

AFRICA'S TECH PULSE

**Three conferences!
One united movement!**



**Communities creating
connectivity solutions**

ICT: Driving our climate resilience

**How Africa's tech sector is helping
us take on vital climate challenges**

**GEO rewrites
digital visibility**

**Cloud computing
boost in North Africa**

**Data ownership:
It's complicated!**

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Our digital transformation is a question of **pace**, inclusion and **sustainability**

It is a pleasure to welcome you to the 4th edition of *Africa's Tech Pulse*, the official magazine of TICON Africa, as we reflect on the continent's accelerating digital journey.

This edition comes at a pivotal moment, one where Africa's digital transformation is advancing rapidly, yet remains defined by both immense opportunity and persistent structural gaps.

Across the continent, the digital economy is gaining real momentum. Mobile technologies alone contributed approximately US\$220-billion, about 7.7% of Africa's GDP, in 2024, underscoring the growing centrality of ICT to economic growth. At the same time, emerging technologies such as AI are expected to unlock even greater value, with projections suggesting up to \$1.5-trillion in economic impact and as many as 230-million digital jobs by 2030.

Yet, there is a stark reality: inclusion remains one of Africa's greatest challenges. Despite rapid growth, only about a third of people are online, leaving millions excluded from the digital economy. In fact, nearly two-thirds remain offline, highlighting the scale of the connectivity gap we must address.

This is why the themes shaping this edition: climate resilience, sustainable digital growth and community-centred connectivity, are so critical. As our digital infrastructure expands, so too does the need to ensure that this growth is sustainable. Africa faces some of the most severe climate impacts globally, making it essential that our digital future is aligned with green and resilient development pathways.

At the same time, connectivity must become more inclusive and locally driven. Traditional models alone will not bridge the divide. Community-centred approaches, where people participate in building and managing their own connectivity, offer a powerful pathway to ensuring that no one is left behind.

Encouragingly, we are also witnessing strong progress in digital infrastructure and ecosystems. Africa's cloud computing market is expanding rapidly, with organisations across the continent accelerating adoption to enable innovation and scale. This signals a broader shift: Africa is not only consuming technology but also shaping and deploying it to reflect local realities.

Within TICON Africa, we're committed to advancing this agenda through

partnerships, dialogue and platforms that bring together stakeholders across the ecosystem. Our continued engagements, including continental conferences and knowledge platforms, drive collaboration and unlock opportunity.

As you read this edition, please reflect on the road ahead. Our digital transformation is not a question of possibility, it's a question of pace, inclusion and sustainability. Africa's moment is here. Let's work together to shape a connected, resilient and globally competitive future.

David Gowu

President

*Technology Information
Confederation Africa*



Africa's digital transformation is advancing, but it remains defined by vast opportunity and stubborn structural gaps

A nossa transformação digital é uma questão de ritmo, inclusão e sustentabilidade

É com prazer que lhe damos as boas-vindas à 4ª edição de *Africa's Tech Pulse*, a revista oficial da TICON

Africa, enquanto reflectimos sobre a acelerada trajectória digital do continente.

Esta edição surge num momento decisivo, em que a transformação digital de África avança rapidamente, mas continua a ser marcada tanto por imensas oportunidades como por persistentes lacunas estruturais.

Em todo o continente, a economia digital está a ganhar um impulso real. Só as tecnologias móveis contribuíram com aproximadamente 220 mil milhões de dólares, cerca de 7,7% do PIB de África, em 2024, sublinhando a crescente centralidade das TIC no crescimento económico. Ao mesmo tempo, espera-se que tecnologias emergentes como a IA gerem um valor ainda maior, com projecções que apontam para até 1,5 biliões de dólares em impacto económico e até 230 milhões de empregos digitais até 2030.

No entanto, há uma realidade incontornável: a inclusão continua a ser um dos maiores desafios de África. Apesar do rápido crescimento, apenas cerca de um terço da população está online, deixando milhões excluídos da economia digital. Na verdade, quase dois

terços continuam off-line, o que evidencia a dimensão da lacuna de conectividade que temos de colmatar.

É por isso que os temas que moldam esta edição — resiliência climática, crescimento digital sustentável e conectividade centrada na comunidade — são tão críticos. À medida que a nossa infra-estrutura digital se expande, cresce também a necessidade de garantir que este crescimento seja sustentável. África enfrenta alguns dos impactos climáticos mais severos a nível global, tornando essencial que o nosso futuro digital esteja alinhado com trajectórias de desenvolvimento ecológicas e resilientes.

Ao mesmo tempo, a conectividade deve tornar-se mais inclusiva e impulsionada localmente. Os modelos tradicionais, por si só, não irão colmatar esta lacuna. Abordagens centradas na comunidade, em que as pessoas participam na construção e gestão da sua própria conectividade, oferecem uma via sólida para garantir que ninguém fique para trás.

De forma encorajadora, estamos também a assistir a progressos significativos na infra-estrutura digital e nos ecossistemas. O mercado africano de computação em nuvem está a expandir-se rapidamente, com organizações em todo o continente a acelerar a adopção para viabilizar a

inovação e a escalabilidade. Isto sinaliza uma mudança mais ampla: África não está apenas a consumir tecnologia, mas também a moldá-la e a implementá-la de modo a reflectir as realidades locais.

Na TICON Africa, estamos comprometidos com o avanço desta agenda através de parcerias, diálogo e plataformas que reúnem as partes interessadas de todo o ecossistema. Os nossos esforços contínuos, incluindo conferências continentais e plataformas de conhecimento, impulsionam a colaboração e criam oportunidades.

Ao ler esta edição, queira reflectir sobre o caminho que temos pela frente. A nossa transformação digital não é uma questão de possibilidade; é uma questão de ritmo, inclusão e sustentabilidade. Chegou o momento de África. Trabalhemos juntos para moldar um futuro conectado, resiliente e globalmente competitivo.

David Gowu

*Presidente,
Confederação Africana
de Tecnologia da Informação*





From the desk of the Secretary General of the Technology
Information Confederation Africa

Our **TICON Africa** network is strengthening nationally, regionally and internationally

It is a privilege to contribute to the latest edition of *Africa's Tech Pulse*, an important platform for sharing our continental ICT story.

TICON Africa is entering an exciting phase of growth. Across the continent, digital transformation is reshaping economies, institutions, communities and individual opportunities. Technology is no longer a support function; it is central to development, competitiveness, innovation and inclusion. This moment presents TICON Africa with a unique opportunity to strengthen its role as a continental voice for ICT professionals, national professional bodies and institutions committed to Africa's digital future.

One of the most encouraging developments is the strengthening of our network nationally, regionally and internationally. At the national level, we are working to support and connect ICT professional bodies so that they can grow their membership, promote professional recognition, strengthen ethical practice, contribute to policy dialogue and support national digital development. Strong national bodies remain the foundation of a

strong continental confederation.

We are therefore pleased to welcome ICTAS from South Sudan and IITPSA from South Africa into the TICON Africa family. Their participation expands our continental footprint and strengthens our shared commitment to building a united, credible and influential African ICT community.

Internationally, TICON Africa is also building meaningful partnerships that connect Africa with other regions of the world. An example is our MoU with CANTO in the Caribbean. This partnership creates an important bridge between two regions with shared histories, development priorities and opportunities for cooperation in digital transformation, connectivity, skills development, innovation and policy engagement. It also strengthens Africa's voice in global ICT conversations and opens new possibilities for learning, exchange and joint initiatives.

Through our conferences, chapters, awards programme, research projects, compliance initiatives and strategic partnerships, TICON Africa is taking up opportunities that can create long-term value for our members and

stakeholders. We are focusing on areas that matter deeply to Africa's future, including digital skills, professional standards, cybersecurity, data protection, responsible artificial intelligence, women and youth participation in ICT, green technology, digital inclusion and community-centred connectivity.

Africa's Tech Pulse has an important role to play in this journey. It gives visibility to African ideas, institutions, innovators and solutions. It allows us to tell our own story with confidence, while creating space for dialogue across countries, sectors and generations. Future editions of the magazine will become even more impactful as we expand the scope of our content.

I encourage all members, partners and stakeholders to see the magazine as a shared continental platform. Its strength will come from the quality of the stories we contribute, the partnerships we build and the vision we advance together.

Dr Jannie Zaïman
Secretary General
Technology Information
Confederation Africa



INSTITUTE OF ICT PROFESSIONALS GHANA
Professional Body License Number PB-94



TRANSFORMING LIVES THROUGH ICT

- > Membership
- > Professional Services
- > Academy
- > Public Awareness

Our Vision

To become the most reliable partner in ICT development in Ghana and beyond.

The Institute of ICT Professionals, Ghana (IIPGH) is a professional association made up of professionals in various domains of Information and Communication Technology (ICT) practice. The Institute is a connector of ICT professionals from government MDAs, educational institutions, corporate organizations, start-ups, investors and the civil society organizations to create a vibrant ICT ecosystem.



The Coding Academy

The IIPGH Coding Academy is a structured, paid training program designed to equip learners of all ages - children (6yrs +), teenagers, adults, and professionals, with essential coding and digital skills. Offering flexible online and in-person learning options, the academy provides customized learning paths to meet the needs of every student, from beginners to advanced learners.



Professional Skills Development

ICT skills training and continuous professional development for students, young graduates and professionals. Emerging technology training and other forms of capacity building to support the digital transformation agenda of the country.



Industry-led Public education

ICT public education and sensitisation through media engagements and publications online, on radio, television, newspaper and social media.

The Coding Caravan



The Coding Caravan is a nationwide digital inclusion initiative that has, over the years, delivered hands-on ICT and coding education to underserved and underserved communities across Ghana. Bringing digital opportunities to all.

The Coding Caravan at the Demonstration School for the Deaf, Mampong-Akuapem

Inclusion took center stage on July 11, 2025, as 120 students and 15 teachers at the Demonstration School for the Deaf, Mampong-Akuapem experienced a full-day digital skills training workshop like never before. This landmark event, organized by the Institute of ICT Professionals Ghana (IIPGH) in partnership with the Ghana Chamber of Telecommunications and sponsored by Helios Towers Ghana, marked a significant milestone in bridging digital gaps for Ghana's deaf community.



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Du bureau du Secrétaire général
de la Confédération africaine
des technologies de l'information

Notre réseau des TIC se renforce à l'échelle nationale, régionale et mondiale

C'est un privilège de contribuer à la dernière édition de *Africa's Tech Pulse*, une plateforme importante dont le but est de faire connaître l'évolution des TIC sur notre continent.

TICON Africa entre dans une phase de croissance prometteuse. À travers le continent, la transformation numérique redéfinit les économies, les institutions, les communautés et les perspectives individuelles. La technologie n'est plus une simple fonction d'appui ; elle est au cœur du développement, de la compétitivité, de l'innovation et de l'inclusion. Ce moment offre à TICON Africa une occasion unique de renforcer son rôle en tant que voix continentale des professionnels des TIC, des organismes professionnels nationaux et des institutions engagées en faveur de l'avenir numérique de l'Afrique.

L'une des évolutions les plus encourageantes est le renforcement continu de notre réseau aux niveaux national, régional et international. Au niveau national, nous travaillons à soutenir et à mettre en relation les organismes professionnels des TIC afin qu'ils puissent accroître leur base de membres, promouvoir la reconnaissance professionnelle, renforcer la pratique éthique, contribuer au dialogue sur les politiques publiques et soutenir le

développement numérique national. Des organismes nationaux solides demeurent le fondement d'une confédération continentale forte.

Nous sommes donc heureux d'accueillir ICTAS du Soudan du Sud et IITPSA d'Afrique du Sud au sein de la famille TICON Africa. Leur participation élargit notre présence continentale et renforce notre engagement commun à bâtir une communauté africaine des TIC unie, crédible et influente.

À l'échelle internationale, TICON Africa construit également des partenariats stratégiques qui relient l'Afrique à d'autres régions du monde. Un exemple en est notre protocole d'accord avec CANTO dans les Caraïbes. Ce partenariat crée un pont important entre deux régions ayant des histoires communes, des priorités de développement partagées et des possibilités de coopération en matière de transformation numérique, de connectivité, de développement des compétences, d'innovation et de dialogue politique. Il renforce également la voix de l'Afrique dans les débats mondiaux sur les TIC et ouvre de nouvelles possibilités d'apprentissage, d'échange et d'initiatives conjointes.

À travers nos conférences, nos chapitres, notre programme de

récompenses, nos projets de recherche, nos initiatives de conformité et nos partenariats stratégiques, TICON Africa saisit des opportunités susceptibles de créer une valeur durable pour nos membres et nos parties prenantes. Nous accordons une attention particulière aux secteurs clés pour l'avenir de l'Afrique, notamment les compétences numériques, les normes professionnelles, la cybersécurité, la protection des données, l'intelligence artificielle responsable, la participation des femmes et des jeunes dans les TIC, les technologies vertes, l'inclusion numérique et une connectivité centrée sur les communautés.

Africa's Tech Pulse a un rôle important à jouer dans cette dynamique. Elle donne de la visibilité aux idées, aux institutions, aux innovateurs et aux solutions africains. Elle nous permet de raconter notre propre histoire avec assurance, tout en créant un espace de dialogue entre les pays, les secteurs et les générations. Les prochaines éditions du magazine auront un impact encore plus grand à mesure que nous élargirons la portée de notre contenu.

Dr Jannie Zaïman
Secrétaire général

Confédération africaine des
technologies de l'information

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- Information and Communications Technology Association of Zambia (ICTAZ)
- Information Communication Technology Association of Zimbabwe
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- Institute of Information Technology Professionals South Africa (IITPSA)
- Núcleo Operacional da Sociedade de Informação (NOSi), Cape Verde
- Lesotho Information and Communication Technology Association (LICTA)
- Nigeria Computer Society
- Rwanda ICT Chamber
- South African ICT Association (SAICTA)
- Tanzania Computer Society
- TogoTech

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- › Tech sisters creating an Ivorian ecosystem

TICON AFRICA

OUR MEMBER BODIES

CAPE VERDE

NOSi (Núcleo Operacional da Sociedade de Informação) is a public institution driving digital transformation and innovation in governance, education and economic development.

[Website](#)



GHANA

The Institute of ICT Professionals, Ghana (IIPGH) is a connector of ICT professionals – from government to educational, corporates, investors and civil society organisations.

[Website](#)



TOGO

TogoTech is an association of innovative tech enterprises established to unite startups, FabLabs, investors and incubators under one banner and amplify their collective impact.

[Website](#)



BOTSWANA

The Botswana Information Technology Society (BITS) is a non-profit, voluntary organisation representing various IT stakeholders across government, industry and the academic sector.

[Website](#)



NIGERIA

Nigeria Computer Society (NCS) is the premier umbrella organisation representing computing and information technology professionals, interest groups and stakeholders across Nigeria.

[Website](#)



SOUTH AFRICA

The Institute of Information Technology Professionals South Africa (IITPSA) is recognised by the South African Qualifications Authority and aims to further the study, science and application of ICTs.

[Website](#)



SOUTH AFRICA

The South African ICT Association (SAICTA) is a non-profit body promoting ICT development by maintaining high standards of skills, ability, ethics and integrity.

[Website](#)



LESOTHO

The Lesotho Information and Communication Technology Association (LICTA) is dedicated to advancing the ICT landscape by promoting high standards and fostering expertise.

[Website](#)



ESWATINI

The Eswatini ICT Association (EICTA) unites ICT professionals and businesses. It meets the need for a cohesive platform promoting digital innovation and skills enhancement.

[Website](#)



ETHIOPIA

The ICT Association Ethiopia (ICT-ET) is an alliance of private-sector ICT companies that aims to expose, engage and enable the private sector within the Ethiopian tech industry.

[Website](#)



KENYA

The Information Communication Technology Association of Kenya (ICTAK) serves as a hub for information technology experts and industry stakeholders in Kenya.

[Website](#)



UGANDA

The ICT Association of Uganda (ICTAU) is a multi-stakeholder, nonprofit initiative founded in 2012 to provide professional guidance, advisory services and promote professionalism.

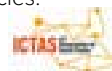
[Website](#)



SOUTH SUDAN

The ICT Society South Sudan is the professional association for ICT professionals & service providers. It sets standards, represents the sector and advocates policies.

[Website](#)



RWANDA

The Rwanda ICT Chamber is an essential hub for the tech community, dedicated to propelling ICT careers, entrepreneurship & investments to make Rwanda a tech leader.

[Website](#)



TANZANIA

The Tanzania Computer Society (TCS) is at the forefront of strengthening the ICT sector by encouraging collaboration, enhancing skills, and promoting emerging technologies.



MALAWI

The ICT Association of Malawi (ICTAM) is an umbrella body of all ICT professionals. It enables Malawians to participate effectively in the tech-based global economy.

[Website](#)



ZAMBIA

The Information & Communications Technology Association of Zambia (ICTAZ) was established by Act of Parliament in 2018 to register, regulate and promote the ICT sector.

[Website](#)



ZIMBABWE

The Information Communication Technology Association of Zimbabwe (ICTAZ) empowers society to master emerging technologies as essential tools for sustainable development.

[Website](#)



ZIMBABWE

The Computer Society of Zimbabwe (CSZ), established in 1974, is a globally recognised body for ICT professionals, dedicated to advancing the country's ICT ecosystem.

[Website](#)





▲ Ronald Mlalazi (far right), President of ASCON, acknowledges guests at the launch event as other dignitaries look on

The journey to the 2026 TICON Africa Conference in Livingstone is underway!

Zambian government affirms its 'full support' in making this year's groundbreaking gathering 'the most successful in the confederation's history'.



◀ Three
Conferences
– One United
Movement in
Livingstone in
September

◀ Dr Clement Sinyangwe,
President of the ICT
Association of Zambia (ICTAZ)



The journey to the 2026 Technology Information Confederation Africa Conference – taking place on the banks of the mighty Victoria Falls at Livingstone, Zambia in late September – is well underway.

Speaking at a conference launch event held in Lusaka, the Director of Domestic Trade and Commerce at Zambia's Ministry of Commerce, Trade and Industry, Margaret Chikuba, declared the promotional campaign for the fourth TICON Africa Conference officially launched.

"We (the government of Zambia) are here to affirm our full support ... to ensure that this conference becomes the most successful gathering in the confederation's history," she said.

The African Marketing Confederation (AMC), TICON Africa and African Supply Chain Confederation (ASCON) will jointly host the conference under the auspices of the Africa Commerce Convergence Institute (ACCI), positioning it as the Africa Commerce Convergence Summit and a collaborative platform for advancing continental dialogue, partnership and innovation.

Under the overarching theme of *'Africa Rising: From Continental Strengths to Global Impact'*, this coming together of the three confederations reflects how competitiveness is built through connected systems that must move forward together.

Addressing the three professions which will be present in Livingstone on 23-25

September for their respective gatherings, Mrs Chikuba emphasised that they form three interlinking pillars.

Any product or service requires an efficient supply chain. And for that product to scale up, it requires technology that is very robust. Then, to find itself worthy customers that will find value in the product, marketing of a world-class nature is required, she said.

"These pillars are the collective engines that will drive [the] African Continental Free Trade Area and unlock Africa's immense economic potential."

Strengthening the country's private sector

In his opening remarks at the launch event, which took place at the Intercontinental Hotel in Lusaka, Mwewa Besa of the Zambia Institute of Marketing – representing the three local hosting organisations across marketing, ICT and supply chain – said the presence of government officials, dignitaries and business leaders reflected the Zambian government's continued commitment to strengthening the private sector, advancing innovation and supporting professional institutions that help promote economic growth.

"Today's gathering represents far more than the launch of a conference. It represents a powerful moment of collaboration. For the first time, leading professional bodies representing

technology, supply chain, marketing and communication are coming together to host a joint professional conference that will bring our members, partners and continental colleagues under one roof at the beautiful Avani Victoria Falls Resort in Livingstone," the ZIM President stated.

An African ICT community

In his address, David Gowu, President of TICON Africa, recalled the origins of the Technology Information Confederation Africa in Zimbabwe in 2022. While the marketing body was holding its inaugural conference on the Zimbabwean side of Victoria Falls, AMC co-founder Nigel Tattersall had invited a group of national ICT associations to come together to form a similar continent-wide umbrella body to represent the burgeoning ICT community.

"I'm very excited that, in the last four years, we've been able to grow that continental membership from a small number of five to 18 members across the continent. I think this is impressive ... to bring together people working in the technology field who may have been working in silos, even though they were neighbours.

