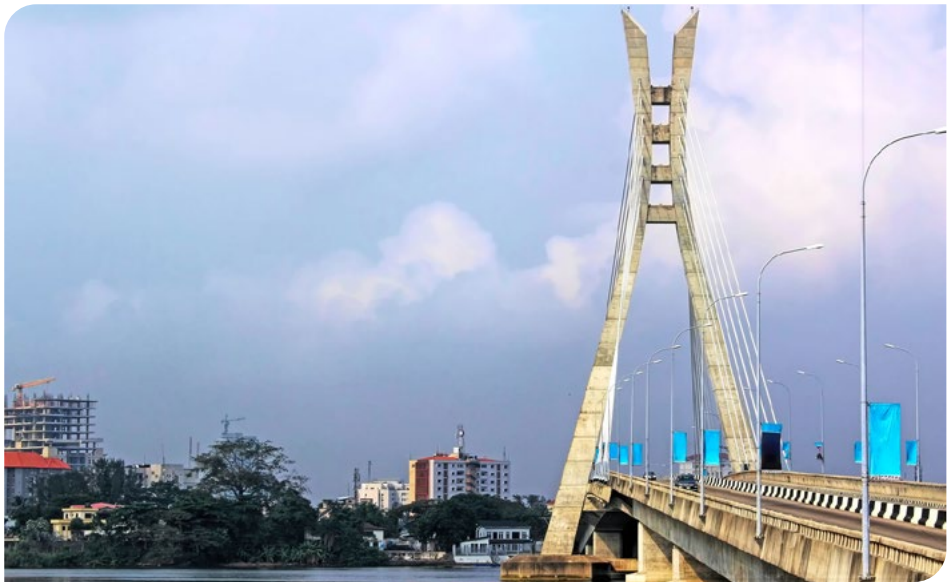
Tell us about the 'Fibre Meets AI' project – we hear that space meets fibre meets data centre...?

The 'Fibre Meets AI' project integrates terrestrial fibre networks with space-based optical communications and AI-driven data management. Laser Light utilizes space-based laser optics to enable ultra-high-throughput, low-latency links where fibre is limited, with Phase3 providing terrestrial fibre backbone in dense corridors. AI optimizes network traffic, bandwidth, and maintenance, creating intelligent, multi-layered connectivity. This hybrid space-ground model enhances content delivery, enterprise data offloading in remote areas, and disaster resilience, positioning Africa for leapfrog connectivity in the AI era.

Is the future of Africa's digital infrastructure based around micro DCs, edge facilities and local, sovereign content – rather than the hyperscale model making the headlines?

Yes, but it's a hybrid approach. Power constraints make hyperscale data centres less feasible outside major cities. Edge computing reduces latency and costs, enabling real-time applications locally. Micro data centres support towns and secondary cities with local caching, AI inference, and IoT. Sovereign content policies — like Ghana's localisation and Nigeria's focus on local cloud providers — foster resilience. While hyperscalers remain relevant, the primary focus is on local-first, distributed infrastructure that is more agile and tailored to Africa's diverse landscape and regulatory environment.

Africa's digital infrastructure story is unique, bottom-up, and fast-evolving. The continent isn't copying Western models — it's creating its own blueprint, combining fibre, satellite, AI, edge, and local policy into something unprecedented. The opportunity is not just about connecting people — but co-creating the digital future. ●



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