"TICON Africa unites and empowers ICT professionals and national ICT bodies across the continent, and as of now we have membership in excess of 125,000 [individuals] across the continent – and growing.

"These are people changing lives and



One United Movement. Mrs Margaret Chikuba (front, centre) with representatives of the AMC, TICON Africa, ASCON and hosting associations

TICON AFRICA CONFERENCE

Research Track has its own focus

Aside from the main TICON Africa Conference, there is also a Research Track. The research programme aligns with the conference theme and covers the following five focus areas:

1 Artificial Intelligence

Exploring the frontiers of machine learning, ethics, and AI applications, with a special focus on applications to sustainable development and long-term growth.

2 ICT for Sustainability

Leveraging technology to solve environmental and social challenges in society and infrastructure. Gaining technical sovereignty in Africa through robust systems.

3 Trust, Ethics, and 'Post-Quantum' Security

Safeguarding the digital future against emerging threats. Exploring governance and cybersecurity and the regulatory frameworks defining them.

4 Convergence of Physical and Digital

The integration of IoT, digital twins, and cyber-physical systems, with a special focus on green technologies and environmental projects.

5 Skills Development and Access

Bridging the digital divide through education and infrastructure. How to create ecosystems that foster entrepreneurship and creative solutions to African problems.

You can find out more about the Research Track here:

<https://ticonafrica.org/2026-academic-track/>

connecting, supporting and enabling other professions across Africa. Because, without technology, none of our professions can function properly. True education, collaboration and knowledge-sharing fosters innovation and excellence in technology.

"TICON Africa drives continental alignment by enabling cross-country collaborations on digital priorities such as skills development, cybersecurity awareness and regulatory readiness across government, industry, academia and the private sector."

Collaborating across Africa

Also among the speakers was Dr Clement Sinyangwe, President of the ICT Association of Zambia (ICTAZ). Touching on the formation of TICON Africa in Zimbabwe in 2022, he emphasised the importance of the aim of collaborating across the continent.

"As you know, in the digital space we have no boundaries," he told the gathering. "So, we said: 'No physical boundaries are going to separate the countries in Africa'.

"I told the team then [in 2022], that in four years' time we would see the conference come to Zambia. So, this thing hasn't started today; it was a vision that we had.

“Those of us in IT believe in the system theory, which says that, for you to achieve a goal, you need to work together and achieve one common goal. The hosting of this joint conference is down to the efforts of three professional bodies.”

The ICTAZ President added that the theme of the 2026 conference – ‘Africa Rising: Converting Strengths into Global Impact with ICT’ – fits well with Zambia’s ICT agenda. “We mean business. For the past two years in a row, the ICT sector has contributed the most towards GDP. This is no mean achievement. We thought we would invite others to come and see why ICTAZ has emerged as the best professional body in Africa, and also why ICTAZ achieved eight awards at last year’s TICON Africa awards.”

Local hosting associations

Under the overarching theme of ‘Africa

Rising, each confederation brings its own sector lens:

- TICON Africa: *Africa Rising: Converting Strengths into Global Impact with ICT.*
- AMC: *Africa Rising: From Continental Strengths to Global Impact through Marketing Leadership, Brand Power and Value Creation.*
- ASCON: *Africa Rising: Converting Strength into Global Impact with Supply Chain.*

The three local hosting organisations are the Zambia Institute of Marketing (ZIM); ICT Association of Zambia (ICTAZ); and the Zambia Institute of Procurement and Supply (ZIPS).

To find out more about the 2026 TICON Africa Conference, visit our website: www.ticonafrica.org or follow our social media platforms. ●

✓ David Gowu, President of TICON Africa, addresses the launch event guests



✓ The overarching theme of this year’s groundbreaking gathering is ‘Africa Rising: From Continental Strengths to Global Impact’



Under the overarching theme of 'Africa Rising', each body brings its own sector lens to the three 2026 conferences

➤ Meet the Press. Director of Domestic Trade and Commerce at Zambia's Ministry of Commerce, Trade and Industry, Margaret Chikuba, addresses guests and the media at the launch event



Awards celebrate African ICT Excellence

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Organisational & Industry Awards

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⬆ A scene from the 2025 Awards in Ghana

PHOTOS: TICON AFRICA; AVANI; DIEGO DELSO, WIKIMEDIA COMMONS



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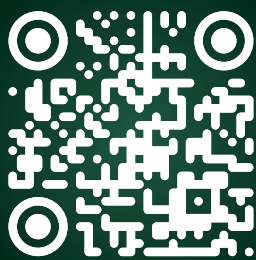
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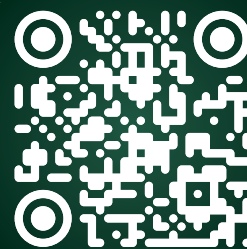
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How Africa's **ICT sector** can take on the climate crisis

Through digital technology, ICT professionals can drive climate adaptation and resilience while promoting economic transformation across the continent, write **Fiona Zerbst** and **Lia Labuschagne**.

Throughout Africa, droughts, floods and other extreme weather events threaten lives and livelihoods, damage infrastructure and affect farmers' abilities to grow food and nurture their livestock. Climate tech, from smart agriculture to disaster management tools, increasingly puts Africa's ICT professionals at the centre of the climate change response.

The African Development Bank's 2022 *African Economic Outlook* estimated that Africa was losing US\$7-billion to \$15-billion a year due to the effects of climate change and that this could rise to about \$50-billion yearly by 2030 – up to 7% of the continent's GDP on average.

Risks of this magnitude are often seen as a challenge for governments, policymakers, development agencies and environmental activists. But software developers, cloud architects, network engineers, data analysts, cybersecurity specialists and other ICT professionals on the ground have an equally important role to play in tackling the multifaceted climate crisis.

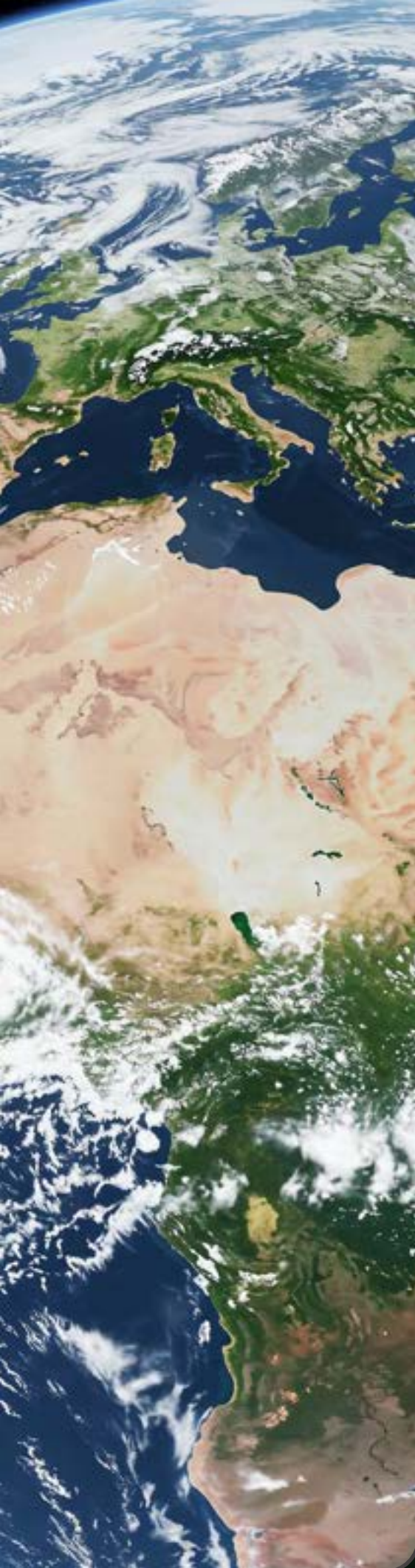
"Africa has contributed very little to global carbon emissions but will be impacted the most by climate change," says Emmanuel Boakye, managing partner of New Creation Ventures, an early-stage climate venture capital firm. Boakye is also a mentor at the BRAIN Accelerator, a programme to support seed-stage DeepTech startups in Africa focused on cutting-edge, disruptive technologies.

Boakye says that because infrastructure will be heavily affected by climate change, it's key to consider challenges in local supply chains and manufacturing to strengthen resilience and industrialisation. This requires a focus on resilient healthcare systems, food processing

▲ Africa's place in the global system – where climate risk, development and technology converge

➤ Emmanuel Boakye is Managing Partner of New Creation Ventures





cold-chain storage, water treatment, carbon-neutral logistics and local electric vehicle manufacturing.

“As emerging markets, we can adopt first-principles thinking to design solutions from the ground up: better, cheaper, faster,” he notes.

Where ICT adds value

Market intelligence platform Net Zero Insights describes climate tech as “an umbrella term for technologies that are vital in the fight against climate change”, such as solutions built to support decarbonisation, energy transition and emissions reduction. At the centre of such digital infrastructure are the ICT professionals building, securing and maintaining it.

The United Nations Development Programme (UNDP), which supports climate change mitigation and adaptation in more than 110 countries, states vulnerable groups are often hit hardest by climate change while benefiting the least from digital advancements.

However, digital technology does hold immense potential for mitigating climate change. This includes tools such as satellite imagery or remote sensing combined with machine learning and artificial intelligence to access timely climate data, and automation to enable smart solutions for cities, transport and agriculture.

Numerous initiatives point towards possible and existing solutions. The mobile network operators’ organisation, GSMA, supports various climate-tech efforts, including one-stop digital climate-smart agriculture solutions for smallholder farmers in Ethiopia, Internet of Things-enabled productivity and activity-tracking equipment for climate-affected fishers in Tanzania, and a digital GPS fleet-management platform for Nigerian farmers in the face of unpredictable rainfall patterns.

Role of ICT professionals

Boakye says information and communication technology (ICT) professionals have a massive role to play in adapting to climate change, and that climate businesses increasingly rely on artificial intelligence, data intelligence and geospatial technology and platforms. These tools enable a growing set of applications such as battery-swapping alerts, intelligent agri-platforms (technology-enabled ecosystems that connect farmers with various agricultural services, buyers and suppliers), smart mobility systems and clean energy solutions.



AI is increasingly important as a factor in developing new technologies and should be embedded in the core systems of energy, agriculture, logistics and mobility, says Boakye. However, he notes that because of high risks, high capex requirements and technical complexities, African industrialisation is difficult to finance. It is therefore important that climate technology is more than just ‘green’. When it becomes embedded in the economy and is no longer treated as a side issue, it stops being niche, emphasises Boakye.

“This is when investors stop framing climate as impact-only and start seeing its potential for risk-adjusted returns, and when policymakers treat climate as industrial policy, not just as environmental policy,” he notes. Indeed, because African markets often lack regulatory clarity, and may have unfriendly policies that prevent innovation from emerging and scaling, policymakers should be part of the solution, he says.

Reduce carbon emissions and cut fuel import bills

Already, Africa has scaled both its mobile money and creative industries, and climate solutions could follow similar paths, Boakye stresses. By focusing on solar power and forms of climate technology such as electric vehicles, tech can reduce carbon emissions, reduce fuel import bills and reach the hardest-to-access communities and populations, he says, citing as examples electric bikes and electric buses in Kenya.

Climate tech should also address food security. “Africa has arable land, but yields

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are very low. If we fix our food systems, from farm to fork, we can not only achieve food sufficiency but also emerge as a major food exporter,” says Boakye.

“Water and waste are also critical,” he adds. “Ghana receives large volumes of second-hand clothing donated from Europe, contributing to landfill waste and carbon emissions. How do we fix circular economy problems? How do we reduce water losses? With technology, we can address leakages and reduce losses.”

One of the challenges to achieving resilience-building goals is the funding gap. “Without significant climate finance, we can’t meet the volatility and impacts of climate change that will affect us,” stresses Boakye. “Climate impacts create economic losses – we need insurance products and funding mechanisms that help countries and businesses to manage this risk.”

Africa's opportunities lie in integrating systems

Climate resilience depends on physical systems, but those systems cannot function or attract investment without strong digital infrastructure and operational technology. Oluwakemi Olajide, Principal at Africa Climate Ventures, who focuses on deploying catalytic capital (capital that accepts disproportionate risk) in ventures that deliver scalable climate impact across Africa, agrees that tech “matters enormously”, primarily as an enabler helping systems become measurable, optimisable, financeable and scalable.

Climate tech in Africa is often framed through the lens of startups or digital innovation. But that framing is incomplete, she believes. When people talk about climate-tech convergence, they often imagine startups combining digital tools with sustainability outcomes: a solar monitoring app, a carbon marketplace or a precision agriculture platform. However, Africa’s climate transition is fundamentally about building energy generation and transmission infrastructure, industrial processing systems, agricultural input supply chains, mobility networks and carbon infrastructure at scale, she says.

The companies that will define Africa’s climate economy may therefore not be conventional technology startups, notes Olajide. Instead, they may be “new industrial champions” that happen to be deeply enabled by technology.

“The risk is not that we build too many digital climate tools. The risk is that we undercapitalise and underbuild the

physical systems that those tools are supposed to optimise, and then wonder why impact does not scale,” she explains.

Tech solutions must be investable and scalable

Technology is critical because modern capital increasingly requires measurability and predictability. Investors, insurers, carbon buyers and lenders all need confidence that systems are performing as expected, says Olajide.

Digital infrastructure enables that confidence. It creates reliable data around operational performance, emissions reductions, utilisation rates, customer repayment behaviour and environmental impact. That data then underpins financing structures, risk models and monetisation pathways.

In its 2023 *Green Digital Transformation* report, the World Bank states that climate change is unfolding “amid the greatest information and communication revolution in human history”. It notes, “From e-commerce and social media to smart manufacturing and precision farming, digital technologies have become prevalent in all aspects of economic and social life. Digital technologies also have the potential to shape climate change action.”

ICT tech is more than just an enabler. When ICT professionals design and manage systems such as cloud infrastructure, data centres, mobile platforms and analytics tools, they increasingly underpin Africa’s climate change response.

A 2022 review by Accenture, in

collaboration with the World Economic Forum, found that digital technologies scaled across industries could deliver up to 20% of the 2050 reduction needed to hit the International Energy Agency net-zero trajectories in the three highest-emitting sectors: energy, materials and mobility industries.

However, it is vital to consider that the ICT sector itself needs to be mindful of its carbon outputs. A review of the industry’s climate impact by Cornell research university in New York found its share of global greenhouse gas emissions to be at least 1.8% to 2.8% of global emissions – and possibly substantially more.

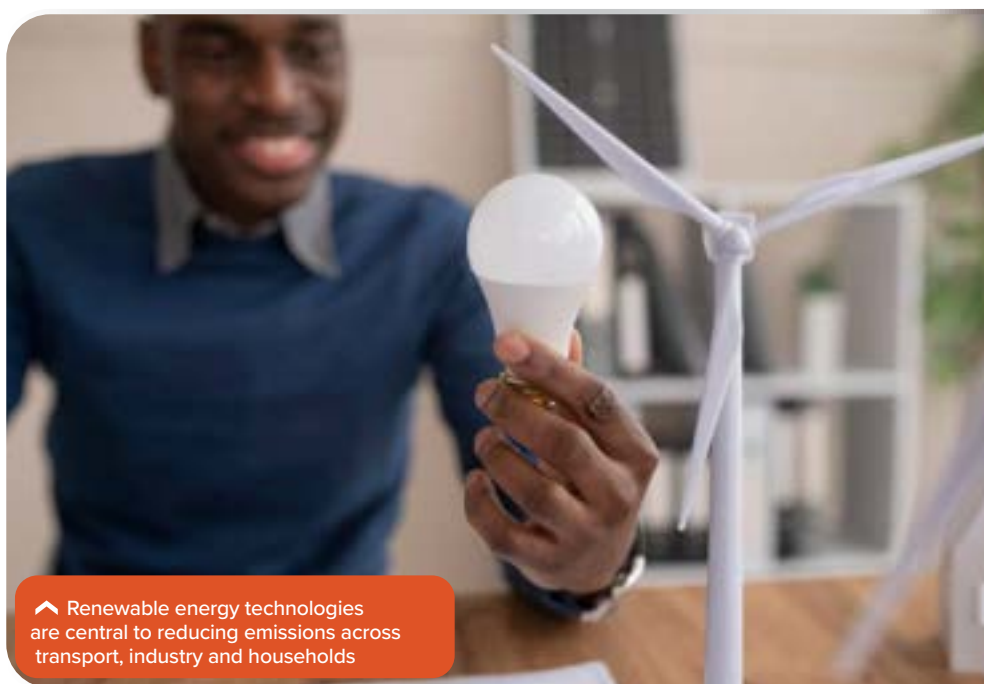
There are ways to mitigate this. Chief information officers should champion sustainability by maximising the cloud; harnessing data for environmental, social and governance efforts; and collaborating with business partners and others, according to *CIO Online*. Africa’s climate and economic opportunity lies not in isolated climate tech innovations, but in ICT professionals’ ability to build integrated, system-level solutions. ●

Fiona Zerst is an experienced business, finance and technology writer and Lia Labuschagne is an independent science and technology writer and editor.

FURTHER READING

The authors have kindly provided a list of online resources for further reading on this topic. Please contact the Editor to obtain the list.

PHOTOS: SUPPLIED; FREEPIK/MAGNIFIC; DC STUDIO/MAGNIFIC



⬆ Renewable energy technologies are central to reducing emissions across transport, industry and households



^ Climate impact at scale depends on industrial systems – energy, processing and logistics – designed from the start with data, measurement and finance embedded

Africa's opportunities lie in integrating climate tech into all our systems

Climate technology is often discussed in digital terms, but real transition depends on infrastructure, industry and the data and finance that support them, says **Oluwakemi Olajide**.

Africa's climate-technology conversation often centres on technology startups or digital innovation – but meaningful climate transitions must be deeply physical, capital-intensive and infrastructure-led.

Technology matters enormously, primarily as an enabler helping systems become measurable, optimisable, financeable and scalable. The opportunity for Africa is not simply to build software companies around climate, but to build entirely new industrial systems supported by data infrastructure, carbon markets, digital tools and innovative financing structures.

Framed too narrowly

The framing is not wrong, but it is incomplete – and at this scale, incomplete framing has real consequences.

When people talk about climate-tech convergence, they often imagine startups combining digital tools with sustainability

outcomes: a solar monitoring app, a carbon marketplace, a precision agriculture platform. Those things matter. But in Africa, they are not where the structural work happens.

The core challenge is physical. Africa's climate transition is fundamentally about building energy generation and transmission infrastructure, industrial processing systems, agricultural input supply chains, mobility networks and carbon infrastructure at scale.

These are not problems that can simply be abstracted into software. They involve steel, logistics, feedstock, operational execution and patient capital.

When climate is framed primarily as a software or disruption narrative, two things happen. First, capital flows toward lightweight models that look familiar to conventional venture investors and away from the asset-heavy, longer-horizon businesses that will define the transition.

Second, founders begin designing businesses around the wrong template – optimising for speed and lightness when they should be optimising for operational depth and capital architecture.

From the frontlines, many of these businesses require patient capital, blended finance, operational support and longer development horizons. The companies that will define Africa's climate economy may not look like conventional technology startups. They may look more like new industrial champions that happen to be deeply enabled by technology.

The risk is not that we build too many digital climate tools. The risk is that we under-capitalise and under-build the physical systems that those tools are supposed to optimise, and then wonder why impact does not scale.

Where ICT adds value

If climate resilience is best understood as infrastructure, where does ICT genuinely add value – and where does it not? ICT adds the most value by improving visibility, coordination, optimisation and trust within complex operating systems.

Digital systems can dramatically improve distribution efficiency, energy management, route optimisation, carbon accounting, remote sensing, predictive maintenance and customer financing.

In agriculture, satellite imagery and remote sensing help monitor soil health and crop performance. In mobility, fleet telematics and payment systems improve utilisation and operational efficiency. In clean cooking, digital monitoring and carbon measurement systems transform difficult-to-track household usage into verifiable environmental outcomes.

Where ICT does not replace the core challenge is in the underlying physical build itself. No amount of software can substitute for weak transmission infrastructure, a lack of manufacturing capacity, insufficient logistics networks or unavailable feedstock.

Technology can optimise a broken system, but it cannot eliminate the need to build the system in the first place. That distinction matters because it fundamentally shapes how capital should think about risk, timelines and scale.

Tech makes solutions investable and scalable

Technology becomes critical because modern capital increasingly requires measurability and predictability. Investors, insurers, carbon buyers and lenders all

✓ Apps and platforms matter, but climate transition is built through physical systems, with technology enabling transparency, trust and scale

✓ Renewable architecture turns natural advantage into investable climate infrastructure

need confidence that systems are performing as expected.

Digital infrastructure enables that confidence. It creates reliable data around operational performance, emissions reductions, utilisation rates, customer repayment behaviour and environmental impact. That data then underpins financing structures, risk models and monetisation pathways.

For example, in clean cooking or distributed energy, digital monitoring can validate usage patterns and unlock carbon revenues or results-based financing. In regenerative agriculture or carbon removals, MRV (measuring, reporting and verification) systems provide the evidence base required for carbon markets and long-term offtake agreements.

In each case, technology is not the product. It is the enabling layer that converts a physical asset into a recognised financial asset. That requires a fundamentally different investment logic from what we typically associate with technology companies.

The relationship between physical build and technology enablement is not sequential – it is concurrent. You do not build the system first and add technology later. The data infrastructure, monitoring architecture and digital systems must be designed into the operating model from the beginning. Projects that retrofit

technology often later create verification gaps or data inconsistencies that undermine their ability to access carbon markets or performance-linked finance.

In African climate markets, the core challenge is usually operational and infrastructural first. The question is not whether to use technology, but when to integrate it, how deeply, and which problem it solves.

Without strong data systems, many interventions remain difficult to standardise, finance or scale. Technology creates transparency and allows outcomes to be quantified and trusted.

That is particularly important because modern climate finance increasingly depends on performance-linked models. Carbon markets, blended finance structures and sustainability-linked capital all require robust measurement and verification.

So while technology may not always lead the value chain, it increasingly determines whether climate interventions become investable at an institutional scale.

Why we need robust data infrastructure

Measuring, reporting and verification optimisation tools and transparency frameworks are vital to turning climate interventions into recognised asset classes. I think we are only beginning to understand how transformative

✓ Oluwakemi Olajide, Principal, Africa Climate Ventures



robust data infrastructure will be for African climate finance.

Capital allocates where it can understand risk, price performance and monitor outcomes. For much of Africa's climate history, signal quality has been weak. Impact was claimed but difficult to verify independently. Emissions reductions were estimated rather than measured. Revenue projections often relied more on assumptions than operational evidence.

MRV systems, optimisation tools and transparency frameworks effectively convert climate outcomes into financially recognisable signals. They create traceability, comparability and accountability.

What is particularly exciting about this moment is the convergence of better satellite data, improved modelling, lower-cost IoT systems and maturing carbon market standards. Credible measurement infrastructure is becoming more accessible precisely as demand for verifiable climate outcomes accelerates.

Over time, I expect this to reshape entire sectors. Climate-linked infrastructure – clean cooking portfolios, regenerative agriculture platforms, carbon removal projects – will increasingly be treated as yield-generating asset classes with multiple layers of monetisation.

Why Africa must build an integrated architecture

From an African competitiveness perspective, the real opportunity lies in the combination of physical assets, enabling technology and new finance models, rather than in any single breakthrough technology.

Africa does not need to out-invent the world. It does not need a proprietary battery chemistry, a novel carbon-removal technology or a breakthrough material-science discovery. What it needs, and what it is uniquely positioned to build, is the integrated architecture of physical assets, enabling technology and scalable financing.

The continent's structural advantages are real and underappreciated: abundant renewable resources, growing labour pools, significant agricultural land, underbuilt industrial systems that represent greenfield opportunity rather than stranded legacy assets, and proximity to the natural capital global carbon markets increasingly need.

What converts those advantages into economic value is the integration layer. A solar resource is not an asset until it is paired with manufacturing capacity, grid infrastructure, digital management systems and bankable financing models. Biochar feedstock (made from biomass residue

Credible measurement becomes vital as demand for verifiable climate outcomes accelerates

materials like rice husks, corn stover or non-commercial forestry residues) is not a business until it is combined with operational processing, agronomic data, carbon verification and offtake agreements.

The countries and companies that figure out how to assemble these integration layers consistently and at scale will not just participate in the climate economy – they will help define its architecture. That is a genuinely different ambition from catch-up development, and one I believe Africa can credibly pursue.

Not infrastructure investing

While climate in Africa is increasingly understood as an infrastructure challenge, that framing is sometimes misinterpreted as implying infrastructure-like capped returns. That is not what is being argued.

Describing Africa's climate transition as infrastructural refers to the operational character of these businesses and the capital behaviour they require – patient capital, longer timelines and comfort with physical assets – not necessarily their return profile.

Traditional infrastructure investing typically derives returns from contracted or regulated cash flows tied directly to ownership of long-life physical assets. Investors are primarily buying stability, duration and downside protection, and return compression (when an asset's valuation multiples fall, meaning investors are willing to pay less for each dollar of earnings) is often part of the model.

Many climate businesses in Africa do share some of those characteristics: they are deeply physical, operationally intensive and often require longer development horizons.

However, the centre of value creation increasingly sits beyond the physical asset itself.

What is emerging is a new category of climate-industrial platforms, where infrastructure is combined with enabling technology, embedded financing models, carbon monetisation, operational intelligence and proprietary data systems. That integration layer fundamentally changes the economics of the business.

A clean cooking platform, for example, is no longer simply distributing hardware.

It may simultaneously be building last-mile distribution infrastructure, generating verified carbon revenues, managing fuel supply chains and operating digital monitoring systems.

A regenerative agriculture platform may combine physical deployment with MRV infrastructure, carbon offtake agreements and agronomic data systems. Each layer compounds. Data becomes a strategic asset. Distribution networks become moats. Verification capability unlocks financing pathways that competitors cannot easily access.

As a result, while these businesses may resemble infrastructure in terms of operational depth and capital intensity, they do not behave like traditional infrastructure in terms of value creation. Africa's most important climate companies are likely to look less like utilities and more like new industrial champions – built from the outset with technology, financing architecture and data systems deeply embedded into their operating models.

Technology must move fast

One of the most important shifts underway is that climate is increasingly moving from the margins of sustainability discussions into the centre of economic competitiveness. The conversation is no longer simply about emissions reduction. It is about industrial positioning, energy security, food resilience, resource efficiency and long-term economic advantage.

Africa, therefore, has an opportunity to leapfrog into climate-aligned industries in a way that differs fundamentally from older industrial models elsewhere. The question is not whether the continent can participate in the transition, but whether capital, policy, technology and execution ecosystems can move quickly enough to support it.

The most important thing the African investment ecosystem can do right now is to be honest about what these businesses actually require – in terms of capital structure, timelines, operational support and technical depth – and then build the instruments and institutions that match those requirements.

We increasingly have the resources and the frameworks. What we now need is alignment between capital behaviour and real-world need. ●

Oluwakemi Olajide is Principal at Africa Climate Ventures. Her focus is on deploying catalytic capital into ventures that deliver scalable climate impact across Africa.

Decarbonising Africa's ICT sector matters to the digital economy – and beyond

As the digital economy expands, its energy demands grow. Decarbonising the ICT sector will ensure sustainable growth and limit climate impact.

^ Mobile networks sit at the intersection of Africa's digital and energy transitions

A white paper published in April 2026 by African mobile communications company Vodacom argues that the continent's biggest decarbonisation bottleneck for ICT is not a lack of ambition or technology, but the structural realities of electricity access, grid reliability, utility finances and the limited ability of large energy users to procure renewable power at scale.

Mobile Network Operators (MNOs) are at the centre of the analysis: they are major electricity consumers (through

dispersed base-station networks and data centres), and they deliver the digital connectivity that underpins education, healthcare, business and public life – services that can't simply be 'paused' while energy systems catch up.

Africa's power systems shape ICT emissions

The white paper frames decarbonisation in Africa as a systems problem. It points to the scale of the electricity access gap

^ Many mobile network operators and data sites rely on polluting diesel generators



– around 600-million people in Africa (especially sub-Saharan Africa) lack power – and says electrification rates would need to triple to reach universal access by 2030.

Reliability is the second constraint. The report notes that around 80% of firms and 60% of households in sub-Saharan Africa face regular, unplanned and lengthy outages, according to International Energy Agency synthesis data. Even electricity systems with relatively high access rates, including those in Egypt and South Africa, have relied on scheduled outages in recent years.

For ICT operators, the combination of access and reliability turns power into a direct service risk – and it drives a costly, carbonintensive workaround: diesel generation. The report notes that MNOs (and other sectors) use generators as backup in on-grid areas and as primary supply in off-grid regions; it also states that diesel-generated electricity is typically three to four times more expensive than grid electricity per kWh.

The report describes a vicious circle: weak and unreliable grids raise operating costs and emissions by driving diesel use, while financially and institutionally constrained utilities struggle to invest in the grid upgrades needed to reduce dependence on generators.

The renewables challenge

A key contribution of the paper is its explanation of why procurement options that are now routine elsewhere remain difficult across much of Africa. In developed markets, companies can use a combination of Power Purchase Agreements (PPAs), Renewable Energy Certificates (RECs) and green tariffs to secure low-carbon electricity and stimulate new renewable capacity.

The white paper argues that in many African markets these mechanisms are

absent or insufficient, limiting MNOs' ability to decarbonise grid electricity and putting African operators at a structural disadvantage.

It also highlights the 'additionality' problem: some instruments can reduce market-based Scope 2 reporting without necessarily driving new renewable generation. The paper warns that credible procurement frameworks need to ensure renewable purchasing results in additional renewable capacity, not just redistribution of existing clean power.

Decarbonisation priorities

The report is explicit that grid carbon intensity varies widely across African countries, which changes the practical decarbonisation priorities.

It notes that some countries (such as Kenya, the DRC and Ethiopia) have very low grid emission factors (below or around 0.1 tCO₂e/MWh) due to geothermal and hydroelectric supply, while fossil-heavy systems (such as South Africa) have exceeded 1 tCO₂e/MWh. It also states that South Africa derives around 80% of its electricity from coal and has a grid emission factor of around 1 tCO₂e/MWh.

The practical implication for ICT leaders is straightforward: in low-carbon grids, expanding access and improving reliability may deliver the biggest systemic gains (including for digital inclusion); in high-carbon grids, mechanisms that enable new renewable capacity (particularly PPAs) become central to meaningful emissions reduction.

Pathways to transformation

The white paper's proposed 'pathways to transformation' come in layers, starting with power-sector reform and grid modernisation. It argues that utilities' financial constraints (underpriced tariffs, weak collection, theft, inefficiencies) and limited institutional capacity restrict investment in generation, transmission and distribution – and that policy and regulatory frameworks often fail to incentivise grid maintenance and expansion.

The report's policy-facing solutions include tariff restructuring, phasing out diesel subsidies, clearer regulatory frameworks, and models that attract private participation and capital – notably public-private partnerships (PPPs), independent power producers (IPPs), and standardised PPAs.

Where traditional PPAs are constrained, the paper discusses 'wheeling' and 'virtual wheeling' as practical enablers,

Vodacom Report:
Decarbonising Africa's ICT sector

Executive summary

April 2026

✓ As the ICT sector expands rapidly, its energy demands grow

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allowing electricity generated in high-yield locations to be allocated to multiple end users across the grid. It cites South African examples, including a virtual wheeling platform intended to broaden access beyond large, high-voltage buyers.

Wheeling is the transport of electricity from an independent power producer (IPP) to a customer over existing utility grids. Virtual wheeling is a financial mechanism that uses data, rather than physical connections, to allow businesses (even those behind municipal meters) to purchase renewable energy, allowing for massive scaling, cost savings and green energy access.

For off-grid and weak-grid contexts, decentralised solutions are positioned as essential rather than optional. Mini-grids and micro-grids, backed by solar PV and storage, are framed as a cost-effective route for powering remote base stations and improving rural access, with MNOs playing a catalytic role as 'anchor customers' that increase bankability for developers and financiers.

The paper also notes the commercial friction: remote connection costs can be high, concessions may not align with tower locations, and mini-grids often can't profitably deliver 100% renewables yet (it cites around 75% renewable supply as typical, with diesel still used for night-time operation).

Efficiency first, then comes substitution

While many levers operate within the energy ecosystem, the white paper outlines interventions within MNO control, particularly energy efficiency and demand reduction. It states that base stations and data centres account for more than 70% of total MNO energy consumption, making them the most material operational focus.

For base stations, it details the specific constraints in African networks: widely dispersed sites, the need to maintain legacy technologies (2G/3G) alongside newer 4G/5G due to device affordability, and 'split incentives' in TowerCo models (TowerCos control passive equipment while MNOs often carry energy costs).

The report proposes practical measures, such as site simplification/modernisation, shifting from indoor to outdoor configurations (which it states can reduce HVAC energy consumption by ~35–40%), sleep/hibernation modes, and smarter remote monitoring and control. It also highlights network-level optimisation using AI, stating that

deployments can save close to 1.5 million kWh per year across a typical 1,000-site network, while acknowledging barriers such as data availability, compatibility and cybersecurity/privacy constraints.

On diesel substitution, the report takes a pragmatic view: solar PV plus batteries are the most practical on-site alternative, given modularity and solar resource, but are constrained by space, battery cost and theft risk.

It gives a concrete sizing example: powering an off-grid 4 kW base station may require a ~15 kWp solar system, which would need roughly a 10m × 10m area – space many sites don't have. It flags sodium-ion batteries as a promising alternative chemistry and suggests bulk purchasing (potentially via sectoral intermediaries) as a cost-reduction mechanism.

Wind, biofuels and hydrogen fuel cells are assessed as context-dependent options with major constraints, from site feasibility and support ecosystems (wind) to supply chains and policy frameworks (biofuels) to infrastructure, safety and cost hurdles (hydrogen).

Financing challenges

The report is blunt: finance will determine what scales. It groups financing needs into (1). utility-scale renewables plus transmission/distribution, (2). mini-grids, and (3). on-site renewables and energy efficiency, each with different risk profiles and capital requirements.

It argues that Africa's financing challenge is compounded by political and regulatory risk, currency volatility, underdeveloped local capital markets and limited forex availability for dollar-denominated loans.

The paper's central financing recommendation is to blend instruments and institutions: PPAs and IPPs to provide stable revenue streams; DFIs and MDBs to de-risk projects through concessional loans, grants, technical assistance and guarantees; and PPPs to unlock capital for long-payback infrastructure such as transmission and distribution. MNOs, it argues, are pivotal because they can act as creditworthy off-takers, improving the bankability of renewable projects and helping to crowd in investment.

What this means for ICT leaders in Africa

Taken together, the white paper's message is that decarbonising ICT in Africa cannot be treated as a narrow sustainability programme inside telecoms.

It is a network-resilience and cost-stability agenda, intertwined with energy policy, grid investment and the ability to deploy decentralised solutions where the grid cannot reach, particularly in rural and underserved areas.

Vodacom reinforces the systems view, positioning decarbonisation as something that "cannot be approached in isolation" and calling for reforms that enable private participation, new financing models and partnerships that scale renewable solutions beyond individual organisations.

Practical takeaways

• Treat energy as part of the network.

Power reliability, uptime and costs now directly affect network performance. Decarbonisation should be built into network planning, not treated as a separate issue.

• Start with energy efficiency.

Base stations and data centres consume the most energy. Focus first on upgrading equipment, improving controls and aligning TowerCo contracts with energy-saving goals. TowerCo contracts are long-term leasing agreements between a tower company and a mobile network operator for tower space and infrastructure services.

• Take different approaches in different markets.

Where power purchase agreements (PPAs) are possible, support standardised contracts and wheeling arrangements. Where they aren't, make sure renewable certificates genuinely lead to new clean power.

• Use decentralised energy to extend access.

Mobile sites can act as anchor customers for mini-grids, helping to improve network reliability while also supporting electricity access for nearby communities.

• Plan finance early.

Technology alone is not enough. Work early with development finance institutions and multilateral banks, use blended finance and guarantees, and use MNO power demand to help make projects financially viable.

In summary, as the ICT sector expands rapidly, its energy demands grow. Decarbonising will ensure this growth does not compromise Africa's climate goals or exacerbate our climate vulnerability. ●



▲ NOSi technicians participating in a hackathon, using the iGRP open-source framework for solution development

NOSi: Exporting know-how, building **partnerships** and advancing **Cape Verde's** digital governance

Cape Verde's public business entity responsible for the country's information society infrastructure – known as NOSi – is a leading hub for public-sector technological innovation.

▼ The inauguration of the Cybersecurity Operations Centre (SOC) and the Computer Security Incident Response Team (CSIRT) of the State Private Technological Network, implemented by NOSi, E.P.E.



Over the past 25 years, NOSi has achieved milestones that extend well beyond national borders, helping to position Cape Verde as a reference point for administrative modernisation.

A trusted provider of GovTech solutions in Africa and beyond, the organisation supports governments and international institutions to develop secure, resilient, citizen-centred digital systems. Its work spans the export of technical expertise, the formation of strategic partnerships, and the long-term strengthening of public-sector digital ecosystems.

NOSi's international reputation is grounded in its experience delivering large-scale digital reforms and its ability to interconnect more than 700 public institutions through shared digital platforms.

PHOTOS: SUPPLIED



▲ The State Data Centre of Cape Verde, implemented and managed by NOSi

Today, the organisation operates mission-critical data centres and maintains a digital infrastructure that serves over 18,000 users across the State's Technological and Private Network. Alongside this, NOSi (www.nosi.cv) has developed more than 200 digital solutions, building credibility with governments seeking practical, tested approaches to digital transformation.

Countries including Angola, Guinea-Bissau, Equatorial Guinea, Burkina Faso, Mozambique, and São Tomé and Príncipe have already benefited from the export of NOSi's solutions, specialist programmes and digital transformation consultancy, reinforcing Cape Verde's role as a continental partner in modernising public services.

Capability across the digital government value chain

One of the most prominent examples of NOSi's export capability is iGRP 3.0, an open-source application development framework designed to replace legacy

systems with a modern, microservices-based architecture. The platform is built to improve agility, security and scalability across government systems.

iGRP evolved from SIGOF, an internationally recognised system that has served as a reference model for several African countries implementing integrated financial and administrative management systems.

Beyond financial management, NOSi has also built strong expertise in digital identity, developing electronic authentication and identification systems such as the National Identification Card, Electronic Passport, and Residence Permit for Foreign Nationals. These tools are increasingly critical for governments aiming to improve service efficiency while strengthening security.

As the operator of Cape Verde's digital certification infrastructure through NOSi CA/PKI (www.pki.nosi.cv), and the entity responsible for interoperability via the PDEX platform, NOSi has developed capabilities in strategic areas, including

These initiatives point to an institution preparing for the evolving demands of the digital economy

cybersecurity, government cloud services, data governance and incident response (<https://csirt.gov.cv/>). These competencies are particularly valued by governments seeking to establish secure and reliable digital public infrastructure.

At the same time, NOSi continues to invest in emerging technologies – such as blockchain, artificial intelligence, machine learning and the Internet of Things – reflecting a forward-looking approach to public-sector innovation.

Planned initiatives include implementing a blockchain-based Government Cloud, modernising all existing systems to the iGRP 3.0 framework, and integrating artificial intelligence into at least 30% of government processes. Together, these initiatives point to an institution preparing for the evolving demands of the global digital economy.

Building human capital for modern digital countries

Beyond technology, NOSi also exports skills and capacity-building models.

Through initiatives such as NOSiAkademia and the WebLab network, Cape Verde has trained highly skilled young professionals in advanced digital fields, contributing to the country's growing reputation as a regional hub for digital training. This expertise has proven particularly valuable in international projects that require both system implementation and sustained public-sector skills development.

Looking ahead, NOSi aims to strengthen its global footprint by expanding international cooperation and supporting the development of agile, reliable and citizen-centred digital states.

The internationalisation of NOSi represents a significant opportunity for Cape Verde to position itself as an exporter – not only of technology, but also of knowledge and innovation – delivering tangible impact across multiple countries while consolidating its role within the global GovTech ecosystem.

Through this approach, NOSi continues to establish itself as a trusted partner for governments and organisations seeking to build modern, secure and sustainable digital solutions, contributing to a more connected, efficient and inclusive future. ●



▲ Chairman of the Board of Directors of NOSi, Carlos Tavares Pina (centre), participating in the Steering Committee Meeting of the Innovation Agencies Network in Africa (IAA) and the Africa Science Forum, held from 24 to 29 November 2025 in South Africa



^ Técnicos do NOSi a participar num hackathon, utilizando a estrutura de código aberto iGRP para o desenvolvimento de soluções

NOSi: Transferência de conhecimento **técnico**, estabelecimento de parcerias e **promoção** da governação digital

A entidade pública empresarial de Cabo Verde responsável pela infraestrutura da sociedade da informação do país, conhecida como NOSi, é um centro de referência em inovação tecnológica no sector público.



^ A inauguração do Centro de Operações de Cibersegurança (SOC) e da Equipa de Resposta a Incidentes de Segurança Informática (CSIRT) da Rede Tecnológica Privativa do Estado, implementados pelo NOSi, E.P.E.

Ao longo dos últimos 25 anos, o NOSi alcançou marcos que vão muito além das fronteiras nacionais, contribuindo para posicionar Cabo Verde como uma referência na modernização administrativa.

Enquanto fornecedor de confiança de soluções GovTech em África e não só, a organização apoia governos e instituições internacionais no desenvolvimento de sistemas digitais seguros, resilientes e centrados no cidadão. O seu trabalho abrange a transferência de conhecimentos técnicos, o estabelecimento de parcerias estratégicas e o reforço de longo prazo dos ecossistemas digitais do sector público.

A reputação internacional do NOSi



^ O Centro de Dados do Estado de Cabo Verde, implementado e gerido pelo NOSi

assenta na sua experiência na implementação de reformas digitais em grande escala e na sua capacidade de interligar mais de 700 instituições públicas através de plataformas digitais partilhadas.

Actualmente, a organização opera centros de dados de missão crítica e mantém uma infra-estrutura digital que serve mais de 18.000 utilizadores em toda a Rede Tecnológica Privativa do Estado. Além disso, o NOSi (www.nosi.cv) desenvolveu mais de 200 soluções digitais, consolidando a sua credibilidade junto de governos que procuram abordagens práticas e testadas para a transformação digital.

Países como Angola, Guiné-Bissau, Guiné Equatorial, Burkina Faso, Moçambique e São Tomé e Príncipe já beneficiaram da transferência de soluções do NOSi, de programas especializados e de consultoria em transformação digital, reforçando o papel de Cabo Verde como parceiro continental na modernização dos serviços públicos.

Capacidade versátil em toda a cadeia de valor da governação digital

Um dos exemplos mais destacados da capacidade de transferência do NOSi é o iGRP 3.0, uma estrutura de desenvolvimento de aplicações de código

aberto concebida para substituir sistemas antigos por uma arquitectura moderna baseada em microsserviços. A plataforma foi concebida para melhorar a agilidade, a segurança e a escalabilidade em todos os sistemas do governo.

O iGRP evoluiu a partir do SIGOF, um sistema reconhecido internacionalmente que tem servido de modelo de referência para vários países africanos na implementação de sistemas integrados de gestão financeira e administrativa.

Para além da gestão financeira, o NOSi também desenvolveu uma sólida especialização em identidade digital, criando sistemas electrónicos de autenticação e identificação, como o Bilhete de Identidade, o Passaporte Electrónico e a Autorização de Residência para Cidadãos Estrangeiros. Estas ferramentas são cada vez mais importantes para os governos que procuram melhorar a eficiência dos serviços, reforçando simultaneamente a segurança.

Como operadora da infra-estrutura de certificação digital de Cabo Verde através do NOSi CA/PKI (www.pki.nosi.cv), e a entidade responsável pela interoperabilidade através da plataforma PDEX, o NOSi desenvolveu capacidades em áreas estratégicas, incluindo a cibersegurança, os serviços de nuvem governamental, a governação de

dados e a resposta a incidentes (<https://csirt.gov.cv/>). Estas competências são particularmente valorizadas por governos que procuram estabelecer uma infra-estrutura pública digital segura e fiável.

Ao mesmo tempo, o NOSi continua a investir em tecnologias emergentes, tais como blockchain, inteligência artificial, aprendizagem automática e a Internet das Coisas, reflectindo uma abordagem orientada para o futuro da inovação no sector público.

As iniciativas planeadas incluem a implementação de uma Nuvem Governamental baseada em blockchain, a modernização de todos os sistemas existentes para a estrutura iGRP 3.0 e a integração da inteligência artificial em pelo menos 30% dos processos governamentais. Em conjunto, estas iniciativas apontam para uma instituição que se prepara para as exigências em evolução da economia digital global.

Desenvolvimento do capital humano para países digitais modernos

Para além da tecnologia, o NOSi também exporta competências e modelos de capacitação. Através de iniciativas como a NOSiAkademia e a rede WebLab, Cabo Verde formou jovens profissionais altamente qualificados em áreas digitais avançadas, contribuindo para a crescente reputação do país como um polo regional de formação digital. Esta experiência revelou-se particularmente valiosa em projectos internacionais que exigem tanto a implementação de sistemas como o desenvolvimento contínuo de competências no sector público.

Olhando para o futuro, o NOSi pretende reforçar a sua presença global, expandindo a cooperação internacional e apoiando o desenvolvimento de Estados digitais dinâmicas, fiáveis e centrados no cidadão.

A internacionalização do NOSi representa uma oportunidade significativa que permite a Cabo Verde posicionar-se como exportador, não apenas de tecnologia, mas também de conhecimento e inovação, gerando impacto tangível em vários países, consolidando simultaneamente o seu papel no ecossistema global de GovTech.

Através desta abordagem, o NOSi continua a afirmar-se como um parceiro de confiança para governos e organizações que procuram desenvolver soluções digitais modernas, seguras e sustentáveis, contribuindo para um futuro mais conectado, eficiente e inclusivo. ●



^ Presidente do Conselho de Administração do NOSi, Carlos Tavares Pina (ao centro), a participar na Reunião do Comité Director da Rede de Agências de Inovação em África (IAA) e no Fórum Africano de Ciência, realizados de 24 a 29 de Novembro de 2025, na África do Sul

How Africa's **tech deals** are increasingly happening at festivals



Founders, investors and corporates are using Africa's tech festivals to close funding, partnership and market-entry deals, according to ecosystem data and industry analysts. By **Bonface Orucho**.

Africa's tech startup ecosystem is increasingly being organised around large, high-visibility festivals. From Lagos to Cape Town, Nairobi, Marrakech and beyond, these events are positioning themselves as deal-making infrastructure, spaces where founders, investors and corporates transact.

According to sector analysts, tech festivals have become one of the primary arenas through which Africa's startup ecosystem is organised and shaped.

Alphonse Chinedu, a Nigerian business analyst tracking technology and investment trends across West Africa, notes that the continent's tech gatherings

have undergone a structural shift.

"What we used to have were networking-heavy meetups, people exchanged contacts and went home," Chinedu shared in a WhatsApp call. "What we are seeing now is a more holistic model. Organisers are building full ecosystem platforms, combining panel discussions with pitch sessions, investor matchmaking, corporate showcases and side events that bring the entire innovation value chain into one place."

He calls this the festival's "unification value": the brief moments when fragmented actors, founders, investors, regulators and corporates are pulled into the same room and can move from acquaintance to alignment.

✓ Delegates gather at GITEX Africa 2025 in Morocco – one of the continent's largest technology forums, bringing together policymakers, industry leaders and innovators



▲ A panel session at the TEC Summit 2026 in Konza Technopolis, focused on accelerating women's participation and leadership in Kenya's digital future

Caleb Maru, founder and CEO of African tech platform Tech Safari, echoes the view. "Tech festivals are now more than networking; they collapse a fragmented ecosystem into a single, visible moment. Founders, investors, corporates and regulators come together, accelerating understanding and shortening decision cycles." He adds that such events also create pathways for capital to meet opportunity in markets where liquidity flows are slow.

Africa's festivals and curated events create the pressure points where capital actually meets the opportunities

"Africa's liquidity pipes are clogged. Festivals and curated events create the pressure points where capital actually meets opportunity, helping deals move faster despite structural delays," Maru said.

This shift is visible in practice at flagship events such as the Africa Startup Festival (ASF) Lagos edition. Held on Victoria Island in November 2025, organisers report the edition drew 3,000+ attendees from 15+ countries, with roughly one in three participants at the C-suite level.

The two-day programme featured 30+ speakers and 100+ curated meetings intended to catalyse investor-founder connections. Organisers said these metrics were chosen to signal both scale and decision-making capacity in the room.

On the ground, ASF Lagos was staged more like a marketplace. Corporate sponsors and solution providers took prime exhibition space, pitching directly to startups and buyers; payments firms demonstrated cross-border rails; and support bodies announced grants and startup programmes. Marketing firm St Paul's Africa, in partnership with Spark Africa, announced a US\$5,000 marketing grant for early-stage startups, a concrete intervention aimed at lowering the cost of user acquisition.

That mixture of curated investor sessions, corporate activations and grants is the architecture organisers now use to argue that festivals can produce measurable outcomes.

Other examples illustrate what can happen when festivals and deal-

✓ Nearpays was announced as the winner of the Fintech and Blockchain category at the Supernova Challenge finals during GITEX Africa 2023, receiving a US\$10,000 prize





Participants gather for a group photo on the third day of the TICON Africa Conference 2025

Conference positions itself as a cross-sector deal-making platform

ICT professionals to engage with leaders from other key sectors.

As Africa's tech ecosystem increasingly organises around high-impact convenings, the 2026 TICON Africa Conference is positioning itself as a space where technology, marketing and supply chain stakeholders intersect to do business.

Scheduled to take place 23-25 September 2026 in Livingstone, Zambia (look out for our conference article), the TICON Africa event will run alongside continental conferences hosted by the African Marketing Confederation and the African Supply Chain Confederation, creating a deliberate convergence between ICT leaders and adjacent sectors.

According to Jannie Zaaiman, Secretary General of TICON Africa, the event is designed to go beyond discussion panels and create practical opportunities for collaboration.

"This is the kind of conference where

business conversations can quickly translate into practical partnerships. When ICT leaders engage directly with decision-makers from marketing and supply chain, discussions move beyond ideas to focus on market access, implementation, scale and regional growth. That is the true value of a conference like this for Africa's digital economy," he says.

Hosted at the Avani Victoria Falls Resort, the 2026 conference will feature conference and research tracks, practical workshops, and structured networking sessions aimed at facilitating partnerships, enterprise adoption and regional expansion.

The appeal of the conference also lies in its focus on professional practice rather than product promotion alone. As digital systems become core economic infrastructure across the continent, practitioners are increasingly required

to engage with issues such as interoperability, cybersecurity, data governance, standards alignment and skills development.

TICON Africa's 2026 conference positions itself as a forum where these system-level concerns can be discussed with peers, regulators and enterprise stakeholders facing similar realities across different markets.

The conference's deliberate intersection with marketing and supply chain leadership further reflects how the role of ICT professionals is evolving. As technology underpins customer engagement, logistics, payments and cross-border delivery, IT leaders are no longer operating in isolation. Events that bring adjacent disciplines into the same space offer opportunities to explore how digital platforms are implemented, governed and scaled in real organisational contexts.

For professionals focused on relevance, career development and continental engagement, this cross-sector exposure is increasingly central to staying aligned with how Africa's digital economy is taking shape.

making converge. At the African Startup Conference in Algiers (6-8 December 2025), a large continental forum that reportedly attracted 25,000 participants, including investors, ministers and ecosystem builders, Algerian travel-tech startup Völz closed a 600-million DZD (about US\$5-million) Series A led by Tell Group and Groupe Industriel Babahoum Algérie (GIBA).

Local reporting frames the deal as a festival-era success as it marks the first reported exit for Algeria's state-backed Algerian Startup Fund, which reportedly recorded a 3.35x return on its early investment. Völz's product, enabling Algerian customers to book international flights in dinars and offering cash-on-delivery and offline-friendly payment options, addresses a highly localised payment friction and illustrates how event-linked capital can validate market-specific solutions.

Other continental festivals also show measurable follow-on effects. At GITEX Africa, the Supernova pitch competition is explicitly built as an investor-facing pathway: the 2024 champion, Zambian neobank Lupiya, won a US\$50,000 prize and, according to follow-up reporting and company statements, used the exposure to secure about US\$500,000

in follow-on funding while continuing discussions toward larger rounds.

GITEX's own post-event materials show scale: the 2024 edition hosted nearly 700 startups, 1,500 exhibitors and 30,000+ visitors, with a substantial investor and buyer presence, conditions that help explain how visibility can turn into traction.

Similarly, B2B-leaning showcases like Africa Tech Summit Nairobi select a small number of vetted ventures (10 in 2025) from hundreds of applicants to present directly to investors, a format designed to compress deal discovery and signal readiness.

"Expanding across Africa isn't just about raising money; it's about learning regulations, localising products, and building teams in multiple markets. Events are where this knowledge circulates in real time," according to Maru.

Industry-level data underline that these festival moments are occurring against an improving funding backdrop. Across the continent, startups raised roughly US\$1.4-billion in the first half of 2025, a rebound that coincided with the run of major summits and investor gatherings, not proof of causation, but a strong correlation that supports the argument that concentrated convenings matter for capital flows.

The global comparative example, Web Summit, reinforces the potential. Nearly 200 startups from its 2024 Startup Programme raised US\$715.5-million post-event. The figure demonstrates the magnitude of conference-driven momentum.

Festivals are already evolving into infrastructure by convening buyers, capital, regulators and talent in concentrated time and space. Maru summarises the effect: "Some of the most valuable outcomes of African tech events aren't immediate deals, but the conversations, collaborations and ideas that start when the ecosystem shows up in one place."

"But until organisers and funders commit to transparent post-event tracking, and allow independent verification, Africa's festivals will continue to sit between promise and proof, that is, scaled platforms that clearly matter, but whose true economic footprint is only partially visible," Chinedu concluded. ●

Bonface Orucho is a seasoned journalist and passionate filmmaker. He writes for Bird Story Agency, a specialist Africa-focused news agency launched in 2021 by Africa No Filter. It aims to change the narrative on Africa by focusing on innovation, youth culture and positive, creative stories.



The multi-faceted question of who owns our data

In an increasingly digital world, the question of data ownership has become more critical than ever, writes **Emmanuel K. Gadasu**.

➤ Traditional concepts of ownership do not apply easily to data

✓ As individuals generate increasing amounts of data, its ownership and control has sparked significant debate



With the proliferation of the internet, social media platforms, cloud services and smart devices, personal data is being collected, stored and processed on an unprecedented scale.

As individuals generate vast amounts of data daily, its ownership and control has sparked significant debate, particularly in the context of privacy, data protection and regulatory frameworks such as the Data Protection Act 2012 (Act 843 of Ghana), General Data Protection Regulation (GDPR of the European Union), Protection of Personal Information Act (POPIA of South Africa) and many more across the globe.

This article explores the complex issue of data ownership, examining who truly owns our data, the principles underpinning data protection, and the rights of individuals and companies in this digital age.

The nature of personal data

Before delving into the ownership

question, it is essential to understand what constitutes personal data.

Personal data refers to any information that relates to an identified or identifiable individual. This includes names, email addresses, social security numbers, IP addresses and even metadata that can be used to infer a person's identity. With the advent of big data analytics, personal data extends beyond just basic identifiers to include more complex and inferred information such as browsing habits, purchasing behaviours and biometric data.

Given the sensitivity and breadth of personal data, questions of who owns this data and who has the right to use, share, or sell it are of paramount importance.

The concept of data ownership

The notion of data ownership is not straightforward. Unlike physical property, data is intangible, replicable and can be stored in multiple locations simultaneously. As a result, traditional concepts of ownership do not apply easily to data.

In legal terms, ownership generally confers the right to use, exclude others from using, and dispose of the property. However, data ownership is more complex and involves multiple stakeholders, including the individual who generates the data, the entity that collects it, and the organisations that process and store it.

Ownership in the context of privacy

Privacy is a fundamental human right recognised by international conventions and national constitutions. In the context of personal data, privacy concerns the right of individuals to control who has access to their information and how it is used. Data ownership is intrinsically linked to privacy, as ownership implies control over the data. If an individual owns their data, they should, in theory, have the ultimate say in how it is used.

However, in practice, the situation is more complicated. When individuals share their data with companies – whether through social media platforms, online purchases, or subscription services – they often relinquish a degree of control over their data.

Terms of service agreements, which many users accept without reading, frequently grant companies broad rights to use, share and even sell personal data. As a result, the company, rather than the individual, often exercises control over the data.

GDPR's principles of data protection

The General Data Protection Regulation (GDPR) enacted by the European Union in 2018 is one of the most comprehensive data protection frameworks globally. It aims to give individuals greater control over their personal data and to harmonise data protection laws across Europe.

The GDPR is built on several key principles:

1. Lawfulness, Fairness, and

Transparency:

Personal data must be processed lawfully, fairly and transparently. This means that individuals must be informed about how their data will be used and must consent to its processing.

2. Purpose Limitation:

Data should be collected for specific, explicit and legitimate purposes and not processed further in a way that is incompatible with those purposes.

3. Data Minimisation:

Only the minimum amount of data necessary for the intended purpose should be collected.

4. Accuracy:

Personal data should be accurate and kept up to date. Inaccurate data should be corrected or deleted.

5. Storage Limitation:

Data should be kept in a form that allows identification of individuals only as long as necessary for the purposes for which the data was collected.

6. Integrity and Confidentiality:

Personal data must be processed in a manner that ensures appropriate security, including protection against unauthorised or unlawful processing, accidental loss, destruction or damage.

7. Accountability:

Data controllers are responsible for, and must be able to demonstrate, compliance with the GDPR.

Can a company own our data?

One of the central debates in data protection is whether a company can 'own' personal data. From a legal perspective, personal data is not owned by anyone in the traditional sense.

Rather, it is subject to rights and obligations. Under GDPR and many other data protection laws, individuals (data subjects) have specific rights over their data – such as the right to access, correct and delete their data – as well as the right to data portability and to object to processing.

While companies do not 'own' personal data in the sense of having exclusive property rights, they do have the right to process data under specific conditions, as



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long as they comply with data protection principles and obtain valid consent from data subjects or have the appropriate legal basis to process the personal data.

Companies may also have a legitimate interest in processing data, for instance, for fraud prevention or improving services, provided that this interest does not override the individual's rights and freedoms.

Data ownership and data portability

One of the significant innovations of the GDPR is the right to data portability. This right allows individuals to obtain and reuse their personal data across different services. It enables individuals to request that their data be transferred directly from one service provider to another in a structured, commonly used and machine-readable format.

Data portability empowers individuals by giving them more control over their data and reducing the dependency on a single service provider.

Data portability is particularly relevant in the context of data ownership. While it does not grant ownership per se, it strengthens the individual's control over their data and challenges the idea that companies have exclusive rights over the data they collect.

The role of consent

Consent plays a crucial role in data protection and ownership. Under data protection laws, consent must be freely given, specific, informed and unambiguous. It must be obtained before collecting or processing personal data, and individuals have the right to withdraw consent at any time.

The requirement for consent reinforces the idea that individuals, not companies, have the ultimate control over their data.

However, the reality is that many individuals consent to data processing without fully understanding the implications, often because of the complexity of privacy policies and the convenience of using online services. This raises questions about the effectiveness of consent as a mechanism for protecting privacy and ensuring true ownership of data.

The future of data ownership

As technology continues to evolve, the concept of data ownership will likely become even more complex. The rise of artificial intelligence, machine learning and the Internet of Things means that more data is being generated and processed than ever before. These technologies



^ More decentralised models of data ownership could empower individuals, rather than being at the mercy of large corporations

» Emmanuel K. Gadasu

rely on vast amounts of data to function effectively, raising new challenges for data protection and ownership.

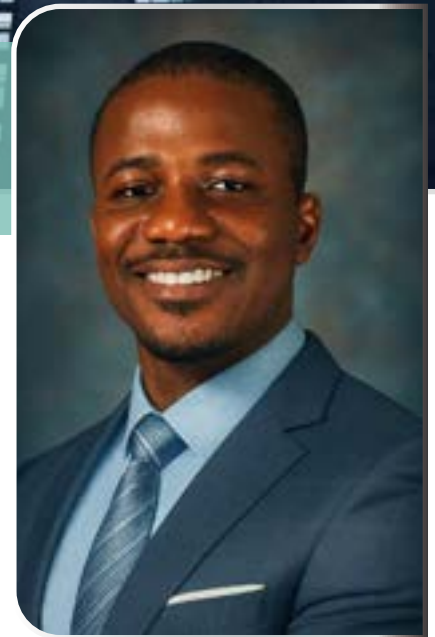
In the future, we may see a shift towards more decentralised models of data ownership, where individuals have greater control over their data through blockchain technology or other means. This could empower individuals to monetise their data or share it on their terms, rather than being at the mercy of large corporations.

Conclusion

The question of who owns our data is multi-faceted and deeply intertwined with issues of privacy, control and regulation. While individuals generate personal data, they often relinquish control over it when engaging with companies and online services.

Data protection laws have significantly strengthened the rights of individuals in relation to their data, but the concept of data ownership remains complex and contested.

As we advance in the collection and processing of personal data, it is essential



to continue to develop legal and technological frameworks that protect individuals' rights, ensure transparency and provide meaningful control over personal data. Only then can we truly address the question of who owns our data in the digital age. ●

Emmanuel K. Gadasu holds an MSc IT and Law. He is a member of the Institute of ICT Professionals Ghana (IIPGH), a data protection and cybersecurity consultant, and a practitioner and trainer.

Examining the wider significance of Oracle's cloud launch in Morocco

Oracle's decision to open a public cloud region in Casablanca marks a major step for digital infrastructure and cloud computing in North Africa, writes **Fiona Zerbst**.

The latest announcement by Oracle, the world's largest database management company, follows its earlier cloud region launch in Johannesburg and its announcement of plans in Nairobi, making the company one of the fastest-expanding hyperscalers on the continent.

For Morocco, the move brings real opportunities. It also raises important questions about sovereignty, cost and long-term control that governments and ICT leaders will need to manage carefully.

What this launch means for Morocco and for the region

The new cloud region gives Moroccan businesses, start-ups and public institutions local access to advanced cloud and AI services, including generative AI tools, without routing data offshore. This directly addresses issues of latency, performance and regulatory concerns that have limited cloud adoption in North Africa.

Oracle has explicitly framed the region as supporting 'Digital Morocco 2030', the government's strategy to modernise public services, attract digital investment and position Morocco as a regional technology hub.

From a regional perspective, this strengthens North Africa's role in:

- AI training and inference, especially for Arabic- and French-language models.
- Cross-border digital services, especially for West and Francophone Africa.
- Public-sector cloud adoption, where data residency is often mandatory.

Local economic spillovers

Large cloud regions typically generate a demand for data-centre operations, engineering and cybersecurity skills. There's also often indirect growth in local SaaS, fintech and AI startups – and deeper integration into global digital value chains.

Oracle's partnership with N+ONE Datacenters as the hosting provider also signals that local infrastructure players can participate meaningfully – not just the global hyperscalers.



▲ Casablanca, where Oracle has launched its first public cloud region in North Africa, positioning Morocco as a growing digital hub

Expected trade-offs

While Oracle emphasises sovereign capabilities, that doesn't automatically mean sovereignty in the broader sense.

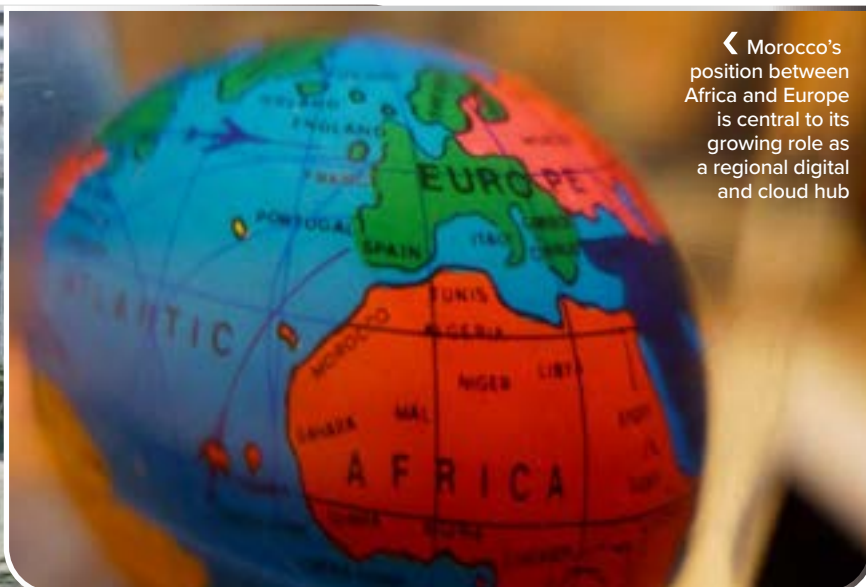
Hosting data within national borders helps governments comply with regulations, particularly in public, financial and regulated sectors. However, the underlying platforms, pricing models and technical standards are controlled by a foreign multinational.

Relying on a single hyperscaler can reduce bargaining power over time – and cloud infrastructure is capital-intensive, which often means that data costs are

passed on to businesses, government, and even individual consumers.

Electricity is a particular concern. Data centres are energy hungry, and in regions where grids are constrained or carbon intensive, cloud expansion can increase pressure on national power systems. This raises questions about who bears the cost of energy upgrades.

In the US, a backlash against data centres has drawn attention to citizens' concerns about rising energy costs, pollution and backtracking on climate commitments. These issues are hard



◀ Morocco's position between Africa and Europe is central to its growing role as a regional digital and cloud hub

For ICT leaders, policymakers and technologists elsewhere on the continent, Morocco's experience offers several practical lessons.

Oracle positions itself as uniquely multicloud-friendly, which creates flexibility. However, ICT teams should treat multicloud claims carefully and plan for real switching costs. In addition, local cloud regions do not automatically create local capability. Without cloud-native skills, cybersecurity capacity and procurement expertise, organisations risk becoming passive consumers rather than active digital builders.

As hyperscalers expand, ICT professionals increasingly need to engage with energy strategy, grid reliability and the procurement of renewables. Cloud and energy strategies are converging – and organisations that ignore this link may face cost and resilience shocks later on.

The opportunity: African led digital value creation

On the upside, local cloud regions lower barriers for AI start-ups, regional SaaS providers, and public-interest digital services. There's plenty of opportunity – including shaping how cloud services are governed, priced and integrated into national development goals.

Oracle's cloud launch in Morocco is a milestone. It strengthens regional digital capacity, supports AI adoption and signals confidence in North Africa's tech future. But it also illustrates why infrastructure choices are never neutral.

The challenge for Morocco – and for Africa more broadly – is to ensure that cloud expansion builds local capability, protects long-term sovereignty, and delivers public value – not just private efficiency. ●

COMPETING GLOBALLY

Morocco World News quotes Cormac Watters, Executive Vice President and General Manager, Oracle EMEA, as saying: "The opening of our cloud region in Casablanca is a major milestone in our commitment to supporting Morocco's growth and its position as a regional hub for AI and digital innovation.

"With Oracle Cloud Casablanca Region, we are providing organisations across Morocco and North Africa with the secure, high-performance infrastructure they need to innovate with AI and the cloud, and to compete globally."

to ignore and policymakers must factor them in.

Policy safeguards that will protect sovereignty

To protect sovereignty while capturing benefits, regions need:

- Clear data-governance rules.
- Competition policies that avoid being locked into a single provider.
- Energy and water planning aligned with data centre growth.
- Transparency around pricing escalation and exit options.

Examen de l'importance du lancement du cloud d'Oracle au Maroc

La décision d'Oracle d'ouvrir une région de cloud public à Casablanca marque une étape majeure pour l'infrastructure numérique et le cloud computing en Afrique du Nord, écrit **Fiona Zerbst**.

La dernière annonce d'Oracle, la plus grande entreprise mondiale de gestion de bases de données, fait suite au lancement antérieur de sa région cloud à Johannesburg et à l'annonce de ses projets à Nairobi. L'entreprise confirme ainsi sa position parmi les hyperscalers connaissant la croissance la plus rapide sur le continent.

Pour le Maroc, cette initiative offre de réelles opportunités. Elle soulève également d'importantes questions de souveraineté, de coût et de contrôle à long terme que les gouvernements et les dirigeants des TIC devront gérer avec soin.

Ce que ce lancement signifie pour le Maroc et pour la région

La nouvelle région cloud offre aux entreprises marocaines, aux start-up et aux institutions publiques un accès local à des services avancés de cloud et d'IA, y compris des outils d'IA générative, sans acheminer les données à l'étranger. Cela répond directement aux problèmes de latence, de performance et aux préoccupations réglementaires qui ont limité l'adoption du cloud en Afrique du Nord.

Oracle a explicitement présenté cette région comme soutenant 'Digital Morocco 2030', la stratégie du gouvernement visant à moderniser les services publics, à attirer les investissements numériques et à positionner le Maroc comme un pôle technologique régional.

D'un point de vue régional, cela renforce le rôle de l'Afrique du Nord dans :

- La formation et l'inférence en IA, en particulier pour les modèles en arabe et en français.
- Les services numériques transfrontaliers, en particulier pour l'Afrique de l'Ouest et l'Afrique francophone.
- L'adoption du cloud dans le secteur public, où la résidence des données est souvent obligatoire.

Retombées économiques locales

Les grandes régions cloud génèrent



▲ Casablanca, où Oracle a lancé sa première région de cloud public en Afrique du Nord, positionnant le Maroc comme un hub numérique en pleine expansion

généralement une demande en compétences liées à l'exploitation des centres de données, à l'ingénierie et à la cybersécurité. On observe aussi souvent une croissance indirecte des start-up locales du SaaS, de la fintech et de l'IA – ainsi qu'une intégration plus poussée dans les chaînes de valeur numériques mondiales.

Le partenariat d'Oracle avec N+ONE Datacenters en tant que fournisseur d'hébergement indique également que les acteurs locaux de l'infrastructure peuvent y participer de manière significative – et pas seulement les hyperscalers mondiaux.

Compromis attendus

Bien qu'Oracle mette l'accent sur les capacités souveraines, cela ne signifie pas automatiquement une souveraineté au sens plus large.

L'hébergement des données à

l'intérieur des frontières nationales aide les gouvernements à se conformer aux réglementations, en particulier dans les secteurs public, financier et réglementés. Cependant, les plateformes sous-jacentes, les modèles de tarification et les normes techniques sont contrôlés par une multinationale étrangère.

Le fait de dépendre d'un seul hyperscaler peut, à terme, réduire le pouvoir de négociation. Par ailleurs, l'infrastructure cloud étant très capitalistique, les coûts des données sont souvent répercutés sur les entreprises, les pouvoirs publics et même les consommateurs individuels.

L'électricité constitue une préoccupation particulière. Les centres de données sont très énergivores et, dans les régions où les réseaux électriques sont limités ou à forte intensité carbone, l'expansion du cloud peut accroître la pression sur les systèmes énergétiques nationaux. Cela



soulève la question de savoir qui supporte le coût des améliorations des infrastructures énergétiques.

Aux États-Unis, une réaction négative contre les centres de données a attiré l'attention sur les préoccupations des citoyens concernant la hausse des coûts de l'énergie, la pollution et le recul par rapport aux engagements climatiques. Ces enjeux sont difficiles à ignorer et les décideurs publics doivent en tenir compte.

Des garanties politiques essentielles

Pour protéger leur souveraineté tout en tirant parti des avantages, les régions ont besoin :

- Des règles claires de gouvernance des données.
- Des politiques de concurrence qui permettent d'éviter une dépendance à un fournisseur unique.

ÊTRE COMPÉTITIF À L'ÉCHELLE MONDIALE

Morocco World News cite Cormac Watters, vice-président exécutif et directeur général d'Oracle EMEA, en ces termes :

« L'ouverture de notre région cloud à Casablanca constitue une étape majeure dans notre engagement à soutenir la croissance du Maroc et sa position en tant que hub régional pour l'IA et l'innovation numérique.

« Avec la région Cloud d'Oracle à Casablanca, nous fournissons aux organisations du Maroc et de l'Afrique du Nord l'infrastructure sécurisée et hautement performante dont elles ont besoin pour innover grâce à l'IA et au cloud, et pour être compétitives à l'échelle mondiale. »

- D'une planification de l'énergie et de l'eau alignée sur la croissance des centres de données.
- De la transparence concernant l'escalade des prix et les options de sortie.

Pour les dirigeants des TIC, les décideurs publics et les technologues ailleurs sur le continent, l'expérience du Maroc offre plusieurs enseignements pratiques.

Oracle se positionne comme étant particulièrement favorable au multicloud, ce qui offre une certaine flexibilité. Cependant, les équipes TIC doivent examiner avec prudence les promesses de multicloud et anticiper les coûts réels de changement de fournisseur. En outre, les régions cloud locales ne créent pas automatiquement des capacités locales. Sans compétences cloud natives, sans capacités en cybersécurité et sans expertise en passation de marchés, les organisations risquent de devenir des consommatrices passives plutôt que des actrices de la construction numérique.

À mesure que les hyperscalers se développent, les professionnels des TIC doivent de plus en plus s'impliquer dans la stratégie énergétique, la fiabilité du réseau et l'approvisionnement en énergies renouvelables. Les stratégies cloud et énergétiques convergent – et les organisations qui ignorent ce lien pourraient subir ultérieurement des chocs en matière de coûts et de résilience.

L'opportunité : création de valeur numérique portée par l'Afrique

De manière positive, les régions cloud locales facilitent l'accès pour les start-up de l'IA, les fournisseurs régionaux de SaaS et les services numériques d'intérêt public. Les opportunités sont nombreuses – notamment pour façonner la manière dont les services cloud sont gouvernés, tarifés et intégrés aux objectifs nationaux de développement.

Le lancement du cloud d'Oracle au Maroc constitue une étape importante. Il renforce les capacités numériques régionales, soutient l'adoption de l'IA et témoigne de la confiance dans l'avenir technologique de l'Afrique du Nord. Mais cela illustre également pourquoi les choix en matière d'infrastructure ne sont jamais neutres.

Le défi pour le Maroc – et pour l'Afrique plus largement – consiste à veiller à ce que l'expansion du cloud renforce les capacités locales, protège la souveraineté à long terme et génère de la valeur publique – et non pas seulement de l'efficacité privée. ●

Outlining Botswana's digital shift from adoption to sovereignty

Digital transformation is being repositioned as a core economic lever, with ICT expected to underpin productivity, public services and long-term competitiveness.



Botswana's technology story is increasingly framed as a national economic strategy rather than a side project for the ICT sector.

The government's long-term development agenda, *Botswana Vision 2036*, explicitly aims to shift the country from upper-middle-income to high-income status by 2036 – anchoring that ambition in four strategic pillars and treating ICT as part of the services economy that supports a knowledge-based future.

"ICT must be a force multiplier," explains Tshepo Bathai, President of the Botswana Information Technology Society (BITS). "It is the key to making our traditional sectors globally competitive while fostering a 'weightless' export economy driven by digital services and data."

The *National Digital Roadmap 2030* is currently being drafted. "The aim is to make digitalisation the central pillar and driver of our *National Development Plan*

12," explains Bathai. Expected to run from April 2025 to March 2030, Plan 12 is the second implementation plan for *Botswana Vision 2036* and is aligned with the *National Transformation Strategy*.

Policy intent is matched by a practical push to expand digital infrastructure and adoption. While regulatory reporting has been uneven, independent data points to continued growth in connectivity and usage. DataReportal's 2026 country profile put Botswana's internet usage at 81.4% of the population by late 2025, with 4.22-million cellular mobile connections active.

Towards a knowledge-based local economy

A second key context point is Botswana's *SmartBots* digital transformation strategy, which government positions as a whole-of-government approach to drive change across the economy, public sector and society. It is a pathway towards a

knowledge-based economy that does not "leave anyone behind".

The UN Economic Commission for Africa (UNECA) describes SmartBots as Botswana's 4IR digital transformation strategy, noting that the establishment of the SmartBots Lab Centre of Excellence within the Botswana Digital Innovation Hub supports innovation and emerging technologies through a formal governance framework.

Bathai argues that Botswana's real strength lies in how joined-up its national approach is. "Botswana is unique because of our integrated national strategy. Our greatest untapped potential lies in sovereign data," he points out.

By managing its data locally and applying AI tailored to its specific social and economic fabric, it is possible to build authentically Botswana solutions rather than relying on 'black-box' technologies, he says. However, he warns that without

◀ Gaborone, hub of Botswana's emerging digital economy, where early infrastructure investment has since underpinned a broader shift towards ICT-driven development



strong local, end-to-end ICT capability – including infrastructure – Botswana risks becoming dependent on external digital systems and losing influence over how those systems shape its economy.

For Bathai, the real test lies in execution. National strategies matter, he says, but they only deliver value if there are skilled professionals and institutions capable of turning policy into functioning systems.

Turning digital ambition into real-world practice

Within this context, BITS is evolving – its core mission has matured alongside the ecosystem, says Bathai. “We’ve moved beyond simply promoting IT to professionalising the ICT vanguard,” he explains. Today, BITS is focused on establishing rigorous professional standards and advocating for legislative recognition.

“We are evolving from a social society into a formal body that ensures technical

Professional bodies like BITS act as the bridge between policy and practice

competence and ethical integrity across the industry,” Bathai adds.

He explains that professional bodies like BITS act as the bridge between policy and practice.

“While government sets the vision, we provide the ‘how’ – by ensuring the workforce is technically ready and that innovation remains grounded in global standards.” Without that bridge, he argues, even well-designed strategies risk remaining aspirational.

That focus on execution runs through Bathai's view of inclusion. Digital transformation, he stresses, only succeeds when access is universal and systems work across contexts. “We must ensure a farmer in a rural village or a small business in Kanye (a small town in southern Botswana) can access government services with the same ease as an executive in Gaborone,” he says.

Achieving that requires what he describes as universal design: platforms that are mobile-first, linguistically inclusive and built for real-world constraints, not ideal conditions.

Looking to the future

Looking ahead, Bathai is clear about the competencies Botswana must build urgently. Infrastructure architecture – including fibre, 5G and eventually 6G – sits alongside cybersecurity and data

sovereignty at the top of the list. Cloud-native development, artificial intelligence, big data analytics and the Internet of Things are no longer optional skills, he argues, particularly as digital systems become embedded across the economy.

He describes ICT as the “nerve system” connecting Botswana's key sectors. In agriculture, that means smart livestock tracking; in finance, sovereign fintech; and in government, paperless services built around data rather than documents. “ICT is the glue that makes traditional sectors agile and data-driven,” he says.

With that reach comes responsibility. “As leaders, our primary responsibility is trust,” Bathai notes. In an era of AI, protecting citizen privacy, embedding ethics into systems, and ensuring real inclusion are central obligations – not add-ons. “If we build a digital future that leaves anyone behind, we haven't truly innovated.”

Bathai also places strong emphasis on continental collaboration. “TICON Africa is non-negotiable for our growth,” he says. Botswana, he believes, can contribute expertise in digital governance while learning from larger consumer-tech markets elsewhere on the continent. The goal is to build Africa-for-Africa solutions and avoid becoming passive adopters of technologies designed elsewhere.

Ultimately, Bathai's argument returns to mindset. “We need to shift from digital adoption to digital sovereignty,” he says.

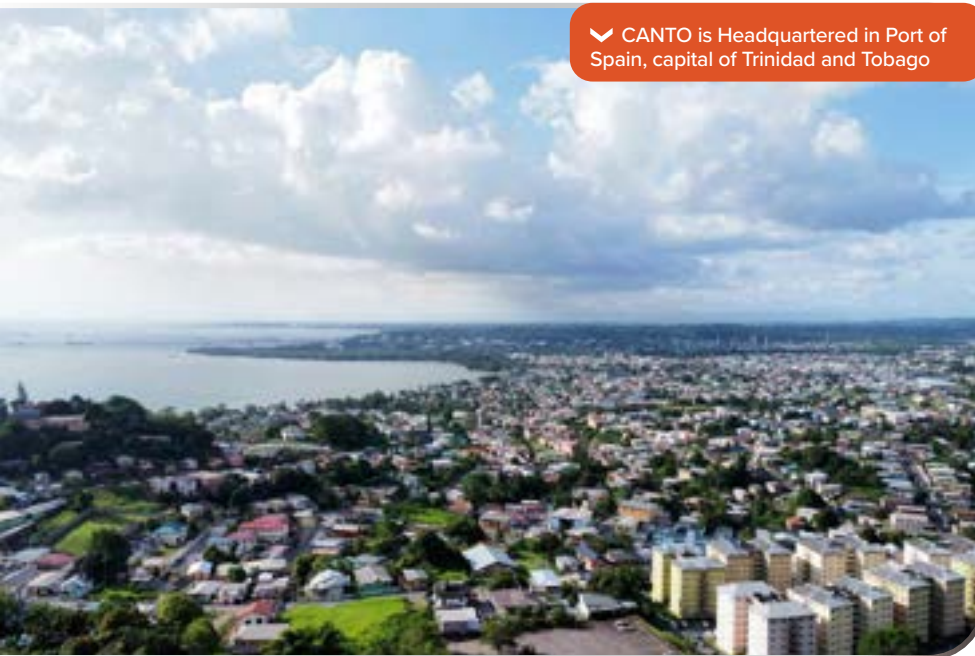
Instead of asking what technology can be bought, he believes Botswana must ask what it can build, own and govern. “Becoming architects rather than just users is the key to our future,” he concludes. ●



✓ Tshepo Bathai, President of BITS. He was also a speaker at the 2025 TICON Africa Conference in Ghana

Partnership formalises ICT collaboration between Africa and the Caribbean

TICON Africa joins hands with its counterpart in the Caribbean to form a partnership that will drive tech advancement across the regions.



✓ CANTO is Headquartered in Port of Spain, capital of Trinidad and Tobago

In a step forward for global digital collaboration, the Technology Information Confederation Africa (TICON Africa) and CANTO, the regional ICT body for the Caribbean region, have formed a strategic partnership.

Headquartered in Port of Spain, Trinidad and Tobago, CANTO represents a diverse network spanning 33 countries. This network embraces telecommunications operators, regulators and technology providers.

The CANTO ecosystem includes industry players in the region, alongside strategic partnerships with organisations such as the Caribbean Telecommunications Union and the International Telecommunication Union.

TICON Africa, by contrast, operates as a pan-African professional body – driving ICT advancement through conferences, research initiatives, policy dialogue and skills development programmes across the continent.

Together, the two organisations offer a powerful combination of:

- Industry reach and market access across the Caribbean.
- Continental professional coordination and research depth across Africa.

- Shared priorities in digital policy, trust, resilience, workforce readiness and innovation.

The two regions have parallel economies

Teresa Wankin, Secretary General of CANTO, comments on the new partnership: “For 40 years, CANTO has championed the Caribbean’s digital future, and this partnership with TICON Africa marks an exciting new chapter in that journey.

“Africa and the Caribbean are not distant counterparts; we are parallel economies navigating the same digital imperatives, and we have far more to gain from collaboration than from operating in silos. Through this partnership, we are creating a genuine bridge; one that connects our industries, elevates our voices on the global stage, and places women and youth where they belong: at the centre of the conversation. We look forward to building something that is lasting, practical and transformative for both regions.”

David Gowu, President of TICON Africa, reflects on the significance of the partnership and the opportunities it

creates for deeper Africa–Caribbean digital cooperation:

“[It] represents an important milestone in TICON Africa’s mission to connect Africa’s ICT professionals, institutions and innovation ecosystems with like-minded partners across the world.

“Africa and the Caribbean share strong historical ties, but we also share a common digital future, one shaped by the need for trusted infrastructure, relevant skills, inclusive leadership and practical collaboration. Through this partnership, we want to move beyond dialogue and create real opportunities for knowledge exchange, professional development, research, policy engagement, and youth and women’s participation in the digital economy.”

First joint initiative

In mid-June TICON Africa and CANTO co-hosted a high-level virtual event on the topic ‘*Bridging Africa and the Caribbean’s Digital Future: Positioning Women & Youth at the Centre of Digital Cooperation*’.

This masterclass served as the inaugural platform for Africa-Caribbean ICT engagement under the new partnership – creating a focused, high-impact space for dialogue, exchange, and collaboration across the two regions.

Insights and connections generated during the June summit will directly inform discussions, partnerships, and programme development at both conferences, ensuring continuity and sustained engagement. ●



▲ Teresa Wankin, Secretary General of CANTO

PHOTOS: ANDERSON JAGRADATT SONNYSINGH
FROM PEXELS; SUPPLIED



› (L to R): ICTAZ CEO Chellah Silawwe; Zambian President, Hon. Hakainde Hichilema, and ICTAZ President Dr Clement Sinyangwe at the 2026 ICTAZ Tec Conference in Livingstone

President of Zambia champions country's rapid ICT acceleration

Artificial intelligence should be harnessed to address process inefficiencies hampering sustainable growth and prosperity, President Hichilema says.

When Zambia's President Hakainde Hichilema speaks about technology, it is less as a champion of a single sector than as a pragmatist focused on productivity, efficiency and growth.

That was evident when he addressed the ICT Association of Zambia's (ICTAZ) annual conference in Livingstone. Themed '*Zambia's US\$60-Billion Economy by 2031: Powered by Technology and AI*', it attracted ICT professionals, policymakers, regulators and business leaders from the public and private sectors.

Artificial intelligence, President Hichilema argued, should be harnessed to address process inefficiencies if Zambia is to achieve sustainable growth and prosperity. ICT itself is a strategic enabler, underpinning productivity and competitiveness across key sectors such as mining, agriculture and power generation.

A developmental driver

This framing sits at the centre of the government's economic agenda. The President told delegates that Zambia has the potential to more than double its GDP, with the ICT sector expected to

play a central role in driving economic transformation, value creation, innovation and good governance at both national and local government levels.

He urged technology professionals to look beyond Zambia's borders, calling for active participation in Africa's digital transformation agenda and emphasising the importance of developing local solutions rather than relying on imported technologies.

With seven neighbouring countries, Zambia has an opportunity to position itself as a regional hub, supporting the ambitions of the African Continental Free Trade Area (AfCFTA), which aims to create a single market for 1.5-billion people.

"What will allow us to deepen intra-African trade is ICT platforms and connectivity," President Hichilema said. "And therefore, as we soldier on with economic transformation and the issues around productivity, we need technology. We need ICT to help us isolate how we can improve efficiencies."

Government boosts growth

President Hichilema, who took office in 2021, has been conferred the title of

Honorary Patron of ICTAZ in recognition of his commitment to advancing the ICT sector and supporting digital innovation as a driver of national economic growth.

Through deliberate policies, strategic investments and a clear vision for digital transformation, the government has sought to create an enabling environment that accelerates technological advancement and supports a longer-term shift toward a digitally enabled economy.

During President Hichilema's administration, the ICT sector recorded exponential growth and became the largest contributor to Zambia's GDP for two consecutive years, 2024 and 2025, surpassing traditional sectors such as mining, agriculture, tourism and manufacturing – a shift that signals a deeper change in the structure of the economy.

Zambia's excellence has been recognised

The impact has extended beyond Zambia's borders. In 2025, ICTAZ professionals won eight TICON Africa awards at the association's continental conference in Accra, Ghana, including recognition of ICTAZ as the ICT Association of the Year in Africa.

That momentum continued when Zambia secured the right to host the continental summit in Livingstone in September 2026 – a further signal of the country's growing standing within Africa's technology ecosystem. ●

African communities are solving their connectivity challenges

For decades, Africa's connectivity gap has been framed as an infrastructure problem. Yet across the continent, communities are quietly demonstrating that the real challenge – and the real solution – lies elsewhere. By **Fiona Zerbst**.

There is no lack of demand for connectivity in underserved rural areas, informal settlements and refugee communities across Africa. What is missing, too often, is an approach rooted in context. Commercial rollouts prioritise scale over suitability, resulting in mismatches – for example, 5G towers deployed in areas where people don't even have basic 3G devices.

Community-centred connectivity offers a different model – one that starts with lived reality rather than top-down

assumptions. As Joseph Wokwera, a Founder and Director at Songa Development Initiative in Uganda, puts it: "Every community is different, and if you want to build a solution for communities, you have to look at contextual factors: geography, energy challenges, people's livelihoods and social norms."

Songa Development Initiative is a community-based organisation that empowers young people through digital inclusion and empowerment, as well as arts and culture expression.

At its heart, Wokwera says, "community-centred connectivity is about people designing solutions for themselves, rather than having connectivity imposed on them from the outside...it supports education, healthcare and learning continuity, especially in places where people would otherwise be completely disconnected."

Designing connectivity from the ground up

This approach is not new. Community networks have operated for decades in



The networks are designed around the devices people actually use, rather than aspirational technologies

◀ Members of the Samburu community walking through a remote area of northern Kenya, where locally driven approaches are increasingly shaping how people access and manage connectivity

“A small group of young people realise their community needs internet access. They may begin by connecting a café using a microwave link. Then they see that a nearby school also needs connectivity,” Wokwera explains. From there, momentum builds as local leaders get involved, skills are pooled and practical questions are tackled – from choosing the right equipment to deciding whether to form a cooperative or how to raise initial capital.

Crucially, ownership remains local. Networks are designed around the devices people actually use, rather than aspirational technologies that exclude most users. “Local people understand that most users don’t have 5G phones, so they deploy appropriate Wi-Fi technologies and devices that actually make sense in that environment,” Wokwera explains.

Community networks are not free, but services are typically offered at lower cost than commercial telecoms, while still covering operating expenses. In many areas, people are already familiar with mobile payments and digital wallets that can be integrated into community networks to manage transactions, collect fees, and ensure transparency and safety.

“Many networks diversify their services. They offer device repair, solar power services, or shared infrastructure that generates additional income. Some communities use excess solar energy to supply power locally,” notes Wokwera.

Scale and sustainability

Wokwera, whose own work leverages digital tools and educational frameworks to bridge the gap between local Ugandan communities and international opportunities, maintains that conventional models often fail due to infrastructure dependency, especially in power supply.

Large towers require reliable electricity, generators and incur ongoing fuel costs, he says. In sparsely populated or low-income areas, that simply doesn’t make business sense. “Community networks work differently,” he points out. “They use small towers, often built using local materials, and power them with solar energy. These systems are far cheaper and easier to maintain and extend.”

The same applies to backbone connectivity: fibre optics are expensive, especially over long distances. Community networks often rely on microwave links instead.

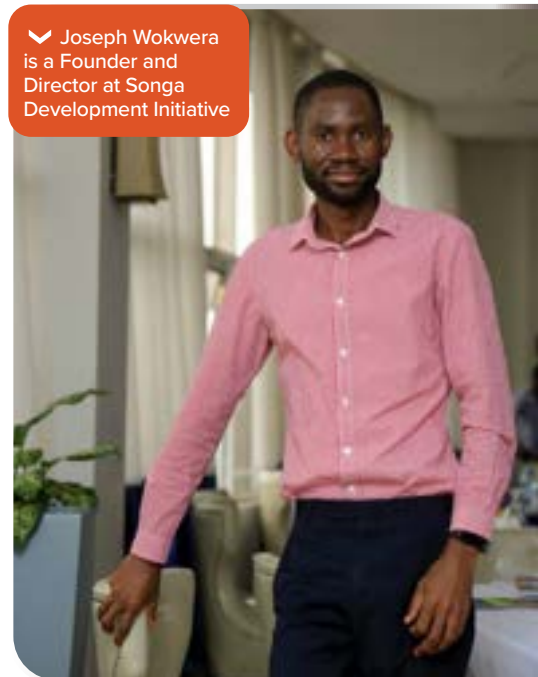
Wokwera stresses that although technical skills are clearly essential, it is of the utmost importance that communities clearly define who they are before designing a network. “For instance, are they extremely rural, or an underserved informal settlement? What are the main livelihoods – farming, fishing, trading? Are they situated near a lake or in mountainous terrain? All these factors shape what kind of network is viable.”

Meaningful connectivity

He adds that social norms have to be addressed sensitively. Because community networks are rooted in local knowledge and history, their sense of ownership creates trust and sustainability.

“A good example is Kibera, [a large informal settlement] in Nairobi. Commercial telecoms have struggled there because laying fibre is difficult and equipment is often vandalised. Community networks succeed by relying on local champions, shared ownership, and community protection of infrastructure...When the

✓ Joseph Wokwera is a Founder and Director at Songa Development Initiative



rural and indigenous communities in parts of Latin America, with Brazil often cited as a major pioneer. Across Africa, momentum is growing. Kenya has emerged as a leader, particularly in informal settlements and remote rural and pastoralist areas.

“We also see it in Uganda, including in refugee settlements in the north and west of the country, where commercial telecoms have little incentive to connect people,” says Wokwera.

On the ground, community-centred connectivity often begins modestly.

✓ African Community-Centred Connectivity Bootcamp participants engage in a collaborative group discussion on sustainability models and financial instruments for the long-term management of community-owned networks



network belongs to the community, people look after it.”

The idea of ‘meaningful connectivity’ is central to the community-based approach: “It is about what people can actually do online, not just whether they are connected. Content must be relevant, localised and often available offline, especially where bandwidth is limited,” says Wokwera.

He maintains that strong local leadership is critical to support the success and longevity of community-centred programmes. Beyond that, “partnerships with the development sector play a key role. Once a proof of concept exists, NGOs and training institutions can support capacity building in network design, business development and sustainability.”

Embedding the learning is vital: much of the learning happens peer-to-peer. Communities “learn from others who have already built networks: how they handled configurations, monitoring, maintenance and service delivery. Sharing experiences across countries is especially powerful.”

In terms of the relevant regulatory frameworks, Wokwera points towards

licensing and spectrum access as the biggest challenges.

“In many African countries, regulatory frameworks are designed only for large commercial operators. Licensing is expensive, geographically restrictive and inflexible. That makes it difficult for community networks to expand, even to connect neighbouring schools. Some countries, like Uganda, have developed frameworks that allow community-based networks to operate legally, but these are still the exception.”

He adds that there is also huge untapped potential in unused spectrum, such as TV white spaces: this spectrum could support long-distance connectivity for community networks, given easier regulatory access.

Collaboration with telecoms

Despite the differences in the approaches of community networks and commercial operators, collaboration between them remains vital. Telecoms operators often provide the backhaul connectivity or long-distance links that community networks need. They also own the towers

The untapped potential of unused spectrum, like TV white spaces, may support long-distance connectivity

and masts that community networks can share, sometimes at low cost or as part of corporate social responsibility programmes.

“There are also revenue-sharing models, where telecoms provide the bandwidth that communities resell locally. This creates mutual benefit rather than competition,” maintains Wokwera. In very remote areas, satellite services such as Starlink are also becoming part of the ecosystem, especially in Kenya.

Wokwera concludes: “Community-centred connectivity is one of the clearest pathways to bringing excluded groups online – including people with disabilities, gender digital exclusion and others left behind by rapid digital transformation. If we don’t rethink how connectivity is planned and delivered, existing systems – from education to banking – will continue to deepen exclusion rather than reduce it.” ●

PHOTOS: SUPPLIED; KEN KAHIRI/UNPLASH;
INTERNET SOCIETY UGANDA CHAPTER



Participants work hands on to assemble batteries for a solar energy system, building practical skills in renewable energy infrastructure

Skills and self-reliance – the story of Rhino Camp

The transformative potential of community-centred connectivity is particularly clear in refugee settings, where access to digital infrastructure can underpin education, livelihoods and social cohesion.

In October 2025, 135 refugees and host community members graduated from the Designing and Deploying Computer Networks (DDCN) programme in Rhino Camp Refugee Settlement in northern Uganda.

Delivered by the Community Empowerment and Transformation Agency (CETA) in partnership with the Internet Society Foundation and Internet Society Uganda Chapter, the programme combined theoretical training with hands-on skills in network design and community deployment.

Participants emerged equipped to build, maintain and extend local internet infrastructure – skills that are immediately relevant in digitally isolated contexts. The programme also fostered collaboration between refugee and host communities, strengthening social ties alongside technical capacity.

For many graduates, the impact was profound. One participant reflected: “Before this course, I didn’t know anything about network

installation. Now I can connect routers, configure systems and even train others. This programme gave me a skill and a purpose.”

CETA’s Executive Director, Lasu Samuel, described the goal as creating “a community that is digitally skilled, connected and self-sufficient”, with graduates exploring opportunities in installation, maintenance and digital entrepreneurship.

Looking ahead, CETA plans to expand its initiatives through community tech hubs, repair cafés and ‘train the trainers’ programmes, reinforcing a virtuous cycle of skills transfer and local ownership.

Across informal settlements and refugee camps alike, communities are showing what becomes possible when connectivity is treated not as a product to be delivered, but as a shared resource to be shaped, governed and sustained from within.

Read more: *Bridging the Digital Divide: 135 Refugees and Hosts Graduate in Network Design and Deployment in Rhino Refugee Settlement*: <https://isoc.ug/index.php/2025/11/04/bridging-the-digital-divide-135-refugees-and-hosts-graduate-in-network-design-and-deployment-in-rhino-refugee-settlement/>.



At Rhino Camp Refugee Settlement, community-centred connectivity training is enabling refugees and host communities to build and sustain their own digital networks

Kenya and the EU rewrite the rules of digital partnership

Kenya is redefining its digital relationship with Europe through a formal Digital Dialogue that places data governance, artificial intelligence and infrastructure at the heart of cooperation.



When Kenya and the European Union formalised a Digital Dialogue in March 2026, the announcement was hailed as a diplomatic milestone – Kenya becoming the first African country to enter a structured digital coordination framework with the EU. But beyond the symbolism lies a more consequential shift that ICT organisations across Africa may wish to study closely.

At its core, the EU-Kenya Digital Dialogue establishes a mechanism for cooperation on telecommunications, digital networks infrastructure, artificial intelligence innovation and ecosystems, and e-governance (including digital public infrastructure), according to the European Commission.

Unlike ad hoc projects or donor-led interventions, this dialogue creates a structured forum for policy exchange and cooperation, intended to accelerate partnerships and investment. For African ICT companies, system integrators and digital service providers, this marks a subtle but important recalibration of how global digital partnerships with Europe may increasingly work.

Moving along the path to systemic alignment

Historically, much of Europe's engagement with African digital sectors took the form

of development projects, connectivity initiatives or regulatory support. The Digital Dialogue model moves beyond that. It creates a platform where rules, standards and system architectures are discussed upstream, before capital and technology flow downstream, according to Kenyan digital publication *TechTrendsKE*.

This is important because areas such as data protection, AI governance, cybersecurity and digital public infrastructure (DPI) are no longer optional overlays. They increasingly determine which systems can interoperate, which services can cross borders, and which providers gain market access.

Kenya's government has been explicit about this shift. National priorities include developing AI policy, strengthening data governance frameworks, and expanding core digital infrastructure – from fibre networks and data centres to secure public-sector platforms. Kenya has indicated interest in pursuing an EU data adequacy decision – a step that would hinge on the EU's assessment of Kenya's data protection safeguards against GDPR standards, says *African Business Insight*.

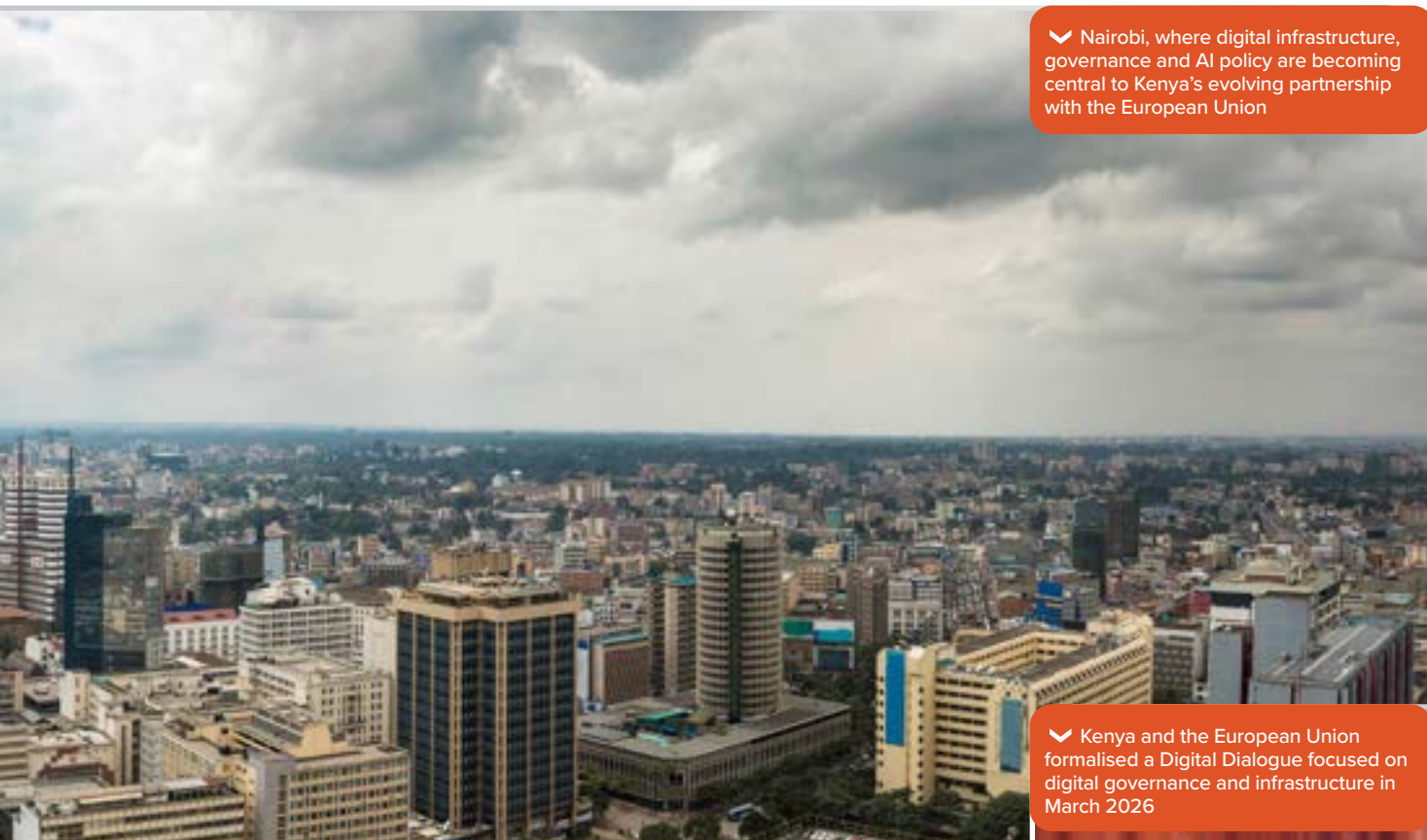
Why this digital dialogue matters beyond Kenya

Although the dialogue is bilateral, its implications are regional. Kenya's role as a



technology hub means that choices made around data governance compatibility, AI policy and cybersecurity standards will increasingly influence how multinational firms assess risk and compliance across East Africa, and potentially beyond.

An EU data adequacy decision, which Kenya is actively pursuing as part of this framework, would allow personal data to move between Kenya and EU member states without additional safeguards. For ICT organisations, this lowers transaction costs and simplifies outsourcing



✓ Nairobi, where digital infrastructure, governance and AI policy are becoming central to Kenya's evolving partnership with the European Union

✓ Kenya and the European Union formalised a Digital Dialogue focused on digital governance and infrastructure in March 2026



▲ As digital economies become increasingly interconnected, shared standards and system-level coordination are shaping how data, infrastructure and services move across borders

initiatives such as the Kenya Cyber Resilience project signal that cybersecurity capacity is a parallel investment priority. This reflects a growing recognition that Africa's digital economy rests on infrastructure-grade systems, not lightweight software alone.

EU-supported initiatives in Kenya already include cybersecurity resilience programmes and large-scale connectivity projects, signalling where investment is most likely to flow. For ICT organisations, this favours capabilities in:

- Network engineering and systems integration.
- Secure data infrastructure and cloud services.
- Public sector digital platforms.
- AI deployed within regulated, mission-critical environments.

Compliance becomes a competitive advantage

Perhaps the most overlooked implication of the Digital Dialogue model is how it reframes regulation.

Rather than being a constraint, regulatory alignment is positioned as an enabler of investment and market access. European officials have been clear that predictable governance frameworks are a precondition for deeper private sector engagement, according to Kenyan digital

publication *TechTrends*.

For African ICT firms, this suggests a future in which competitiveness is shaped not just by technical skill, but by the ability to design systems that comply with international data protection regimes. They should also demonstrate security, interoperability and auditability, and be able to navigate AI governance requirements as they emerge.

A template for the future

Kenya's Digital Dialogue with the EU is unlikely to remain unique for long. As digital systems become core economic infrastructure, similar frameworks may emerge for other African countries, particularly those positioning themselves as regional technology hubs.

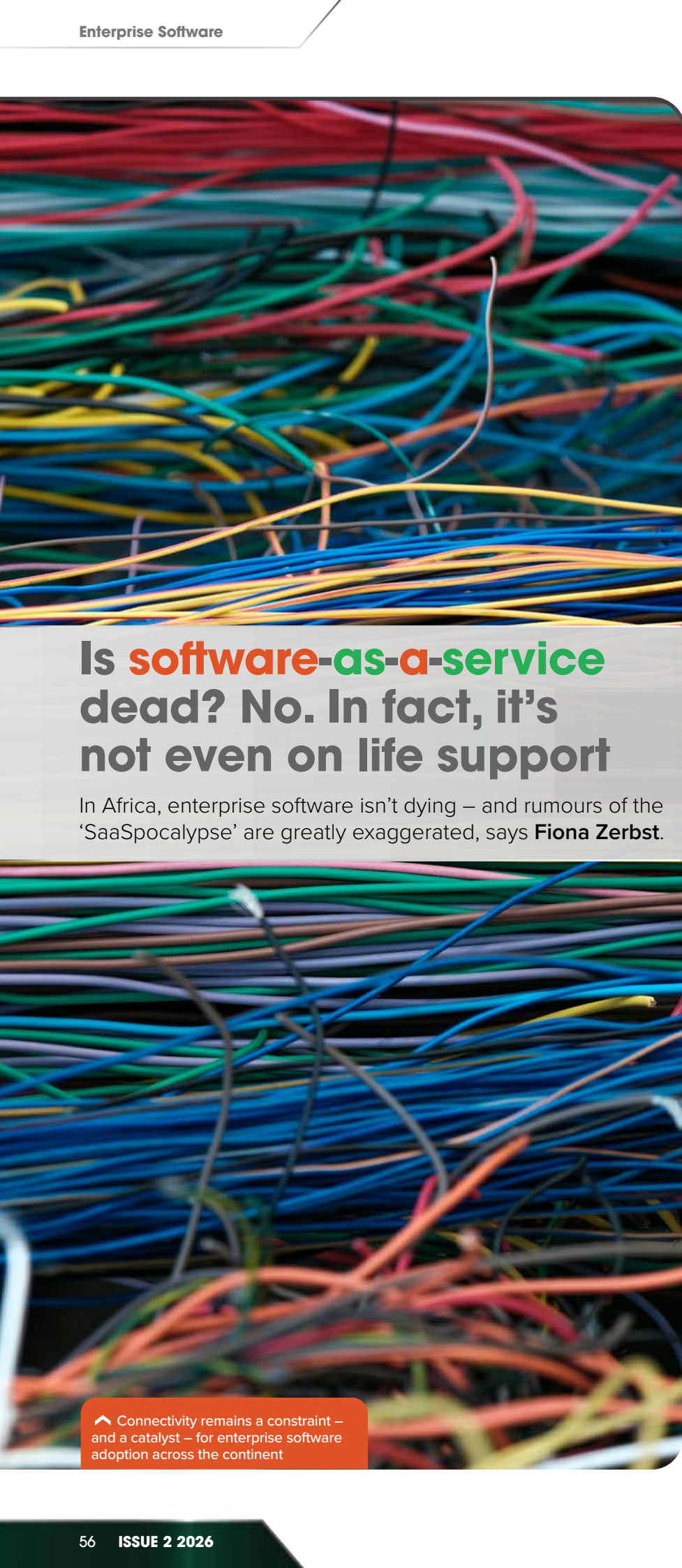
For ICT organisations across the continent, Africa's digital future will be shaped less by isolated innovation and more by how well local systems align with global digital architectures. Kenya has become the first test case. ●

arrangements, which increases Kenya's attractiveness for services such as BPO, cloud services and data-driven applications.

Other African markets will be watching closely. A functioning EU-aligned digital regime in Kenya creates both a precedent and a certain amount of pressure, especially for countries hoping for deeper integration into global digital value chains.

Infrastructure first, software second

Alongside the dialogue, EU-supported



Is **software-as-a-service** dead? No. In fact, it's not even on life support

In Africa, enterprise software isn't dying – and rumours of the 'SaaSocalypse' are greatly exaggerated, says **Fiona Zerbst**.

^ Connectivity remains a constraint – and a catalyst – for enterprise software adoption across the continent

Every few years, enterprise software is declared dead. Mainframes, client-server systems, cloud computing – each has taken its turn in the obituary column. In early 2026, enterprise SaaS became the latest casualty, with headlines blaming artificial intelligence for rendering subscription software obsolete.

The panic has numbers to support it. Public software valuations fell sharply as investors reassessed growth expectations in the age of AI, wiping close to US\$1-trillion off global software stocks in seven days in February 2026. But market sentiment isn't market reality – and in Africa especially, the story is far more complex.

Far from collapsing, cloud-based enterprise software is becoming the substrate on which AI actually works. Without enterprise SaaS, AI has nothing to learn from, nowhere to integrate, and no organisational context in which to deliver value.

Globally, this reality is already reflected in spending forecasts: worldwide public cloud expenditure is still forecast to double by 2028, despite short-term volatility, according to the *International Data Corporate (IDC) Worldwide Software and Public Cloud Services Spending Guide*.

In Africa, the idea that enterprise SaaS is 'over' misunderstands where the continent actually is on its digital journey.

A continent still wiring itself up

Africa's enterprise technology story has always been uneven. South Africa, Kenya, Nigeria, Egypt and Morocco lead in cloud and ERP adoption, while large parts of the continent remain constrained by infrastructure, skills and cost. But that unevenness may prove to be one of Africa's advantages.

"Enterprise SaaS adoption across much of the continent is still relatively early," says Stephen Howe, a director at Times 3 Technologies (T3T), which is a leading Sage business partner. "But that also creates a rare opportunity. Being slightly behind means AI can influence and shape the SaaS journey from the outset, rather than being bolted on later."

According to McKinsey, African enterprises already run around 45% of their workloads in public cloud environments, comparable to rates in North America and China. Where legacy infrastructure is thin, cloud becomes less a choice than a necessity.

What is slower is the operational deployment of AI on top of these systems.

PHOTOS: RYUTARO UOZUMI/UNSPASH;
DESOLA LANRE-OLOGUN/UNSPASH

PwC's 2025 Africa Cloud Business Survey found that 91% of African firms consider agentic AI capability critical in cloud provider choice, but only 37% are actively scaling it.

This gap matters, because it explains why claims of 'AI replacing enterprise SaaS' ring hollow.

Howe is explicit about how early most organisations still are. "The vast majority of African businesses are still at the commencement stage," he says. "We have not yet seen much AI in true operational use."

AI doesn't replace systems of record

Howe argues that the idea of AI making enterprise SaaS redundant misunderstands how enterprise systems function.

"Is SaaS dead because of AI? Absolutely not," he says. "For AI to deliver any real value, you need cloud-connected ecosystems, shared data environments and trusted systems of record. If you're sitting in a closed, on-prem environment with no connectivity, you simply can't unlock those benefits."

Enterprise systems like ERP, HCM, CRM and ITSM are not optional layers waiting to be replaced. They are the repositories of institutional memory – the transactional backbone that gives AI something to reason over.

"AI needs structured, trusted data," Howe explains. "You can't train intelligence in isolation and expect it to outperform decades of accumulated enterprise logic."

For organisations operating across

multiple African countries, this connectivity is no longer optional. "If you want to operate within a connected ecosystem across borders, cloud-connected systems are almost a given – at least at a basic level," Howe adds.

Research across African markets consistently shows that weak data foundations, rather than the absence of AI tools, are the main constraint on meaningful adoption.

From static software to living systems

What is changing is the nature of enterprise SaaS itself? Industry estimates suggest that more than 60% of enterprise SaaS products now include embedded AI – from predictive analytics to generative copilots and automated workflows. SaaS platforms are becoming adaptive systems rather than static applications.

This shift is already visible in HR, finance and payroll across Africa, where AI-enabled copilots can already answer employee queries, flag anomalies or surface insights in real time.

"What used to be a data-capture role is becoming an insight-driven role," Howe says. "Instead of searching for information, employees are prompted with what matters – a customer at risk, a payment overdue, a pattern emerging."

The key point is that AI removes friction between users and data. It does not replace the software that houses that data.

Africa's adoption curve is staggered

Most African organisations remain

in early or experimental phases of AI adoption, reflecting a cautious and pragmatic approach.

Across the continent, governance, compliance and data sovereignty have emerged as central concerns. According to UN Trade and Development (UNCTAD), more than 75% of African countries now have data protection laws, but enforcement remains uneven.

"Governance and compliance are the number-one issues businesses will need to get right," Howe notes. "For AI tools and processes to benefit optimally, you will be exposing all your data. For risk-averse organisations, that's not a trivial step."

This is not uniquely African – but in jurisdictions where data breaches, outages or regulatory uncertainty can threaten business continuity, the stakes are higher.

Why global SaaS ecosystems matter

There is growing interest in organisations developing proprietary AI tools, driven by fears of dependency and loss of control. In Africa, however, economics usually settles the debate quickly.

"For a single organisation to invest the R&D that global ERP vendors are pouring into AI is almost impossible," Howe says. "Leveraging global platforms brings governance, compliance and scale by default."

For most African businesses, building on mature enterprise SaaS platforms – especially those that support hybrid and cloud-connected models – remains a more sustainable path than attempting bespoke AI stacks that few can maintain.

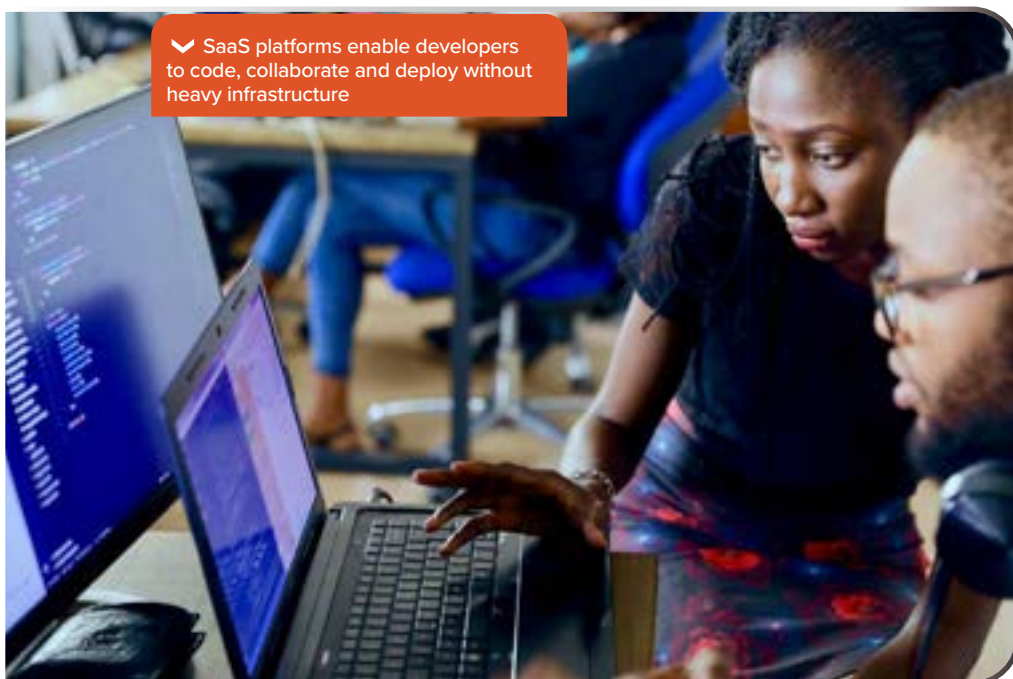
SaaS becomes scaffolding

If enterprise SaaS once promised efficiency through centralisation, its next phase is about intelligence through integration. In Africa, where infrastructure gaps still shape every digital decision, this evolution is foundational.

Long-term resilience is less about sophistication than fit. "What works in one market may not work in another," Howe says. "Many organisations don't have the IT muscle assumed elsewhere. Simplicity, support and infrastructure all matter as much as advanced capability."

AI isn't dismantling enterprise software across Africa – but it is rewiring it, unevenly but pragmatically, through cloud-connected systems that are still evolving. That means SaaS won't become obsolete – instead, it will be essential for what comes next. ●

✓ SaaS platforms enable developers to code, collaborate and deploy without heavy infrastructure



GEO

Generative Engine Optimisation

How **generative** engine **optimisation** is rewriting your digital visibility

GEO is the foundation of how businesses will communicate, compete and be understood in a world where machines actively generate information. By **Jacqui Muller**.

Search, as we've known it for the past two decades, is undergoing a fundamental transformation. The familiar model of typing in a query and browsing through ranked links is rapidly being replaced by something far more decisive: AI-generated answers.

In this new paradigm, users are no longer searching for websites; rather, they are asking for outcomes, recommendations and summaries. At the centre of this shift sits a new discipline that is quietly redefining digital strategy.

Generative engine optimisation (GEO) refers to the practice of designing and structuring content so that it is effectively understood, trusted and surfaced by AI systems such as large language models, copilots, and generative search engines.



For businesses, this introduces both a risk and an opportunity. The risk is obvious: if your content is not included in these generated responses, your visibility diminishes dramatically. The opportunity, however, lies in becoming a trusted source that AI systems rely on when constructing those answers. In this sense, AI has become the new gatekeeper of digital visibility.

GEO is changing the rules of optimisation

What makes GEO particularly interesting is that it changes the rules of optimisation. Traditional SEO has long relied on tactics such as keyword targeting, backlink strategies and technical performance improvements. While these elements still have relevance, they are no longer sufficient on their own.

Generative systems prioritise content that demonstrates clarity, coherence and contextual depth. They are not simply matching keywords; they are interpreting meaning, identifying relationships between concepts, and selecting information that can be confidently reused in a generated

response. As a result, the emphasis shifts from optimisation tricks to building genuine, machine-readable authority.

Practical implementation

To implement GEO effectively and accurately, businesses need to rethink how they create and present content.

The first step is to structure information in a way that is both human-readable and machine-interpretable. Clear headings, logical flow, and well-defined sections are no longer just good writing practices – they are essential for enabling AI systems to extract and understand key ideas.

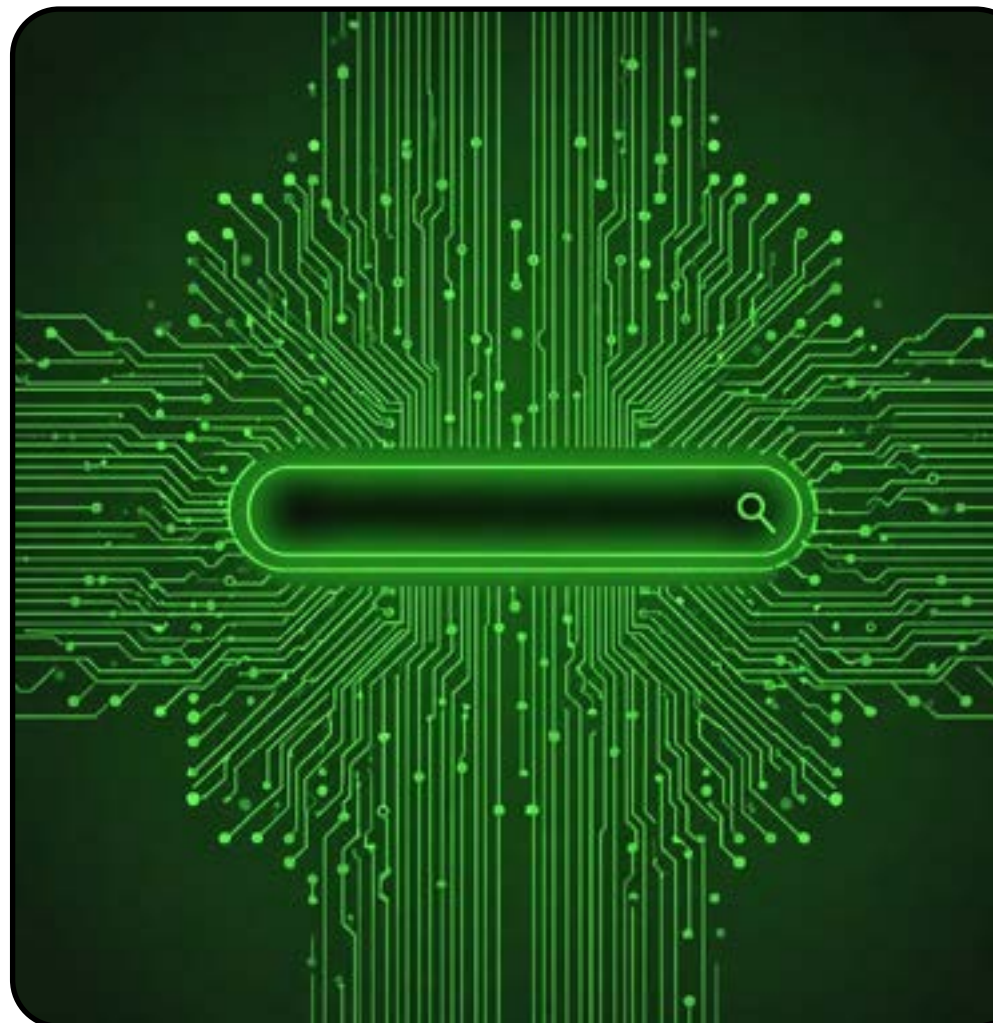
Content should be broken into digestible components, with important concepts explicitly defined rather than implied. All information that should appear in GEO results should be available in the public digital domain.

Equally important is the move away from keyword-centric thinking towards semantic richness. Generative models excel at understanding context, which means that simply repeating phrases is far less effective than explaining ideas thoroughly and connecting them to related concepts.

Will AI represent you?

Unlike traditional search engine optimisation (SEO), which focuses on improving rankings on search engine results pages, GEO is concerned with whether your content is selected and synthesised into AI-generated responses. In essence, SEO helps users find you, while GEO determines whether AI chooses to represent you.

The importance of GEO stems directly from how user behaviour is evolving. Increasingly, people are interacting with AI interfaces that provide direct answers rather than lists of options. This shift has given rise to what is often called the ‘zero-click’ experience, where users receive the information they need without ever visiting a website.



GEO IS THE NEW BUSINESS CURRENCY

WHAT IS GEO?

Generative Engine Optimisation (GEO) is the practice of optimising your content, data, and digital presence so that AI-driven systems can understand it, trust it, and use it to generate responses.

SEO helps users find you.
GEO helps AI choose you.

WHY GEO MATTERS



SEARCH IS SHIFTING FROM LINKS TO ANSWERS

Users get summaries, not page links. If you're not in the answer, you're invisible.



AI IS THE NEW GATEKEEPER

AI doesn't just rank content. It curates and synthesises it.



ZERO-CLICK INTERACTIONS ARE THE NORM

GEO builds influence even when no one clicks.



TRUST AND AUTHORITY ARE ALGORITHMICALLY INFERRED

AI prioritises content that is consistent, structured, continuously rich, and widely referenced.



HOW GENERATIVE ENGINE OPTIMISATION IS REWRITING DIGITAL VISIBILITY

Search has changed. Answers are now generated, not just retrieved. Generative Engine Optimisation (GEO) is how you make sure AI chooses you, cites you, and represents you.

SEO VS GEO

ASPECT	SEO	GEO
FOCUS	Rankings	Inclusion in AI Responses
OUTPUT	Links & Pages	Summaries & Recommendations
OPTIMISATION	Keywords, Backlinks	Context, Structure, Clarity
SUCCESS METRIC	Clicks & Traffic	Mentions, Citations, Influence
AUDIENCE	Humans	Humans via AI Systems

HOW TO DO GEO RIGHT



01 STRUCTURE YOUR CONTENT FOR MACHINES FIRST

Use clear headings. Logical flow. Digestible sections. Define concepts early.



02 OPTIMISE FOR SEMANTIC MEANING, NOT JUST KEYWORDS

Explain concepts. Connect ideas. Use examples. Build contextual richness.



03 CREATE AUTHORITATIVE, SOURCE-WORTHY CONTENT

Thought leadership. Digital insights. Frameworks & models. Context. AI can trust and cite.



04 LEVERAGE STRUCTURED DATA & METADATA

Use schema markup. Label sections clearly (FAQs, definitions, steps). Use consistent naming conventions.



05 DESIGN FOR ANSWERABILITY

Use concise summaries. Use bullet points. Provide direct answers. Make it easy to extract.



06 BUILD DIGITAL CONSISTENCY ACROSS PLATFORMS

Align messaging. Use consistent terminology. Reinforce authority across your website, social and documentation.



07 MEASURE WHAT ACTUALLY MATTERS

Track AI-generated mentions. Monitor inclusion in summaries. Measure presence in conversational search. Focus on influence, not just traffic.

THE STRATEGIC SHIFT

FROM BEING FOUND TO BEING SELECTED

AI-driven selection.

FROM RANKING HIGH TO BEING TRUSTED ENOUGH TO BE QUOTED

AI-driven trust.

FROM OPTIMISING FOR HUMANS ALONE TO OPTIMISING FOR HUMAN-AI INTERACTION

AI-driven interaction.

“The question is no longer ‘Are you ranking?’ It’s ‘Are you being generated?’”

KEY TAKEAWAY: GEO isn't just another tactic. It's the foundation of digital presence in a world where machines generate the answers and decide who gets seen.

It is no longer enough to simply appear in results. The goal is to become part of the answer itself

Content that includes comparisons, examples and layered explanations is far more likely to be selected because it provides the depth that AI systems need to generate meaningful answers.

Embed clear and concise responses in your content

Another critical aspect of GEO is designing content for answerability and consistency. This means ensuring that clear, concise responses are embedded within your content, making it easy for AI systems to extract them. Summaries, bullet points and direct answers placed early in a section significantly improve the likelihood of inclusion in generated outputs.

At the same time, this should not come at the expense of depth. The best-performing content balances immediate clarity with deeper exploration. Consistency across your digital presence also plays a significant role. When your

messaging, terminology and positioning are aligned across platforms, it reinforces credibility and increases the likelihood that your content will be trusted and selected.

Measuring success in a GEO-driven world requires a shift in mindset. Traditional metrics such as clicks and page views, while still useful, no longer tell the full story. Instead, businesses need to consider their presence within AI-generated outputs, whether they are being mentioned, summarised, or referenced. Influence, rather than traffic alone, becomes the key indicator of success.

Ultimately, GEO represents a broader strategic shift from visibility to influence. It is no longer enough to simply appear in search results. The goal is to become part of the answer itself. This requires a deeper understanding of how AI systems interpret information and a deliberate effort to create content that aligns with those processes. Businesses that embrace this shift early will not only

remain visible but will actively shape how their industries are represented in the age of generative intelligence.

As digital ecosystems continue to evolve, one thing is becoming increasingly clear: the ability to influence AI-generated narratives is emerging as a core competitive advantage. GEO is not just another layer of optimisation, it is the foundation of how businesses will communicate, compete and be understood in a world where machines are no longer just indexing information, but actively generating it. ●

Jacqui Muller operates at the intersection of business, technology and education – driving intelligent automation, strategic innovation and industry-aligned skills development. As a UiPath MVP, business owner, consultant, solution architect and researcher, she empowers people and organisations to thrive in a digital economy.

PHOTOS: JACQUI MULLER



TICON AFRICA

Women in TICON Africa

MASTERCLASS

Professional Growth, Personal Branding & Strategic Planning Skills.

Presented by Zipporah Maubane
Head of Communications & Advocacy,
African Union Development Agency-NEPAD

Access the
TICON Africa
Masterclass Series.

Strategically **shaping** your career

This Women in TICON Africa Masterclass explored how female ICT professionals can navigate their career journeys with greater intention and clarity.

Presented by highly accomplished executive Zipporah Maubane and moderated by Lebo Khanda-Wiktor, General Secretary of the Botswana Information Technology Society and Vice Chairperson of the Women in TICON Africa Board, the session was opened by Elizabeth Chabaluka Masache, Chairperson of Women in TICON Africa.

She emphasised that participation alone is no longer sufficient in today's business environment. Professionals, she noted, must deliberately position themselves to lead and create impact.

Career growth through her lived experiences

Drawing on more than 28 years of experience across corporate leadership and public-sector roles, Maubane reflected on how her career has been shaped by South Africa's transition to democracy, navigating different organisational cultures, and continuous investment in her craft.

"Being at NEPAD is the culmination of all I've experienced in terms of cultural intelligence throughout my career," she said.

Reflecting on her transition from the private sector to AUDA-NEPAD, Maubane described the importance of entering

a new organisation as a learner first – observing, studying institutional mandates, and building credibility before speaking up. This, she said, is not about making oneself "small", but about being strategic with timing and influence.

Personal growth, she stressed, requires stepping outside one's comfort zone. She encouraged Masterclass participants to remain curious about emerging developments in their fields and to say "yes" to 'stretch assignments' that help them to learn.

Strategic alignment and professional value

Maubane highlighted the importance of understanding and aligning with an organisation's strategic objectives.

Professionals who progress, she argued, are those who connect their work to the goals of boards and leadership teams. This requires feedback-fitness, collaboration and an ability to contribute meaningfully to execution – not merely visibility.

She noted that employees who rely solely on proximity to those in positions of authority will "run out of steam" because they lack substance. She further highlighted the fact that it is important to remain professional in the workplace – avoid

toxicity and gossip, and treat everyone equally, from the CEO to someone serving tea. "Be consistent," she recommended.

Deliver on your promises to enhance your brand

Maubane stated that personal branding isn't just about self-promotion. "Being 'out there' isn't building a brand – delivering on your promise is," she said, stating that reputation compounds over time.

"Your brand is about how people experience you, what they say about you when you're not in the room," she explained. Guarding your reputation is essential, so you should distance yourself from toxic people – those that gossip about you today can turn on you tomorrow, she pointed out. She also said a clear 'no' to corruption speaks to ethical integrity in the workplace.

"Know your worth and understand the value you bring. You're not being arrogant but factual," she said. "There's a reason you've been hired. Articulate your contribution confidently and advocate for opportunities that match your level."

The Masterclass reinforced that careers are not shaped by chance, but by deliberate choices, strategic alignment and sustained investment in oneself. ●

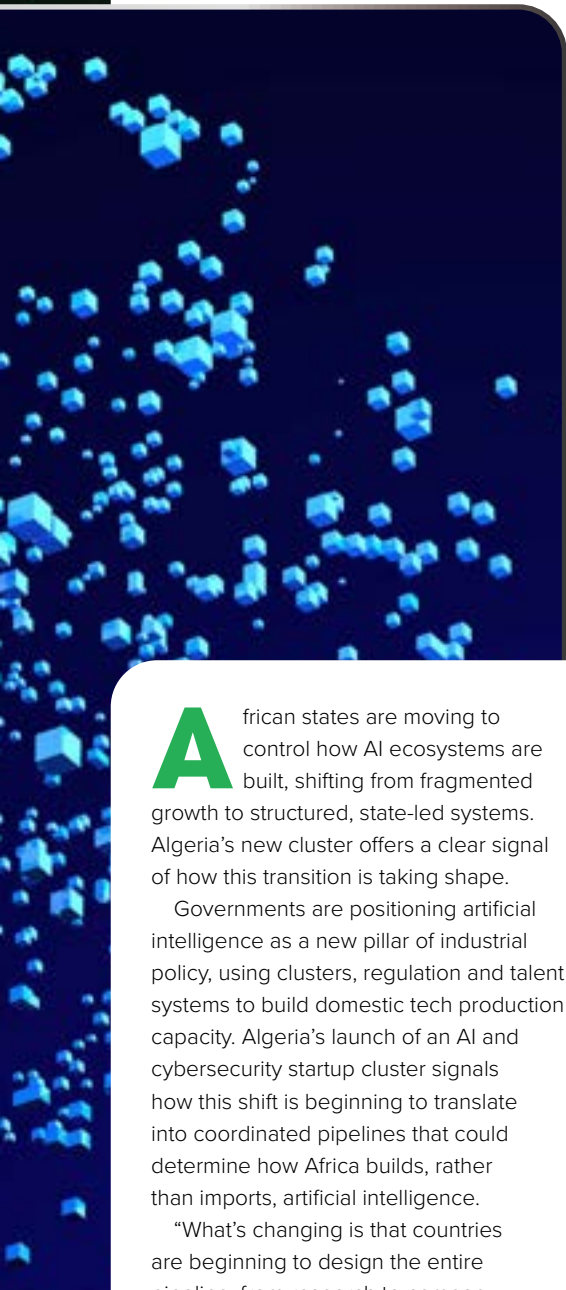
Africa's AI clusters highlight continent's industrial policy reset

Moves by Algeria and other countries signal a shift toward state-designed artificial intelligence ecosystems across Africa, writes Bonface Orucho.

➤ African states are positioning artificial intelligence as a pillar of industrial policy, embedding it into long-term economic planning

◀ At the Ilorin Innovation Hub, talent development is aligned with national and international demand





African states are moving to control how AI ecosystems are built, shifting from fragmented growth to structured, state-led systems. Algeria's new cluster offers a clear signal of how this transition is taking shape.

Governments are positioning artificial intelligence as a new pillar of industrial policy, using clusters, regulation and talent systems to build domestic tech production capacity. Algeria's launch of an AI and cybersecurity startup cluster signals how this shift is beginning to translate into coordinated pipelines that could determine how Africa builds, rather than imports, artificial intelligence.

"What's changing is that countries are beginning to design the entire pipeline, from research to company creation, rather than leaving it to evolve organically," according to James Karumwa, a Kigali-based independent tech expert.

The framing positions the initiative as part of a broader push toward economic diversification and technological independence. The shift comes as African countries face a persistent gap between talent production and company creation.

Industrial policy in practice

Algeria currently has more than 7,800 registered startups and is targeting 20,000 by 2029, according to official projections – highlighting the scale at which governments are now approaching ecosystem development.

At the Sidi Abdellah technology hub, for instance, the new cluster integrates universities, research centres and early-stage startups into a single system.

The facility sits within an 87-hectare scientific complex that hosts specialised national schools in mathematics, nanosciences, autonomous systems and artificial intelligence, alongside the National School of Artificial Intelligence established in 2021. The cluster is designed to close the gap between academic research and industrial application, with a focus on sectors including healthcare, agriculture, energy and digital services.

Officials say the model could be extended to other campuses nationwide, with 2027 identified as a milestone for consolidating knowledge-driven economic growth.

Closing the gap to commercialisation

"For years, the missing link has been commercialisation; strong research exists, but very little of it turns into companies," according to Karumwa. "Most ecosystems in Africa are not short on talent; they are short on structured pathways that turn that talent into businesses."

The push also reflects wider economic pressures.

With youth unemployment estimated at close to 30%, policymakers are increasingly looking to startup ecosystems as a pathway to job creation and economic diversification.

A layered approach is emerging across the African continent

Similar moves are unfolding across the continent, pointing to a broader restructuring of Africa's AI landscape. Governments are increasingly focusing on how different parts of the ecosystem

connect, rather than building them in isolation.

In Nigeria, an April 2026 partnership between the United States Embassy in Abuja and Ilorin Innovation Hub is expanding AI and STEM training pipelines. The three-year programme focuses on skills development and professional training, aligning local talent with global industry demand.

In Burundi, the government validated a national AI strategy for 2025-2030 in April this year. It is built around six pillars including governance, infrastructure and human capital.

The framework sets out plans to deploy AI in sectors such as healthcare and agriculture, embedding the technology into public systems.

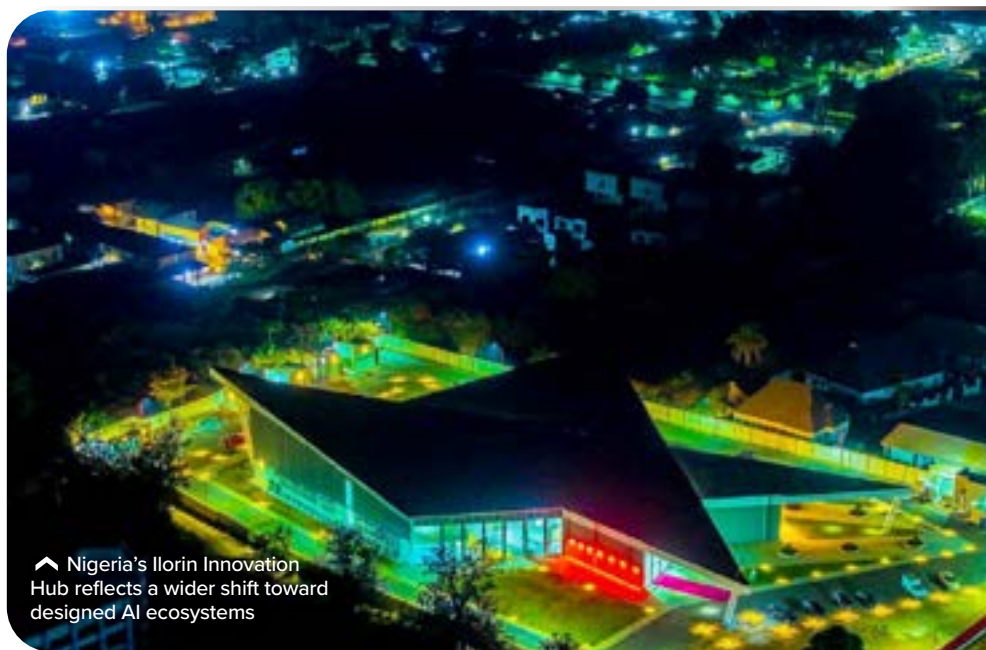
Ghana has taken a similar approach, combining policy and capacity building. In April 2026, it launched its *National AI Strategy* alongside public-sector training programmes aimed at building internal expertise.

Kenya is focusing on regulation as part of ecosystem development. Its Artificial Intelligence Bill, introduced in February 2026 and tabled in April, seeks to establish a legal framework for how AI is developed, deployed and governed.

Mauritius is linking AI directly to economic planning. Its *AI for Mauritius* strategy, adopted in February 2026, connects artificial intelligence to future economic zones and long-term industrial policy.

Designing AI ecosystems as integrated systems

"Each country is focusing on a different layer – talent, infrastructure or policy –



▲ Nigeria's Ilorin Innovation Hub reflects a wider shift toward designed AI ecosystems



↑ Algeria's AI push reflects a growing emphasis on national control over how artificial intelligence ecosystems are built

but together they form a more complete ecosystem," said Karumwa. This layered approach is beginning to define how AI ecosystems are built across the continent.

Algeria's cluster anchors the infrastructure and commercialisation layer, creating space for startups to emerge and scale. Nigeria's Ilorin initiative strengthens the talent pipeline, while Burundi, Kenya and Mauritius are building governance frameworks that shape how AI is deployed.

Previously, these layers evolved separately, creating fragmented ecosystems with strong talent but limited coordination. Now, governments are beginning to design them to function as integrated systems.

Shift promotes innovation

This shift is also becoming visible at the ground level. Startups operating within structured hubs are gaining access to research institutions, funding pathways and mentorship networks that were previously disconnected.

"It changes the experience for young developers; instead of leaving the ecosystem to find opportunity, the ecosystem is beginning to absorb them," said Karumwa.

For young developers and researchers, this is changing how opportunities are accessed.

Rather than navigating fragmented ecosystems, they are increasingly entering structured pipelines designed to support company creation. This is particularly critical in markets where talent outflows have historically outpaced local opportunity creation.

National strategies meet continental ambition

The institutional layer is also expanding beyond national governments.

In February this year, the African Union Commission signed a partnership with Google to support AI infrastructure, research, startups and policy development across the continent.

In April, discussions at the *Nairobi AI Forum* included plans for an *AI 10 Billion*

Initiative aimed at mobilising large-scale funding for AI entrepreneurship and digital infrastructure.

These efforts point to growing alignment between national strategies and continental ambitions.

However, the move towards state-led systems is not without challenges. As governments move quickly to structure AI ecosystems, ensuring credibility and technical depth is becoming as important as momentum.

In April 2026, South Africa withdrew a draft AI policy after it was found to contain fabricated AI-generated citations, highlighting risks linked to the speed of policy development.

"Building institutions around AI requires technical depth, not just urgency, and that's where many governments are still catching up," said Karumwa. "The long-term question is whether these ecosystems can produce globally competitive companies; that's what will define success," he added. ●

Bonface Orucho is a seasoned journalist and passionate filmmaker. He writes for *Bird Story Agency*, a specialist Africa-focused news agency launched in 2021 by *Africa No Filter*. It aims to change the narrative on Africa by focusing on innovation, youth culture and positive, creative stories.

↩ In Nairobi, policy discussions and regulatory frameworks are increasingly shaping how AI ecosystems are governed, developed and deployed across Kenya



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UGX 2 million

PROFESSIONAL
MEMBERSHIP

UGX 200,000

STUDENTS
MEMBERSHIP

UGX 20,000

BANK DETAILS

Account Name: ICT Association of Uganda

Account Number: 1040006744842

Bank Name: Housing Finance Bank

Branch: Ntinda

Swift Code: HFINUGKA

Currency: UGX



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